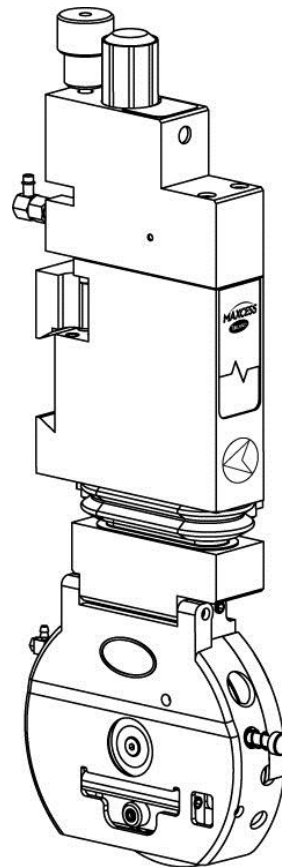




# Tidland Performance Series Unibody Knifeholder

## Installation, Operation and Maintenance

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EN

Class I, II and III

MI 726347 1 J

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## KNIFEHOLDER SAFETY

### IMPORTANT!



When using knifeholders, basic safety precautions should always be followed 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. No part of these or the following instructions should be construed as conflicting with or nullifying the instructions from other sources. Be familiar with the hazards and safety requirements in your work environment and always work safely.

- The knifeholder's intended use is to produce a slit with a driven anvil system. There is no other intended purpose.
- Read and understand all instructions before operating the knifeholder. Failure to follow instructions may cause the knifeholder to function incorrectly and can cause serious injury.
- The knifeholder contains spring-loaded components. While operating the knifeholder, follow all existing plant safety instructions and/or requirements.
- Always wear stainless steel protective gloves when changing or removing the knife blade.
- Sharp knives can cause serious injury. Do not put hands in machines. Compliance with federal, state, and local safety regulations is your responsibility. Be familiar with them and always work safely.
- Inspect the knifeholder cartridge for wear and/or other safety and functional deficiencies daily, before each use.
- Do not carry or lift this product over wet or slippery surfaces.
- All replacement parts used on this product should be made to original Tidland specifications.
- All maintenance and repair procedures performed on this product should be done to Tidland specifications by qualified personnel.

## RECEIVING AND UNPACKING

- Handle and unpack the equipment carefully. Upon arrival, check the shipment against the packing list.
- Promptly report to the carrier any damaged equipment.
- Equipment not 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.

## CAUTION



Wear eye protection when using tools or compressed air.



To avoid bodily injury or damage to equipment, follow all assembly procedures carefully if working with the lock knob assembly parts (Class II and III only).

Do not use snap ring pliers to install the snap ring. Use of snap ring pliers can deform the snap ring and cause failure of the lock knob assembly.

# KNIFEHOLDER ORIENTATION

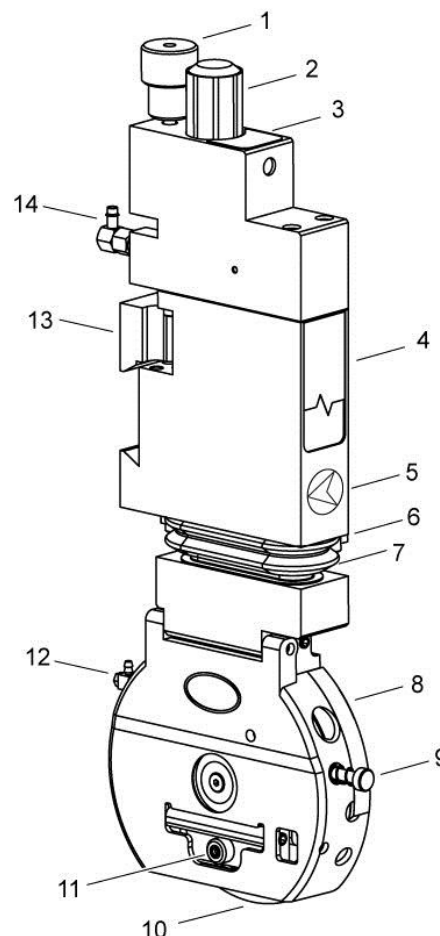
## Knifeholder Components

Complete assemblies and part numbers begin on page 36.

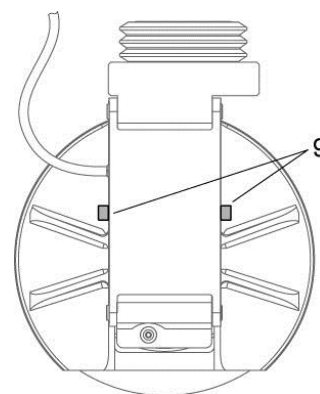
**Please note:** Tidland Knifeholder configurations vary and may not match all of the illustrations used in this publication. The Class I knifeholder is shown here.

1	Lock Knob Assembly loosens or tightens guide bar locking clamp
2	Depth Control Knob adjusts blade cartridge stroke (See page 13)
3	Depth Control Knob Label indicates rotation direction to increase or decrease blade overlap
4	Knifeholder Control Body
5	Cant Angle / Web Path Label (see page 10)
6	Cant Angle Plate (factory set) not visible here; see page 31
7	Bellows prevents debris from entering knifeholder
8	Blade Cartridge determines left or right hand knifeholder orientation
9	Blade Stroke Half Stop Pin
10	Knife Blade
11	Blade Lock used during maintenance
12	Air Fitting cartridge air supply from upper body
13	Guide Bar Locking Clamp attached by threaded rod to lock knob (item 1)
14	Air Fitting knifeholder air supply

Class I Knifeholder (Right Hand) shown



Class II and III (item 9) location shown below



## Actuating the Knifeholder

- Tidland recommends installing a 3-way valve in the air supply line for each knifeholder to provide individual knifeholder actuation required for setup.
- Actuating each 3-way valve extends the knifeholder blade cartridge for the setup procedure and operation.

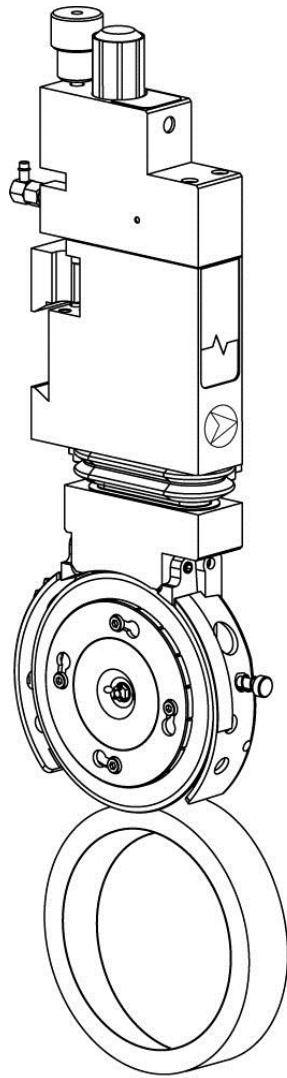
Pneumatic requirements, page 12

Operation, page 13

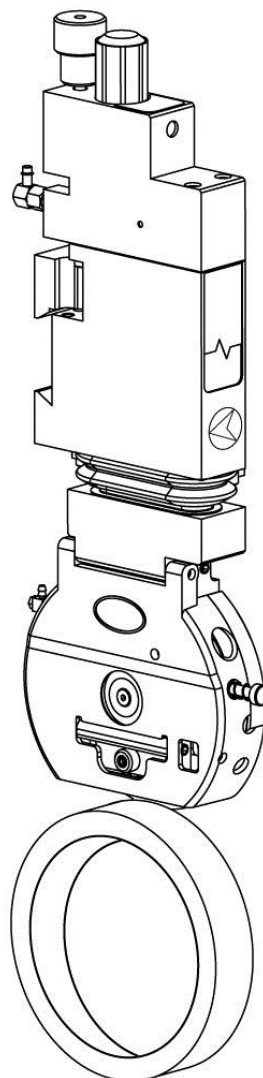
## INSTALLATION

The Performance Series Unibody Knifeholder is available in a left or right hand cut configuration with a factory-set cant angle for an A or B web path. See page 10 for cant angle and web path information.

The cartridge is not reversible. Part numbers for all knifeholder assemblies begin on page 36.



**Left Hand**



**Right Hand**

## Specifications

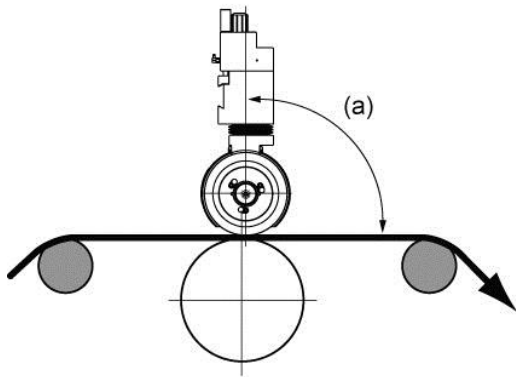
**Note:** Actual speed is dependent upon application and web material.

	<b>Class I</b>	<b>Class II</b>	<b>Class III</b>
<b>Blade Diameter</b>	3.54" (90 mm)	5.91" (150 mm)	7.87" (200 mm)
<b>Minimum Slit Width</b>	1.0" (25.4 mm)	2.0" (50.8 mm)	3.0" (76.2 mm)
<b>Designed Maximum Speed</b>	3,500 fpm (1,067 mpm)	5500 fpm (1,677 mpm)	10,000 fpm (3,049 mpm)
<b>Recommended Operating Air Pressure (max. 100 psi)</b>	60-90 psi (4.1-6.2 bar)	60-90 psi (4.1-6.2 bar)	60-90 psi (4.1-6.2 bar)

# INSTALLATION

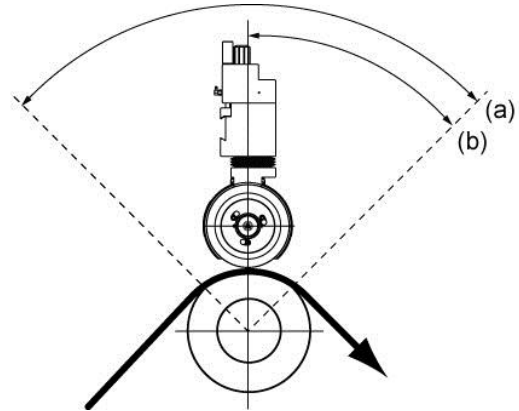
## Select Slitting Type

(Illustrations apply to all Tidland Performance Series knifeholders.)



### TANGENT

- Tangent slitting requires knifeholder setback.
- Knifeholder axis should be 90° to web path.  
(a) = 90°

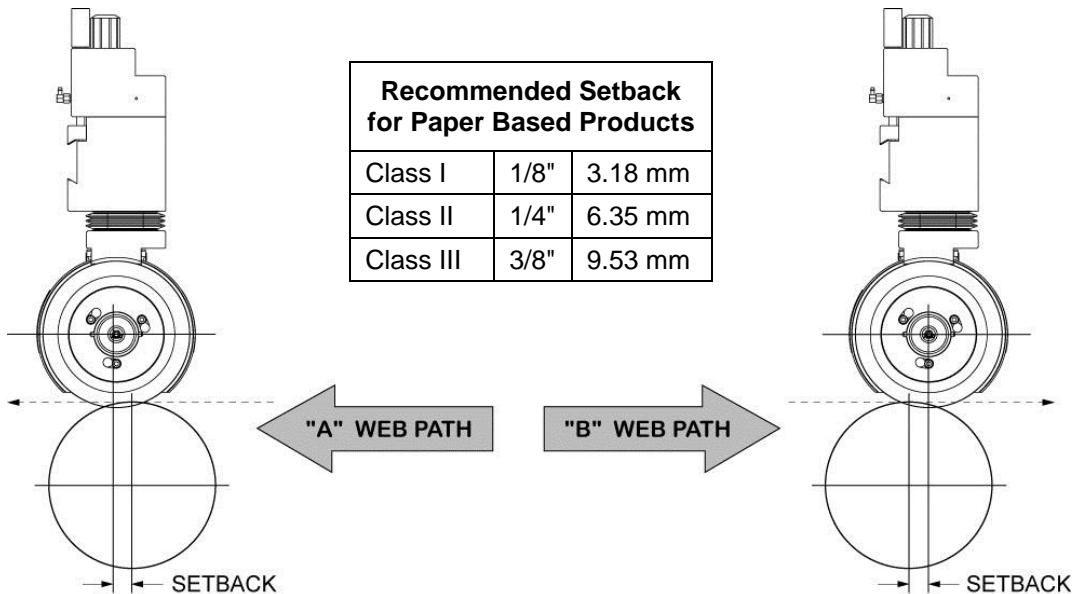


### WRAP

- Knifeholder setback is not required.
- Knifeholder axis should bisect the wrap angle.  
(a) Wrap Angle  
(b) 1/2 of Wrap Angle

## Recommended Knifeholder Setback (For Tangent Slitting Only)

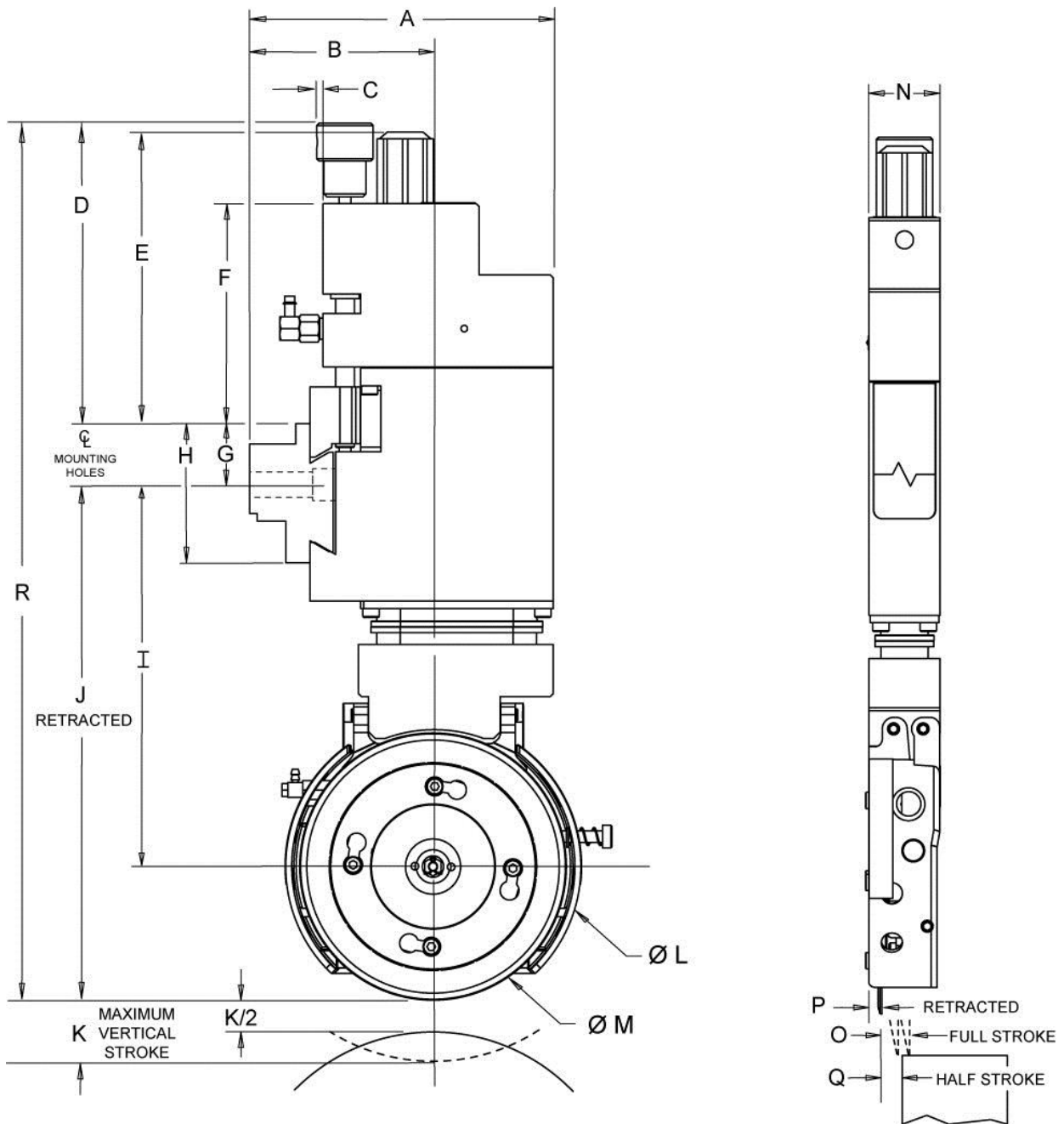
- For best slit result, the web must be in contact with the anvil knife ring at the cut point. If the web contacts the top blade ahead of the cut point, the material will tear instead of slitting cleanly.
- Geometry shown is based on medium weight kraft paper. For assistance with other web materials, call Tidland Customer Service (800.426.1000).



