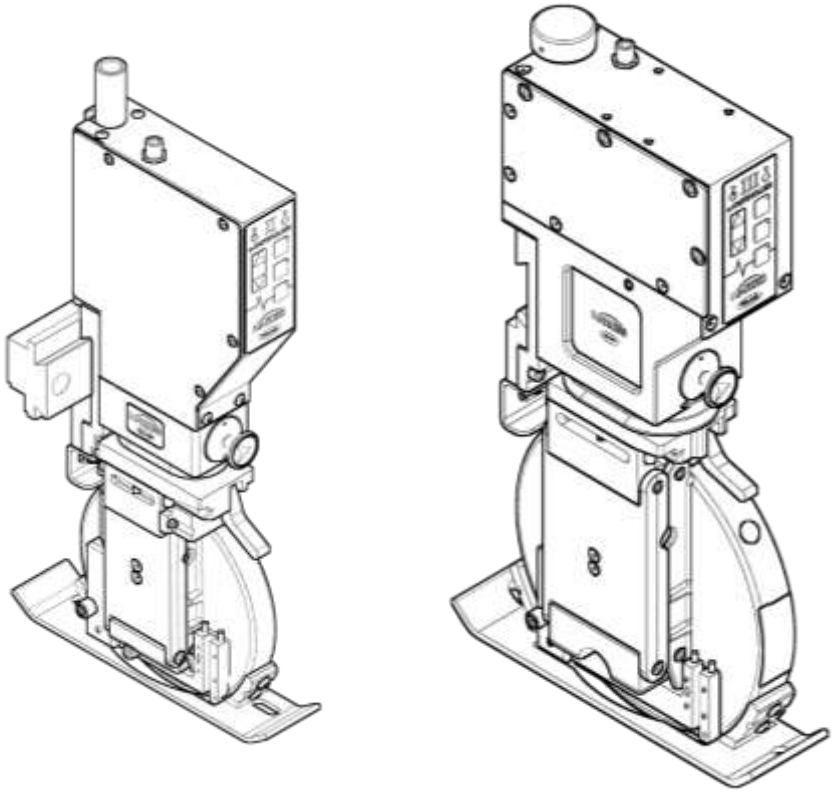
TIDLAND SLITTING SOLUTIONS

MAXCESS

MAGPOWR FIFE TIDLAND

Tidland e-Knifeholder

Installation, Operation and Maintenance



EN

Class II and II

MI 767660 1 B

For use with the User Interface Guide 771975

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Receiving and unpacking

Handle and unpack the equipment carefully. Upon arrival, check shipment against the packing list.

Promptly report to the carrier any damaged equipment.

Equipment that will not be installed immediately should be stored in a clean, dry location.

Be careful to prevent moisture, dust, and dirt from accumulating in storage and installation areas.

Before operation, check for damaged or missing fasteners. The e-Knifeholder is designed to operate at optimal levels when all fasteners are installed and tightened to recommended torque values.

If any fasteners are damaged or missing, please contact the equipment manufacturer or Tidland Corporation Customer Service.

When installing the e-Knifeholder with an *Easy* Glider mount, be sure to retain the short piece of linear rail after installation is complete. You will need the rail to remove and reinstall the e-Knifeholder.

Before operation

Read the Safety section of this manual before installing the cabinet or handling a knifeholder.

If not using a PC supplied by Tidland, install the software that was supplied with your e-Knifeholders. This will ensure that you have the most current version of the software on your computer.

To avoid damage to the e-Knifeholder, be sure that all cables are properly plugged in before applying system power.

For systems with the e-Knifeholder User Interface Software: The e-Knifeholder Help Tool is for use with the Windows version of the Tidland Control System. If you have any questions that cannot be answered with the e-KnifeholderHelp Tool, please contact Maxcess.

About these operating instructions

These operating instructions are intended to help in successful and safe operation of the Tidland e-Knifeholder.

The operating instructions contain important information on operating the e-Knifeholder safely, properly and efficiently. Observing these instructions help to avoid dangers and increase the service life of the e-Knifeholder.

No part of these or the following instructions should be construed as conflicting with or nullifying the instructions from other sources.

The operating instructions must be carefully kept and must always be available throughout the service life of the e-Knifeholder system.

When using the Tidland e-Knifeholder, always follow basic safety precautions to reduce the risk of personal injury.

Your company's safety instructions and procedures should always be followed.

When using this product with any other equipment or machinery, all safety requirements stipulated by that equipment or machinery manufacturer must be followed.

Compliance with local, state, and federal safety requirements is your responsibility.

Be familiar with the hazards and safety requirements in your work environment and always work safely.

This equipment is intended to be installed and used with a larger machine or factory. For compliance to EU machinery directive 2006/42/EC the end user should provide a complete risk analysis conducted per EU directives before putting this equipment into service.

These are the original instructions, written in English.

This document is intended to be used with the Tidland e-knifeholder User Interface Guide, Part No. 771975.

Proper use

The Tidland e-Knifeholder is designed and manufactured for cutting material webs according to the shear slitting procedure in the direction of motion of the material. Any other use is deemed as not being in accordance with the intended purpose. The manufacturer will not be liable for any damage resulting from this improper use. The user/operator bears sole responsibility for the risk.

Operating principle

The e-Knifeholder has motorized overlap and side force control. The overlap and side force are configured using e-Knifeholder software provided with the system. Tidland can also provide an optional industrial touchscreen PC with software to adjust overlap and side force.

The e-Knifeholder comes configured with a default overlap of 0.035" and 5 lbs of side force. Use the keypad to calibrate the e-Knifeholder. See page 8-4 for operation instructions.

Safety equipment

If the 360 Degree Blade Guard is installed, the blade is guarded when the knifeholder is disengaged.

If the electrical power fails, the blade will stop and stay in the current overlap and side force position.

All replacement parts used on this product shall be made to original Tidland specifications.

Emergency stop E-stop circuit

This TUV (or UL) listed device is not provided with its own E-stop and may only be installed in a completed system equipped with a compliant E-stop circuit.

The E-stop circuit gives the operator the ability to shut the entire system off quickly in case of an emergency.

Upon activation by an E-stop button, power shall also be removed from the system.

Removing the power from the cabinet creates a zero energy state, category 0, according to the NFPA-79* (controlled stop).

Upon releasing the E-stop button, power is not delivered until some deliberate action is completed. Restarting of the machine requires operation of the start button.

Follow local electrical codes to conform with E-stop conditions.

Lockout/tagout procedures

To prevent unexpected system startup, always follow your company's lock-out/tag-out procedures and test the system for a zero-energy state before beginning maintenance on the Tidland e-Knifeholder system.

TUV and UL

TUV and UL approved e-Knifeholders have the TUV or UV mark affixed to the back of the knifeholder.

* EN60201-1 (European Union standard)

Instructions for use

The problem-free and safe operation of the Tidland e-Knifeholder is reliant on proper transportation and storage, expert installation and commissioning and on use in accordance with the intended purpose.

Only persons who are familiar with the installation, commissioning, operation and maintenance of the e-Knifeholder and who possess the necessary qualifications for their activities may work on the e-Knifeholder.

Please note the following:

- The content of these operating instructions
- Any safety instruction on the device
- The machine manufacturer's specifications
- The applicable accident prevention and environmental protection guidelines

Information about safety instructions

The safety instructions and symbols described in this section are used in these operating instructions. They are used to avoid possible dangers for users and to prevent material damage.

SIGNAL WORD
Source of danger and its results
Avoiding dangers

The signal word **DANGER** refers to the danger of death or serious bodily injuries.

The signal word **WARNING** refers to the danger of moderate to severe bodily injuries.

The signal word **CAUTION** refers to the danger of slight to moderate bodily injuries or material damage.

Safety symbols used in this manual

Caution
Reference to general hazards that may result in bodily injuries or damage to the device.

Warning
Knife blades are sharp.
Can cause serious injury to hands.
Do not remove safety guards.
Use only recommended tools when handling knife blades.

Warning
Pinch point.
Keep hands away from moving knifeholder parts.

Danger
Arc flash and shock hazard.
Follow ALL requirements in NFPA 70E for safe work practices and for Personal Protective Equipment (PPE).

Information
Disconnect power before servicing the Tidland e-Knifeholder cabinet.

Information
This mark identifies a process and/or operator steps. Execute steps in sequence top to bottom. Observance of correct procedures will assure a safe, sound and efficient handling of the knifeholder.

Caution
To avoid static discharge, use proper grounding methods.

Residual risk

A residual risk remains, even if all safety regulations during the operation of the Tidland e-Knifeholder are observed. Any person working with the e-Knifeholder should be aware of such residual risks and must follow the instructions intended to avoid such residual risks developing into accidents or damage.

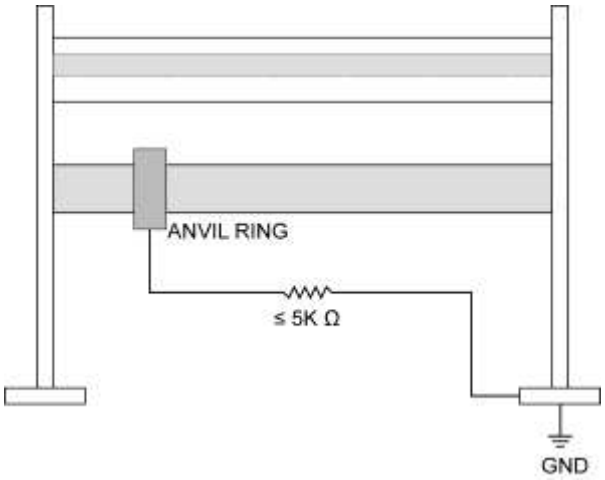
Warning
Work on electrical equipment shall be performed by authorized professionals only.
Before beginning any maintenance on the e-Knifeholder, turn off main switch on the
e-Knifeholder cabinet. Disconnect the power to secure the unit against unintended restarting, and then test for zero-energy state.

Warning
Duration of blade rotation during emergency shutdown (activation of the E-stop button) is system-dependent.

Warning
Keep hands away from moving knifeholder parts.

Continuity requirements

- For the e-Knifeholder to calibrate and function properly, you must verify continuity between system components.
- Use an ohmmeter to confirm ≤5KΩ between ground and the anvil ring.
- If using an expanding knife shaft, test with the shaft expanded.
- If resistance exceeds 5KΩ, call Tidland Customer Service; modifications to improve continuity may be required.

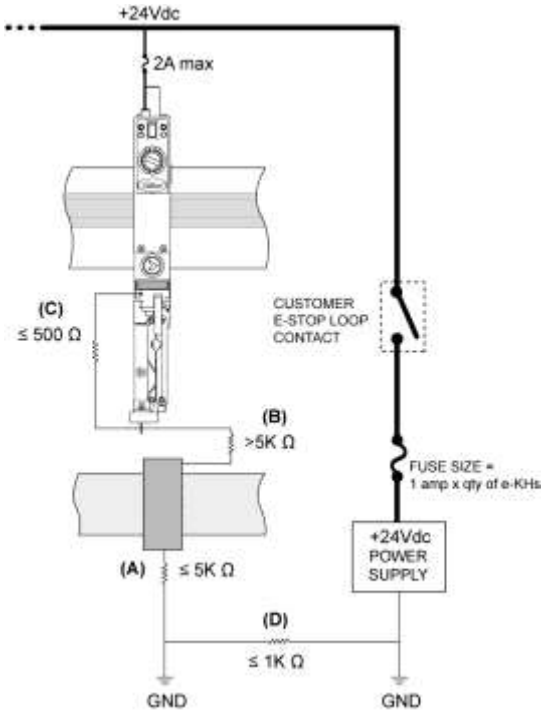


At installation

(A) Resistance between the anvil ring and ground must be ≤5KΩ.

(B) Confirm >5KΩ between the e-Knifeholder blade and the anvil ring.

(C) If resistance exceeds ≤5K Ω, confirm ≤500 Ω between the e-Knifeholder blade(s) and ground.

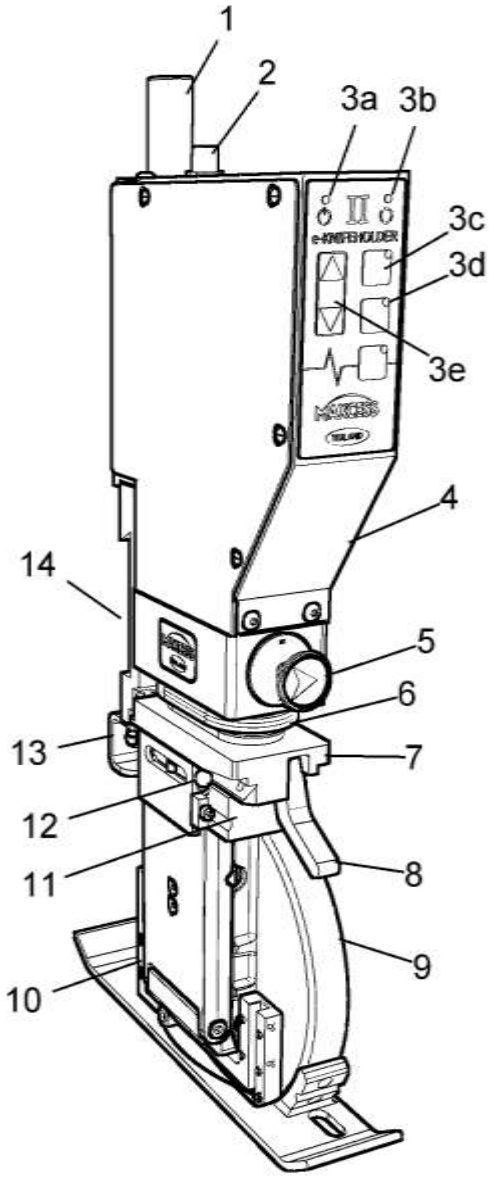


E-stop circuit

- This TUV (or UL) listed device is not provided with its own E-stop and may only be installed in a completed system equipped with a compliant E-stop circuit.
- The E-stop circuit gives the operator the ability to shut the entire system off quickly in case of an emergency.
- Upon activation by an E-stop button, power shall also be removed from the system.
- Removing the power from the cabinet creates a zero energy state, category 0, according to the NFPA-79* (controlled stop).
- Upon releasing the E-stop button, power is not delivered until some deliberate action is completed. Restarting of the machine requires operation of the start button.
- Follow local electrical codes to conform with E-stop conditions.
- TUV and UL approved e-Knifeholders have the TUV or UV mark affixed to the back of the knifeholder.

