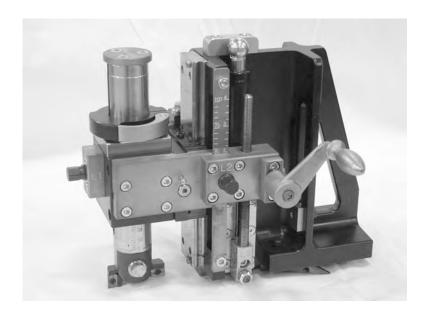


E.H. Wachs 600 Knightsbridge Parkway Lincolnshire, IL 60069 www.ehwachs.com

### MDSF Single-Point Template Slide Operating Instructions



E.H. Wachs Part No. 69-SPTS-MAN-01

## **MDSF Single-Point Template Slide**

#### SINGLE-POINT TEMPLATE SLIDE APPLICATION

The MDSF single-point template slide is designed to perform beveling of heavy-wall pipe after pipe cut-off. The slide can be used with any size MDSF model 12" and larger (models 612 and up).

The single-point template slide includes the following operating components and features:

- Standard MDSF heavy-wall parting slide (69-4635-03), which mounts directly to MDSF rotating ring.
- Radial feed system that operates using standard MDSF trips.
- Axial positioning mechanism with a hand crank and tool head scale.
- Adjustable tool post with tool insert holder.
- Prep angle module with two adjustable angles for compound beveling.

The photo below shows the components of the single-point slide in its storage case.



Figure 1-1. The photo shows the components of the single-point slide in its storage case.

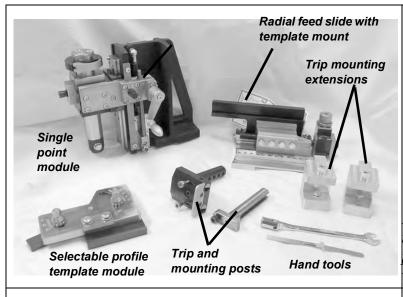


Figure 1-2. The photo shows the major components of the single-point slide. Assemble the slide when mounting it on the MDSF.

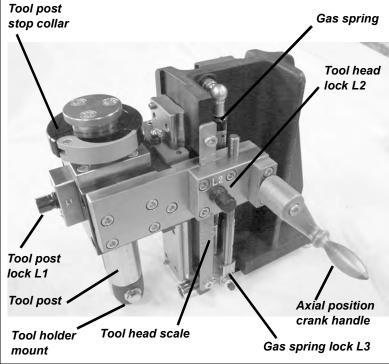


Figure 1-3. The photo shows the operating components of the single-point module.

### **Operating Overview: Cutoff and End Prep**

The single-point template slide is typically used in the cutoff/end prep procedure on heavy-wall pipe:

- Cutoff using MDSF with standard or heavy-wall parting slides.
- Counterbore using MDSF with 3" or 6" counterbore module.
- Bevel using MDSF with single-point template slide.

Leave the MDSF mounted in position after the cut-off operation, and perform the end prep operation(s) as follows. Be sure to disconnect power to the MDSF during all set-up procedures.

- Remove one of the parting slides from the MDSF.
- If a counterbore is required, perform the counterbore operation using an MDSF counterbore module, mounted on the parting slide. See instructions in the MDSF User's Manual.
- Install the single-point template slide at the available slide mounting location and configure it for the specified bevel. (Counterbore module can remain mounted as a counterbalance if required.)
- Perform the bevel according to the instructions in this manual.

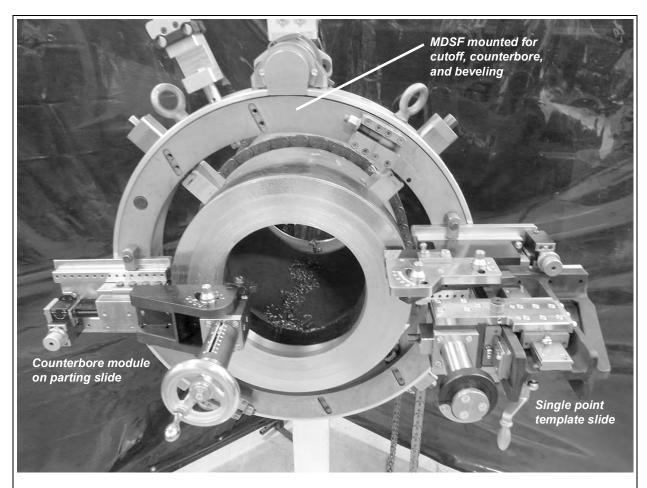


Figure 1-4. The photo shows the typical setup for end prep procedures.