# INSTALLATION

## Prepare to Mount Guide Bar

### Determine Space Requirements



Inches	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
Class I	4.04	2.44	0.05	3.97	3.85	2.89	1.04	1.84	4.85	6.62	0.63	3.92	3.54	0.945	0.12	0.19	0.05	11.64
Class II	4.94	2.95	0.03	4.89	4.39	3.26	1.28	2.34	6.79	9.74	1.00	6.33	5.91	1.75	0.16	0.38	0.08	15.91
Class III	5.69	3.46	0.04	5.29	4.79	3.05	1.28	2.34	7.83	11.77	1.00	8.35	7.87	2.76	0.24	0.77	0.12	18.34

Millimeters	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
Class I	102.7	62.0	1.4	100.8	97.8	73.4	26.4	46.8	123.2	168.1	16.0	100	90	24.0	3.0	4.8	1.3	295.8
Class II	125.5	74.9	0.7	124.2	111.6	82.9	32.5	59.5	172.3	247.4	25.4	161	150	44.5	4.1	9.6	2.0	404.3
Class III	144.6	87.9	1.0	134.4	121.7	77.5	32.5	59.5	198.8	298.9	25.4	212	200	70.0	6.1	19.7	3.0	465.9

# INSTALLATION

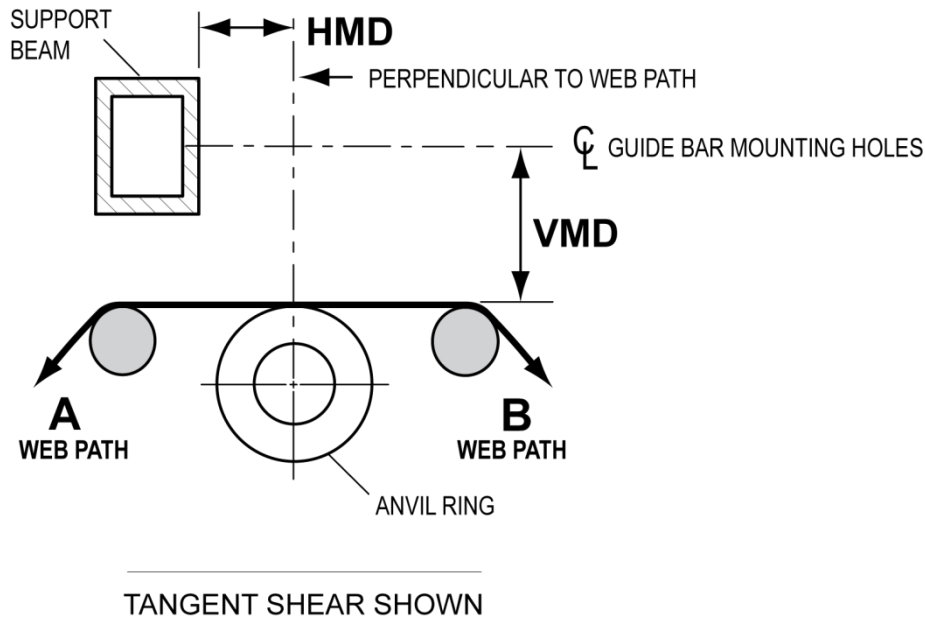
## Determine Mounting Dimensions

### 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 to the vertical centerline through the center of the anvil ring.



### VMD (Vertical Mounting Dimension)

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

Tangent & Wrap Slitting		
Class I	6-29/32"	(175.4 mm)
Class II	10-3/16"	(258.8 mm)
Class III	12-1/4"	(311.2 mm)

### HMD (Horizontal Mounting Dimension)

\* These dimensions will result in setbacks as listed in 'Recommended Setback Distance' on page 6.

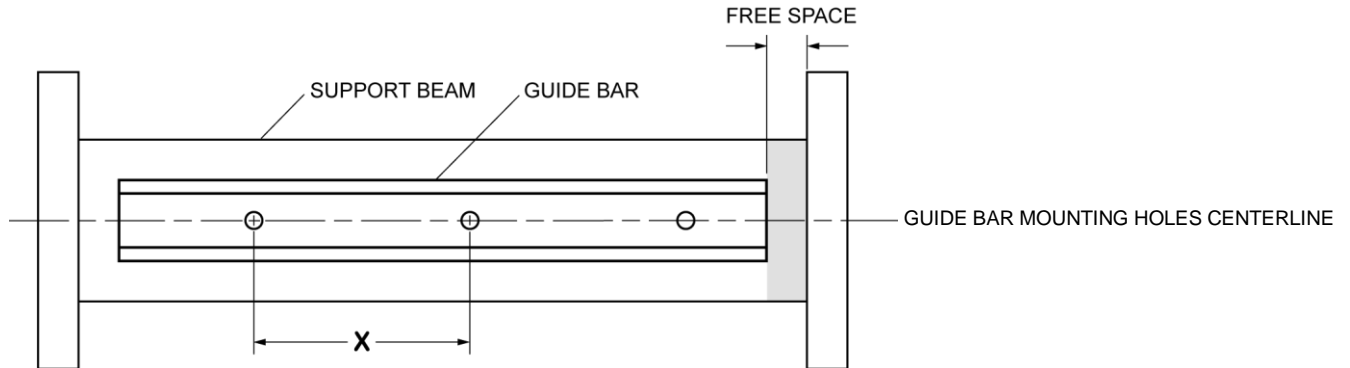
\*\* These dimensions provide no setback.

Tangent Slitting *					Wrap Slitting **	
	'A' Web Path		'B' Web Path		'A' or 'B' Web Path	
Class I	2-9/16"	(65.1 mm)	2-5/16"	(58.7 mm)	2-7/16"	(61.9 mm)
Class II	3-7/32"	(81.8 mm)	2-23/32"	(69.1 mm)	2-31/32"	(75.4 mm)
Class III	3-27/32"	(97.6 mm)	3-3/32"	(78.6 mm)	3-15/32"	(88.1 mm)

# INSTALLATION

## Install Guide Bar on Support Beam

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

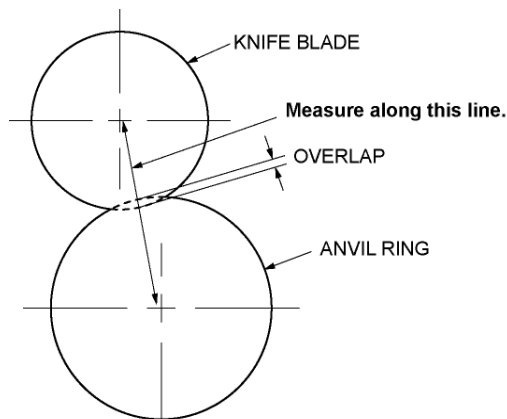


1. Determine the center-to-center distance between the mounting bolt holes (**X**) on the guide bar.
  - Standard pre-drilled dimension (**X**) is 12" (304.80 mm).
  - Drill and tap support beam for pre-drilled guide bar: 3/8"-16NC holes
2. **Before transferring dimension (X) onto the support beam**, 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.

	Minimum Space Recommended for Removal (Free Space)
<b>Class I</b>	2" (50.8 mm)
<b>Class II</b>	3" (76.2 mm)
<b>Class III</b>	4" (101.6 mm)

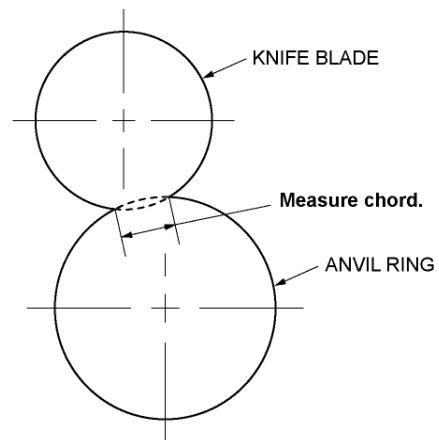
## Methods for Measuring Blade Overlap (For Reference Only)

See page 13 for knifeholder setup instructions.



**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.

# INSTALLATION

## Cant Angle and Web Path

The Unibody knifeholder provides a 0.5° cant angle, which is factory-set as required by customer web direction and cartridge orientation (left or right hand cut side). It is not adjustable.

The cant angle should not require resetting unless you are reversing your web path or if the knifeholder was disassembled for repairs. (See page 32 for details about setting the cant angle.)

### Cant Angle Arrow Label

The arrow label on the front of the upper body points to the blade contact side (cut side or nip point) of the anvil ring.

The label color indicates the web path direction as determined at the time of sale.

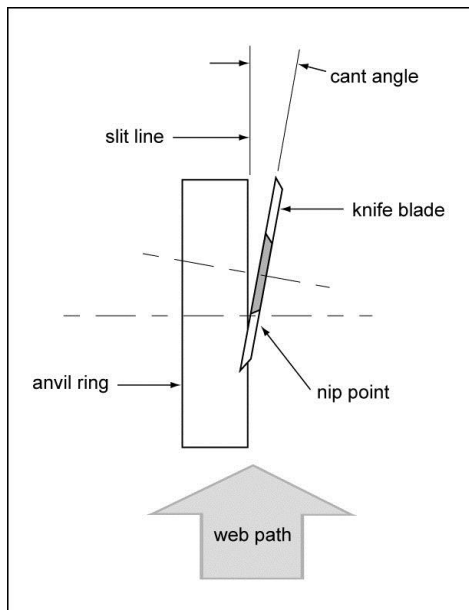
'A' web path = RED label

'B' web path = BLUE label

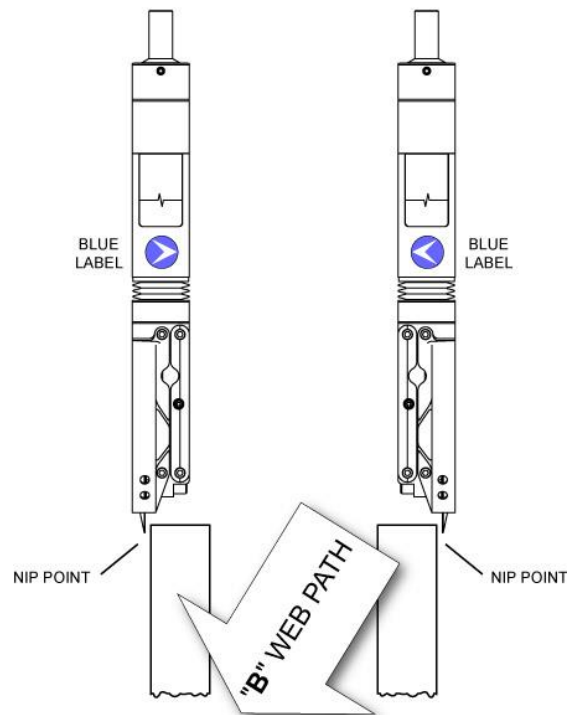
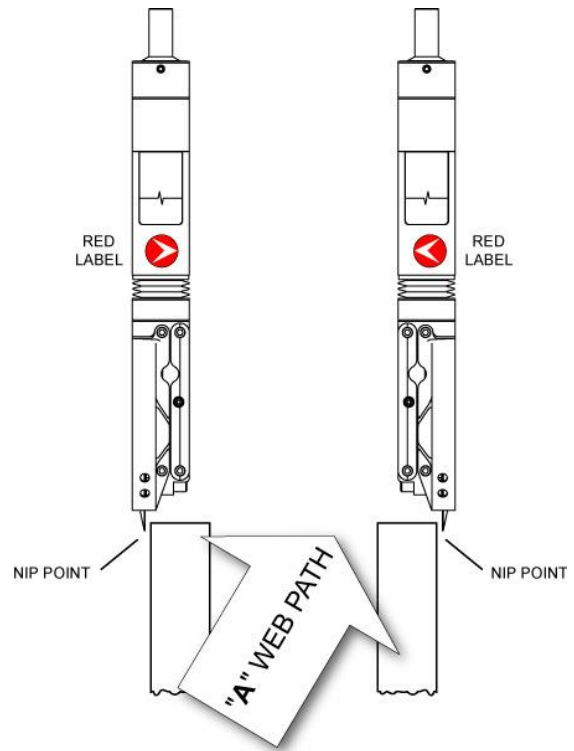
If the arrow does not point toward the blade contact side, the nip point will not be closed, resulting in poor slit quality. Ensure that you have the correct knifeholder for the required web path and cut side.

If you reverse the web path and reset the cant angle, Tidland recommends changing the cant arrow label.

### Understanding Cant Angle



Top View



Left Hand  
Unibody

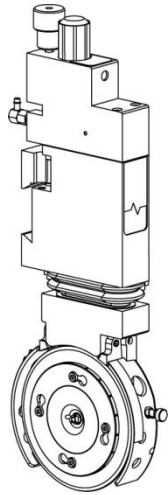
Right Hand  
Unibody

# INSTALLATION

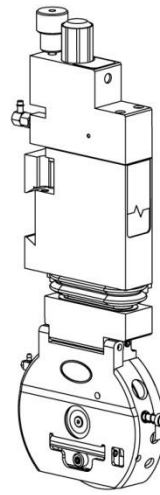
## Mounting Knifeholder to the Guide Bar

Determine which knifeholder orientation is required for your slitting operation.

Cartridges are not reversible.



Left Hand



Right Hand

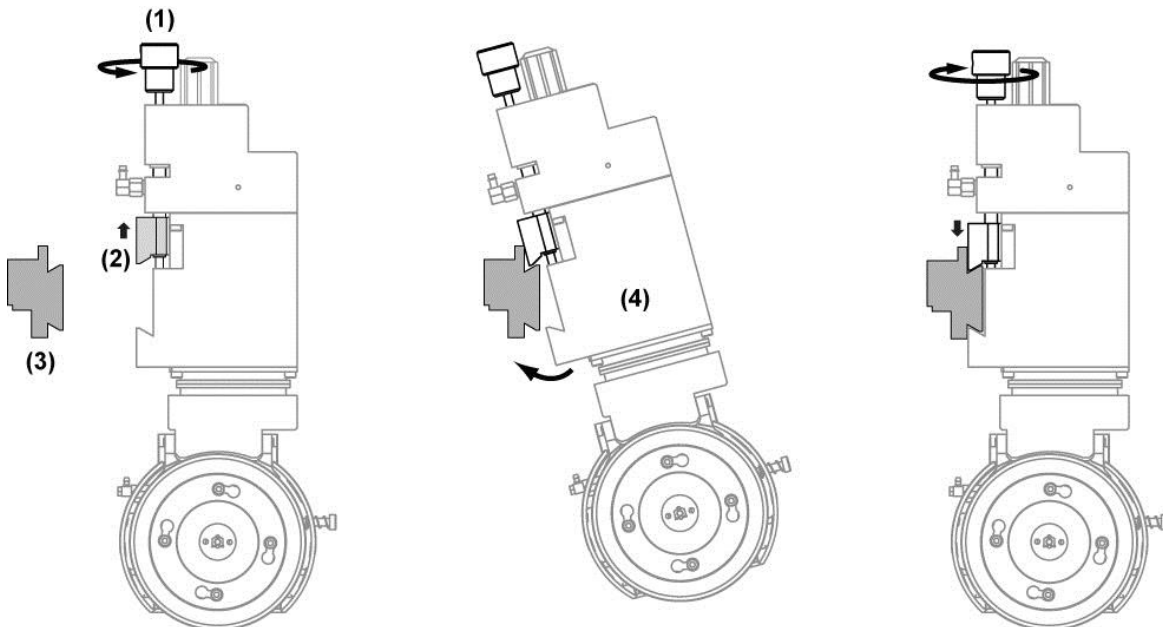
**USE NO TOOLS!** The use of tools to install the knifeholder can cause damage and void the warranty.