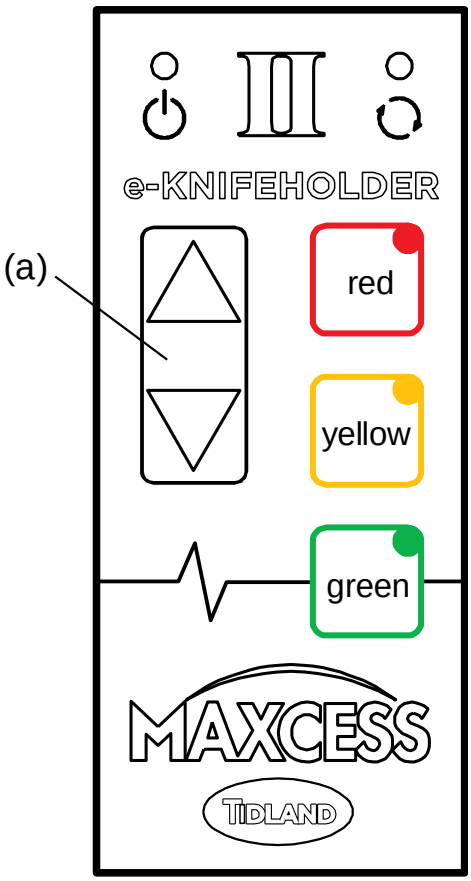
* EN60204-1 (European Union standard)

Knifeholder components



Item	Description
1	Brake knob
2	Power/communication connector
3	Keypad
3a	Power/error LED Green steady: power on/no error Red blink: knifeholder error
3b	Communication (Comm) LED Green steady: PC is communicating to knifeholder OFF: PC is not communicating with the knifeholder, or, there is no PC connected to the knifeholder.
3c	Operating mode buttons (red, yellow, green)
3d	Operating mode LEDs (red, yellow, green)
3e ⚠	Jog buttons Use jog buttons with extreme caution. Keep hands clear of knife blades at all times. With knifeholder in non-operational position (Red button LED is steady red) DOWN arrow: extends the knifeholder UP arrow: retract the knifeholder Jog button stops knifeholder movement during calibration or down-stroke.
4	Control body
5	Cant key
6	Knifeholder bellows
7	Control body to cartridge dovetail interface
8	Lock/unlock lever (shown in LOCKED position)
9	360° blade guard cartridge
10	360° blade guard linkage
11	Dust cover (optional)
12	Safety lock pin
13	360° blade guard engagement bracket
14	Guide bar mount assembly (manual mount or *Easy* Glider)

Keypad



RED BUTTON	RETRACT, NO OPERATION

Reverses side-stroke movement, and then retracts blade cartridge.

- Allows jog buttons **(a)** to move the knife up/down.
- Use when traversing knifeholder (with blade retracted) to new slit position.

Do not traverse knifeholder when blade is extended.

YELLOW BUTTON	SETUP, CALIBRATION

Begins the calibration cycle.

1) The blade will move vertically away from the anvil.
2) The blade cartridge will fully side-stroke,
3) move down until it just touches the top of the anvil blade,
4) move up 0.030",
5) side-disengage to zero point,
6) move down to desired overlap,
7) side-engage until it just touches the side of the anvil blade,
8) side-disengage to zero point, and then
9) wait for the next command.

GREEN BUTTON	EXTEND, ENGAGE

Depending upon commanded engage state, extends blade cartridge to programmed overlap then moves side-stroke to the programmed side force.

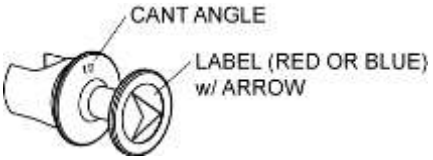
See pages 4-5 and 8-5 for information about operating modes and LEDs.

Cant key

Selection

Cant angle options 0°, 0.25°, 0.5°, or 1.0°

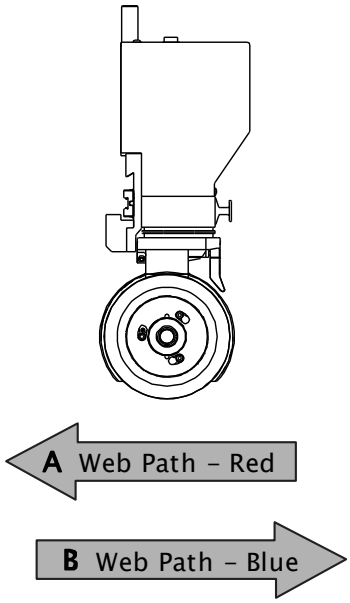
The angle is engraved in the key.



Orientation

The arrow on the cant key label should:

- point to the nip point (blade contact side) of the anvil ring.
- point in the same direction as the arrow on the blade cartridge.



If the arrows point in opposite directions:

- the nip point will not be closed, resulting in poor slit quality, and
- the cant key orientation needs to be reversed, **or**
- the cartridge orientation must be changed.

To change cant key orientation, pull the cant key all the way out of the control body, rotate it 180° and reinstall, pushing it firmly into the control body.

To install a new cant key, pull the old key out of the control body and replace it with the new key, making sure that the cant key arrow points in the same direction as the blade cartridge arrow.

- The cant key label color, red or blue, indicates the web path direction as determined at time of sale.
- If the web path needs to be reversed at any time, Tidland recommends replacing the cant key with one of the correct color.

If you remove and reverse the blade cartridge, you must also reverse the cant key. Pull it out of the knifeholder, rotate to match the direction of the arrow on the cartridge and reinstall.

Cant key

continued

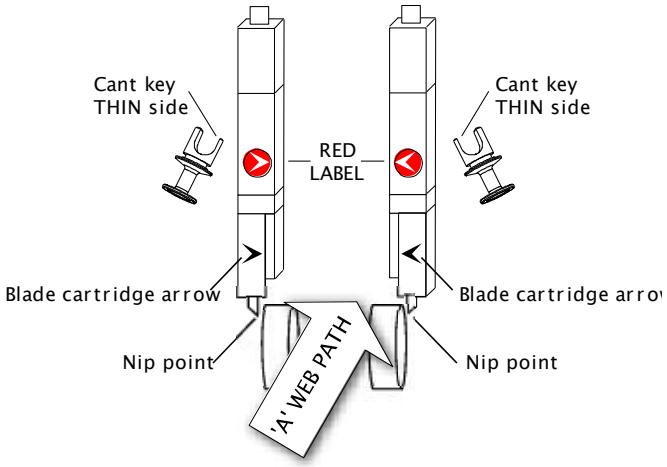
Web path

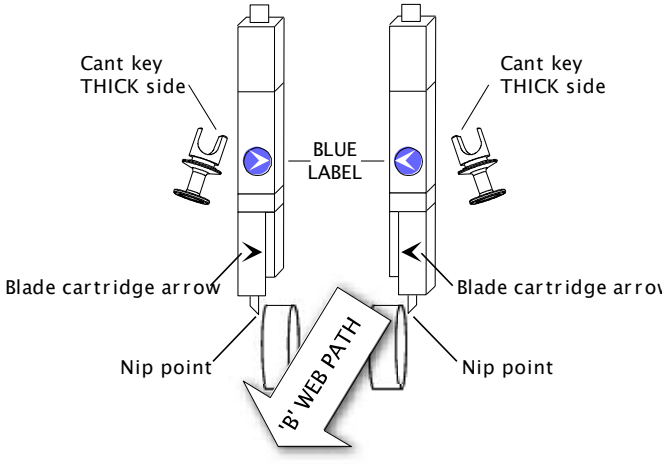
'A' web path

- Web moves **from control side of knifeholder** toward the guide bar mount.
- Cant key label is RED.
- Cant key arrow points toward THIN side of the cant key.
- Blade cartridge arrow points to the nip point (contact side of anvil ring.)

'B' web path

- Web moves **from the guide bar mount** toward the control side of knifeholder.
- Cant key label is BLUE.
- Cant key arrow points toward THICK side of the cant key.
- Blade cartridge arrow points to the nip point (contact side of anvil ring.)





Operating modes

There are three modes of operation.

1) Operating (default)
2) Remote engage switch (optional)
3) Maintenance mode (call Maxcess for assistance)

If an error occurs during normal operation, the knifeholder will enter a faulted state. The Power LED will blink red/green and an error code will blink on the other LEDs.

See the Error Code guide (page 8-6).

Operating mode

(default)

In default operating mode, the knifeholder keypad functions as described below.

Power LED = When there is power to the knifeholder, the Power LED state is steady green.
Communication LED = steady green if communicating with a PC

Press button	Knifeholder action
Red	Disengages/retracts the knifeholder
Yellow	Starts the calibration process
Green	Extends/engages the knifeholder for slitting
Jog Δ ∇	Moves the knifeholder up or down; Stops knifeholder movement during retract, extend or calibration operation; Disabled when knifeholder is calibrated or slitting (LED solid yellow or green)

Remote engage switch option : page 4-6

Operating modes

Remote engage switch

To engage/disengage the knifeholders remotely, you must wire a switch into the knifeholder interface cabinet. Refer to the electrical drawings at your installation for the wiring of the external engage signal switch.

Remote engage switch ON

The user interface can engage or disengage any knifeholder. The knifeholders will function as in default operating mode.

Remote engage switch OFF

Turning the remote engage switch OFF during the slitting operation will automatically disengage and retract the knifeholder.

- The red button LED will blink until knifeholder movement has stopped.
- The knifeholder is now disabled: the Power LED is orange.

When the switch is OFF, the knifeholder keypad functions as described below.

Power LED =orange; will turn red for one second when operator presses any button. (The knifeholder will accept the button input and enable that mode, and then remain on stand-by until the remote engage switch is turned ON.)

Communication LED = steady green if communicating with a PC

Press button	Knifeholder action
Red	Enter disabled state
Yellow	No movement
Green	Ready to engage when remote engage switch is turned ON.
Jog Δ ∇	No effect on the knifeholder.

Maintenance mode

Maintenance mode is a special operating mode used by Tidland staff or technically trained users to diagnose and potentially resolve problems with the knifeholder.

Call Maxcess for assistance if you cannot solve a problem using the Error Code guide (page 8-6) or Troubleshooting (page 10-1).

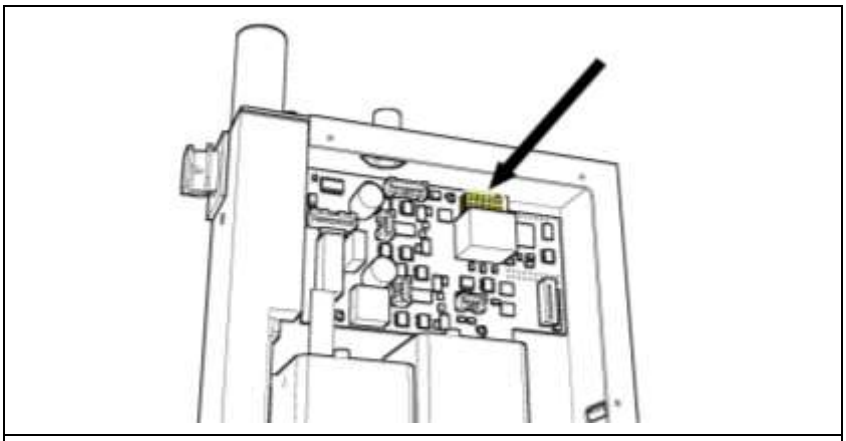
Configuration

Knifeholder address

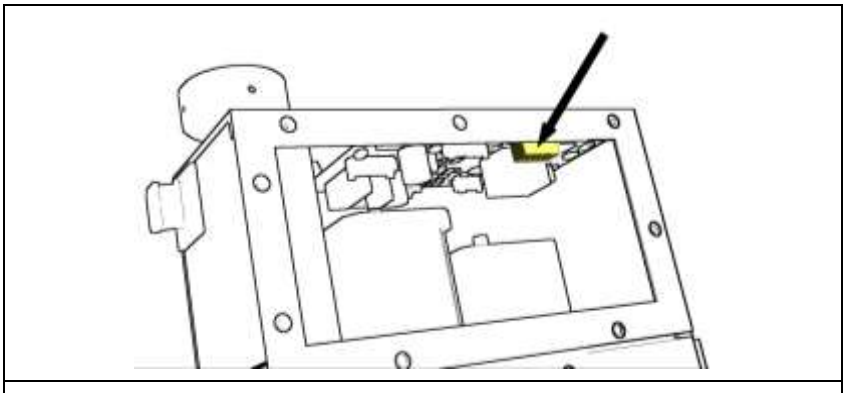
See the e-Knifeholder User Interface Manual for details about knifeholder address and configuration.

Accessing the address switch

Remove the knifeholder side cover to access the switch.



Class II. DIP switch location

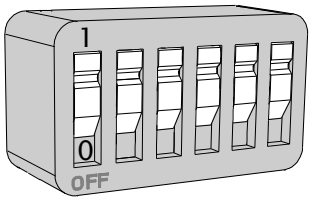


Class III. DIP switch location

Setting the address

Not required for knifeholders equipped with auto-addressing feature. See the e-Knifehholder User Interface Guide for details.

1. Orient the knifeholder so that the DIP switch pin 1 is on the left as illustrated.



2. Find the corresponding number for your knifeholder in the table below. With a small flat blade screwdriver, carefully move each switch to the correct OFF or ON position.

   OFF = 0 ON = 1

	1	2	3	4	5	6
1	1	1	1	1	1	1
2	0	1	1	1	1	1
3	1	0	1	1	1	1
4	0	0	1	1	1	1
5	1	1	0	1	1	1
6	0	1	0	1	1	1
7	1	0	0	1	1	1
8	0	0	0	1	1	1
9	1	1	1	0	1	1
10	0	1	1	0	1	1
11	1	0	1	0	1	1
12	0	0	1	0	1	1
13	1	1	0	0	1	1
14	0	1	0	0	1	1
15	1	0	0	0	1	1
16	0	0	0	0	1	1
17	1	1	1	1	0	1
18	0	1	1	1	0	1
19	1	0	1	1	0	1
20	0	0	1	1	0	1
21	1	1	0	1	0	1
22	0	1	0	1	0	1
23	1	0	0	1	0	1
24	0	0	0	1	0	1
25	1	1	1	0	0	1
26	0	1	1	0	0	1
27	1	0	1	0	0	1
28	0	0	1	0	0	1
29	1	1	0	0	0	1
30	0	1	0	0	0	1
31	1	0	0	0	0	1
32	0	0	0	0	0	1

	1	2	3	4	5	6
33	1	1	1	1	1	0
34	0	1	1	1	1	0
35	1	0	1	1	1	0
36	0	0	1	1	1	0
37	1	1	0	1	1	0
38	0	1	0	1	1	0
39	1	0	0	1	1	0
40	0	0	0	1	1	0
41	1	1	1	0	1	0
42	0	1	1	0	1	0
43	1	0	1	0	1	0
44	0	0	1	0	1	0
45	1	1	0	0	1	0
46	0	1	0	0	1	0
47	1	0	0	0	1	0
48	0	0	0	0	1	0
49	1	1	1	1	0	0
50	0	1	1	1	0	0
51	1	0	1	1	0	0
52	0	0	1	1	0	0
53	1	1	0	1	0	0
54	0	1	0	1	0	0
55	1	0	0	1	0	0
56	0	0	0	1	0	0
57	1	1	1	0	0	0
58	0	1	1	0	0	0
59	1	0	1	0	0	0
60	0	0	1	0	0	0
61	1	1	0	0	0	0
62	0	1	0	0	0	0
63	1	0	0	0	0	0
Auto	0	0	0	0	0	0

360° blade guard

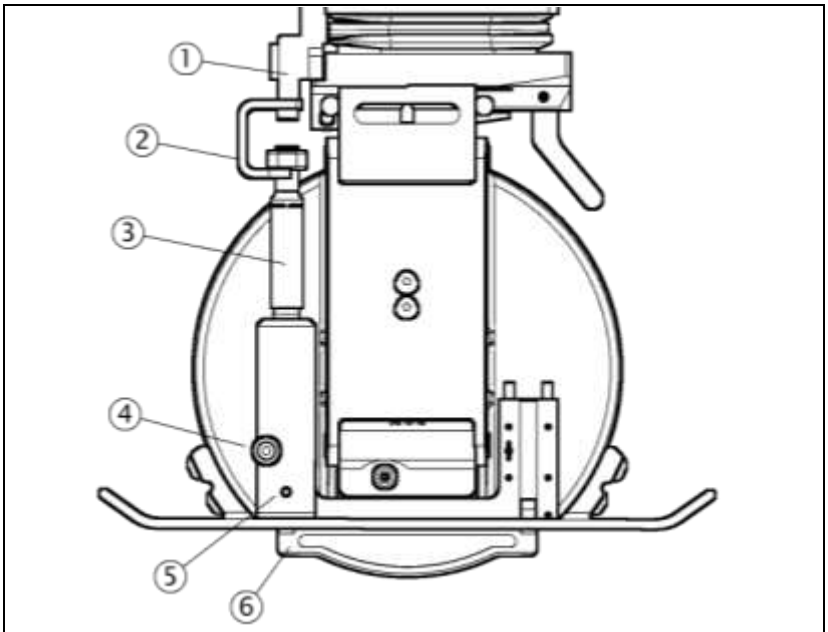
Warning
Knife blades are sharp.
Can cause serious injury to hands.
Do not remove safety guards.
Use only recommended tools when handling knife blades.