- Counterbore module is mounted on one parting slide to counterbore after cutoff.
- Single-point template slide is mounted at the opposite slide position to bevel after counterboring.

#### MDSF SETUP AND PARTING/COUNTERBORE OPERATIONS

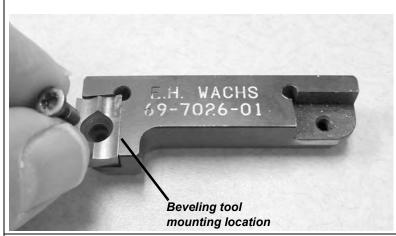
Perform the cutoff and counterbore operations as described below, before doing the bevel.



- Mount the MDSF to the pipe according to instructions in the *DynaPrep MDSF User's Manual*.
- Perform the cut-off operation. The diagram shows the completed cutoff.
- Leave the MDSF mounted at the same location after cut-off.
- If the pipe is open-ended and parting is not required, position the MDSF with the face of the rotating ring a maximum of 2.375" back from the end of the desired weld prep.
- 4. If a counterbore is required, perform the counterbore before the single-point bevel operation.
- Use either the 3" counterbore module (69-4605-00) or the 6" counterbore module (69-4606-00), depending on requirements.
- Mount the counterbore module to one of the parting slides.
   Remove the other parting slide.
- See counterbore instructions in the MDSF User's Manual.
- After you complete the counterbore, you can remove the counterbore module, or leave it mounted for a counterbalance.

#### **BEVELING SETUP AND OPERATION**

#### **Installing the Tooling**



- Mount the tool bit to the tool insert holder as shown.
- Install only 1 bit, at the beveling tool location.
- Tighten the screw securely using the supplied torx wrench.
- NOTE: the tool bits are 2-sided and reversible. Flip the bit over to use both cutting surfaces.

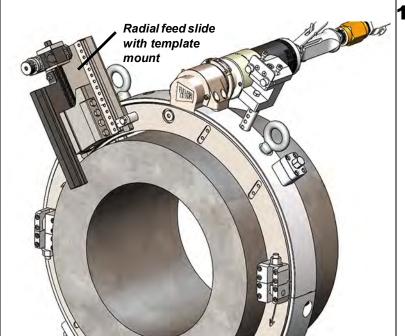


- 2. Mount the tool insert holder on the bottom of the tool post.
- Center the insert holder in the mounting slot, as shown.
- Press the holder firmly into the slot, and securely tighten the tool holder screw.

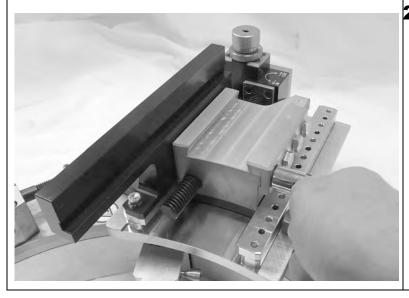
#### Assembling and Mounting the Single-Point Template Slide

You can assemble the single-point slide on a workbench and then mount it to the MDSF for operation. However, it is generally easiest to assemble it piece-by-piece on the MDSF, as described in this section:

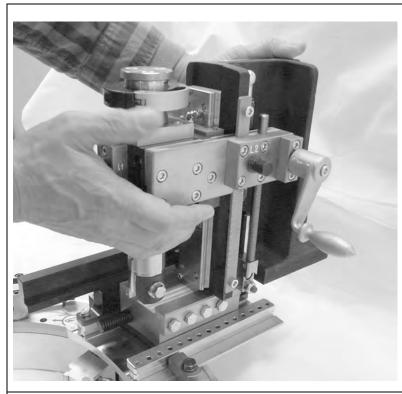
- Mount the radial feed slide supplied with this kit (with attached template mount) to one of the slide mounting positions on the MDSF.
- Mount the single point module to the radial feed slide.
- After configuring the single point module for the bevel profile, mount the selectable profile template module to the radial feed slide.