Rotate lock knob **(1)** counter-clockwise to open the guide bar locking clamp **(2)**. Open the clamp far enough to place knifeholder on guide bar **(3)**.

Place the locking clamp onto the guide bar and rotate the knifeholder **(4)** into place.

### **HAND TIGHTEN ONLY:**

Rotate the lock knob clockwise to tighten the locking clamp securely to the guide bar.



- When all knifeholders are installed, connect each to the air supply manifold.
- Tidland recommends a 3-way valve in the air supply line for each knifeholder to provide individual knifeholder actuation.

# INSTALLATION

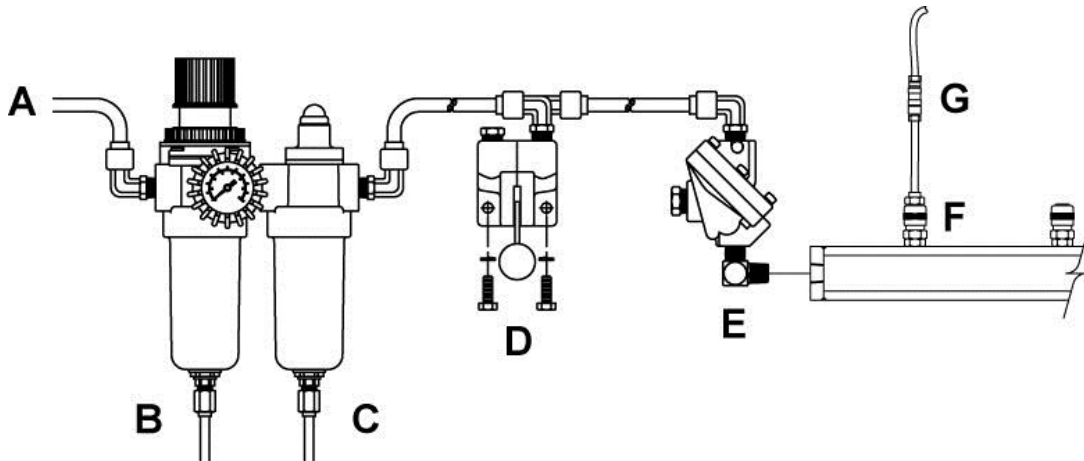
## Pneumatic System Requirements

- Clean, filtered, non-lubricated, dry air is required for optimal performance of the knifeholder. To provide the correct air pressure and help achieve quality slitting, Tidland recommends the use of a filtered and regulated pneumatic system that will prevent airborne oil or water from contaminating the knifeholders.

Filter assembly (single)      Tidland Part No. 520984

Filter assembly (double)      Tidland Part No. 520985

- The pneumatic system (filter assembly) includes:
  - A) 3/8" (9.5 mm) supply air lines
  - B) 5 micron air filter/pressure regulator with gauge (0-100 psi or 0-6.9 bar)
  - C) coalescing filter
  - D) 3-way manual valve with muffler
  - E) quick exhaust valve with muffler
  - F) 3-way slider valve
  - G) quick-disconnect fitting



- Tidland recommends installing a 3-way slider valve (F) and quick disconnect (G) in the air supply line for each knifeholder to provide individual knifeholder actuation required for setup. All pneumatic components are available from Tidland.

Tidland Part No. 732274      1/8 NPT hose assembly kit

Tidland Part No. 737250      G1/8 hose assembly kit

See page 44 for individual component part numbers.

- Before operating, make sure that the air lines from the air manifold to the knifeholder are securely connected.

### Recommended operating air pressure:

**60-90 psi (4.1-6.2 bar)**

This is a guideline for knifeholder setup.

Actual air pressure is dependent upon application and material.

### Maximum operating air pressure:

**100 psi (6.9 bar)**

## Knifeholder Setup and Operation

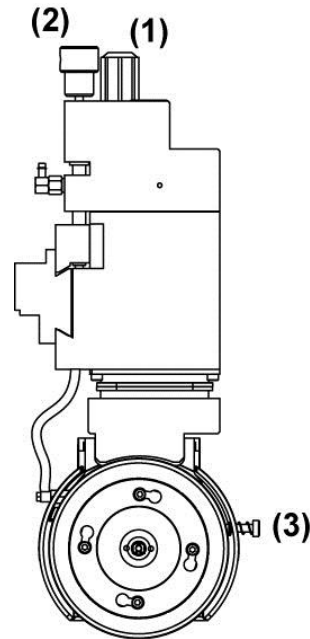
- Tidland recommends installing a 3-way valve in the air supply line for each knifeholder to provide individual knifeholder actuation required for setup. (See page 12 for installation requirements.)
- Actuating each 3-way valve extends the knifeholder blade cartridge for the setup procedure and operation.

### Ensure that:

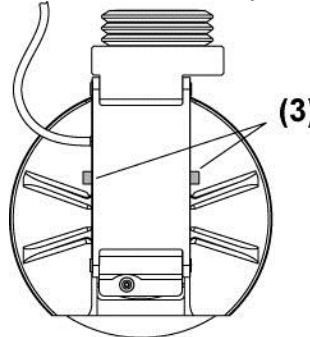
- anvil rings are in the desired slit position.
- air supply is attached and set to the minimum pressure required to slit your web material.

### Setup

1. **Ensure that the knife blade is not directly over the anvil ring in order to prevent damage by collision when the blade cartridge extends during setup.**
2. Adjust depth control knob **(1)** so that it extends up from the control body.
3. Turn the locking clamp knob **(2)** counterclockwise to loosen.
4. Manually slide the knifeholder along the guide bar until knife blade is close to, but not touching, the cut side of the corresponding anvil ring.
5. Press and hold the cartridge half stop button **(3)**, and then apply air to the knifeholder to extend the blade cartridge.
6. Release the setup button **after** the cartridge extends and completes its side stroke. The knifeholder will remain in this position until the cartridge retracts.
7. Slide the knifeholder along the guide bar until the knife blade and the anvil ring lightly contact.
8. Tighten the locking clamp knob.
9. Observe the overlap of the knife blade and anvil ring. If the overlap is correct — .030" (0.8 mm) — the knifeholder is ready to slit: go to **Operation** below. If overlap is incorrect, continue with Step 10.
10. Turn off air supply to the knifeholder to retract the blade cartridge before making any blade overlap adjustments.
  - To increase the overlap, turn the depth control knob counterclockwise.
  - To decrease the overlap, turn the knob clockwise.



Class II and III Half Stop Button



**Note:** One **click** increases or decreases the overlap **.004" (0.1 mm)**.  
One **complete turn** increases or decreases the overlap **.040" (1.0 mm)**.

### Operation and Actuation

1. Turn off air supply to the knifeholder to retract the blade cartridge before beginning the slitting operation. **Note:** If you do not retract the blade cartridge after completing the setup and before slitting, the knifeholder will not function as designed and may result in poor slit quality.
2. Apply air to extend the blade cartridge to begin slitting operation.

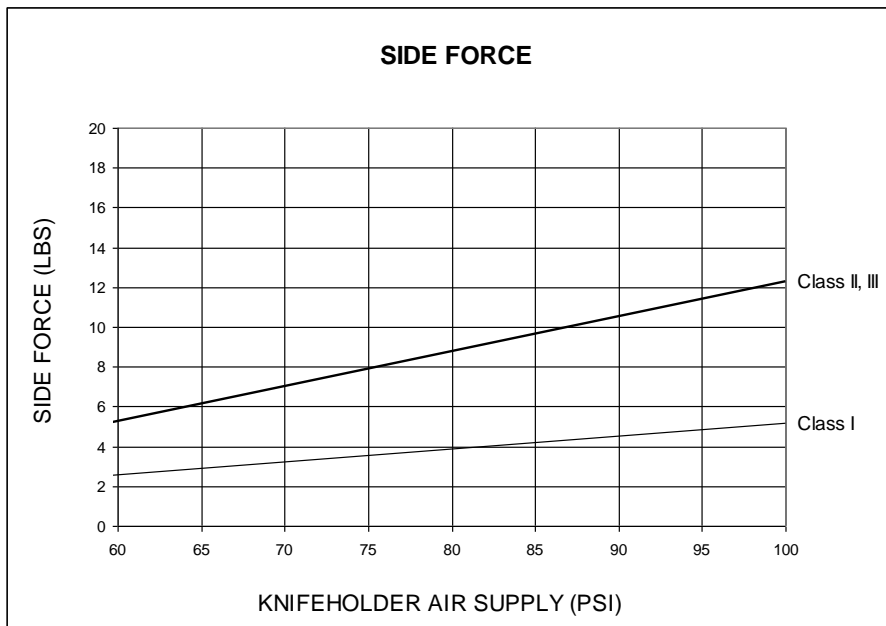
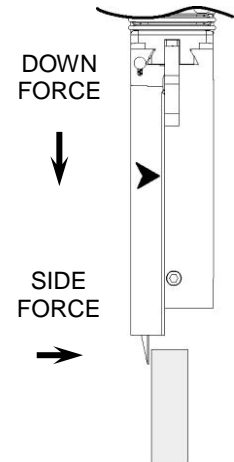
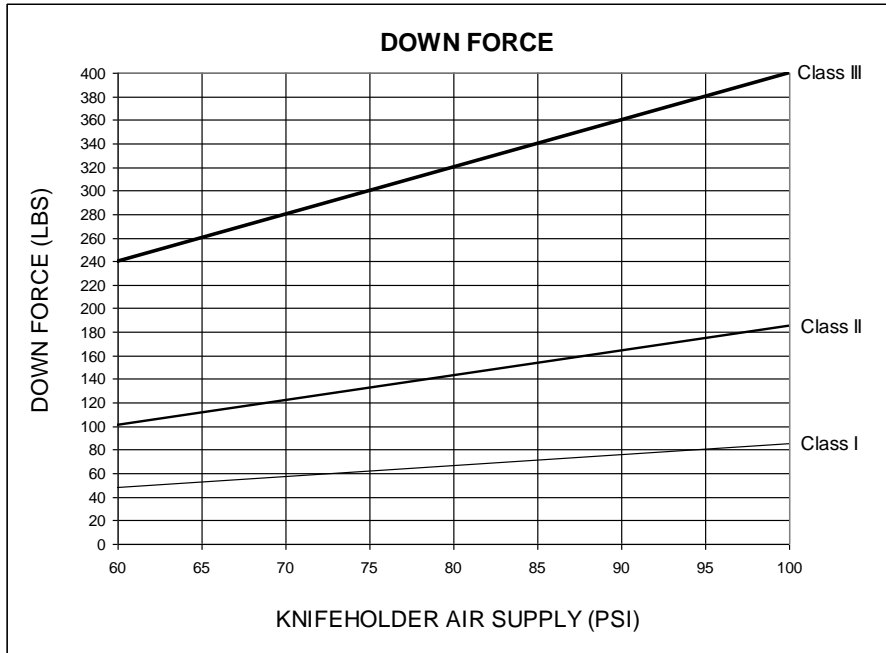
# OPERATION

## Operating Air Pressure

60-90 psi (4.1-6.2 bar) recommended

100 psi (6.9 bar) maximum

Knifeholder loads will vary slightly from the averages shown.



## Preventive

- Keep anvil rings and knifeholder blades clean and balanced.
- Do not use oil lubricants in knifeholder. Oil lubricants attract dust and debris and may cause the knifeholder to function improperly. Use only those lubricants recommended in this publication.

## Daily

- Keep all knifeholders clean of debris.
- Check air pressure to the knifeholders: Clean, dry, non-lubricated air is essential for optimal knifeholder performance.
- Check for air leaks at the knifeholder and manifold.

**Note:** DO NOT IMMERSE knifeholders in solvents. Wipe the outer surfaces with a clean, dry rag.



**Hand hazard.**  
**Blades can cut or sever.**

---

## Weekly

- Check knifeholder air pressure. Knifeholder air pressure requirements: 1½ cfm @ 60-90 psi (4.1-6.2 bar).
- Blow down the blade cartridge to remove dust build up.
- Check hose connections to the knifeholders for leaks or cracks.
- Check blade cartridge half stroke function.

## Monthly

- Clean all surfaces of the knifeholder.
- Inspect bellows for tears. Replace if necessary.

## Bi-Yearly

- Clean and inspect blade cartridge bearings for looseness.
- Remove depth control knob and inspect for dust build up, if applicable.

## Guide Bar

- Periodically wipe the dovetail guide bar clean and lubricate with a silicone dry film lubricant. Tidland Corporation recommends using *Dow Corning 557 Silicone Dry Film Lubrication* to assure smoother knifeholder movement.

## Lock Knob

- Periodically check the threads on the lock knob and lubricate if necessary. Use *Dow Corning 557 Silicone Dry Film Lubrication*.



Do not remove the lock knob assembly from the knifeholder.

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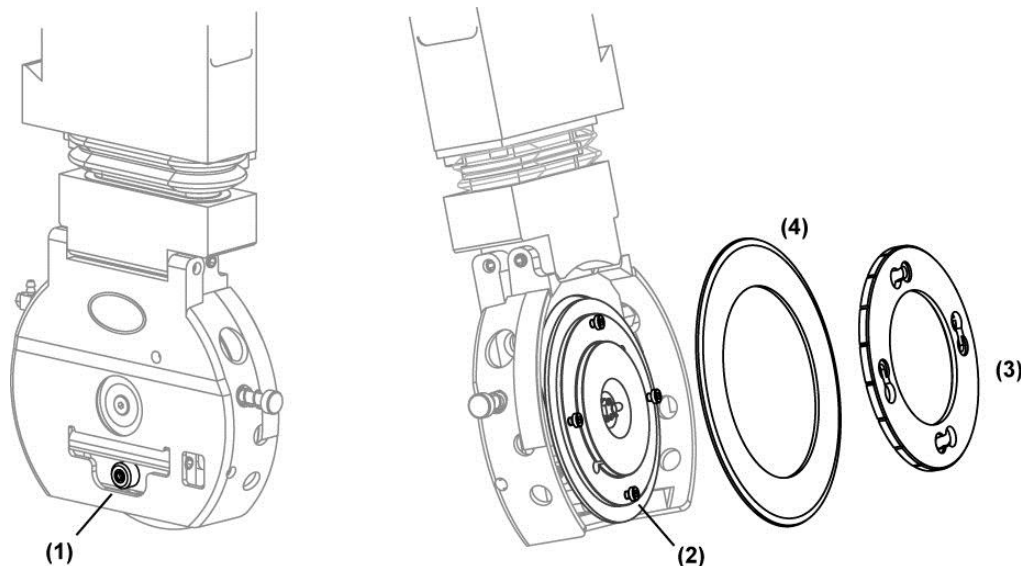
## Knife Blade



**Hand hazard.**  
**Blades can cut or sever.**

### Removing the Blade

1. Turn off the air supply to the knifeholder(s) to retract the blade cartridge(s).
  - a. Rotate the lock knob on the knifeholder counterclockwise to open the guide bar clamp far enough to remove the knifeholder.
  - b. Lift up on the knifeholder and rotate the bottom away from the guide bar to remove.
2. Press the blade stop pin **(1)** to keep the blade from rotating, while loosening the socket head cap screws **(2)** in the blade clamp **(3)**.
3. Rotate the clamp counterclockwise until the clearance holes are under the screw heads; remove the clamp.
4. Remove the blade **(4)** from the blade hub.