About the blade guard

The reversible blade guard covers the blade when the knifeholder is retracted during non-operation and handling.

The guard is held in place by a bracket installed on the guide bar mount and is actuated by the extension of the knifeholder.

The actuator assembly is reversible; it can be moved to the other side of the blade guard strut. The illustration below shows the blade guard orientation for a right cut side.

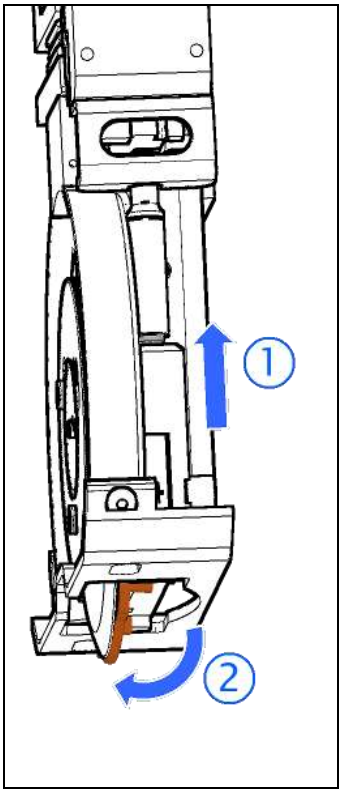


1	Guide bar mount
2	Bracket (stationary)
3	Actuator assembly (reversible)
4	Actuator assembly release pin
5	Adjustment screw
6	Blade guard

360° blade guard

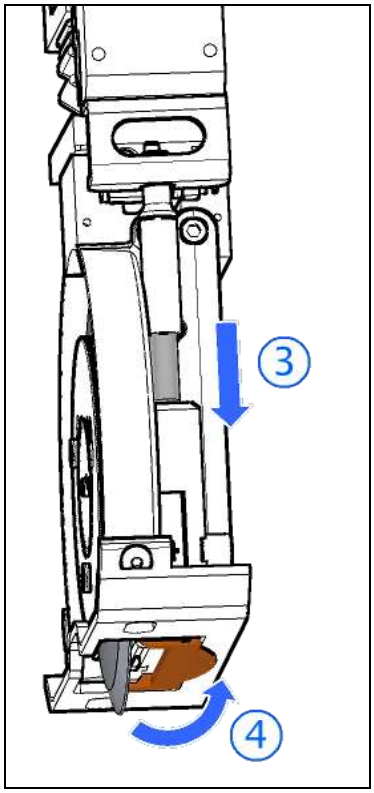
When the blade cartridge is retracted, the blade is guarded.
When the blade cartridge extends, the blade is unguarded.

Guarded



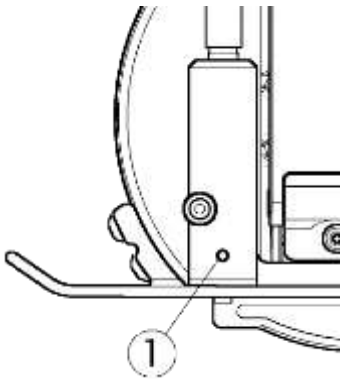
Knifeholder retracted

Unguarded



Knifeholder extended

Adjusting the blade guard



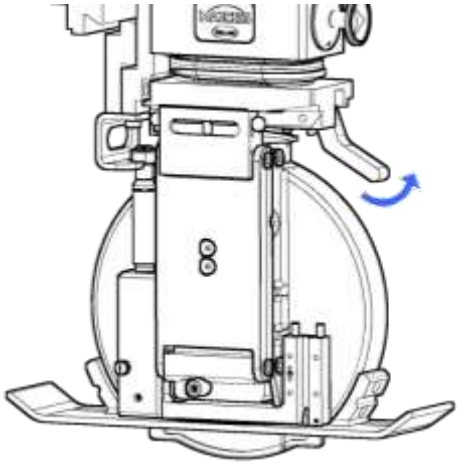
To adjust the guard for a closer fit to the knife blade, turn the M5 adjustment set screw **(1)** clockwise until the guard touches the blade, and then back off one-quarter turn.

The knife blade should spin freely and smoothly on the blade hub and not rub on the guard.

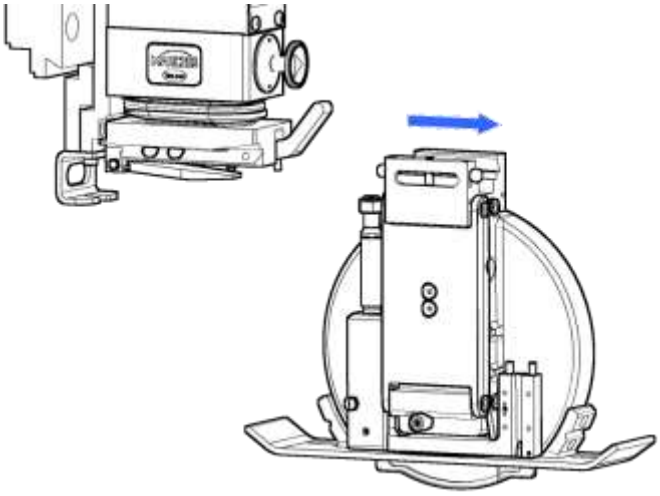
Removing the blade cartridge

If the 360° Blade Guard is installed, the blade is guarded when the knifeholder is retracted. See page 5-1.

1. Lift lock lever up.



2. Slide cartridge off of knifeholder body.

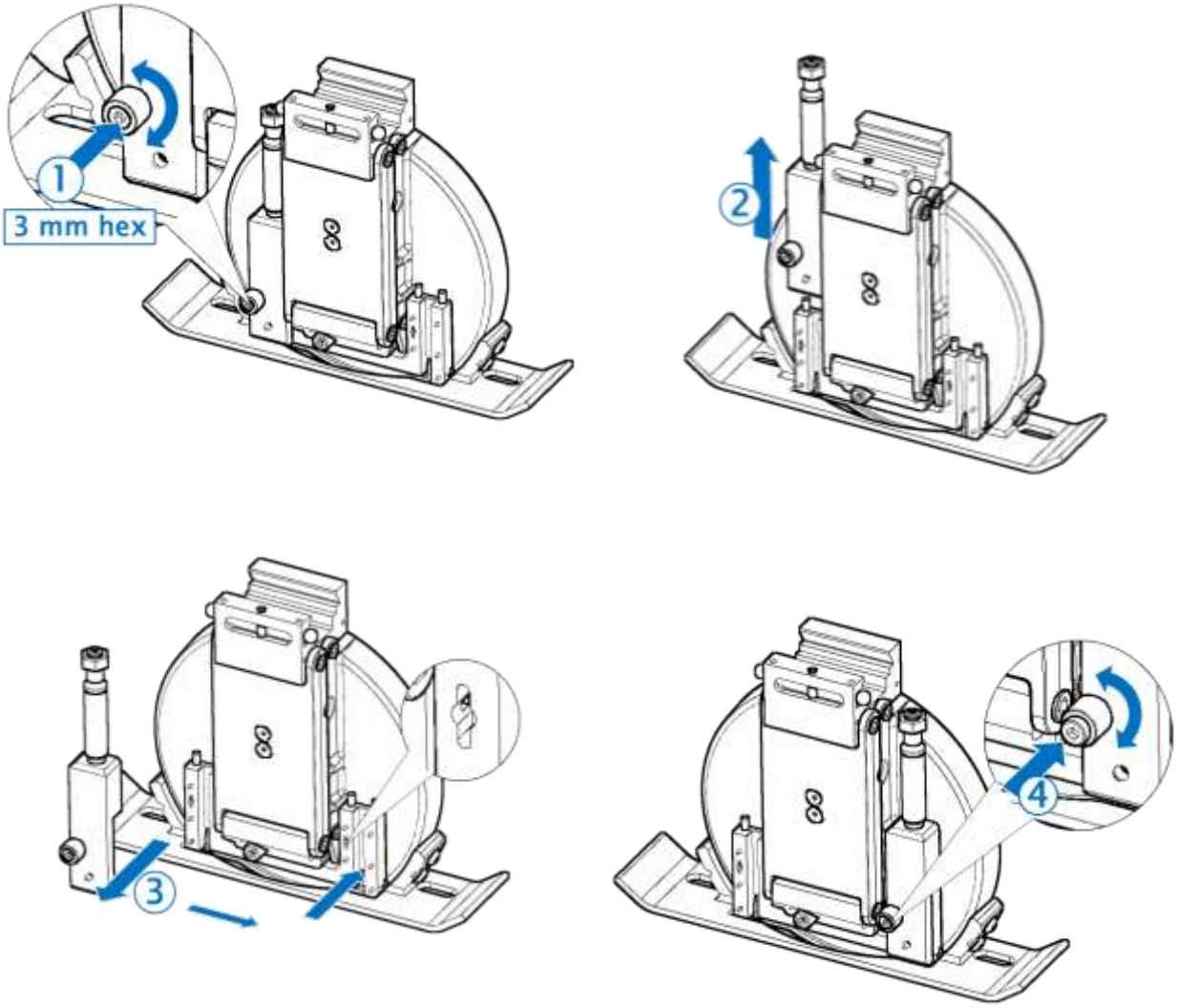


If you are changing the cut side (reversing the blade cartridge on the knifeholder), you must reverse the 360° Blade Guard actuator assembly, if installed. See page 5-4.

You must also reverse the cant key. See page 4-3.

Reversing the blade guard actuator assembly

Remove the blade cartridge from the knifeholder before reversing the actuator assembly.



Before reinstalling the blade cartridge on the knifeholder, remove dust and debris from the dovetail interface components.

Installing the power cabinet

Danger

Arc flash and shock hazard.

Installation must comply with federal, state and local electrical codes.

Install the cabinet according to the Tidland electrical drawings provided with your unit.

Electrical ratings

See the label on the e-Knifeholder power cabinet for your model number.

Cabinet Model	EKH5-5S	EKH5-1S	EKH20-1S	EKH20-1T
Tidland Part No.	708185	706687	708199	766047
Input rating	100-240 VAC	100-240 VAC	100-240 VAC	100-240 VAC
	1.65 A	1.65 A	4.6 A	6.6 A
	50 Hz or 60 Hz single-phase	50 Hz or 60 Hz single-phase	50 Hz or 60 Hz single-phase	50 Hz or 60 Hz single-phase
Output rating	24-29 VDC	24-29 VDC	24-29 VDC	24-29 VDC
	1 A per cable	5 A	15 A	15 A
Short circuit rating	200 kA RMS	200 kA RMS	200 kA RMS	200 kA RMS

Commissioning the power cabinet

To avoid damage to the e-Knifeholder, Tidland recommends turning off the power before connecting the knifeholder power communication cable.

Before connecting the knifeholders:

1. Turn the cabinet power on. (Turn knob clockwise one-quarter turn.)
2. Verify the voltage at the knifeholder end of each cable connector, according to the electrical drawing (Tidland Drawing No. XXXX-0410).
3. Turn off the power.
4. Connect the knifeholders.
5. Turn the power on again.

Servicing the power cabinet

Danger
Arc flash and shock hazard.
Service to be performed by qualified personnel only.
Disconnect power before servicing the cabinet.

Replacing a fuse in the cabinet

For knifeholder fuses see page 9-17.

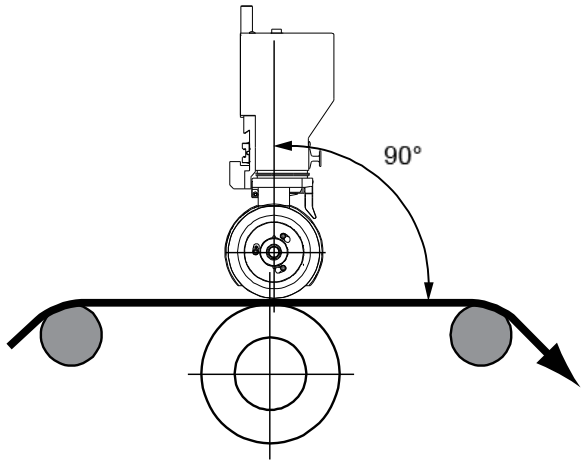
CAUTION	To reduce the risk of fire, replace fuses only with the same type as indicated for your cabinet model.			
Cabinet Model Tidland Part No.	EKH20-1S 708199	EKH5-5S 708185	EKH5-1S 706687	EKH20-1T 766047
Input Fuse Class J, 600V	F10 and 11 10 A	F10 and 11 3 A	F10 and 11 3 A	F10 and 11 10 A
Output Fuse(s) 3AG Time Delay, 250V	F1, 15 A F2, 1 A	F1-F6, 1 A	F1, 5 A F2, 1 A	F1, 15 A F2, 1 A

Replacing the power supply

Replace power supply with same make and model only.
Contact Tidland for pricing.