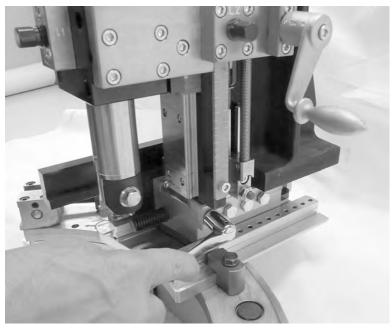
Mount the radial feed slide (with template mount) to the available slide mounting position on the MDSF.



Loosen the 4 screws in the tool slide clamp.

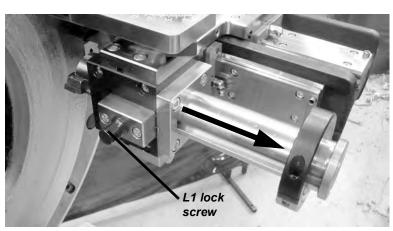


- Slide the dovetail base of the single point module into the male slide.
- Make sure the slide is positioned so that it has enough stroke to reach both the OD and ID of the pipe.

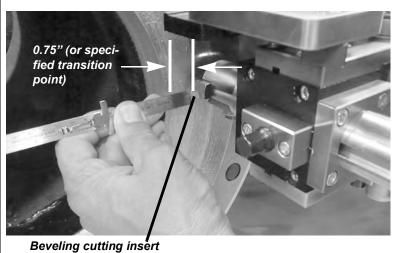


Tighten the 4 screws in the tool slide clamp.

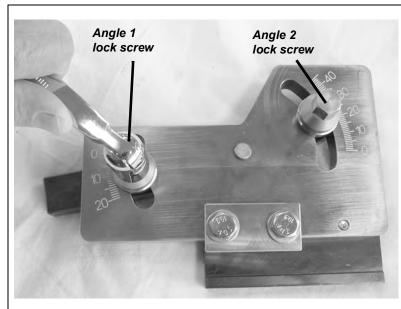
#### **Setting the Bevel Profile**



- Loosen the L1 tool post locking screw.
- Retract the tool post so that the tool bit does not contact the pipe face.



- Advance the radial feed slide to position the tip of the tool bit at the transition point on the pipe face.
- You can disengage the feed knob on the slide and use the rapid feed.
- Typically, the transition point is 0.75" from the ID.
- Refer to the prep specification for angles and dimensions.
- Push the tool post in to set the tip of the tool against the pipe surface.



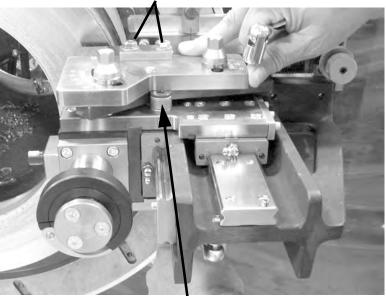
#### Configure and Mount the Template Module

Do not move the radial feed slide position until you complete this procedure.

- **1.** Set both bevel angles on the template module.
- Loosen the angle 1 lock screw, move it so the indicator on the screw is at the required angle, and tighten the screw.
- Loosen the angle 2 lock screw, move it so the indicator on the screw is at the required angle, and tighten the screw.
- 2. Loosen the 2 screws in the template module clamp.



#### Template module clamp screws



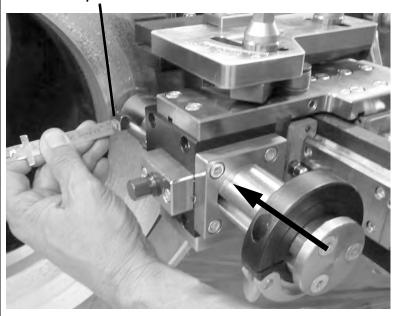
Follower set at intersection point (contacting both template plates

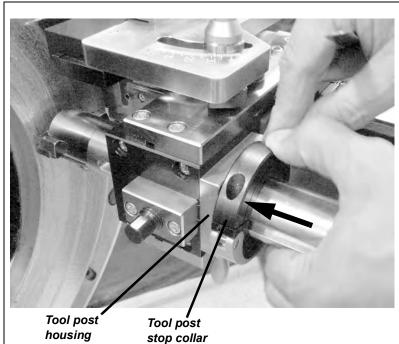
- Attach the template module to the template mount on the radial feed slide.
- Slide the template module onto the mount from the ID side of the slide.
- position crank clockwise to move the follower toward the template, so that it contacts the Angle 1 plate.
- While pushing the template module toward the OD, turn the crank counter-clockwise to retract the follower
- Stop when the follower reaches the intersection point, and is touching both template plates.
- Tighten the template module clamp screws.
- Do not re-adjust the template module position.