### Reinstalling the Blade

1. Clean the blade hub surface where the blade mounts. This assures correct blade interface and helps prevent blade runout (wobble).
2. Reinstall the knife blade with the slitting edge toward the strut.
3. Install the blade clamp onto the blade hub. Rotate the blade clamp clockwise until the counterbored areas of the clearance holes are under the blade clamp screw heads.
4. Tighten the four blade clamp screws to 9 in·lbs (1.02 Nm).

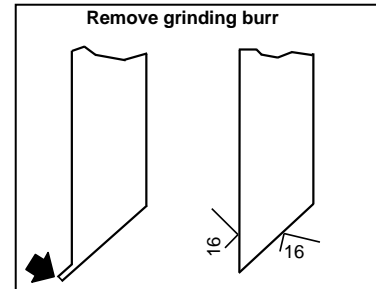
Installing the knifeholder on the guide bar, page 11.

# MAINTENANCE

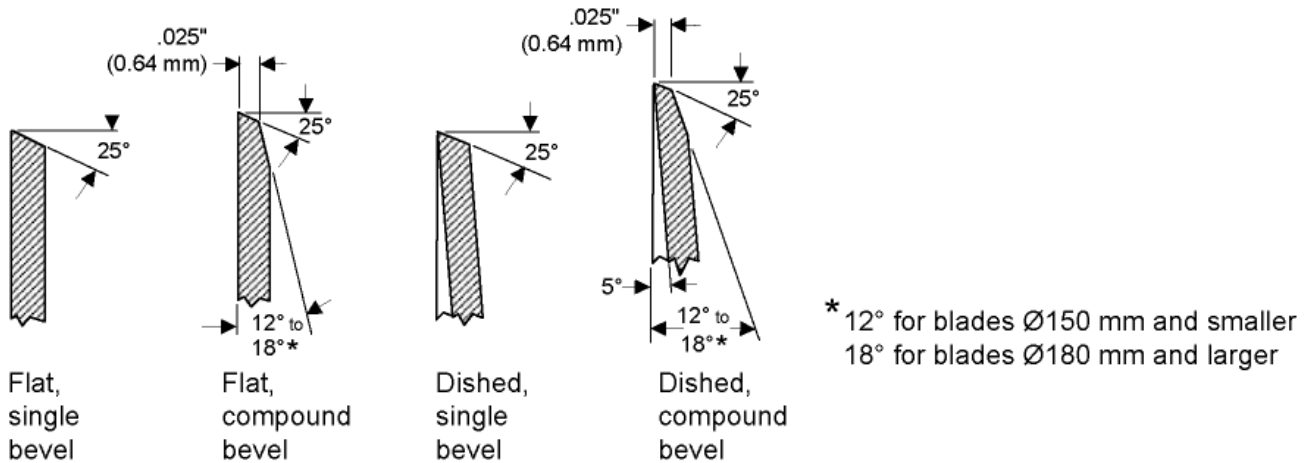
## Blade Grinding and Finishing

- 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.
- Grind the blade edge as smooth as possible to avoid dust formation during the slitting process.
- **Before putting 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.

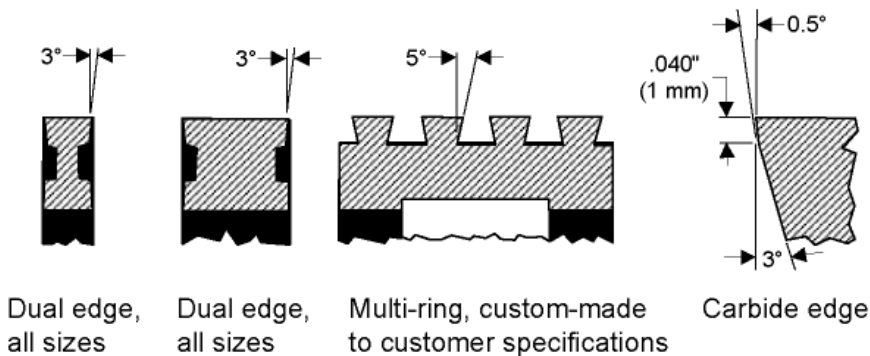
Suggested Blade Grinding Procedure			
Step	Procedure	Wet/Dry	Grit/Hardware
1	If required, grind to remove chips, restore roundness, etc.	Wet	46/60 med/soft
2	Rough grind blade edge	Wet	100 medium
3	Finish grind blade edge	Wet	180 med/hard
4	Deburr	Dry (hand)	Oilstone



## Knife Blades – Shear



## Anvil Rings – Shear



## MAINTENANCE

The disassembly instructions in this manual are for your safety and protection. They are a guide for selective sub-assembly inspection, maintenance and part replacement.

To avoid warranty violations, consult with a Tidland Knifeholder Service Technician for any disassembly not covered in this publication.

Tidland Customer Service  
1.800.426.1000  
1.360.834.2345



**Knife blades are sharp.**

**To avoid injury, remove the knife blade from the cartridge before performing maintenance or repairs.**

---

### Removing the Knifeholder from the Guide Bar

1. Turn off the air supply to the knifeholder(s) to retract the blade cartridge(s).
2. Rotate the lock knob on the knifeholder counterclockwise to open the guide bar clamp far enough to remove the knifeholder.
3. Lift up on the knifeholder and rotate the bottom away from the guide bar to remove.
4. Transport the knifeholder to the maintenance area.

## Class I

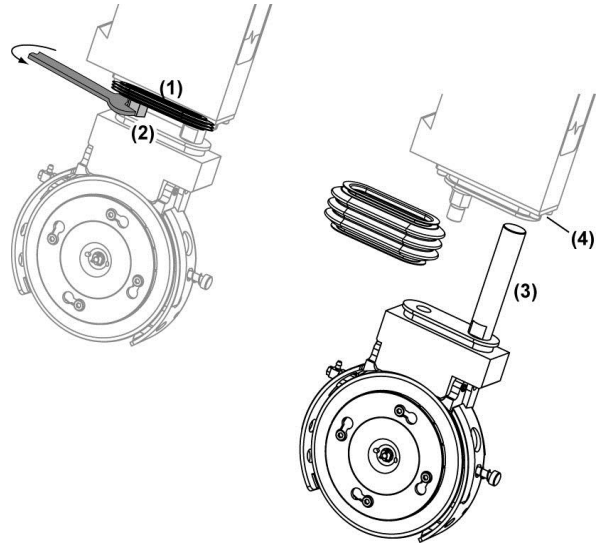
To ensure knifeholder performance, keep wear parts such as o-rings and guide rods well-lubricated.

### Removing the Cartridge Assembly

#### Recommended Tools

- 10 mm thin open end wrench

1. Remove the knifeholder from the guide bar and transport to the maintenance area.
2. Rotate the depth control knob counterclockwise for full extension depth.
3. Apply 30-45 psi to the knifeholder to extend the blade cartridge.
4. Lift the bellows (1) to expose the piston guide rod (2).
5. With the cartridge assembly extended, place an open-end wrench over the flats of the piston guide rod and turn counterclockwise until the cartridge is free from the body.
6. Remove the bellows for inspection.



**Do not** remove the cant angle guide rod (3) from the cartridge assembly.

**Do not** remove the cant angle adjustment plate (4) from the upper body.

#### Recommended Maintenance

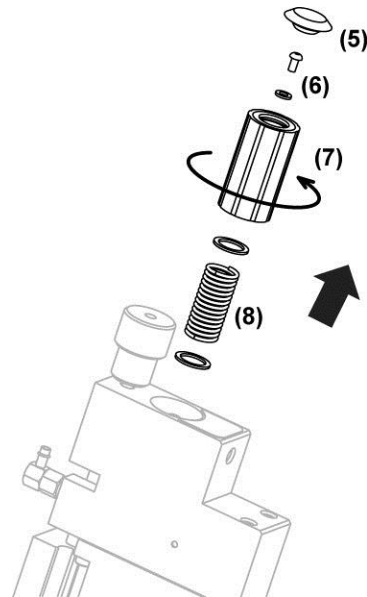
1. Inspect bellows; replace if worn or damaged.
2. Lubricate the cant angle guide rod and the internal alignment bushing with *Lubriplate EMB Polymer Grease (L0148-098)*.

### Removing the Depth Control Knob

#### Recommended Tools

- 2.5 mm hex drive wrench
- small flat blade screwdriver

1. Remove depth control knob cap (5) from control body.
2. Remove the socket head cap screw and washer (6) from inside the depth control knob.
3. Remove depth control knob (7), rotating counterclockwise by hand.
4. Remove the piston return spring and two flat washers (8).



## Class I

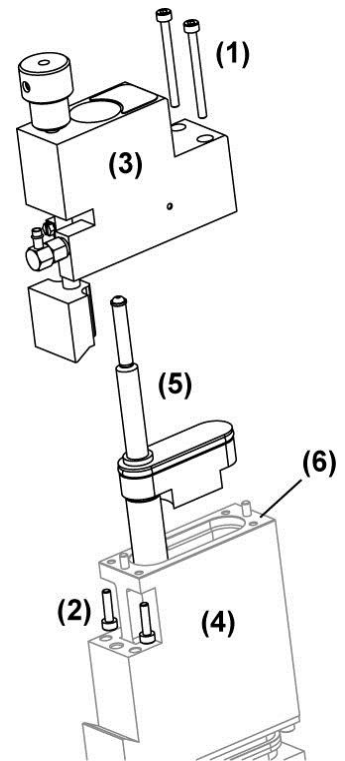
### Removing the Piston Assembly

#### Recommended Tools

- 2.5 mm hex drive wrench
- *Parker Super O-Lube*
- *Lubriplate EMB Polymer Grease (L0148-098)*

#### Separating the Upper and Lower Bodies

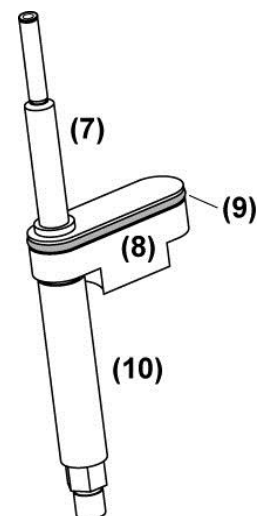
1. Remove the cartridge assembly from the knifeholder (p. 19).
2. Remove the M3 screws: two long (1) and two short (2).
3. Lift up on the upper body (3) to separate it from the lower body (4).
4. Lift the piston assembly (5) out of the lower body.
5. Retain the body gasket material (6) for use during reassembly.



#### Recommended Maintenance

The piston assembly is made up of the stroke stop rod (7), piston (8), o-ring (9) and the piston guide rod (10). **Except for the o-ring, do not attempt further disassembly of these parts.**

1. Inspect the piston o-ring; replace if cracked or worn.
2. Lubricate stroke stop rod and piston o-ring with *Parker Super O-Lube*.
3. Lubricate piston guide rod and internal bushing with *Lubriplate EMB Polymer Grease (L0148-098)*.



## Class I

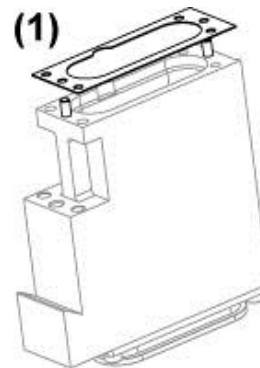
### Reassembling the Knifeholder

#### Recommended Tools

- 2.5 hex drive wrench
- *Parker Super O-Lube*
- *Loctite 242 and 545*

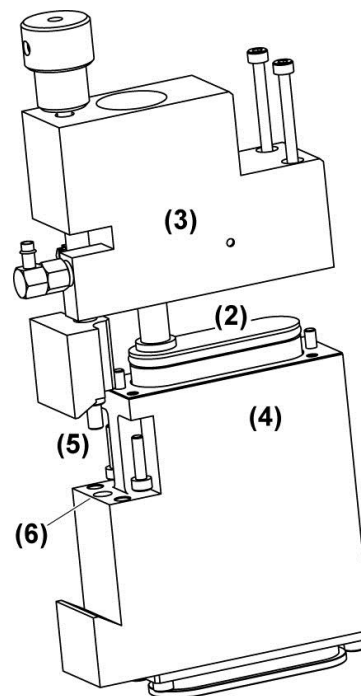
#### Installing the Body Gasket

1. Ensure that the body gasket **(1)** is in place on the lower body.



#### Assembling the Upper and Lower Bodies

1. Ensure that there is a lubricated o-ring on the piston assembly **(2)**. (Use *Parker Super O-Lube*.)
2. Insert the piston assembly into the lower body **(4)**.
3. Carefully place the upper body **(3)** on the lower body so that the upper body internal o-ring is not damaged by the piston stroke stop rod. (Internal parts are shown on page 24.)
4. Seat the guide bar clamp locking rod **(5)** in the lower body register **(6)**.
5. Apply *Loctite 242* to screw threads and secure the two bodies with two long and two short socket head cap screws and torque to 1 ft·lb (1.35 Nm).

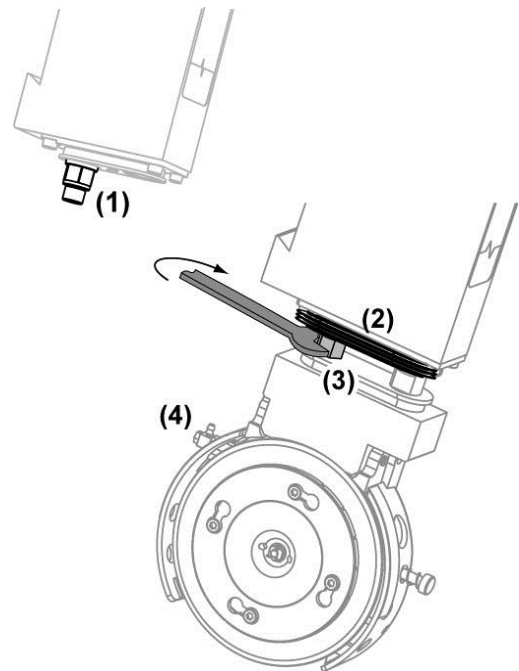


## Class I

### Reassembling the knifeholder (continued)

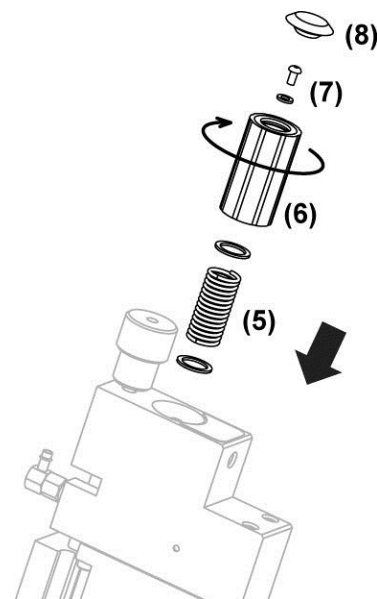
#### Reinstalling the Cartridge Assembly

1. Extend the piston guide rod (1) to access the flats.
2. Put the bellows (2) in place on the upper body cant angle alignment plate.
3. Install the cartridge assembly with the cant angle guide rod into the knifeholder body.
4. Holding the bellows out of the way, fasten the cartridge assembly to the extended piston guide rod (3). Turn wrench clockwise to tighten and torque to 12 ft·lbs (16.3 Nm)
5. Pull bellows down and secure to the cartridge assembly.
6. Attach the 1/8" air tubing from the knifeholder to the cartridge air fitting (4).
7. Verify blade cartridge half and full stroke functionality before reinstalling the unit for operation.