Select slitting type

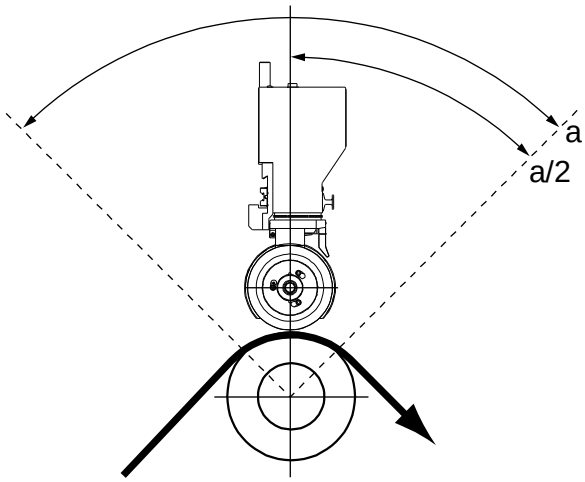
Class II profile shown



TANGENT

Knifeholder axis is 90° to web path.

Tangent slitting requires knifeholder setback.



WRAP

a = wrap angle

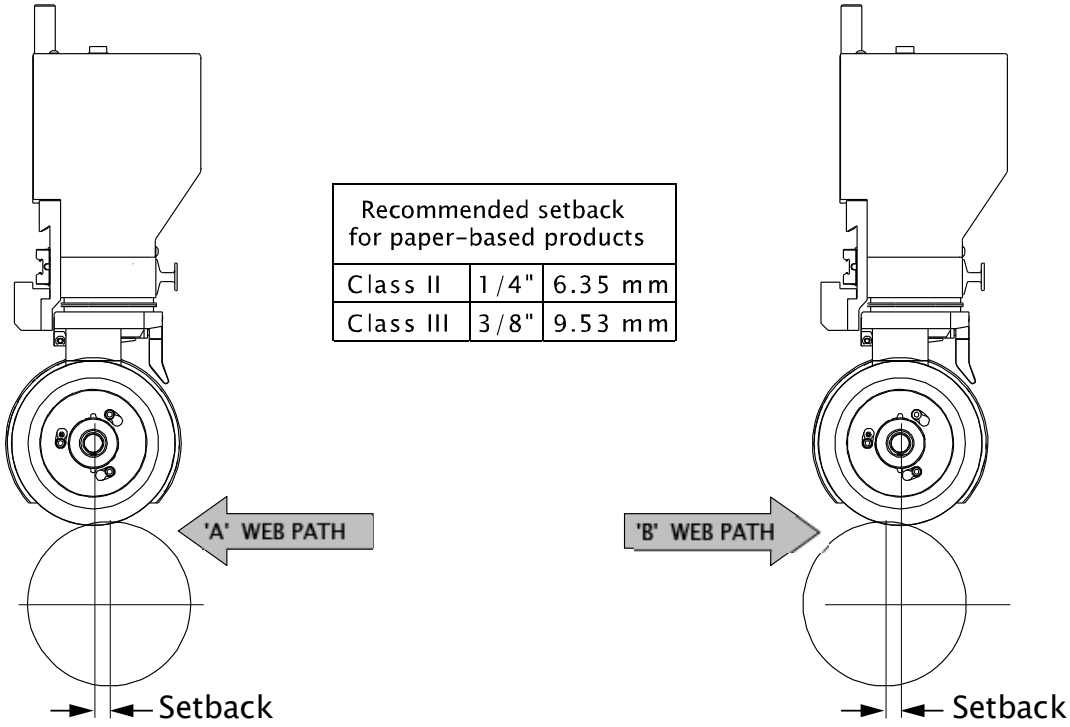
Knifeholder axis bisects the wrap angle.

Knifeholder setback is not required.

Knifeholder setback

- For tangent slitting only.
- Class II profile shown.
- For best slit result, the web must be in contact with the lower knife ring at the cut point. If the web contacts the top blade ahead of the cut point, the material will tear instead of slitting cleanly.
- Geometry shown is based on medium weight kraft paper. For assistance with other web materials, call Tidland Customer Service.

Recommended setback for paper-based products		
Class II	1/4"	6.35 mm
Class III	3/8"	9.53 mm

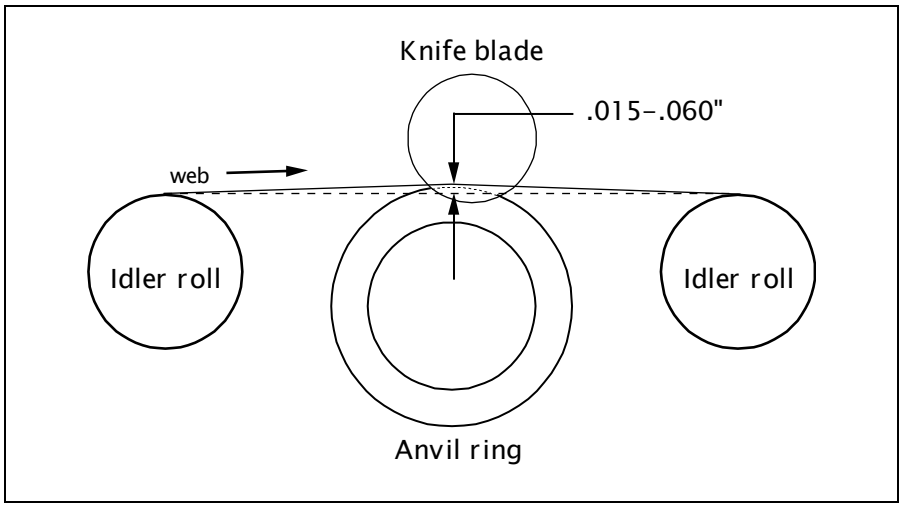


Web penetration

Tangential slitting applications

To maximize web stability at the cut point, Tidland recommends web penetration by the anvil ring of 0.38-1.52 mm [015"-.060"].

Check this measurement by laying a straight edge across the idler rolls to represent the web. Measure how far the anvil ring "penetrates" the plane created by the straight edge.

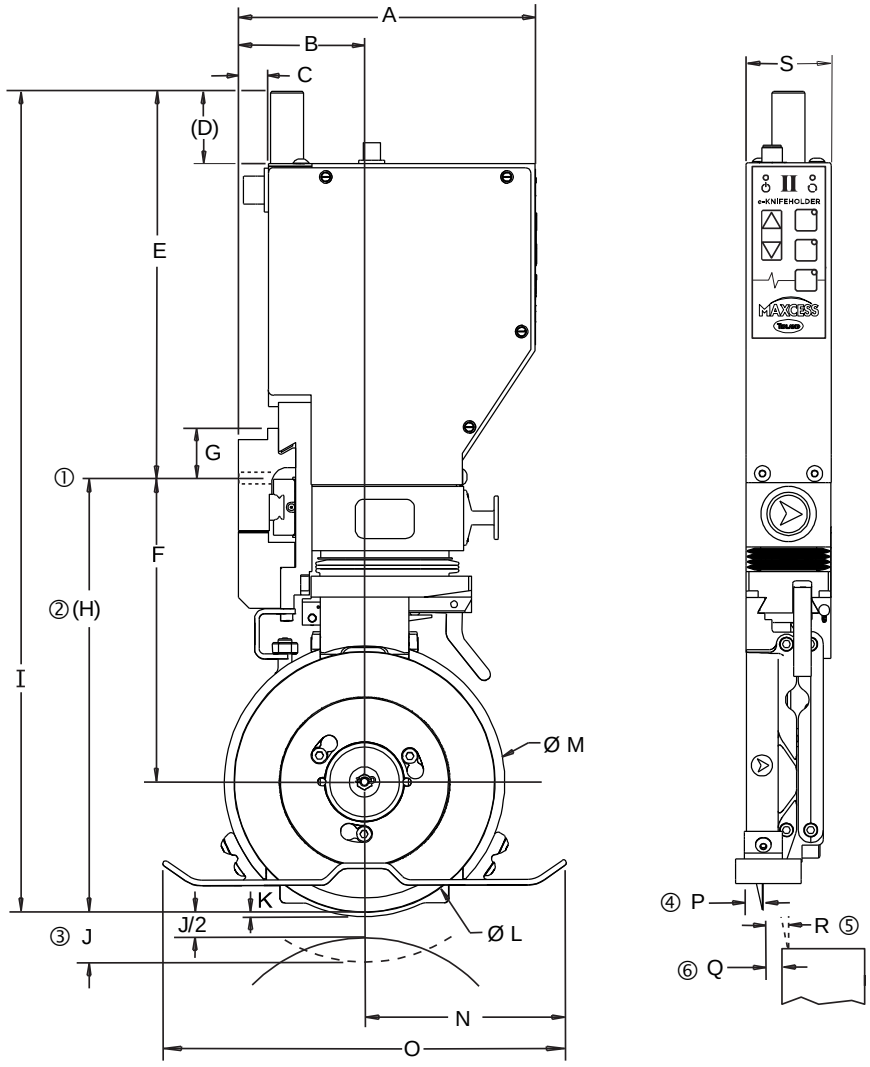


Thicker web materials require more penetration, while thinner or sensitive materials may require no penetration. Call Tidland Customer Service for assistance.

Mounting the guide bar

Space requirements

Class II e-Knifeholder is shown here.



① Center line of guide bar mounting holes
② When knifeholder is retracted
③ Maximum vertical stroke
④ Blade position when retracted
⑤ Full stroke
⑥ Half stroke

CLII	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
Inches	6.80	2.94	0.74	1.75	8.78	6.81	1.23	9.76	18.54	.965	.093	5.91	6.33	4.56	9.12	0.49	.059	0.13	1.94
mm	172.7	73.7	18.8	44.4	223.0	173.0	31.2	247.9	470.9	24.5	2.4	150.1	160.8	115.8	231.6	12.4	1.5	3.3	49.3
CLIII	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**Q**	**R**	**S**
Inches	7.35	3.45	0.61	074	6.76	7.74	1.23	11.68	18.43	1.00	0.15	7.87	8.35	5.02	10.05	0.65	0.12	0.25	2.91
mm	186.7	87.6	15.5	18.8	171.7	196.6	31.2	296.7	468.1	25.4	3.8	199.9	212.1	127.5	255.3	16.5	3.0	6.3	73.9

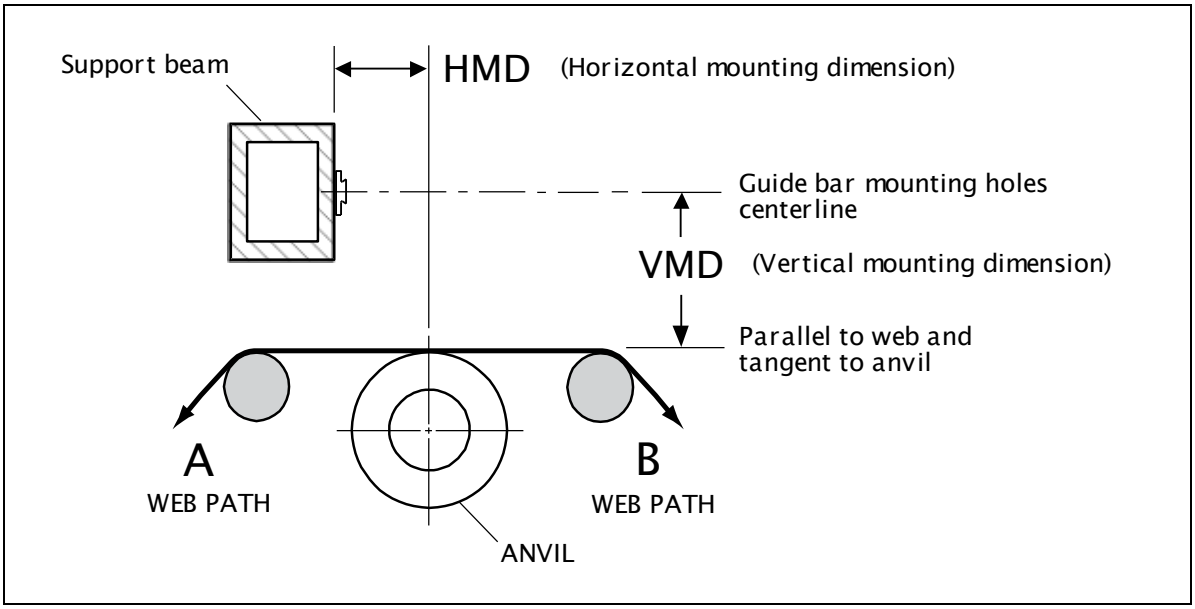
Dimensions are nominal and represent the average of assembled units. These are not the specifications of individual parts, nor do they reflect manufacturing tolerances.

Dimension 'P' (front view) is from the edge of the knifeholder control body to the inside of the knife blade.

Determine mounting dimensions

Vertical Mounting Dimension – VMD
The distance from the centerline of the guide bar mounting holes to the anvil roll or ring O.D. and perpendicular to the web path.

Horizontal Mounting Dimension – HMD
The distance from the support beam face (guide bar mounting surface) to the vertical centerline through the center of the anvil ring.



VMD

Tangent & Wrap Slitting		
Class II	10-3/16"	(258.8 mm)
Class III	12-1/4"	(311.2 mm)

These dimensions reserve approximately 1/2 of blade cartridge stroke for blade regrinding.

HMD

	Tangent Slitting *		Wrap Slitting **
	'A' Web Path	'B' Web Path	'A' or 'B' Web Path
Class II	3-7/32" (81.8 mm)	2-23/32" (69.1 mm)	2-15/16" (74.6 mm)
Class III	3-27/32" (97.6 mm)	3-3/32" (78.6 mm)	3-15/32" (88.1 mm)

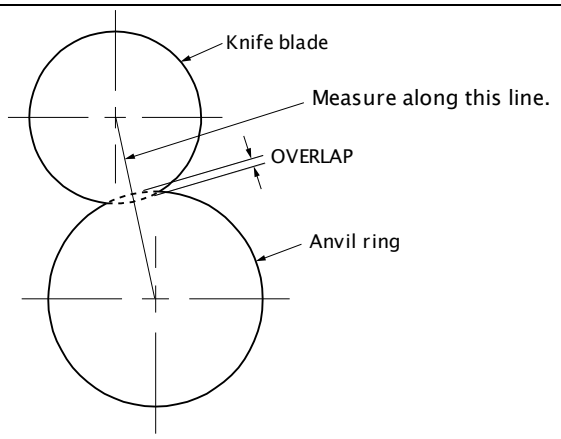
* These dimensions will result in setbacks as listed on page 7-2 .

** These dimensions provide no setback.

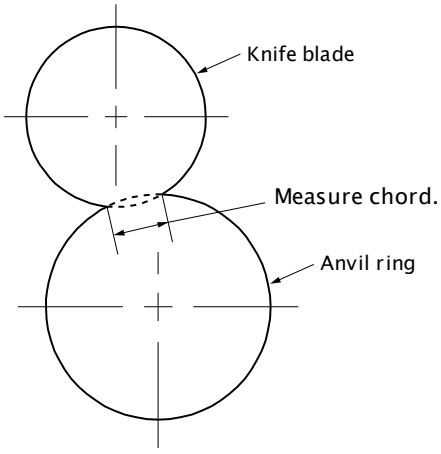
Blade overlap

Methods for measuring overlap

The e-Knifeholder automatically sets blade overlap. This graphic is for reference only.