## Set the Land Thickness/Final Pass Cut Position

- Advance the radial feed slide to position the tip of the tool bit above the land position on the pipe face.
- The tool will move away from the pipe face as the follower moves up the template.
- Push the tool post in until the tip of the tool bit touches the pipe.
- Check to make sure the tip of the tool bit is touching the pipe at the land position. Adjust the radial feed slide if necessary.

Set tool bit back from ID for required land thickness





- Loosen the tool post stop collar and push it down against the top of the tool post housing. Clamp the stop collar in place.
- Once you set the stop collar position, do not move it again until you have completed the beveling operation.
- Pull the tool post up all the way.



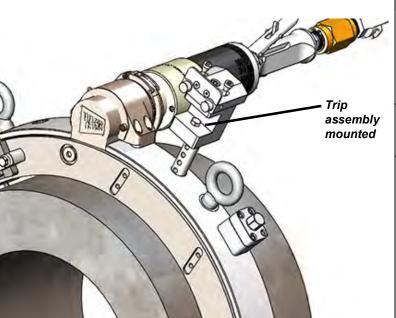
Tool bit outside ID of pipe

- Retract the radial feed slide to move the tool bit out past the pipe O.D.
- Stop retracting when the tool is about 0.25" outside the O.D.
- Re-engage the fine feed knob on the radial feed slide.



# Set the Follower on the Template

- **1.** Make sure lock L1, lock L2, and lock L3 are all loosened.
- NOTE: L2 and L3 will remain loose through the entire beveling procedure.
- Turn the crank handle clockwise until the follower contacts the Angle #1 template plate.
- Turn the crank handle clockwise an additional 1-2 turns after contact.



#### Perform the Bevel Pass

- Mount the trip assembly at the correct height for slide position.
- Mount one trip assembly for feed rate of 0.003" to 0.006" (1 or 2 trips).
- Mount two trip assemblies for feed rate of 0.009" to 0.012" (3 or 4 trips).

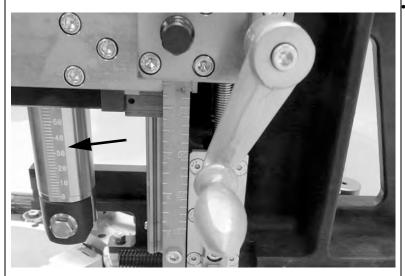


Set tool bit along OD to desired cut pass depth

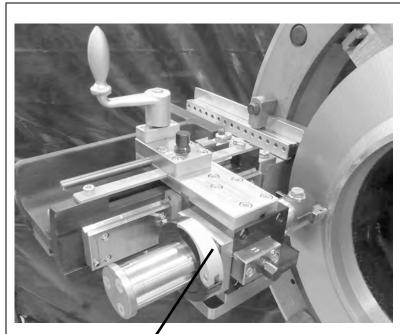
Loosen L1 lock screw to move tool post

 Move the tool post farther in for each pass, to set the cut pass depth. Make sure to tighten the L1 lock screw before cutting.

- Position the tool post to the desired depth of cut for the first pass.
- Set the cut depth for each pass to about 3-5 mm (about 1/8"-3/16").
- Use the scale on the tool post, labeled in mm. Each mark is 2 mm.
- Lighter cut depths will result in a better finish. Do not cut more than 6 mm (0.25") per pass.
- **3.** Tighten lock L1.
- **4.** Enable the MDSF trip pins.
- NOTE: 2-4 trips pins are recommended for single-point beveling.



The photo shows the scale on the tool post, which you can use when setting the cut depth.