#### Reinstalling the Depth Control Knob

1. Push the piston assembly up into the upper body.
2. Reinstall the flat washers and spring (5) and the depth control knob (6).
3. Push down on the depth control knob and rotate it clockwise until the flat washer and screw (7) engage with the threads on the stroke stop rod, capturing the depth control knob. Torque the screw to 0.75 ft·lbs (1.0 Nm)
4. Reinstall the depth control knob cap (8).



## Class I

### Upper Body Internal Parts

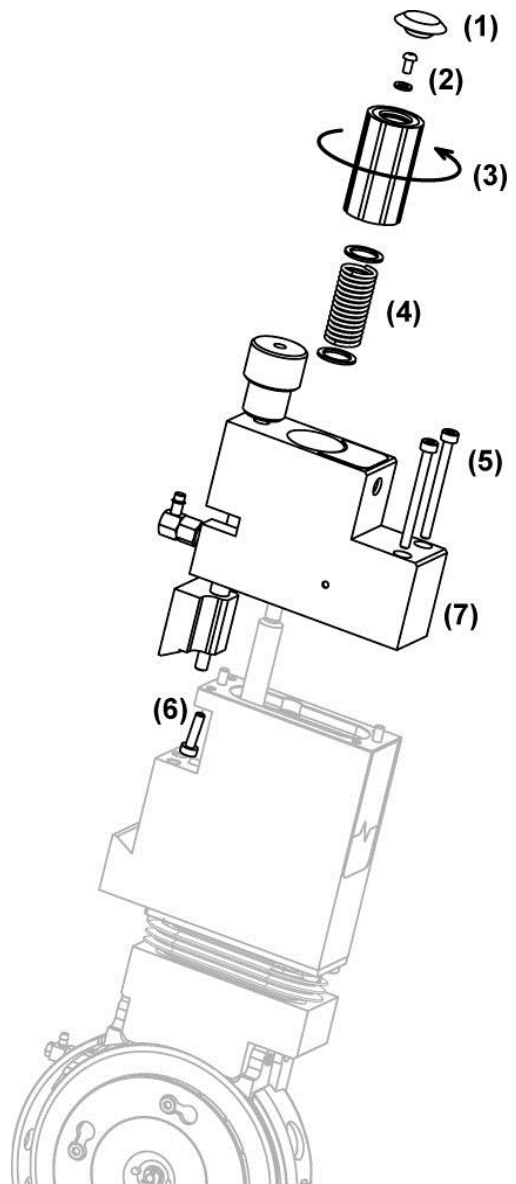
There are three parts (shown on next page) internal to the upper body that are key to air flow and knifeholder sequencing:

- upper body o-ring
- speed control orifice
- 3-way valve

If you are experiencing air leaks or sluggish knifeholder performance (extension, retraction, sidestroke), see Troubleshooting on page 35 to resolve these issues; you may need to inspect the internal parts for damage or debris buildup. Otherwise, these parts should not require regular maintenance.

### Accessing the internal parts

1. With blade cartridge in the retracted position, remove the depth control knob cap (1).
2. Remove the socket head cap screw and washer (2).
3. Rotate the knob (3) counterclockwise to remove. There is a slight spring tension on the knob: use care when removing.
4. Remove the spring and two flat washers (4).
5. Remove two long screws (5) and two short screws (6).
6. Lift the upper body (7) from the lower body. The piston assembly will remain in the lower body.



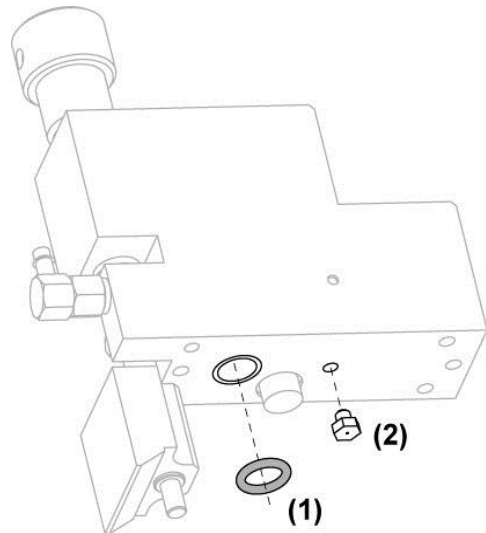
## Class I

### Upper Body Internal Parts (continued)

#### Stroke stop rod o-ring (1)

This o-ring keeps the air sealed in the upper body. If you hear leaking around the depth control knob, you will need to replace the o-ring.

1. Remove the depth control knob and separate the upper and lower bodies (p. 20).
2. Use a small hooked tool to reach inside the upper body and pull out the o-ring.
3. Lubricate the new o-ring with *Parker Super O-Lube* and carefully push it back up into the cavity in the upper body, making sure it seats fully on top of the stroke stop rod bushing.



#### Speed control orifice (2)

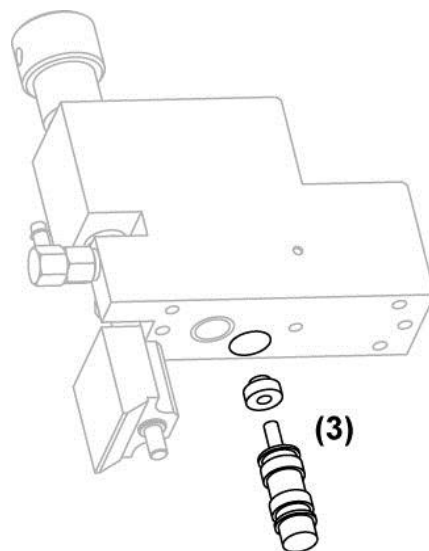
If your knifeholder retraction/extension speed is slow, this orifice could be restricted or plugged due to dirty air.

1. Remove the depth control knob and separate the upper and lower bodies (p. 20).
2. Use a 5 mm open end wrench to remove the orifice.
3. Blow the orifice clean with compressed air and reinstall it in the upper body.

#### 3-way Valve (3)

If the knifeholder has no sidestroke, see Troubleshooting on page 34 to resolve all other issues with air supply or depth control knob. Replace the valve if necessary.

1. Pull the valve out by hand. There is a cap permanently secured to the valve with *Loctite 620*. You will need to replace the cap and the valve.
2. When reinstalling the new valve, lubricate the o-rings with *Parker Super O-Lube*.
3. Reassemble the knifeholder (p. 21).



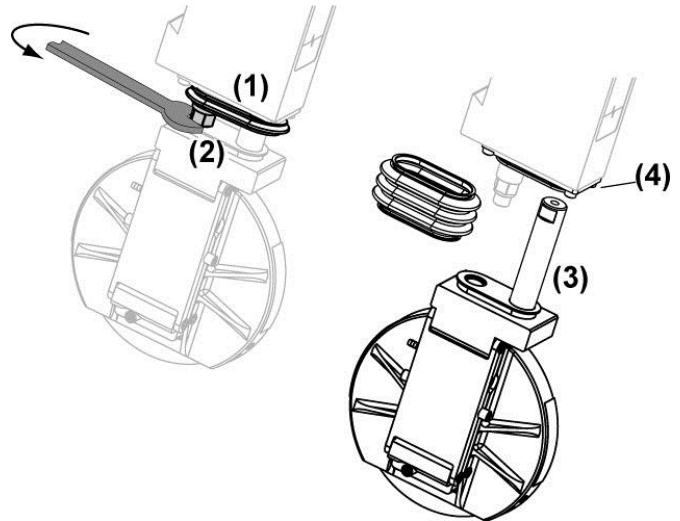
## Class II and III

### Removing the Cartridge Assembly

#### Recommended Tools

- 2.5 mm hex drive wrench
- Small flat blade screwdriver
- Small needlenose pliers
- *Lubriplate EMB Polymer Grease (L0148-098).*
- Thin, open-end wrench  
Class II – 16 mm  
Class III – 25 mm

1. Remove the knifeholder from the guide bar and transport to the maintenance area.
2. Rotate the depth control knob counterclockwise for full extension depth.
3. Apply 30-45 psi to the knifeholder to extend the blade cartridge.
4. Lift the bellows (1) to expose the piston guide rod (2).
5. With the cartridge assembly extended, place an open-end wrench over the flats of the piston guide rod and turn counterclockwise until the cartridge is free from the body.
6. Disconnect the air pressure to the knifeholder.
7. Remove the bellows for inspection.



**Do not** remove the lock knob assembly from the upper body.

**Do not** remove the cant angle guide rod (3) from the cartridge assembly.

**Do not** remove the cant angle adjustment plate (4) from the upper body.

#### Recommended Maintenance

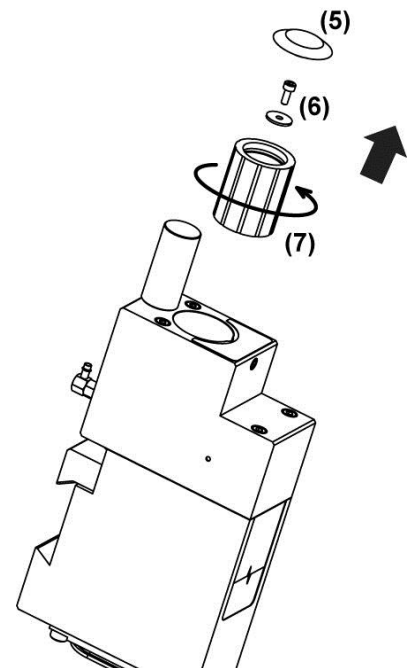
1. Inspect bellows; replace if worn or damaged.
2. Lubricate the cant angle guide rod and the internal alignment bushing with *Lubriplate EMB Polymer Grease (L0148-098).*

### Removing the Depth Control Knob

#### Recommended Tools

- 2.5 mm hex drive wrench
- Small flat blade screwdriver

1. Carefully pry off the depth control knob cap (5) from control body. Save for reuse during reassembly.
2. Remove the locking cap screw and washer (6) from inside the depth control knob.
3. Remove the knob (7), rotating counterclockwise by hand.



## Class II and III

### Removing the Piston Assembly

#### Recommended Tools

- Hex drive wrenches  
Class II – 3 mm  
Class III – 4 mm
- *Parker Super O-Lube*
- *Lubriplate EMB Polymer Grease (L0148-098).*

### Separating the Upper and Lower Bodies

Do not remove the lock knob assembly from the upper body.

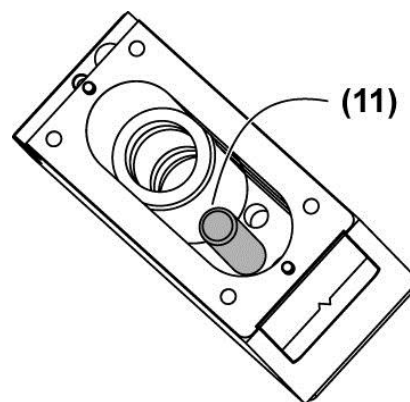
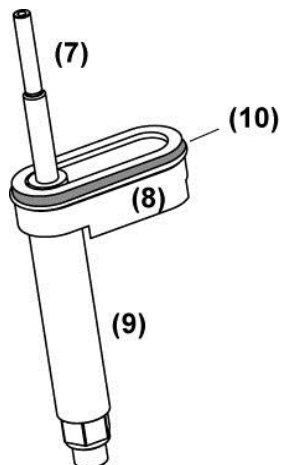
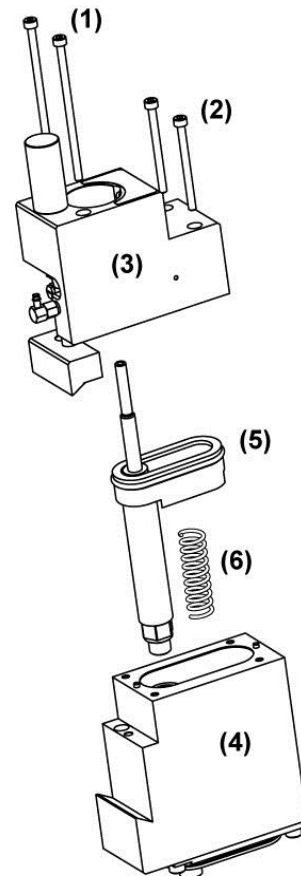
The upper and lower bodies are under spring tension. Use caution when removing the screws, loosening them alternately until the upper body is released.

1. Remove the cartridge from the control body (p. 25).
2. Remove the socket head cap screws: two long (1) and two short (2), loosening them alternately.
3. Lift up on the upper body (3) to separate it from the lower body (4).
4. Lift the piston assembly (5) out of the lower body.
5. Remove the piston return spring (6).

#### Recommended Maintenance

The piston assembly is made up of the stroke stop rod (7), piston (8), and the piston guide rod (9). **Do not attempt further disassembly of these parts.**

1. Inspect the piston o-ring (10); replace if cracked or worn.
2. Lubricate stroke stop rod and piston o-ring with *Parker Super O-Lube*.
3. Lubricate piston guide rod and its mating internal bushing in the upper body with *Lubriplate EMB Polymer Grease (L0148-098)*.
4. Lubricate the piston return spring and spring support (11) inside the lower body with *Lubriplate EMB Polymer Grease (L0148-098)*.

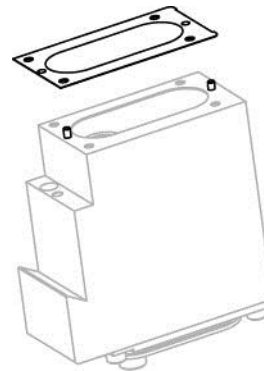


## Class II and III

### Reassembling the Knifeholder

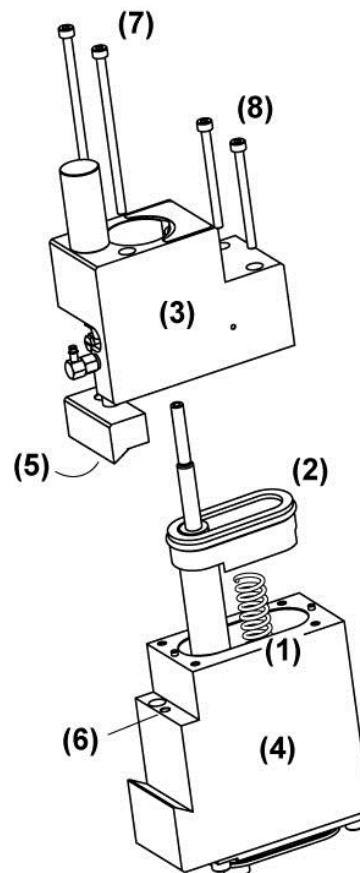
#### Installing the Body Gasket

1. Ensure that the body gasket is in place on the lower body.



#### Assembling the Upper and Lower Bodies

1. Lubricate the piston return spring (1) with *Lubriplate EMB Polymer Grease (L0148-098)* and place the spring on the spring support in the lower body.
2. Ensure that there is a lubricated o-ring on the piston. (Use *Parker Super O-Lube*.) Insert the piston assembly (2) into the lower body: ensure that there
3. Carefully place the upper body (3) on the lower body (4) so that the upper body internal o-ring is not damaged by the piston stroke stop rod. (Internal parts are shown on page 30.)
4. Seat the guide bar clamp locking rod (5) in the lower body register (6).
5. Alternately tighten the two long (7) and two short (8) socket head cap screws and torque to 2.1 ft·lb (2.85 Nm) to secure the bodies together.