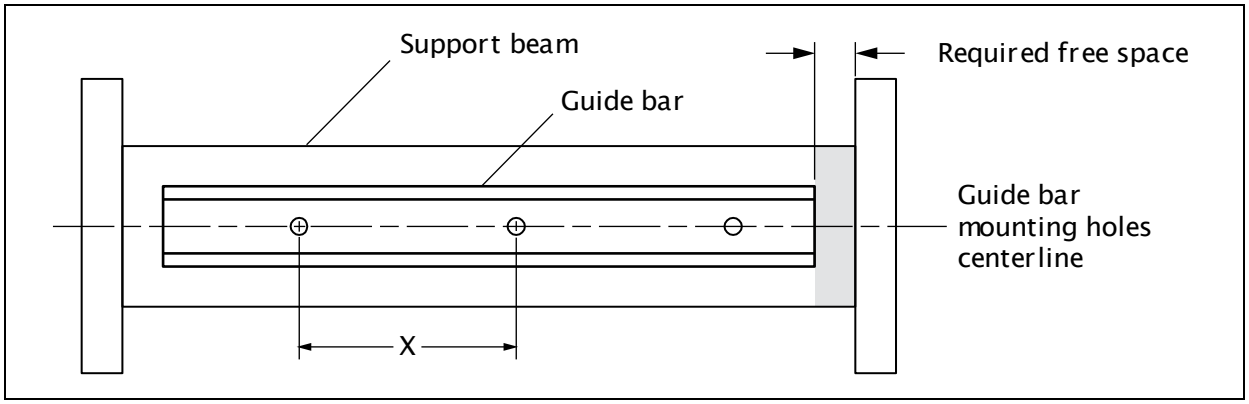
Method 1: Measure blade overlap directly along the common centerline of the knife blade and anvil ring.



Method 2: Measure the chord of the intersection between the knife blade and anvil ring.

Installing guide bar on support beam

The guide bar must be straight within 0.010" (0.25 mm) on a rigid and vibration-free support.



Determine the center-to-center distance between the mounting bolt holes **(X)** on the guide bar.

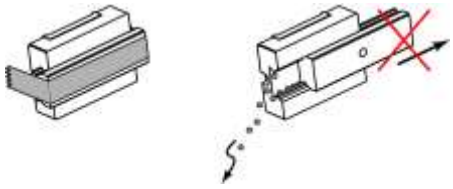
- Standard pre-drilled dimension (X) is 12" (304.80 mm).
- Drill and tap support beam for pre-drilled guide bar: 3/8"-16NC holes

Before transferring dimension (X) onto the support beam, make sure there will be enough free space at one end of the beam for knifeholder installation and removal once the guide bar is mounted.

	Recommended Free Space (minimum)
Class II	3" (76.2mm)
Class III	4" (101.6mm)

Installing the knifeholder

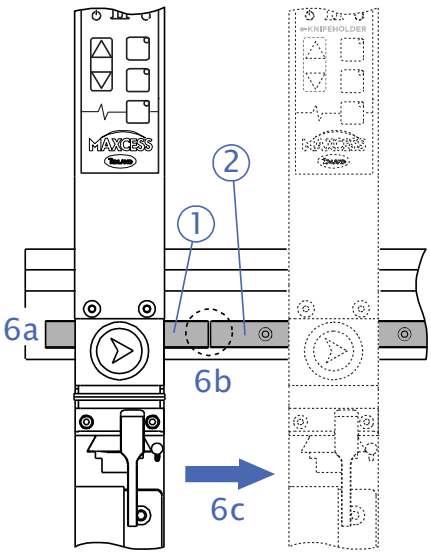
Easy Glider linear bearing



- Do not remove the factory-installed short rail section from the linear bearing: you will use it to install the knifeholder onto the guide bar rail.
- Failure to use this rail section when installing the knifeholder may result in bearing damage and **void bearing warranty.**

Mounting the knifeholder

Remove blade cartridge(s) from knifeholder(s).

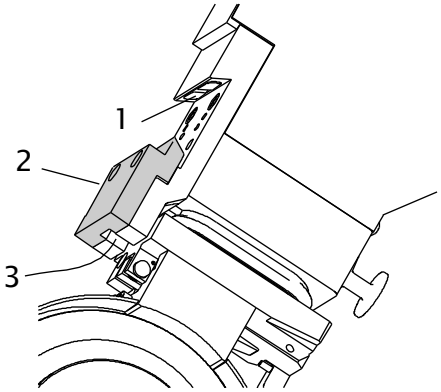


1	Short rail
2	Fixed rail

1. At the mounting end only, locate and remove the #10-32 screw on the face of the guide bar.
2. Do not remove the short rail from the knifeholder bearing.
3. Turn the brake knob counterclockwise to unlock.
4. Push the knifeholder brake shoe up into the back plate if protruding.
5. Install the knifeholder:
   a. Hold the knifeholder and short rail section together. Place rail section into the keyway on the guide bar.
   b. Align the short rail section with the fixed bearing rail on the guide bar.
   c. Slide the knifeholder onto fixed bearing rail.
6. After all knifeholders are installed, reinstall the #10-32 socket head cap screw in guide bar.
7. Reinstall blade cartridge(s) on knifeholder(s).
8. Save the short rail piece for future use when removing knifeholders from the guide bar.

Manual mount

1. Make sure the blade cartridge is retracted.
2. Turn the brake knob (on top of the control body) counterclockwise enough to allow the brake shoe to be manually retracted into the mount. (Push the brake shoe up into mount if extended out.)
3. Align the mount with the end of the guide bar and slide the knifeholder onto the guide bar.
4. Turn the brake knob clockwise to secure the knifeholder in the desired position.
5. Connect the power/communication cable(s) before turning on the system power.



1	Brake shoe
2	Gib
3	Gib set screw

Adjusting the gib

You may need to adjust the gib to ensure that the knifeholder is perpendicular to guide bar.

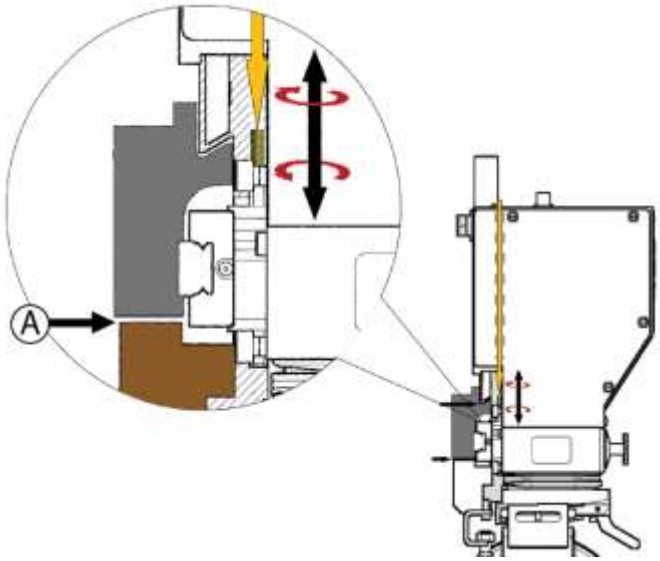
1. Loosen the two gib socket head cap screws. (4 mm hex)
2. Tighten or loosen the gib set screw to achieve a perpendicular fit: ¼ turn per adjustment. (2 mm hex)
3. Tighten the two gib socket head cap screws: torque to 5.83 Nm [4.3 ft·lbs].
4. Gib should be tight enough to maintain perpendicular fit when locked to the guide bar, and loose enough to provide smooth movement.

Easy Glider linear bearing adjustment

Tidland can supply the necessary 9-inch long, 2 mm hex wrench:

Part No. 770274

1. Your linear bearing mount was adjusted to a guide bar at the factory. It may need be re-adjusted to fit your guide bar properly.
2. Remove the set screw plug on top of the knifeholder to access the adjustment screw.
   Class II: Plug is located near the lock knob on top of the knifeholder.
   Class III: Remove the lock knob: loosen the set screw on the back of the knifeholder control body until you can pull the lock knob shaft from the body. Remove the set screw plug.



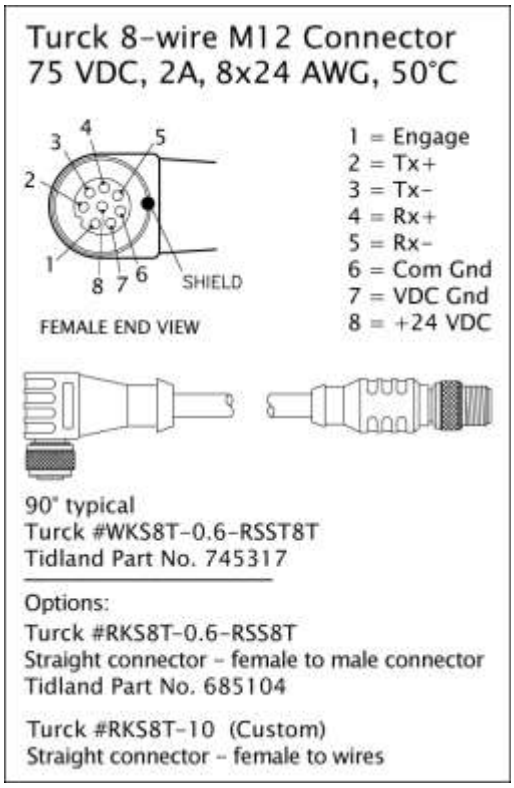
3. Insert a .002" feeler gauge at A (between the guide bar and the brown stop block).
4. Push the knifeholder against the guide bar, and toward the linear bearing mount (up or down depending upon your knifeholder installation).
5. Turn the set screw in the direction indicated to tighten or loosen knifeholder movement on the guide bar. The resulting gap at A should be .002-.005". When complete, a .004" feeler gauge should feel very snug in that gap.
6. Reinstall the set screw plug to prevent dust and debris from entering the hole.
7. After adjustment, the knifeholder should move smoothly and easily along the guide bar, without tilting on any axis.

Knifeholder power and communication

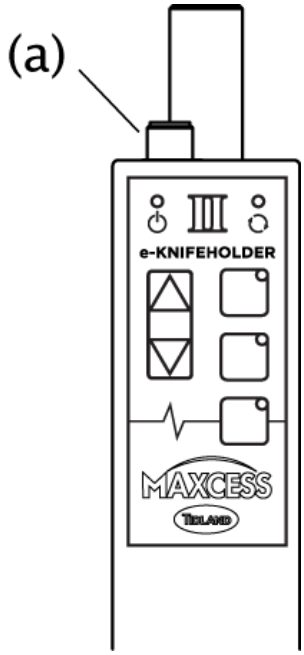
If using a PC not supplied by Tidland, install the software that was supplied with your e-Knifeholders. This will ensure that you have the most current version of the software on your computer.

To avoid damage to the e-Knifeholder, Tidland recommends turning off the power before connecting the knifeholder power communication cable.

- Power and communication are integrated and supplied through a power cable (Tidland P/N 685104), typically shipped with each e-Knifeholder assembly.
- If your configuration varies from the standard installation, use the required mating connector: Turck, Inc. Eurofast M12, 8-pole, appliance outlet cable assembly, such as Model RK or WK series, rated 75V, 2A.
- Each connector is keyed for correct orientation. It is not possible to connect the cables incorrectly.



Plugging in a knifeholder



To avoid damage to the e-Knifeholder, Tidland recommends turning off the power before connecting the knifeholder power communication cable.

1. Connect the male end of the power cable to the beam or wiring duct, if equipped, and tighten the connector locking ring.
2. Connect the female end of the power cable to the knifeholder at the power/communication connector **(a)** and tighten the connector locking ring.
3. Secure the cable in the strain relief clip on the back of the knifeholder.
4. Apply system power.

Unplugging a knifeholder

1. **Turn off system power.**
2. At the knifeholder, loosen the locking ring and pull out the power cable.

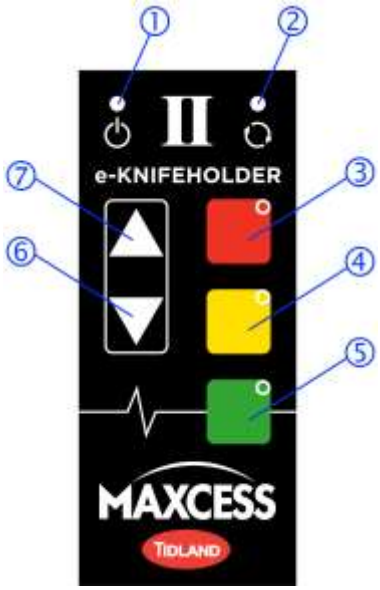
Operating the knifeholder

Warning – danger due to cutting
Do not put hands between the knife blade and the web material at any time during operation.
Severe bodily injury may occur.

Warning – danger due to crushing
Keeps hands away from all moving knifeholder parts during blade cartridge retraction.
Severe bodily injury may occur.

Ensure that:
- anvil rings are in a pre-selected slit position.
- blade cartridge is locked to control body.
- power cable is attached and power is on.
- you have verified continuity between system components (page 3-1).

Keypad



Item	Description
1	Power LED
2	Communication (Comm) LED
3	Disengage knifeholder (button with red LED)
4	Calibrate knifeholder (button with yellow LED)
5	Engage knifeholder (button with green LED)
6	Jog DOWN button ∇
7	Jog UP button Δ

Setup, calibration, and engaging

- Make sure power/communication cable is plugged in.
- Power LED should be ON. *
- If knifeholder is connected to a PC, the Comm LED should be ON.

---

1. With the knifeholder in retracted position, press ▽ button to manually extend the blade cartridge.
2. Loosen the brake knob and move the knifeholder on the guide bar until the blade just touches the anvil.
3. Tighten the brake knob.
4. Press the yellow button to begin the calibration sequence. The yellow LED will blink during calibration.
5. Press the green button: the knifeholder will engage after successful calibration is achieved. The green LED will blink until calibration is complete.
   Note: You can push the green button before calibration is complete.
6. When yellow LED turns to steady yellow, knifeholder will engage and begin slitting. The green LED will turn steady. **
7. Press the red button to retract the knifeholder. The red LED will blink while knifeholder is retracting.

* If Power LED is orange, turn on the remote engage switch, and then continue.

** If Power LED flashes red/green and any LED is blinking, see the Error Code guide (page 8-6).

LED states

The table below describes the status of the knifeholder based on LED states: off, on, and/or blinking.

If your knifeholder **is not connected** to a PC, the Comm LED will be OFF. If connected to a PC, the Comm LED should be ON. If it is not, see Troubleshooting (page 10-2).