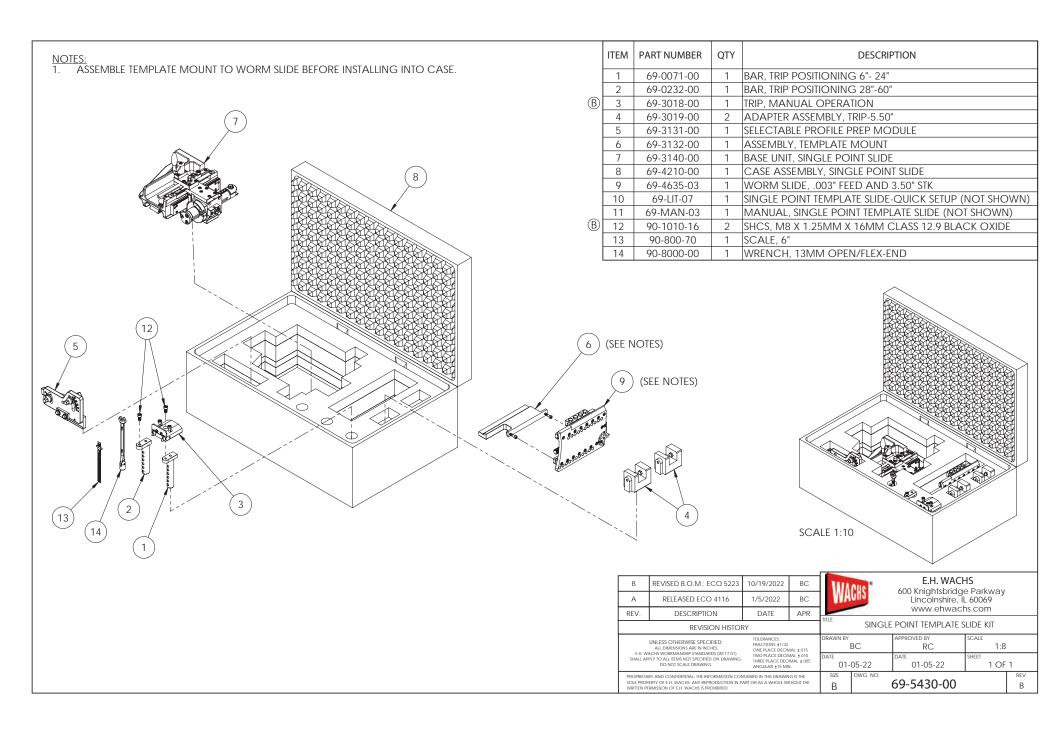


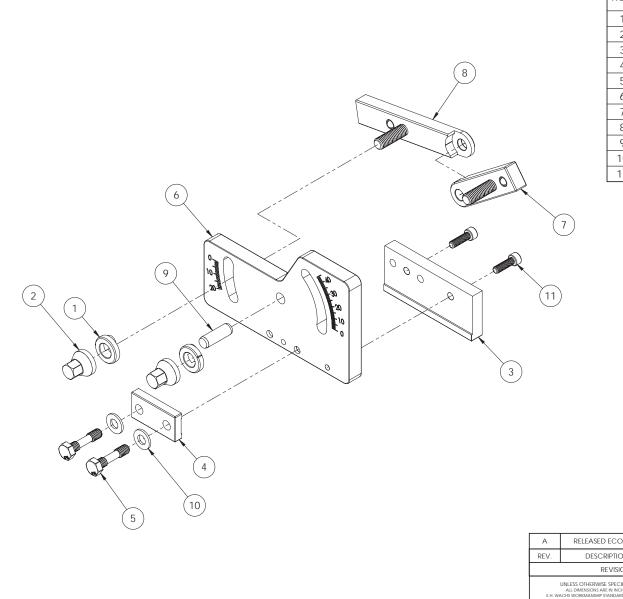
Final pass: tool post pushed in all the way to stop collar

- 5. Start the machine and operate it until the machining pass is complete. The tool bit will exit the face of the pipe as the follower moves up the template angle.
- Retract the radial feed slide so that the tool bit is again about 1/4" past the OD of the pipe.
- Reset the tool post position for the depth of the next cut pass (Steps 1-2 above).
- On the final pass, the tool post will be pushed in all the way, so that the tool post stop collar is against the top of the tool post housing.
- Do not change the position of the stop collar on the tool post during the beveling operation.
- Operate the MDSF until the tool bit exits the pipe face at the land location.

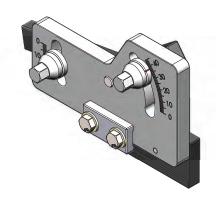
#### **DRAWINGS**

The drawings on the following pages illustrate the main assemblies and their components.