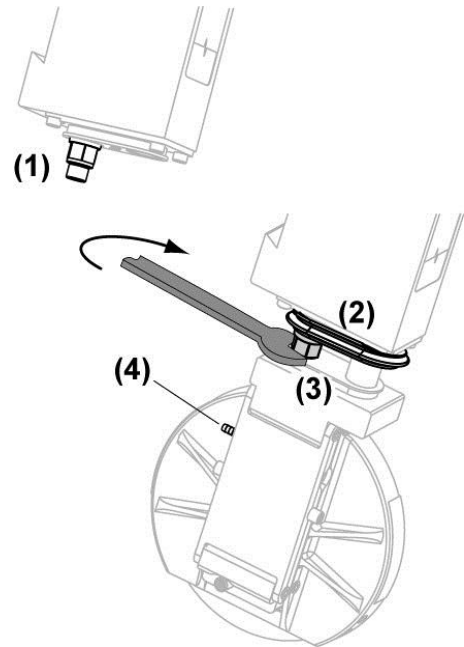


## Class II and III

*Reassembling the knifeholder (continued)*

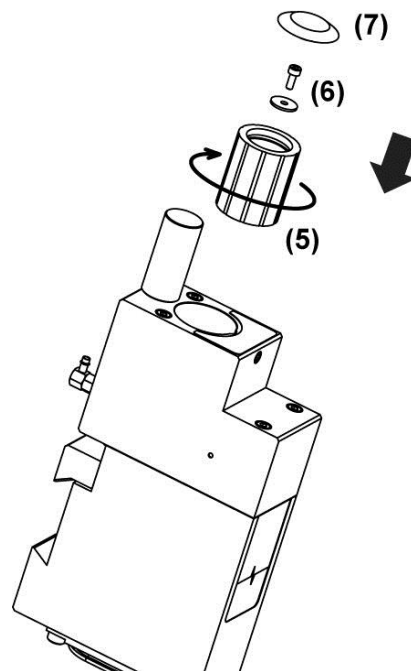
### Reinstalling the Cartridge Assembly

1. Apply air to the knifeholder to extend the piston guide rod **(1)** to access the flats.
2. Put the bellows **(2)** in place on the upper body cant angle alignment plate.
3. Install the cartridge assembly (with cant angle guide rod) into the knifeholder body.
4. Holding the bellows out of the way, fasten the cartridge assembly to the extended piston guide rod **(3)**. Turn wrench clockwise to tighten the guide rod to the cartridge.
5. Pull bellows down and secure to the cartridge assembly.
6. Attach the 1/8" air tubing to the cartridge air fitting **(4)**.
7. Verify blade cartridge half and full stroke functionality before reinstalling the unit for operation.



### Reinstalling the Depth Control Knob

1. Retract the knifeholder.
2. Reinstall the the depth control knob **(5)** rotating clockwise.
3. Using 2.5 mm hex drive wrench, install the flat washer and screw **(6)** and torque the screw to 0.75 ft-lbs (1.0 Nm)
4. Reinstall the depth control knob cap **(7)**.



## Class II and III

### Upper Body Internal Parts

There are three parts (shown on next page) internal to the upper body that are key to air flow and knifeholder sequencing:

- upper body o-ring
- set screw orifice
- 3-way valve

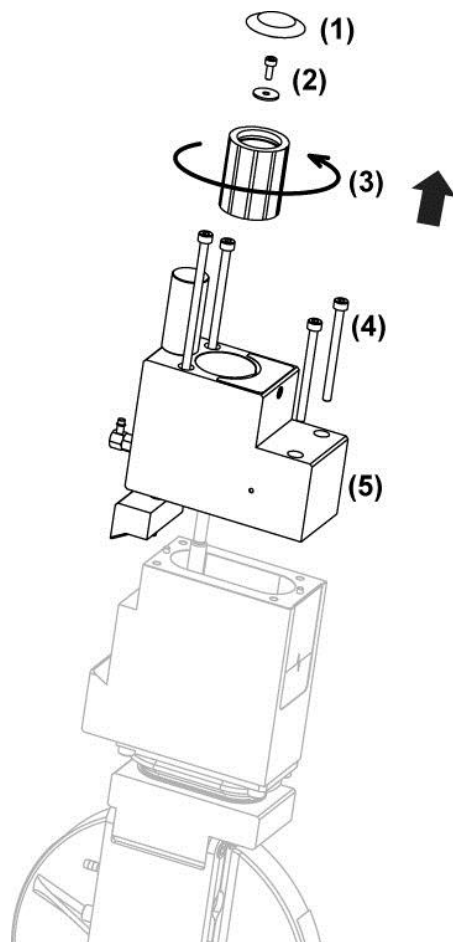
If you are experiencing air leaks or sluggish knifeholder performance (extension, retraction, sidestroke), inspect the internal parts for damage or debris buildup. Otherwise, these parts should not require regular maintenance.

### Accessing the internal parts

**Do not remove the lock knob assembly from the upper body.**

The upper and lower bodies are under spring tension. Use caution when removing the screws, loosening them alternately until the upper body is released.

1. With blade cartridge in the retracted position, carefully pry off the depth control knob cap **(1)** and save for reuse during reassembly.
2. Remove the socket head cap screw and washer **(2)**.
3. Rotate the knob **(3)** counterclockwise to remove.
4. Remove four long socket head cap screws **(4)**, loosening them alternately.
5. Lift up on the upper body **(5)** to separate it from the lower body.



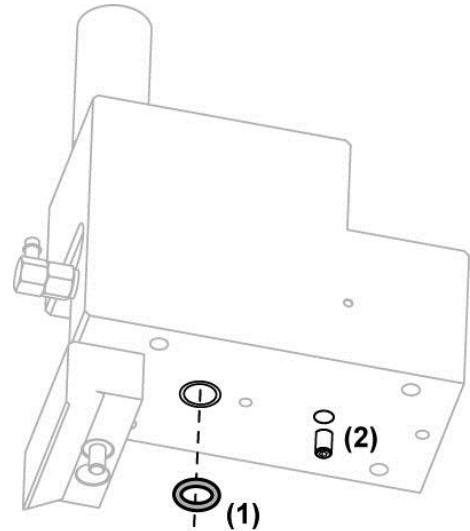
## Class II and III

*Upper Body Internal Parts (continued)*

### Stroke stop rod o-ring (1)

This o-ring keeps the air sealed in the upper body. If you hear leaking around the depth control knob, you will need to replace the o-ring.

1. Remove the depth control knob and separate the upper and lower bodies (p. 26).
2. Use a small hooked tool to reach inside the upper body and pull out the o-ring.
3. Lubricate the new o-ring with *Parker Super O-Lube* and carefully push it back up into the cavity in the upper body, making sure it seats fully on top of the stroke stop rod bushing.



### Speed control orifice (2)

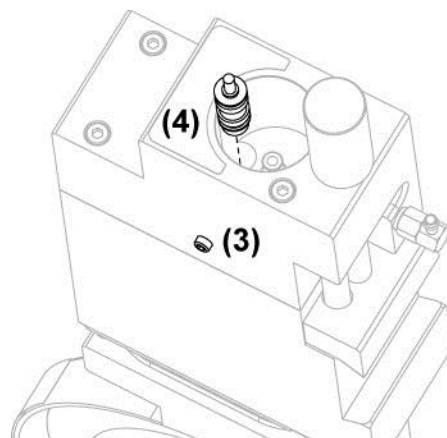
If your knifeholder retraction/extension speed is slow, this orifice could be restricted or plugged due to dirty air.

1. Remove the depth control knob and separate the upper and lower bodies (p. 26).
2. Use a 2.5 mm hex drive wrench to remove the set screw.
3. Blow the orifice clean with compressed air and reinstall it in the upper body.

### 3-way Valve (4)

If the knifeholder has no sidestroke, see Troubleshooting on page 35 to resolve all other issues with air supply or depth control knob. Replace the valve if necessary.

1. Loosen – do not remove – the modified set screw\* (3) on the side of the upper body that secures the valve.
2. Carefully grasp the valve with pliers and pull it out of the upper body.
3. When reinstalling the new valve, lubricate the o-rings with *Parker Super O-Lube*.
4. Push the valve back into the upper body until it bottoms out.
5. Tighten the set screw to retain the valve.



\* This set screw has an air passage in it. Replace only with a Tidland approved part. See page 40, item 9.

## Cant Angle Alignment Bushing Assembly

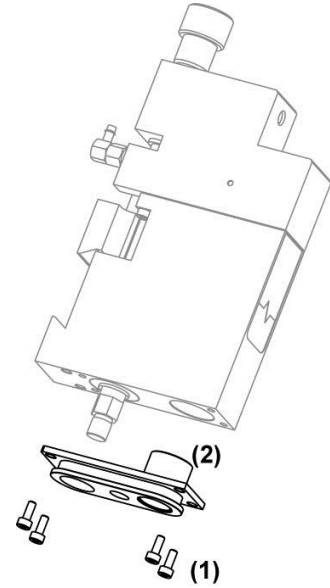
The alignment bushing assembly is critical to the factory-set cant angle of your knifeholder. It should not be adjusted or removed unless, during inspection, the bushing is found to be worn. The replacement parts are supplied as a complete assembly consisting of a retainer flange and the bushing. Call Tidland Customer Service for more information.

If your web path changes, you will need to reset the cant angle. See page 32 for instructions.

### Replacing the Alignment Bushing Assembly

#### Class I

1. Remove the cartridge assembly from the knifeholder body (p. 19).
2. Remove the four button head cap screws **(1)** in the alignment bushing assembly **(2)**.
3. Pull the assembly from the knifeholder body.
4. Place the new alignment bushing assembly on the lower body. Install the four screws finger tight only. Leave them loose enough to pivot the bushing assembly during the cant angle reset procedure.
5. Reset the cant angle (pgs. 32-33).



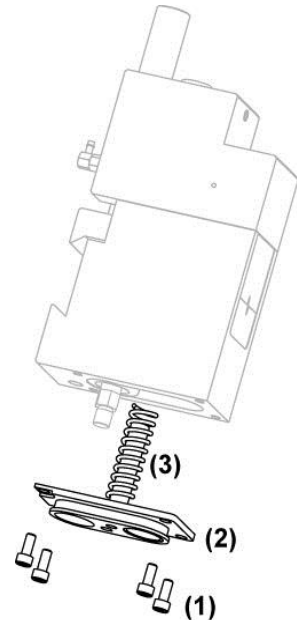
#### Class II and III

1. Remove the cartridge assembly from the knifeholder body (p. 25).



**The components in Step 2 are under spring tension. Use caution when removing the screws.**

2. Remove the four button head cap screws **(1)** in the alignment bushing assembly **(2)**.
3. Pull the assembly from the knifeholder body. The spring support is threaded into the flange; the spring **(3)** will come out with it.  
**Note:** The spring support is permanently attached to the alignment bushing assembly with *Loctite 620*. You will need to replace the spring support if replacing the bushing assembly.
4. Inspect the spring and reuse if not damaged or worn.
5. Using *Loctite 620* on the threads, install the spring support on the new flange. Lubricate the spring and the support with *Lubriplate EMB Polymer Grease (L0148-098)*, and then slide the spring onto the support.
6. Place the new alignment bushing assembly on the lower body. Install the four screws finger tight only. Leave them loose enough to pivot the bushing assembly during the cant angle reset procedure.
7. Reset the cant angle (pgs. 32-33).



## Setting up the Knifeholder to Reset the Cant Angle

Before resetting the cant angle, the knifeholder must be secured to a clean, flat, smooth surface free of debris and irregularities. This page illustrates each layout for right and left hand knifeholder bodies with corresponding web paths. Once you have determined the correct position for your knifeholder application, see page 33 for the procedure to reset the cant angle for your knifeholder class.

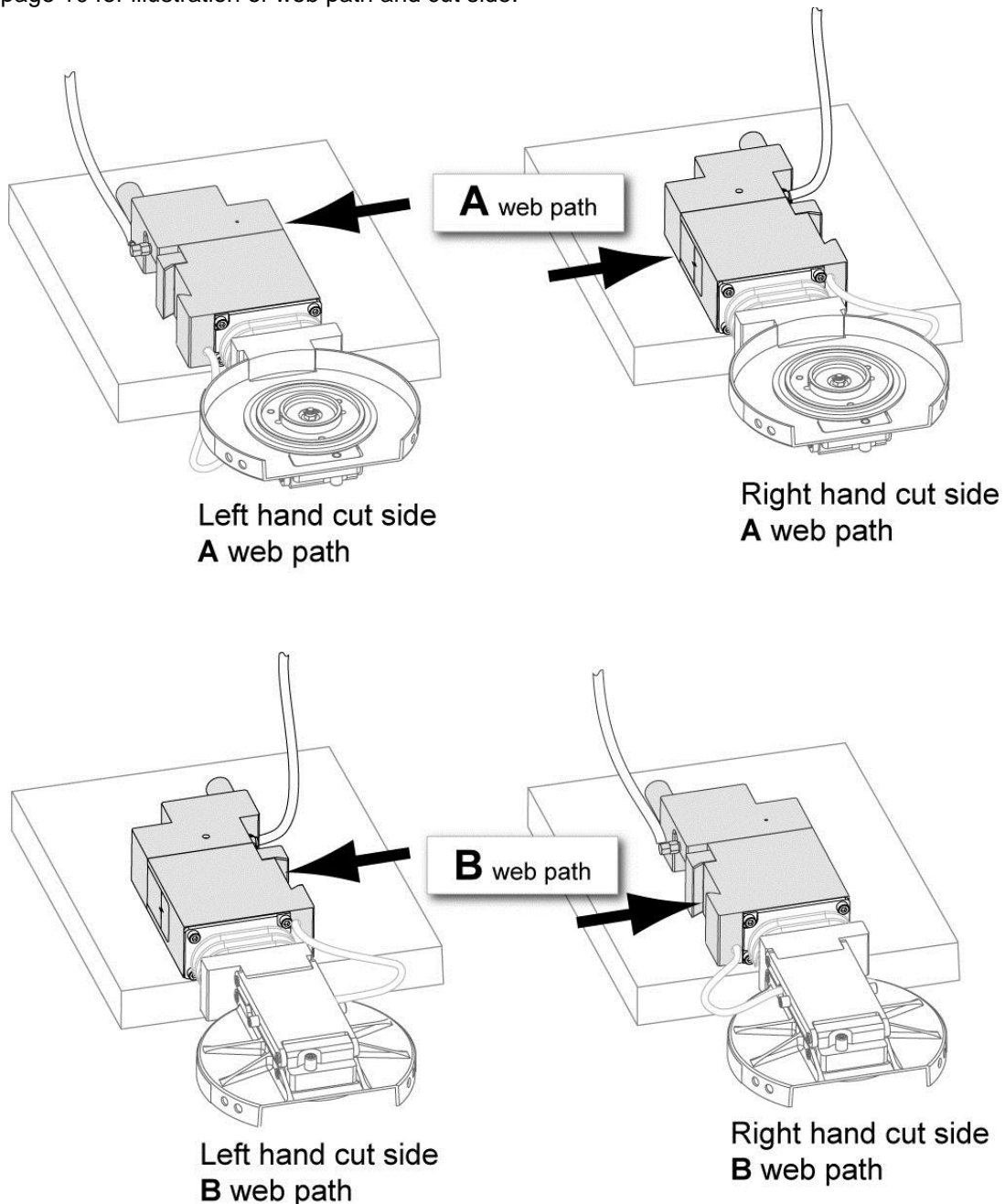
[Note: Class II shown here.]

### Web Path

**A** – web travels from the front of the knifeholder toward the knifeholder mount at the guide bar.

**B** – web travels from the guide bar mount toward the front of the knifeholder.

See page 10 for illustration of web path and cut side.