LED states

○ = off ● = on ◉ = blinking

Power LED	Button LED			Knifeholder status
	Red	Yellow	Green	
○	○	○	○	No power to unit
Green	○	○	○	Power to unit; state unknown (Press red button to make sure knifeholder is fully retracted before operating.)
Orange	○	○	○	Power to unit; remote engage switch OFF
Orange	●	○	◉	Remote engage switch is OFF or software is disabled at user interface. Knifeholder disengaged, ready to engage, but will not function. See page 4-6.
Green	●	○	◉	Knifeholder disengaged; ready to engage
Green	○	◉	○	Knifeholder calibrating
Green	○	◉	◉	Knifeholder calibrating; will engage when complete
Green	◉	◉	○	Knifeholder calibrating; will disengage when complete
Green	○	●	○	Knifeholder calibration complete
Green	○	○	◉	Knifeholder engaging
Green	○	○	●	Knifeholder slitting
Green	◉	○	○	Knifeholder disengaging/retracting
Red/green	○	◉	○	Knifeholder calibration error; page 8-6
Red/green	○	○	◉	Knifeholder engage error; page 8-6
Red/green	◉	○	○	Knifeholder disengage error; page 8-6
Green/green/red	○	○	○	Knifeholder in maintenance mode

Error codes

If an error occurs during normal operation the knifeholder will enter a faulted state. The Power LED alternates between red and green colors and an error code flashes 'n' times on the other LEDs.

LED	n	Error	Solution
Green	1	The knife made unexpected contact with the anvil while traveling downwards during the engage sequence.	Remove burrs from blade; repeat setup and re-calibrate.
	3	The unit cannot achieve desired side force after engaging.	Repeat setup and re-calibrate.
	4	Operator stopped motion by pressing $\triangle$ or ∇ button.	Disengage to reset.
Yellow	1	The knife made unexpected contact with the anvil while traveling downwards during the calibration sequence.	Move blade away from anvil; repeat setup and re-calibrate.
	2	The anvil was not detected during the calibration sequence.	Blade is diameter below minimum OR check resistance between system components.
	3	Calibration process determined that the desired side force is not possible.	Move blade closer to anvil; repeat setup and re-calibrate.
	4	Operator stopped motion by pressing $\triangle$ or ∇ button.	Disengage to reset.
Red	4	There was a problem during disengage/retract; there may be a problem with either the horizontal or vertical axis home sensors.	Faulty bellows; sensors contaminated. Call Tidland.
	5	There was a problem reading configuration data from the unit's EEPROM memory.	Call Tidland.

In most cases errors can be cleared by pressing the red button, which will initiate the disengage/retract sequence.

If you cannot resolve errors with the solutions provided here, see Troubleshooting (page 10-2).

Preventive maintenance

WARNING
Hand hazard.
Knife blades are sharp.
Use only recommended tools when handling knife blades.

- This recommended maintenance schedule is dependent upon machine use and environment.
- Keep anvil rings and knifeholder blades clean and balanced.
- Do not use oil lubricants in knifeholder. Oil lubricants may cause the knifeholder to function improperly. Use only those lubricants recommended in this publication.

Daily
- Keep all knifeholders clean of debris.
- Clean the cartridge-to-knifeholder interface parts.
- Calibrate the knifeholder whenever it is moved or a blade is changed.
- DO NOT IMMERSE knifeholders in solvents. Wipe the outer surfaces with a clean, dry rag.

Weekly
- Use compressed air to remove dust build-up from the blade cartridge.
- Check electrical cable to the knifeholders for wear or cracks.
- Make sure all cable connectors are secure.
- Inspect control body dovetail assembly and remove all dust and debris.

Monthly
- Check for minimal clearance between knifeholder mount and guide bar.
- Clean all surfaces of the control body and blade cartridge.
- Inspect bellows for tears around dovetail mount. Replace if torn or stretched.
- Inspect the power supply for proper voltage: +24vDC
- Check the resistance between the cartridge dovetail and the knife blade. See page 9-3.

Bi-Yearly
- Clean and inspect blade cartridge bearings for excessive free play.
- Remove cant key and o-ring and inspect for excessive wear. Replace if necessary.
- Check cant key o-ring for damage. Replace if necessary.

Recommended tools and supplies

Dow Corning Molykote® 557 Silicone Dry Film Lubrication

Parker Super O-lube O-ring Lubricant (no substitutes)

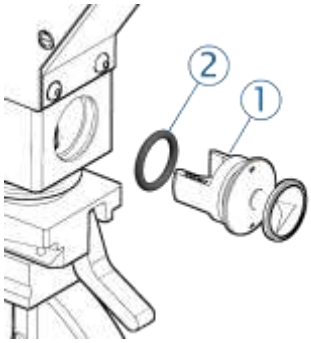
Hex key wrenches, metric

9" hex key wrench, 2 mm

Guide bar

Periodically wipe the dovetail guide bar clean and lubricate with silicone dry film lubrication. Tidland recommends using *Dow Corning Molykote® 557 Silicone Dry Film Lubrication* to ensure smooth movement.

Cant key o-ring



If the cant key **(1)** becomes loose in the body or if cracks in the o-ring **(2)** are visible, replace the o-ring. Lubricate the new o-ring and the cant key o-ring groove. Use only *Parker Super O-Lube* (no substitutes).

1. Reinstall the cant key in the knifeholder body with the arrow oriented in the correct direction for your web path.

Cartridge to knifeholder interface

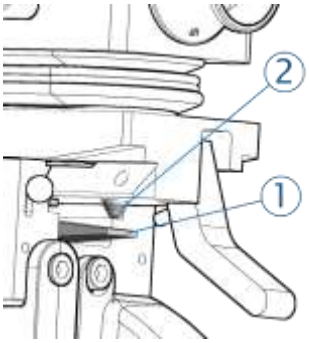
For proper e-Knifeholder operation, keep the interface clean between the cartridge and the knifeholder control body dovetail.

WARNING! Hand hazard.
Knife blades are sharp. Maintenance may be performed only by qualified personnel and only in a designated area. For added protection, Tidland recommends the use of stainless steel mesh gloves when handling knife blades.

Remove the cartridge from the control body.

- Clean the sidestroke lever on the knifeholder dovetail assembly.
- Clean the sidestroke actuator parts.
- Measure the resistance between the cartridge dovetail assembly and the knife blade.

Side-stroke lever

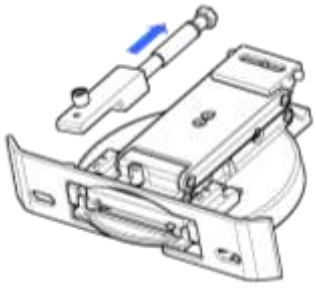


During operation, the side-stroke lever **(1)** is activated by the side-stroke actuator **(2)** located at the cartridge-to-dovetail interface. If this area becomes clogged with dust and debris, the actuator can become stuck, resulting in loss of side-stroke.

Inspect the area often and clear debris using compressed air. In high dust level environments, you may need to clean the area **before** disengaging the blade from the anvil in order to prevent the side-stroke actuator from sticking.

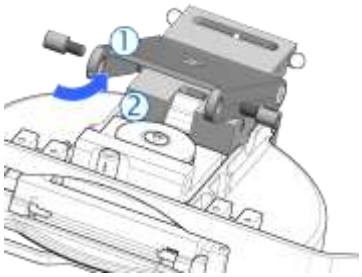
Repair options if the actuator is stuck:
Return the unit to Tidland, or,
Call Tidland for assistance with "Maintenance Mode."

Cleaning side-stroke actuator parts

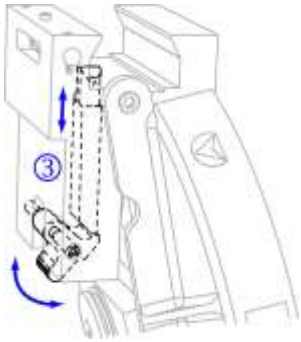


Clean regularly depending on the application and dust levels of your operation.

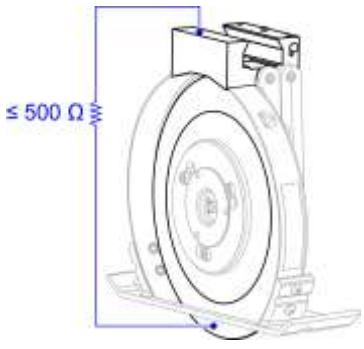
1. If installed, remove the 360° blade guard actuator.
   If not installed, go to Step 2.



2. Using 4 mm hex drive, remove two pivot pins and lift up the cartridge strut **(1)**.
3. Lift the dovetail assembly **(2)** and use compressed air to blow dust and debris from the moving parts.



4. Manually actuate the sidestroke key and the cam **(3)** parts, checking for free and smooth movement. If parts are sticking, call Tidland Customer Service for assistance.
5. Reassemble the cartridge.



6. Use an ohmmeter to measure for ≤500 Ω between the top of the cartridge dovetail and a point on the knife blade. Rotate the blade and measure in several places.

   Note: The dovetail point must be a non-anodized surface, as shown in the illustration.

   If any point on the blade measures more than 500 Ω, the cartridge bearing must be replaced. Contact Tidland Customer Service.

Removing knifeholder from guide bar



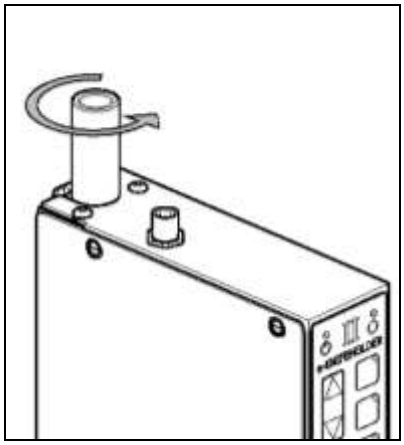
Warning – danger due to cutting or crushing

Before removing the knifeholder from the guide bar:

- Retract the blade cartridge.
- Turn off power to the knifeholder.
- Disconnect the power/communication cable from the knifeholder.
- Remove the blade cartridge (page 5-3).

Manual mount

1. Disconnect the power cable and unlock the brake.



Class II shown

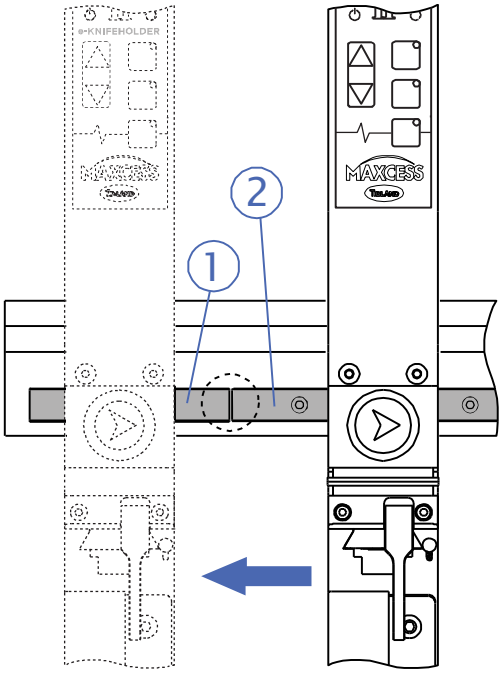
2. Locate and remove the #10-32 screw from the end stop on the face of the guide bar.
3. Slide the knifeholder off of the guide bar.

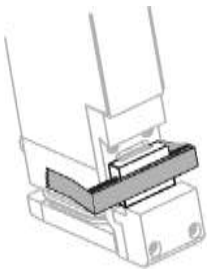
Easy Glider linear bearing mount

Class II shown here

1. Choose at which end of the guide bar the knifeholder will be removed; move the knifeholder just to the end of the fixed rail on the guide bar.
2. Locate and remove the #10-32 screw from the end stop on the face of the guide bar.
3. In the space at the end of the guide bar, align the short piece of rail **(1)*** with the fixed rail **(2)** and transfer the knifeholder from the fixed rail to the short rail.
4. Hold the knifeholder and the short rail together and carefully remove them from the guide bar. Do not remove the short rail from the knifeholder bearing mount. You will need it to reinstall the knifeholder on the guide bar.

* Shipped with each *Easy* Glider bearing mount.





★TIP

Secure the short rail to the linear bearing with a small piece of tape to retain the bearing balls during maintenance. You will need the short rail to reinstall the knifeholder on the guide bar.

Knife blades

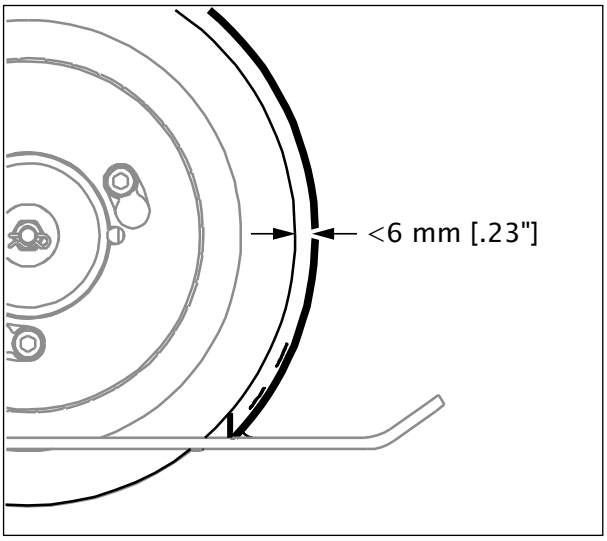
The problem-free and safe operation of the Tidland e-Knifeholder is reliant on proper transportation and storage, expert installation and commissioning, and on use in accordance with the intended purpose.

Only persons who are familiar with the installation, commissioning, operation, and maintenance of the e-Knifeholder and who possess the necessary qualifications for their activities may work on the e-Knifeholder.

WARNING
Hand hazard.
Knife blades are sharp.
Maintenance may be performed only by qualified personnel and only in a designated area.

Minimum blade diameter

For safety, Tidland recommends changing knife blades when the minimum blade diameter for CE compliance is reached. These blade diameters ensure that a <6 mm [.23"] gap is maintained from blade edge to the inside edge face of the cartridge guard.



	Min. Blade Diameter
Class II	145.58 mm (5.731")
Class III	196.96 mm (7.754")

Changing a knife blade

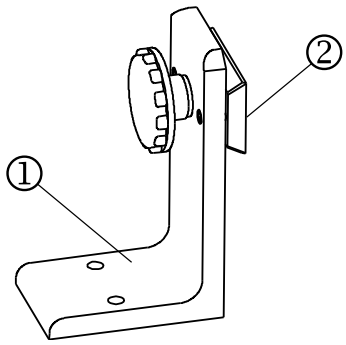
WARNING

Hand hazard.

Knife blades are sharp. Maintenance may be performed only by qualified personnel and only in a designated area.

For added protection, Tidland recommends the use of stainless steel mesh gloves when handling knife blades.

For safety and ease during blade maintenance, Tidland recommends securing the cartridge with a bench fixture while changing the blade.