ITEM	PART NUMBER		DESCRIPTION
1	69-0450-00	2	WASHER, ANGULAR INDICATING
2	69-0460-00	2	NUT, PIVOT
3	69-0508-00	1	PLATE, TEMPLATE BASE GUIDE
4	69-0509-00	1	PLATE, CLAMP
5	69-0510-00	2	SCREW, CAPTIVATED M8
6	69-0511-00	1	BASE, ADJUSTABLE TEMPLATE
7	69-3129-00	1	ASSEMBLY, 0-45 DEG. PROFILE
8	69-3130-00	1	ASSEMBLY, 0-20 DEG. PROFILE
9	90-1014-30	1	PIN, 10MM X 30MM DOWEL
10	90-1017-03	2	WASHER, M8 FLAT GRADE 9
11	90-1069-20	2	SHCS, M6 X 1MM X 20MM CLASS 12.9



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REV.	DESCRIPTION	DATE	APR.		
REVISION HISTORY					

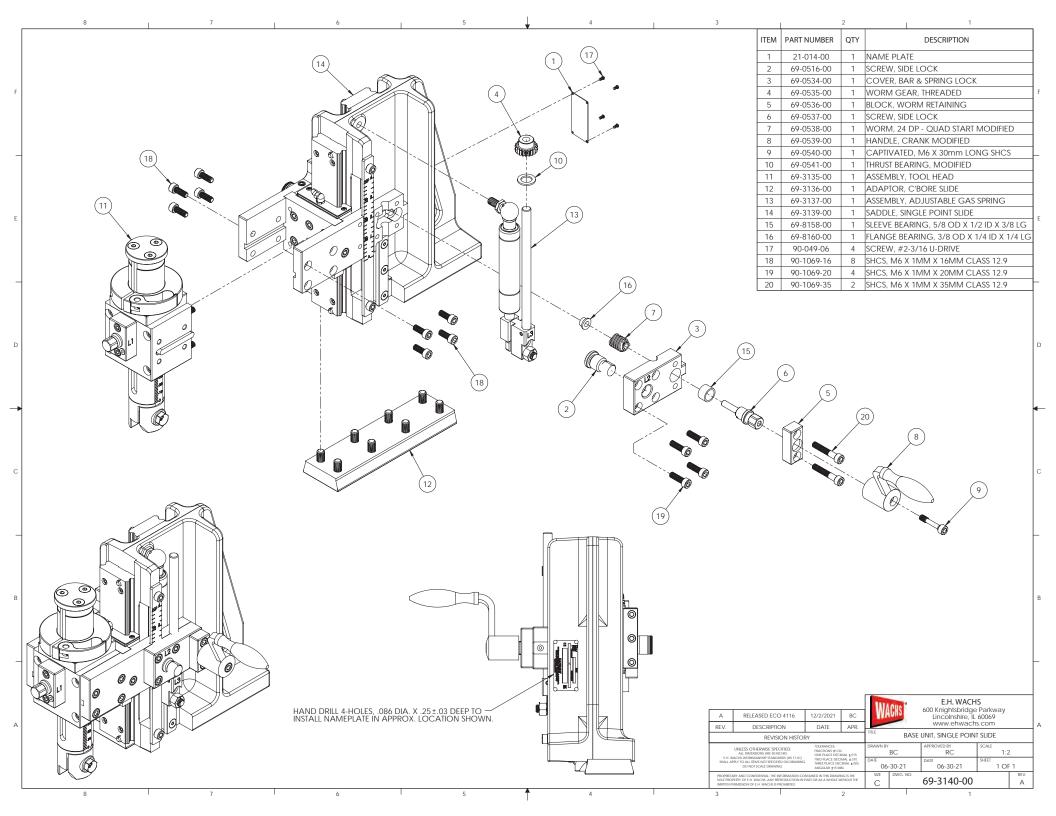
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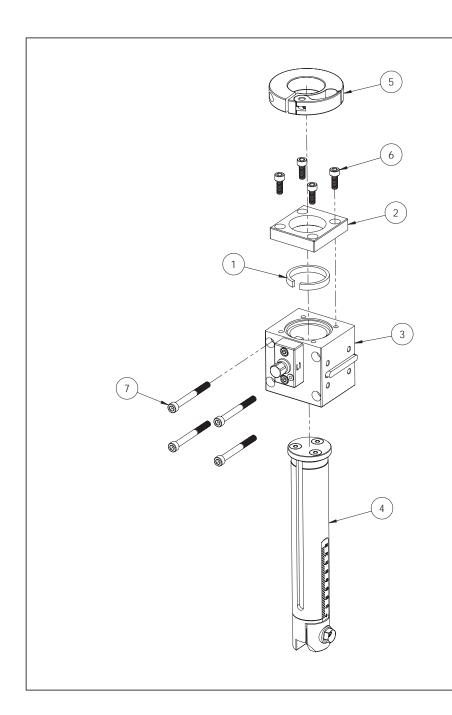
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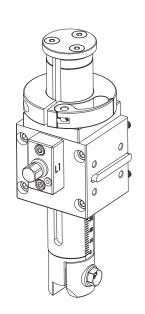
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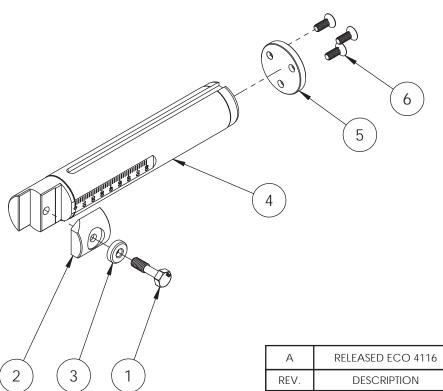