## Resetting the Cant Angle

The factory-set cant angle does not need to be reset unless you are changing web path direction or replacing a worn cant angle alignment bushing assembly.



**Knife blades are sharp.**

**To avoid injury, remove the knife blade from the cartridge before resetting the cant angle.**

1. Use the illustration on page 32 to determine how to orient your knifeholder based on right or left cut side and web path direction.
2. Using the correct orientation determined in Step 1, clamp the knifeholder to a clean, flat, smooth surface. Surface must be free of debris and irregularities.

**Class I:** The bottom of the upper body must extend slightly past the edge of the mounting surface. The alignment bushing retainer flange with blade cartridge must be able to pivot freely.

**Class II and III:** The knifeholder body and alignment bushing retainer flange should rest on the surface with the bellows and cartridge extending past the edge.

3. Apply air (30- 40 psi) to the knifeholder to fully extend the blade cartridge.
4. Loosen – do not remove – four socket head cap screws **(1)** in the alignment bushing retainer flange.
5. Reset the cant angle:

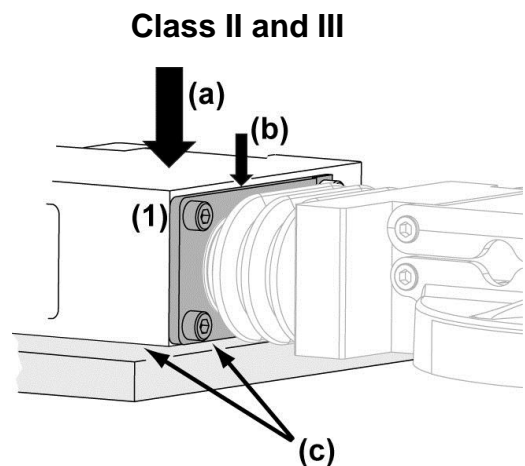
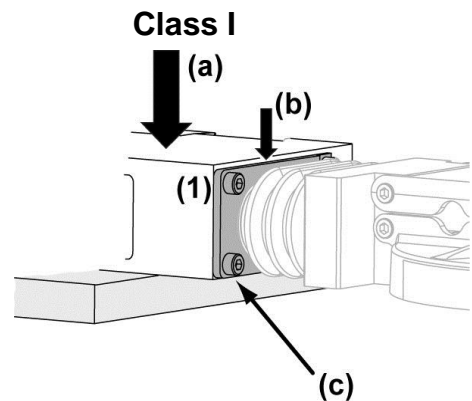
### **Class I**

- (a) With the knifeholder clamped or held in position,
- (b) push down on the retainer flange until
- (c) the flange stops. Go to Step 6.

### **Class II and III**

- (a) With the knifeholder clamped or held in position,
- (b) push down on the retainer flange until
- (c) the edges of the flange and the knifeholder body are both flush to the flat surface. Go to Step 6.

6. Hold the retainer flange securely in its new position and tighten the four socket head cap screws.
7. Turn off air supply to retract the blade cartridge. Knifeholder is ready to install.



# TROUBLESHOOTING

## Slit Quality

Problem	Possible Cause	Recommended Solution
The slit edge is fuzzy	Dull blade	Replace blade.
	Incorrect cant angle setting	Reset the cant angle. See pages 32-33.
	Too much overlap	Correct overlap, see <i>Knifeholder Operation</i> .
	Incorrect setback	Check geometry.
Slit line is not straight	Driven anvil run-out	Reset anvil ring.
	Knifeholder is loose on the guide bar	Check the knifeholder to make sure that it is secure on the guide bar mount and check gib adjustment.
Web tears or splits	Incorrect setback	Check geometry, see <i>Knifeholder Installation</i> .
	Too much overlap	Correct overlap, see <i>Knifeholder Operation</i> .
	Insufficient overspeed of the driven anvil	Adjust overspeed to be 3-5% greater than the winder speed.
Web folds down	Incorrect cant angle setting	Reset the cant angle. See pages 32-33.
	Dull blade	Replace blade.
	Low air pressure	Increase operating air pressure. See page 12.
Web breaks	Web tension too high	Reduce tension.
	Low driven anvil speed	Check the driven anvil speed.
Short blade life	Too much overlap	Correct overlap, see <i>Knifeholder Operation</i> .
	Side force too high	Check air pressure.
	Driven anvil run-out	Make sure that anvil ring grind is square to its bore.
Web bunches in front of knife blade	Insufficient overspeed of the driven anvil	Adjust overspeed to be 3-5% greater than the winder speed.

# TROUBLESHOOTING

## Knifeholder Performance

Any problems experienced upon initial start up of the knifeholder system should be reported promptly to a Tidland Knifeholder Representative.

Problem	Possible Cause	Recommended Solution
Sluggish knifeholder action (extension or retraction)	Low air pressure	Minimum 50 psi required
	External air fitting leaks	Check hoses and fittings for leaks.
	Excessive air leak around depth control knob in the extended position only	Possible bad o-ring in upper body. Class I (p. 24) Class II and III (p. 30)
	Body gasket leak	Check for loose screws that secure the upper and lower bodies.
	Lubrication required on internal piston parts	Class I (p. 20) Class II and III (p. 26)
	Sticking Piston Assembly due to knifeholder abuse	Dropping knifeholder or striking with hammer can cause binding. Rebuild knifeholder and replace non-repairable parts.
Knifeholder doesn't retract	Broken Piston Return Spring	Replace the spring. Class I (p. 19) Class II and III (p. 26)
Depth Control Knob feels excessively tight or loose.	Loose or damaged detent	<b>Note:</b> It is important that the detent keeps the depth control knob from rotating during slitting operation. If the detent loosens or breaks, it must be replaced.
Difficult knifeholder movement on guide bar	Dirty guide bar	Clean and lubricate guide bar with <i>Dow Corning 557 Dry Film Lubricant</i> .
Blade Cartridge – No Side Stroke (run or setup)	Air leaks or disconnects	Connect air supply hose to blade cartridge. Check air pressure (min. 50 psi required) Check all air fittings and hose connections.
	Debris build-up in depth control knob bore.	Remove, clean out and reassemble knob.
	Faulty internal 3-way valve	Remove the depth control knob and clean debris out of the cavity. Test valve function by pushing down on the valve with a small screwdriver or pencil. If valve is faulty, see page 24 (Class I) or page 30 (Class II and III) to replace it.
Knifeholder loose on guide bar	Lock knob assembly is not secured to the guide bar	Make sure lock knob is tightened to guide bar. Do not use tools to tighten.
<b>Class I only:</b> Guide bar locking clamp knob comes off when trying to unlock knifeholder from guide bar	Lock knob over-torqued during installation; clamp is stuck to guide bar	Use vise grips to grasp locking rod and turn counterclockwise to loosen the clamp assembly. Replace the lock knob assembly. Do not use tools when reinstalling knifeholder on the guide bar.

# ASSEMBLY DIAGRAM AND PARTS LIST

## Class I Knifeholder

### Knifeholder Assembly

Left Hand

Right Hand

### A Web Path

721046

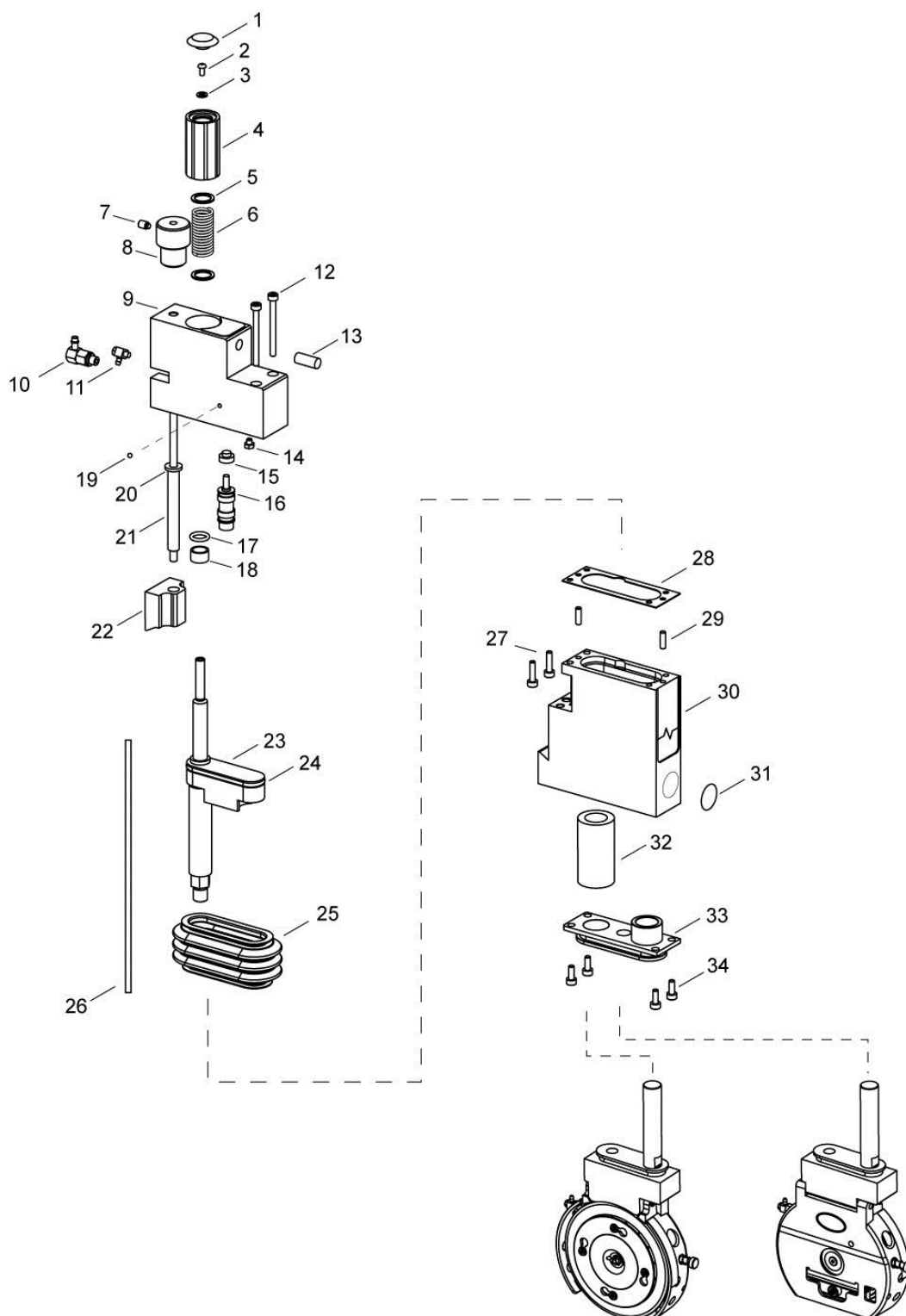
720909

### B Web Path

740918

740919

Cartridge parts shown on pages 38-39.



# ASSEMBLY DIAGRAM AND PARTS LIST

## Class I

### Left or Right Hand Knifeholder

Item	Description	Qty	Part No.
1	Depth Control Knob Cap	1	536161
2	Button Hd Cap Scr M2 x 5 mm	1	536165
3	Flat Washer	1	590063
4	Depth Control Knob	1	535334
5	Flat Washer	2	525004
* 6	Return Spring	1	537767
7	Set Scr M4 x 5 mm	1	134011
8	Knob, Locking Clamp	1	720518
9	Upper Body	1	720442
* 10	Air Fitting, 1/4" hose	1	251535
* 11	Air Fitting, 1/8" hose	1	528697
12	Soc Hd Cap Scr M3 x 35 mm	2	536168
13	Detent	1	528781
* 14	Air Orifice	1	543822
* 15	Valve Cap	1	524979
* 16	Valve, 3-way	1	528783
* 17	O-ring, Stroke Stop Rod	1	126119
18	Bushing, Stroke Stop Rod	1	524998
19	Steel Ball	1	554256
20	Flat Washer	1	720895
21	Lock Rod	1	720519
22	Guide Bar Clamp	1	720429
23	Piston Assembly (Ref Dwg 543665)	1	n/a
* 24	O-ring, Piston	1	536164
* 25	Bellows	1	535074
* 26	Air Tubing (to cartridge)	a/r	132556 (~8")
27	Soc Hd Cap Scr M3 x 12 mm	2	133180
* 28	Gasket	1	524999
29	Dowel Pin M3 x 10 mm	2	549542
30	Lower Body	1	720446
31	Label, Cant Arrow	1	Call Tidland
32	Bushing, Piston Guide Rod	1	524977
33	Alignment Bushing Assembly	1	608767
34	Soc Hd Cap Scr M3 x 8 mm	4	130728

\* Recommended spare parts

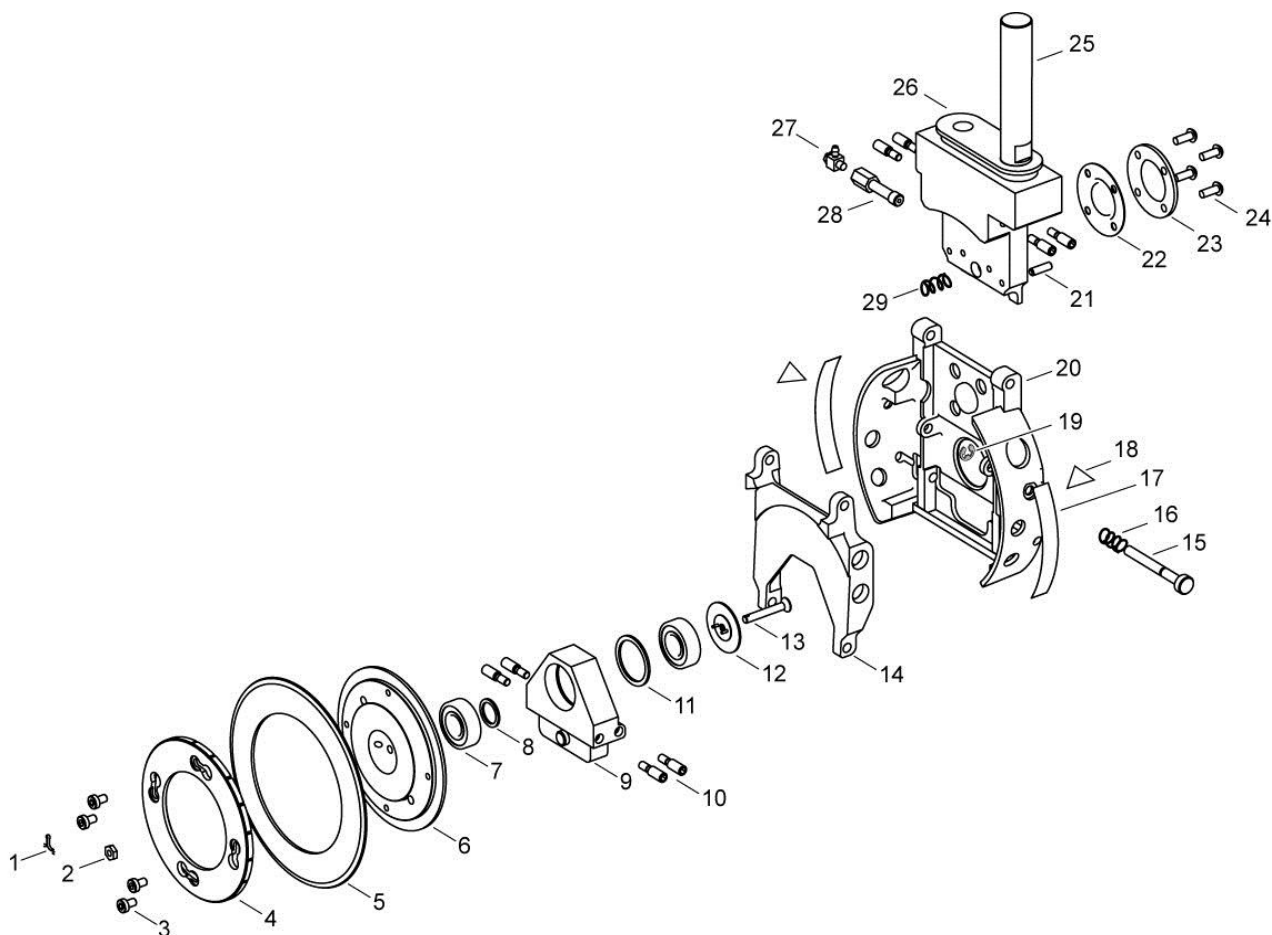
## ASSEMBLY DIAGRAM AND PARTS LIST

### Class I

#### Cartridge Parts

Left Hand – 721047 (shown)

Right Hand – 720910



# ASSEMBLY DIAGRAM AND PARTS LIST

## Class I

### Cartridge Parts

Parts are common to left and right hand knifeholders unless otherwise indicated.