	Item	Tidland Part No.
1	Bench fixture base	733657
2	Class II dovetail	731409
	Class III dovetail	731776

Removing the knife blade

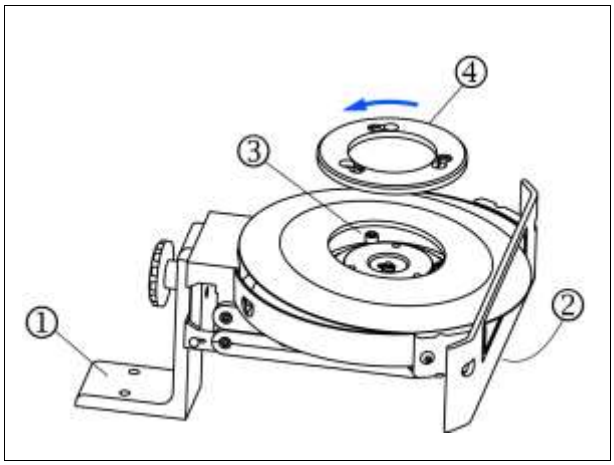
WARNING

Hand hazard.

Knife blades are sharp. Maintenance may be performed only by qualified personnel and only in a designated area.

For added protection, Tidland recommends the use of stainless steel mesh gloves when handling knife blades.

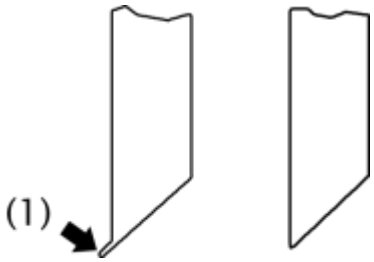
1. Remove the cartridge from the knifeholder.
2. At the maintenance area, install the cartridge on a bench fixture **(1)** for stability.
3. Press and hold the blade lock pin **(2)** to keep the blade hub from rotating. (Pin is on opposite side of cartridge.)
4. Use a 4 mm hex wrench to loosen the three blade clamp screws **(3)**.
5. Still pressing the blade lock pin, rotate the blade clamp **(4)** counterclockwise until you can lift it from the hub.
6. Remove the knife blade from the blade hub.



Reinstalling the knife blade

1. Before reinstalling the knife blade, clean the blade and the blade hub surface to ensure best fit and performance.
2. Reinstall blade and blade clamp: Tighten the three blade clamp screws to 5.10 Nm (45 in·lbs).

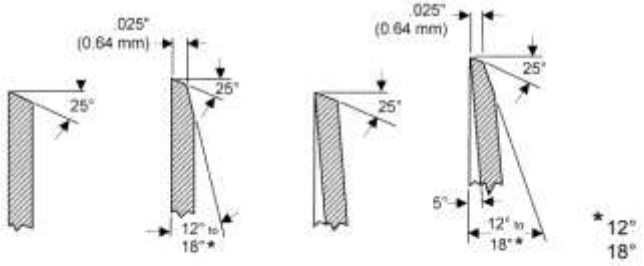
Blade grinding and finishing

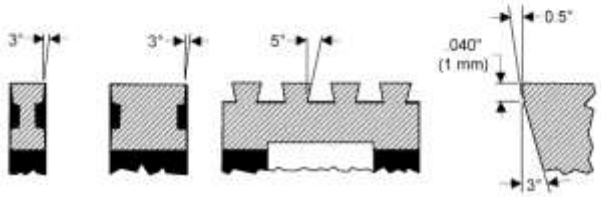


See minimum blade diameter specifications; page 9-7.

- Correct blade sharpness is essential for shear and crush slitting operations.
- To reduce chipping and rapid dulling of blades, it is important to remove burred edges **(1)**.
- Grind the blade edge as smooth as possible to avoid dust formation during the slitting process.
- **Before putting the blade into operation**, install the blade and set up the knifeholder at the anvil ring. Manually rotate the blade against the anvil in the reverse direction for a few revolutions. This will help deburr the blade after grinding and provide a smooth slitting edge.

Suggested Blade Grinding Procedure			
Step	Procedure	Wet/Dry	Grit/Hardware
1	Grind to remove chips, restore roundness, etc.	Wet	46/60 med./soft
2	Rough grind blade edge	Wet	100 medium
3	Finish grind blade edge	Wet	180 med./hard
4	Deburr	Dry (hand)	Oilstone

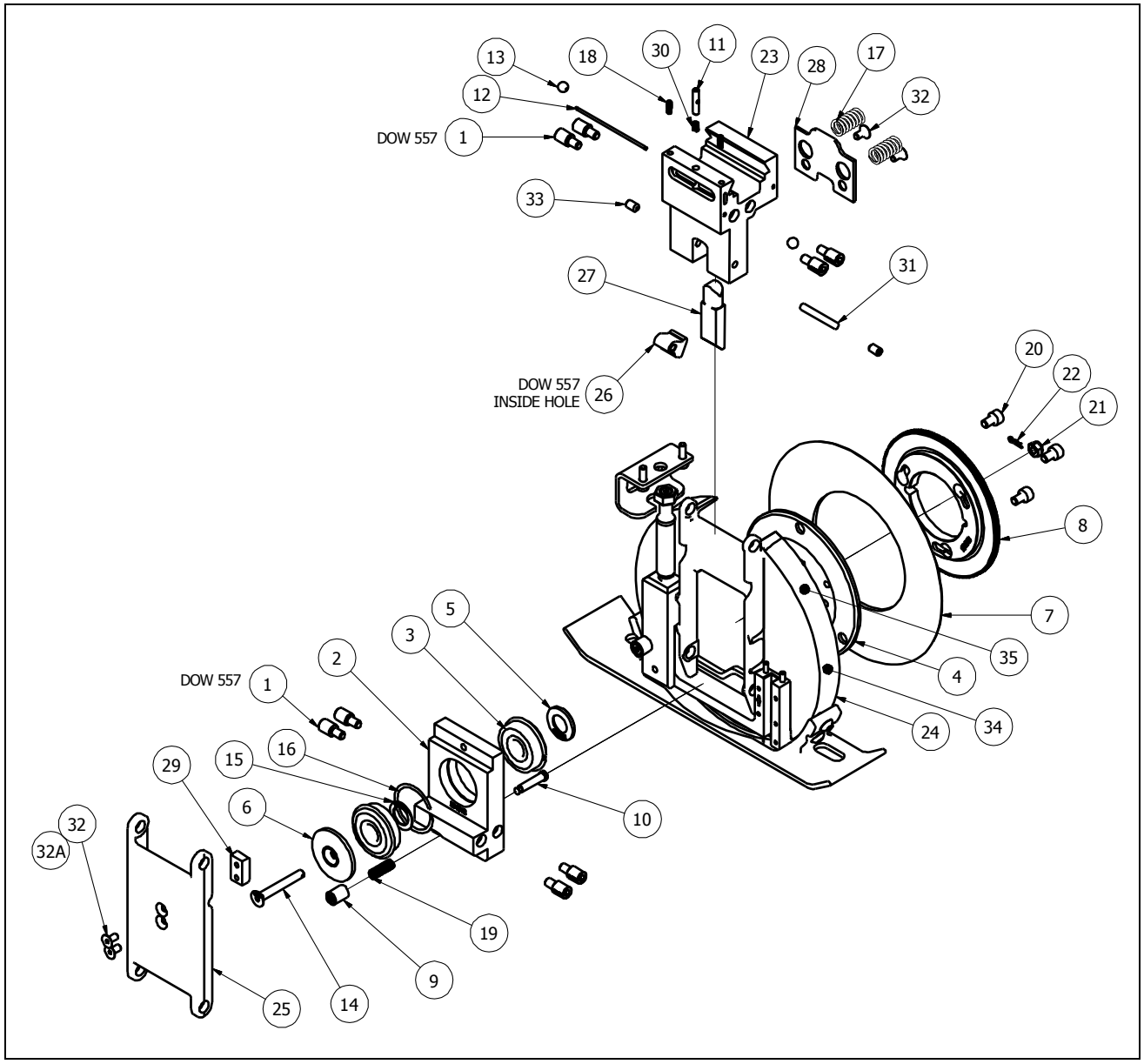




360º blade guard cartridge

Assembly diagram

Class II, Part No. 749142
Class III, Part No. 753161



Cartridge without 360 degree blade guard, with standard safety guard attachment kit installed

Class II: Tidland Part No. 696317 with kit 659076
Class III: Tidland Part No. 700518 with kit 659077

360° blade guard cartridge

Parts list

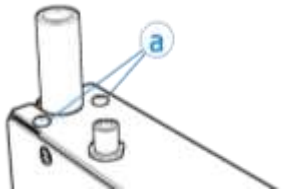
	Item	Description	Qty	Class II	Class III
*	1	Pivot pin stud	8	535263	525263
	2	Machining bearing housing	1	524542	536837
*	3	Bearing NTN #6201-LLB-NR/CN	2	743019	743019
	4	Blade hub	1	524544	135009
	5	Shoulder ring	1	631251	631251
	6	Bearing cap assembly	1	515511	515511
*	7	Knife blade	1	128401	129833
	8	Blade clamp	1	524543	135010
	9	Lock pin cap	1	130173	130173
	10	Blade lock pin	1	130172	130172
	11	Safety lock pin	1	131114	131114
	12	Safety latch pin	1	131115	132891
*	13	Safety latch knob	2	131116	131116
	14	Flat head cpscr- bearing retainer	1	524549	518520
	15	Bearing assembly	1	134304	133184
	16	Snap ring (Smalley #BH-125)	1	134305	134305
	17	Return spring	2	131118	131118
	18	Safety lock spring	2	131119	131119
	19	Blade lock pin spring (Century Spring #VV-2)	1	130179	130179
*	20	Soc hd cpscr M5 x 8 mm, zinc plate	3	549838	130168
	21	Lock nut M5 x 0.8	1	133235	133235
	22	Hair pin	1	133710	133710
	23	Dovetail	1	696321	708444
	24	360 degree blade guard assembly	1	749008	749589
	25	Strut, outboard	1	696323	708442
	26	Crank lever	1	696322	708443
	27	Side stroke key	1	696320	708446
	28	Side stroke key retainer	1	696319	708445
*	29	Plastic ramp	1	696324	696324
	30	Continuity spring	1	562861	562861
	31	Dowel pin M4 x 30 mm LG	1	696325	696325
	32	Flat hd cpscr M4 x 8 mm DIN 912	4	696326	—
			2	—	535196
	32A	Flat hd cpscr M4 x 10 mm DIN 912	2	—	250044
	33	Set scr M5 x 8 mm, zinc plate DIN 916	2	745182	557274
	34	Label, warning	2	130921	130920
	35	Label, cant angle direction	2	547635	547635

* Recommended spare parts

Replacing the *Easy* Glider linear bearing

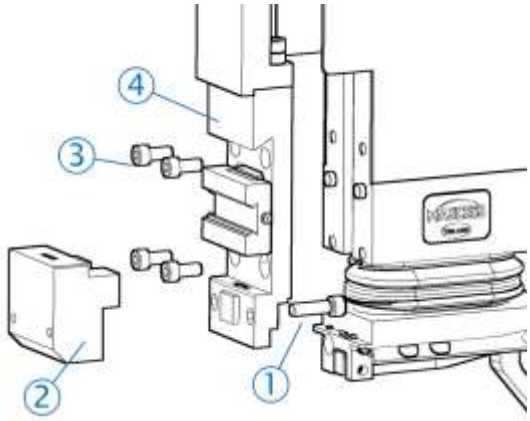
Class II

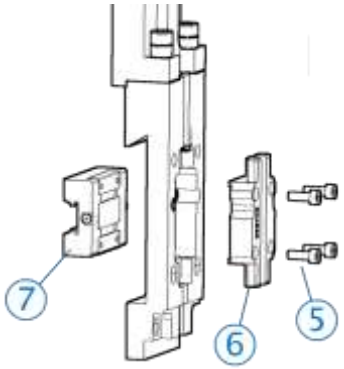
1. Remove the blade cartridge and extend the knifeholder.
2. Remove two screws **(a)** from top cover.



3. Remove screws **(1)** and stop block **(2)**.
4. Remove screws **(3)** and backplate **(4)**.
5. Remove screws **(5)** that secure the bearing retainer **(6)** to the bearing **(7)**.
6. Use Loctite 222 on item 5 when reassembling.

The bearing assembly should float freely in the backplate when assembled. See page 7-10 for *Easy* Glider adjustment on the guide bar.





Item	Description
1	Soc hd cap scr M5 x 30 mm
2	Stop block
3	Soc hd cap scr M5 x 12 mm
4	Backplate
5	Soc hd cap scr M3 x 12
6	Bearing retainer
7	Linear bearing

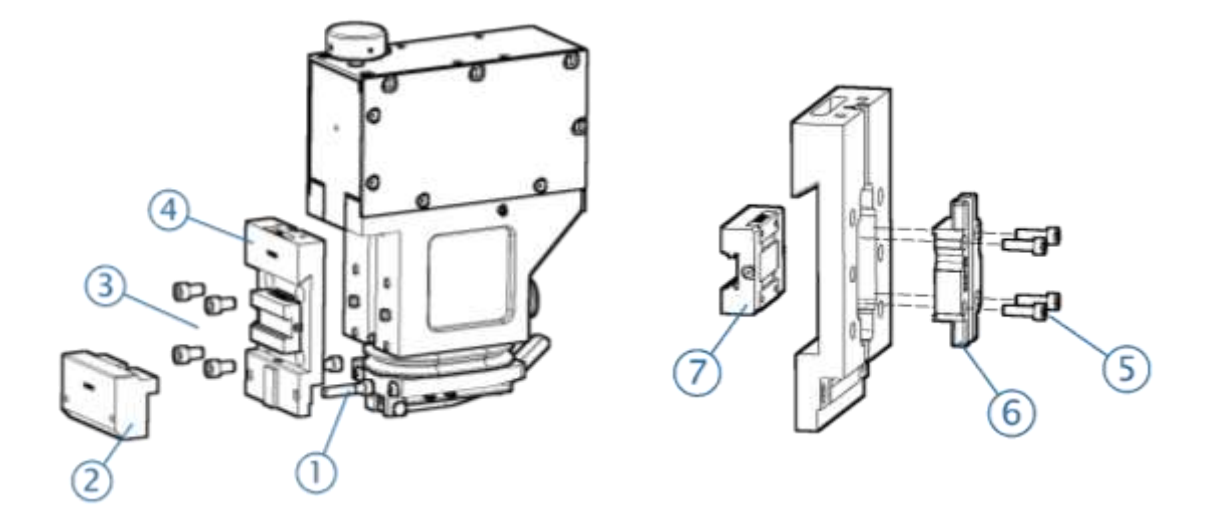
See page 9-15 for complete guide bar mount assemblies and part numbers.

Replacing the *Easy* Glider linear bearing

Class III

1. Remove the blade cartridge and extend the knifeholder.
2. Remove screws **(1)** and stop block **(2)**.
3. Remove screws **(3)** and backplate **(4)**.
4. Remove screws **(5)** that secure the bearing retainer **(6)** to the bearing (**7**).
5. Use Loctite 222 on item 5 when reassembling.