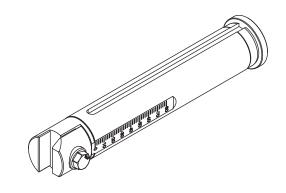
ITEM	PART NUMBER		DESCRIPTION
1	69-0451-00	1	WIPER, FELT WICK
2	69-0520-00	1	PLATE, TUBE RETAINING
3	69-3133-00	1	ASSEMBLY, QUILL HOUSING
4	69-3134-00	1	C'BORE BAR ASSEMBLY, 2"
5	69-8149-00	1	CLAMP, COLLAR
6	90-1069-16	4	SHCS, M6 X 1MM X 16MM CLASS 12.9
7	90-1069-60	4	SHCS, M6 X 1MM X 60MM CLASS 12.9



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ITEM	PART NUMBER	QTY	DESCRIPTION
1	69-0252-00	1	SCREW, CAPTIVATED M8
2	69-0442-00	1	PLATE, CLAMP
3	69-0443-00	1	WASHER
4	69-0518-00	1	BAR, C'BORE 2"
5	69-0519-00	1	STOP, TOOL POST
6	90-1006-16	3	FHCS, M6 X 1MM X 16MM CLASS 10.9





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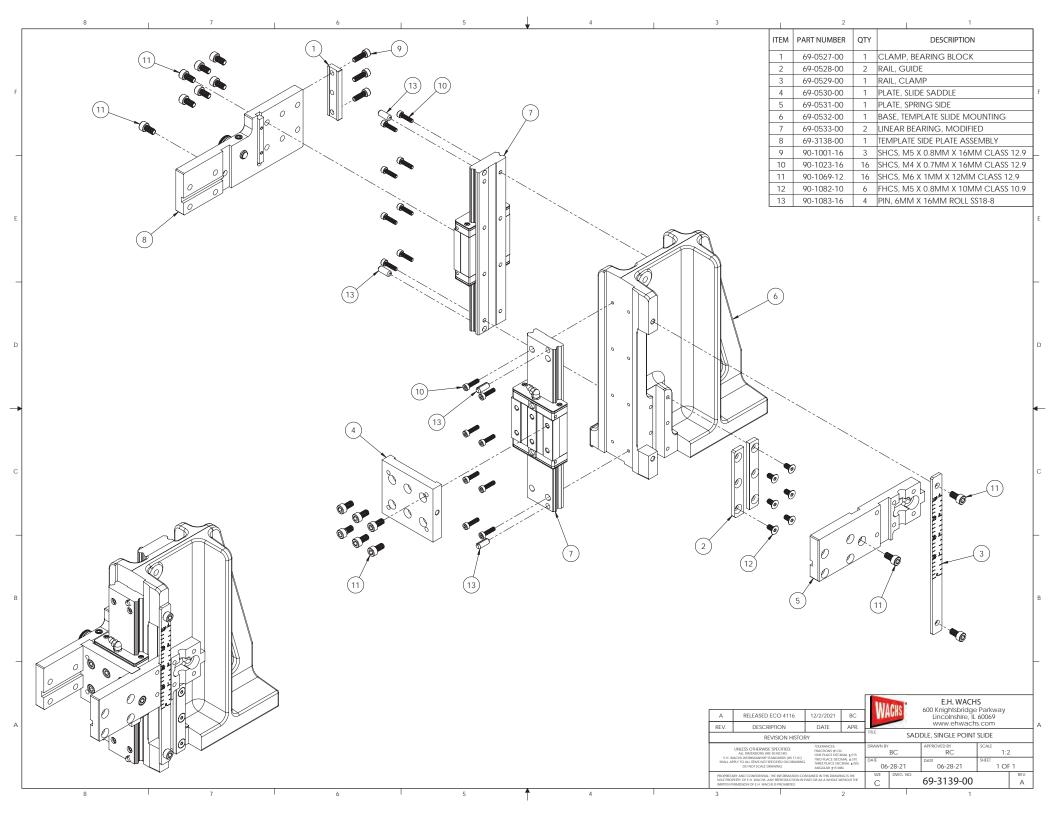
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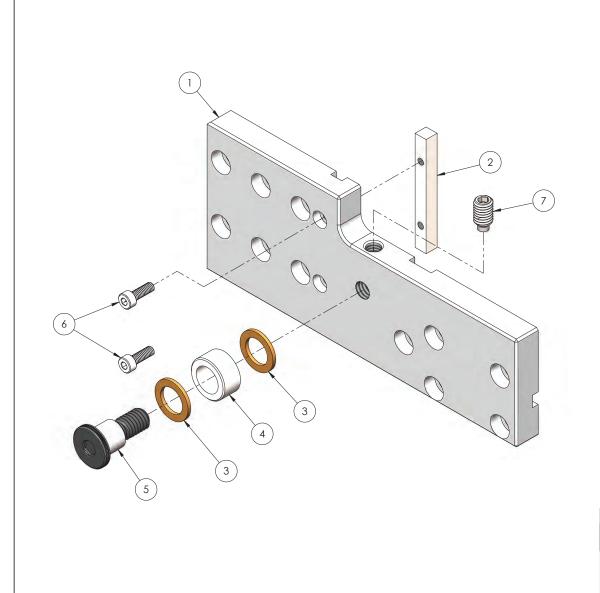
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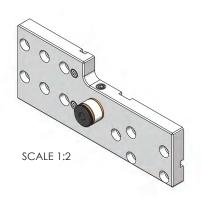
69-3134-00

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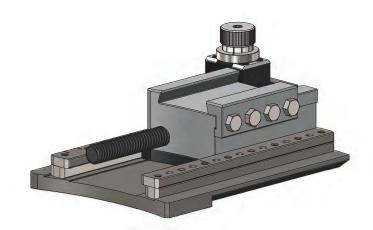
ITEM	PART NUMBER	QTY	DESCRIPTION
1	69-0525-00	1	PLATE, TEMPLATE SIDE
2	69-0526-00	1	KEY, 1/4" SQ X 2-1/4" LONG
3	69-8152-00	2	BEARING, 1/2" ID X 1/16" thk THRUST
4	69-8153-00	1	BUSHING, 1/2" ID X 3/8" THK DRILL
5	90-097-53	1	SHSB, 1/2 X 1/2 LOW HEAD
6	90-1080-12	2	SHCS, M4 X 0.7MM X 12MM CLASS 12.9
7	90-1081-12	1	SSS, M8 X 1.25MM X 12MM SOFT PT. SS18-8



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	ITEM	PART NUMBER	QTY	DESCRIPTION
$^{\circ}$	1	69-0269-00	1	TAG, SLIDE MDSF (NOT SHOWN)
	2	69-3004-55	1	SLIDE BASE ASSEMBLY, 5.50" STK
	3	69-3006-03	1	WORM FEED, .003" x 5.50" STK
	4	69-3054-00	1	TOOL SADDLE, HEAVY WALL PARTING
$^{\circ}$	5	90-101-00	1	wire, bundling (not shown)



REVISED B.O.M. & ADDED							
SHEET-2 ; ECO 3165	6/14/2016	BC	MA	Olle	E.H. WACHS		
RELEASED ECO 3139	5/20/2016	BC	WAGIS		Lincolnshire, IL 60069		
DESCRIPTION	DATE	APR.					
REVISION HISTORY			worm slide, .003" feed and 3.50" stk				
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