The bearing assembly should float freely in the backplate when assembled. See page 7-10 for *Easy* Glider adjustment on the guide bar.

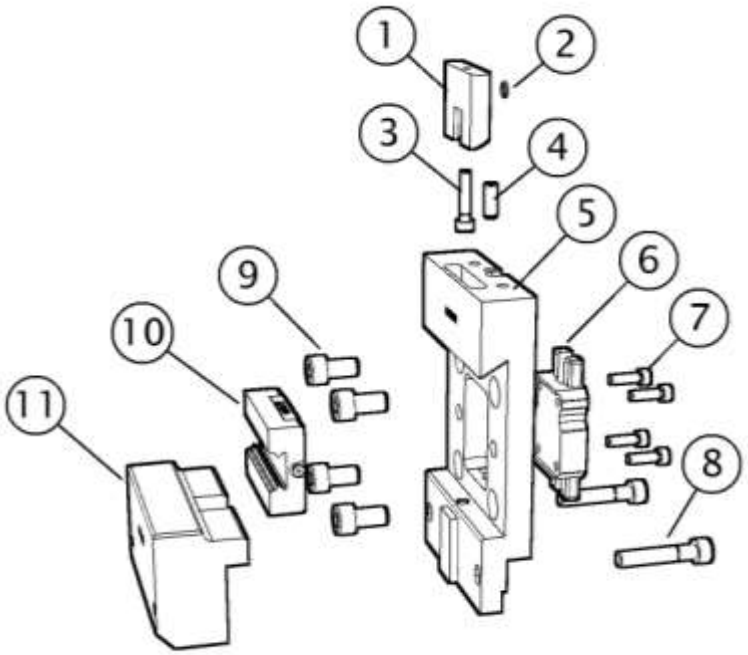


Item	Description
1	Soc hd cap scr M5 x 30 mm
2	Stop block
3	Soc hd cap scr M6 x 12 mm
4	Backplate
5	Soc hd cap scr M3 x 12 mm
6	Bearing retainer
7	Linear bearing

See page 9-15 for complete guide bar mount assemblies and part numbers.

Guide bar mount parts

Easy Glider linear bearing

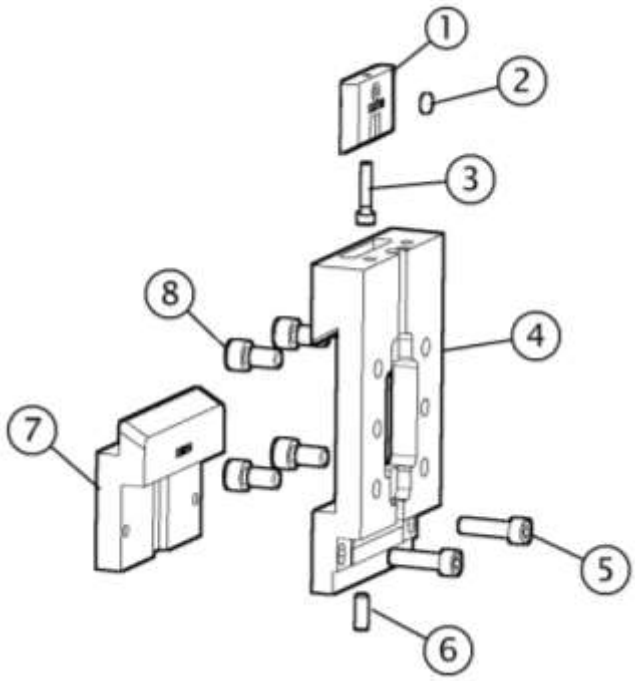


Item	Description		Qty	Class II	Class III
1	Brake shoe		1	531758	531758
2	O-ring		1	130136	130136
3	Adjustment screw (brake shoe)		-	not used on the eKH	
4	Adjustment set screw (linear bearing)		1	130149	130149
5	Backplate (Class III includes gasket 708594)		1	595748	619001
6	Bearing retainer		1	595703	595703
7	Soc hd cap scr M3 x 12 mm		4	133180	133180
8	Soc hd cap scr M5 x 30 mm		2	132265	132265
9	Soc hd cap scr	M5 x 12 mm	4	542945	-
		M6 x 12 mm	4	-	250116
10	Linear bearing		1	621879	621879
11	Stop block		1	595766	619027

Class II: This backplate assembly is attached to the top block mount. See page 9-13 for removal instructions.

Guide bar mount parts

Gib mount



Item	Description		Qty	Class II	Class III
1	Brake shoe		1	531758	531758
2	O-ring		1	130136	130136
3	Adjustment screw (brake shoe)		-	not used on the eKH	
4	Backplate (Class III includes gasket 708594)		1	595748	619001
5	Soc hd cap scr	M5 x 20 mm	2	544155	-
		M5 x 30 mm	2	-	132265
6	Adjustment screw (gib)		1	130149	130149
7	Gib		1	531749	538154
8	Soc hd cap scr	M5 x 12 mm	4	542945	-
		M6 x 12 mm	4	-	250116

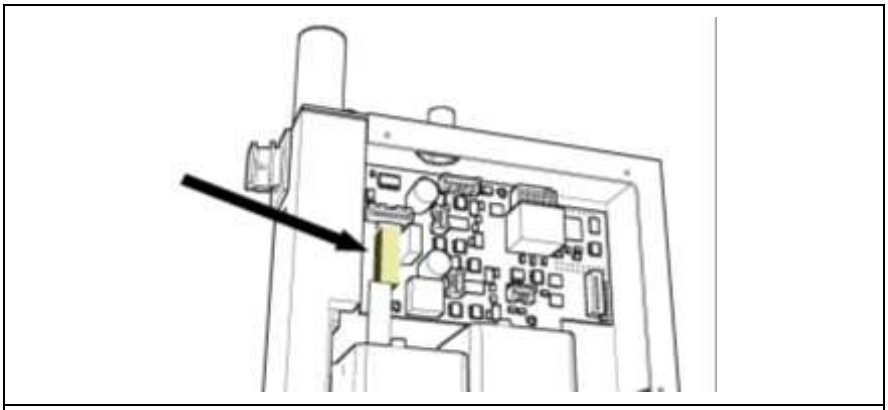
Class II: This backplate assembly is attached to the top block mount. See page 9-13 for removal instructions.

Replacing a fuse in the e-Knifeholder

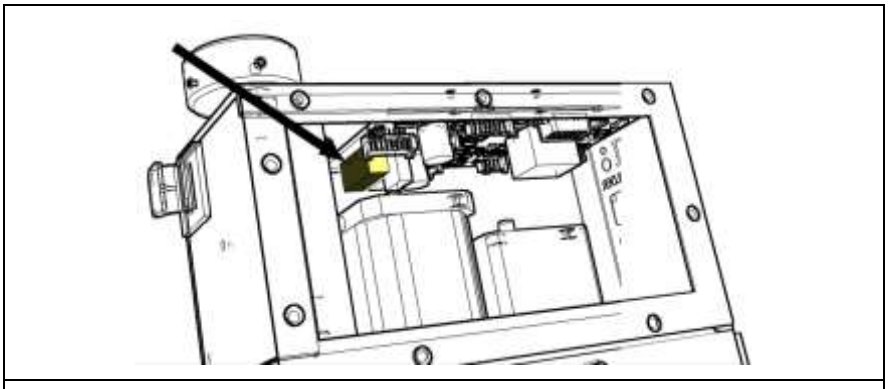
These instructions are for replacing the fuse in the e-Knifeholder control body. For cabinet fuses see page 6-3.

To reduce the risk of fire, replace only with the same type 1A, minimum 24 Vdc fuse.

1. Turn off power to the knifeholder.
2. Disconnect power/communication cable from the knifeholder.
3. Remove the knifeholder from the guide bar.
4. Remove the cartridge from the control body- recommended for safe handling of knifeholder).
5. Remove the side cover from the control body.
6. Remove and replace the fuse.



Class II. Fuse location



Class III. Fuse location

Knifeholder performance

You can also check knifeholder status using the Error Code guide in page 8-6.

Problem	Possible cause	Recommended solution	Page
Cartridge moves but does not calibrate, OR Blade drives into anvil; does not calibrate	Resistance threshold exceeded	Use an ohmmeter to confirm ≤5KΩ between ground and the anvil ring. Verify ≤500Ω between the knife blade and the control body dovetail. Renew contact between cartridge and control body.	3-1 9-3
Cartridge does not engage, calibrate or jog down	Resistance threshold exceeded	With the knife blade not touching anything, use an ohmmeter to verify ≤500Ω between the knife blade and ground.	3-1
	Internal binding	Call Maxcess for assistance with Maintenance Mode.	—
Knifeholder does not operate - power LED is off	No power	Plug in power cable. Check power supply output / fuse.	—
	Fuse blown at knifeholder	Replace only with the same type, 1A, minimum 24 VDC fuse	9-17
Knifeholder does not operate - power LED is on	Remote engage is off	To extend/retract the knifeholder, the remote engage input must be on. Check the remote engage relay in the Interface Cabinet.	—
Sluggish knifeholder action (extension or retraction)	Control body worn or motor malfunction.	Return knifeholder to Maxcess for repair.	—
Knifeholder does not retract when red button is pressed	Internal binding	Call Maxcess for assistance with Maintenance Mode.	—
	No power (power LED is off)	Plug in power cable. Check power supply output / fuse.	—

continued on next page

Knifeholder performance

continued

Problem	Possible cause	Recommended solution	Page
Difficult knifeholder movement on guide bar	Dirty guide bar	Clean and lubricate guide bar with *Dow Corning 557 Dry Film Lubricant.*	—
	Sticky brake shoe	Clean brake shoe. Clean and lubricate brake shoe o-ring. Use *Parker Super O-Lube.*	—
No Side Stroke (run or setup)	Blade cartridge not fully installed	Ensure blade cartridge is pushed securely into place on knifeholder and that the lock/unlock lever is in the locked position.	—
	Test to determine if problem stems from control body or blade cartridge	Remove non-functional blade cartridge and replace with functional blade cartridge.	—
	If after replacing the blade cartridge the **control body is functional** but the **blade cartridge is not**	Return control body and blade cartridge to Maxcess for repair.	—
	Control body to blade cartridge interface	Ensure that blade cartridge safety lock pin is fully engaged with the control body and that the lock/ unlock lever is in the locked position.	9-11
		Sidestroke components are clogged with dust at the interface.	9-3
	Internal binding	Call Maxcess for assistance with Maintenance Mode.	—

continued on next page

Knifeholder performance continued

Problem	Possible cause	Recommended solution	Page
Side stroke occurs before completing down stroke	Bad calibration	Recalibrate the knifeholder.	8-3
Blade cartridge does not disengage	Internal binding	Call Maxcess for assistance with Maintenance Mode.	—
Cannot remove blade cartridge	Sidestroke components are clogged with dust at the interface.	Extend blade cartridge, pull back the bellows and blow dust buildup from the cavity between cartridge and control body.	—
Knife blade rides up on top of anvil ring	Maximum side force combined with minimum overlap	Reduce side force or increase overlap. See *Main Screen Parameters* in the User Interface Guide. (Part No. 771975)	
Short blade life or damaged blade edge	Too much overlap	Calibrate to correct overlap.	8-3
	Side force too high	Adjust Side Force to the minimum necessary to produce a good slit.	—
	Driven anvil run-out	Reset anvil ring.	—
	Maximum side force combined with minimum overlap	Reduce side force or increase overlap. See *Main Screen Parameters* in the User Interface Guide. (Part No. 771975)	

Slit quality

Problem	Possible cause	Recommended solution	Page
The slit edge is fuzzy	Dull blade	Replace blade.	9-8
	Loss of cant angle (worn parts)	Replace cant key	4-3
	Wrong cant key	Replace cant key.	4-3
	Knifeholder is loose on the guide bar	Make sure guide bar mount is secure to knifeholder. Check the adjustment of the mount to the guide bar.	7-10
	Too much overlap	Calibrate to correct overlap.	8-3
	Incorrect setback	Check geometry.	7-2
	Maximum side force combined with minimum overlap	Reduce side force or increase overlap. See *Main Screen Parameters* in the User Interface Guide. (Part No. 771975)	
Slit line is not straight	Driven anvil run-out	Reset anvil ring.	—
	Knifeholder is loose on the guide bar	Make sure guide bar mount is secure to knifeholder. Check the adjustment of the mount to the guide bar.	7-10
Web tears or splits	Incorrect setback	Check geometry.	7-2
	Loss of cant angle (worn parts)	Replace cant key	4-3
	Too much overlap	Calibrate to correct overlap.	8-3
	Insufficient overspeed of the driven anvil	Adjust overspeed to be 3-5% greater than the winder speed.	—
Web folds down	Loss of cant angle (worn parts)	Replace cant key	4-3
	Wrong cant key	Install correct key	4-3
	Cant key is incorrectly installed	Check web direction.	4-4
	Dull blade	Replace blade.	9-8
	Incorrect setup	See Keypad and Operation sections.	4-2 8-3

Slit quality

continued

Problem	Possible cause	Recommended solution	Page
Web breaks	Web tension is too high	Reduce tension.	—
	Low driven anvil speed	Check the driven anvil speed.	—
Web bunches up in front of knife blade	Insufficient overspeed of the driven anvil	Adjust overspeed to be 3-5% greater than the winder speed.	—
Change in roll width	Knife blade riding up on top of anvil ring caused by maximum side force combined with minimum overlap	Reduce side force or increase overlap. See *Main Screen Parameters* in the User Interface Guide. (Part No. 771975)	

Specifications

Tidland e-Knifeholder	Class II	Class III
Blade diameter	150.14 mm [5.911"]	200.13 mm [7.879"]
Minimum blade diameter [to maintain CE compliancy]	145.58 mm [5.731"]	196.96 mm [7.774"]
Blade overlap	± .0005"	± .0005"
Minimum slit width	50.8 mm [2.0"]	76.2 mm [3.0"]
Reversible blade cartridge	Yes	Yes
Designed maximum speed	1,676 mpm [5,500 fpm]	3,049 mpm [10,000 fpm]
Maximum downstroke	25.4 mm [1"]	25.4 mm [1"]
Maximum down force	445 N [100 lbs]	890 N [200 lbs]
Minimum side force	4.4 N [1 lb]	13.3 N [3 lb]
Maximum side force	53.4 N [12 lbs]	88.9 N [20 lbs]
Calibration time	11 seconds	11 seconds
Cant angles	1/2°, 3/4°, 1°	1/2°, 3/4°, 1°
Seal effectiveness	n/a	IP34
Power	24 VDC, 1 A	24 VDC, 1 A
Fuse	1 A; lag-time type buss S505	1 A; lag-time type buss S505
Operating temperature	0-40°	0-40°

e-Knifeholder system cabinet		
Electrical ratings	See page 6-3	
Fuses		
Operating temperature	0-40°	0-40°
Option: pneumatic engage	40-90 psi	40-90 psi

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