Item	Description	Qty	Left	Right
1	Cotter Pin	1	528673	
2	Jam Nut M3	1	528674	
3	Soc Hd Cap Scr M3 x 5 mm	1	635047	
* 4	Blade Clamp	1	579833	
* 5	Knife Blade (shear)	1	131937	
6	Blade Hub	1	528671	
* 7	Bearing	2	528663	
8	Bearing Spacer	1	528669	
9	Bearing Housing	1	596437	
10	Pivot Studs	8	545948	
11	Snap Ring	1	528675	
12	Bearing Cap Assembly	1	528664	
13	Flat Hd Scr M3 (special)	1	528668	
14	Guard Strut, Inboard	1	596436	
15	Half Stop Rod	1	551899	
* 16	Spring	1	559540	
17	Warning Label, ANSI	2	724239	
18	Warning Label, ISO	2	724242	
19	E-clip	1	555646	
20	Guard Strut, Outboard	1	596457	
21	Adjustment Set Scr M3 x 10 mm	1	549830	
22	Diaphragm	1	528677	
23	Diaphragm Plate	1	528678	
24	Button Hd Cap Scr M3 x 8 mm	4	529354	
25	Cant Angle Guide Rod	1	560495	
26	Dovetail Block	1	721050	720736
* 27	Air Fitting, M3 to 1/8" hose elbow	1	528697	
28	Extension	1	551693	
* 29	Spring	1	552070	

\* Recommended spare parts

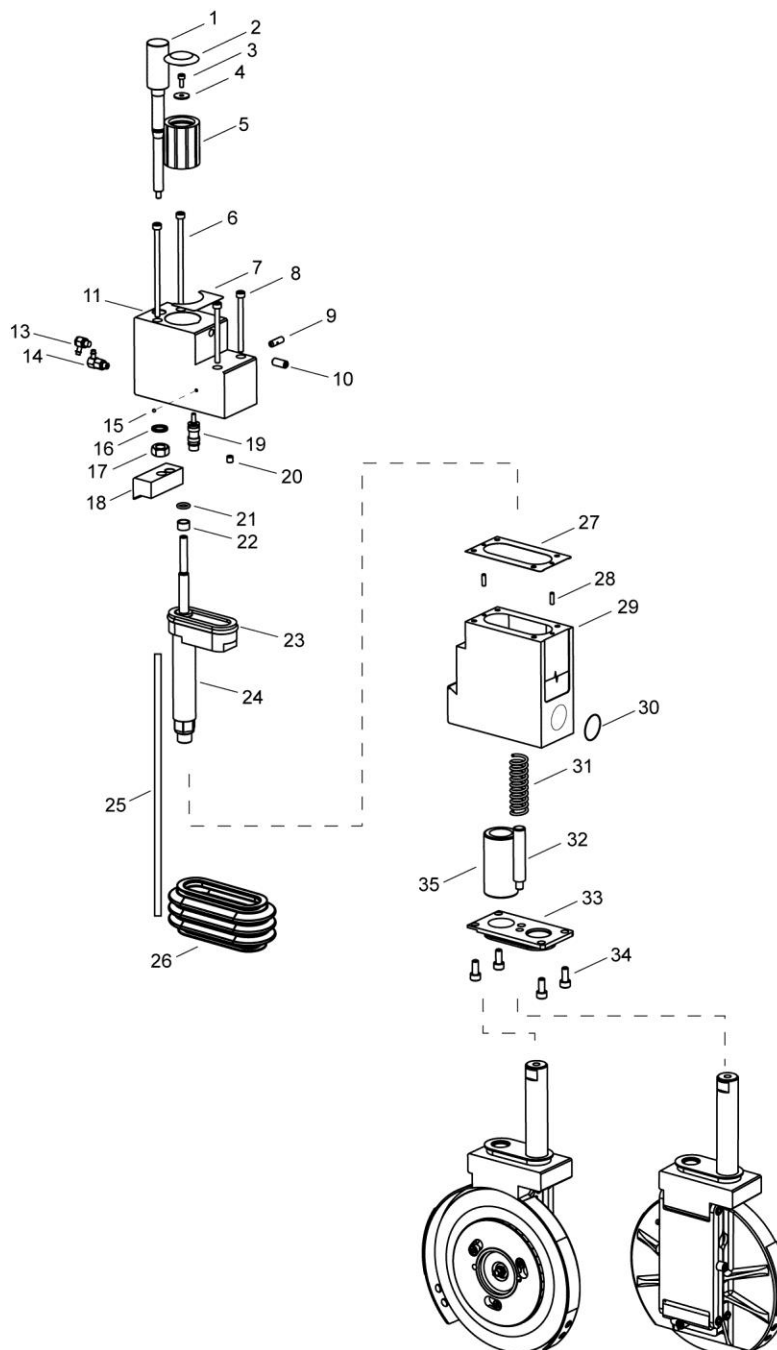
# ASSEMBLY DIAGRAM AND PARTS LIST

## Class II and III Knifeholder Assemblies

Assemblies include a left or right hand cartridge. Cartridges are not reversible.

Class II Knifeholder	A Web Path	B Web
Left Hand	724783	740920
Right Hand	724933	740921
Class III Knifeholder	A Web Path	B Web
Left Hand	727679	740922
Right Hand	727680	740923

Cartridge parts are shown on page 42-43.



# ASSEMBLY DIAGRAM AND PARTS LIST

## Class II and III Knifeholder

Item	Description	Qty	Class II	Class III
1	Lock Screw	1	730386	730531
2	Depth Control Knob Cap	1	530186	530186
3	Soc Hd Cap Scr M3 x 8 mm	1	130728	130728
4	Flat Washer	1	535183	535183
5	Depth Control Knob	1	530536	530536
6	Soc Hd Cap Scr	M4 x 80 mm	531126	n/a
		M4 x 75 mm	n/a	130144
7	Depth Control Label	1	548629	548637
8	Soc Hd Cap Scr	M4 x 50 mm	531127	n/a
		M5 x 50 mm	n/a	551477
9	Set Screw, Modified	1	557458	559785
10	Detent	1	528781	528781
11	Upper Body	1	724118	727690
12	Not Used	n/a	n/a	n/a
* 13	Air Fitting, 1/4" hose	1	610473	610473
* 14	Air Fitting, 1/8" hose	1	251535	251535
15	Steel Ball, Stainless	1	554256	554256
16	Flat Washer	1	744925	744925
17	Hex Nut	1	744307	744307
18	Guide Bar Clamp	1	724208	727691
* 19	3-way Valve	1	528783	528783
* 20	Set Screw, Modified	1	544354	544354
* 21	O-ring, Stroke Stop Rod	1	126119	126119
22	Bushing, Stroke Stop Rod	1	524998	524998
* 23	O-ring, Piston	1	530352	536239
24	Piston Assembly (reference dwg #)	1	Dwg 729615	Dwg 730024
* 25	Air Tubing	a/r	128898 (~9")	128898 (~11")
* 26	Bellows	1	528809	528827
* 27	Gasket	1	530715	528829
28	Dowel Pin M3 x 10 mm	2	549542	549542
29	Lower Body	1	724210	727694
30	Label, Cant Angle Arrow	1	Call Tidland	Call Tidland
* 31	Compression Spring	1	535146	535146
32	Spring Support	1	533775	533775
33	Alignment Bushing Assembly	1	599266	727695
34	Soc Hd Cap Scr M5 x 12 mm	4	130467	130467
35	Bushing, Piston Guide Rod	1	528787	528943

\* Recommended spare parts

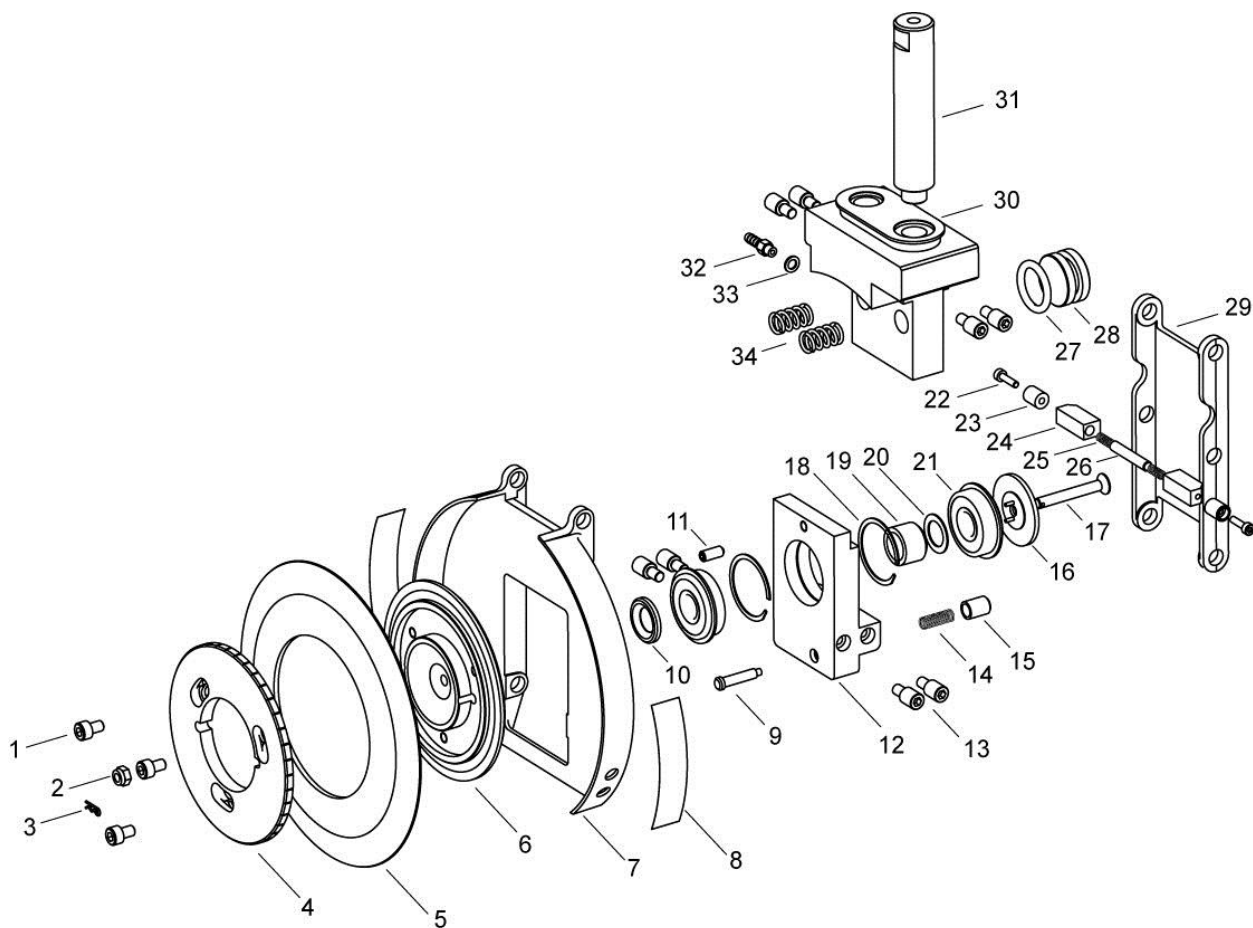
# ASSEMBLY DIAGRAM AND PARTS LIST

## Class II and III

### Cartridge Parts

(Class II Left Hand shown)

	Left Hand	Right Hand
Class II Cartridge Assembly	724342	724859
Class III Cartridge Assembly	727684	727685



# ASSEMBLY DIAGRAM AND PARTS LIST

## Class II and III

### Cartridge Parts

Item	Description		Class II	Qty	Class III	Qty
1	Soc Hd Cap Scr M5 x 8 mm		549838	3	130168	3
2	Lock Nut		133235	1	133235	1
3	Cotter Pin		133710	1	133710	1
* 4	Blade Clamp		524543	1	135010	1
* 5	Knifed Blade (shear)		128401	1	129833	1
6	Blade Hub		524544	1	135009	1
7	Strut Guard		528098	1	536838	1
8	Warning Label		130921	2	130920	2
9	Blade Lock Pin		130172	1	130172	1
10	Shoulder Ring		631251	1	631251	1
11	Set Scr M5 x 12 mm Nylok		133201	1	133084	1
12	Bearing Housing		524542	1	536837	1
13	Pivot Stud		535263	8	535263	8
* 14	Compression Spring		130179	1	130179	1
15	Lock Pin Cap		130173	1	130173	1
16	Bearing Cap Assembly		515511	1	515511	1
17	Cap Scr, Bearing Retainer		524549	1	518520	1
18	Snap Ring		134305	1	134305	2
19	Bearing Spacer		n/a	-	133184	1
20	Shim		134304	1	134304	1
* 21	Ball Bearing		131121	2	131121	2
22	Soc Hd Cap Scr M3 x 12 mm zinc plate		133180	2	133180	2
23	Half Stop Button		131111	2	131111	2
24	Half Stroke Stop		131112	2	132894	2
* 25	Compression Spring		510105	2	510105	2
26	Half Stroke Guide Pin		131110	1	131110	1
* 27	O-ring, Parker 2-210		126479	1	126479	1
28	Piston		131108	1	131108	1
29	Outboard Strut		570281	1	570283	1
30	Dovetail Block	Left Hand	724280	1	727688	1
		Right Hand	726325	1	727689	1
31	Cant Adjustment Rod		590176	1	590176	1
* 32	Air Hose Fitting		132239	1	132239	1
* 33	Nylon Gasket		133720	1	133720	1
* 34	Return Spring		131118	2	131118	2

\* Recommended spare parts

## ASSEMBLY DIAGRAM AND PARTS LIST

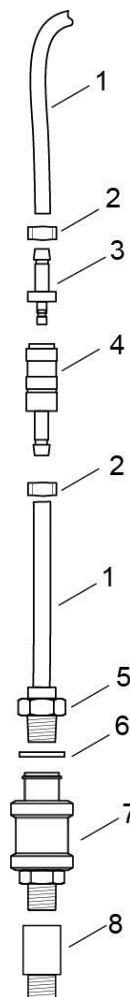
### Knifeholder Air Supply Hose Kit

#### Class I, II and III

Tidland recommends installing a 3-way slider valve and quick disconnect in the air supply line for each knifeholder to provide individual knifeholder actuation required for setup.

Item	Description	Qty	1/8 NPT	G1/8
	<b>Complete Kit</b>		<b>732274</b>	<b>737250</b>
1	Air hose *	24"	128898	128898
2	Clamp	2	132428	132428
3	Quick disconnect plug	1	250693	250693
4	Quick disconnect coupling	1	130236	130236
5	Pipe fitting	1	132366	132366
6	Sealing washer	1	supplied with item 5	
7	Valve, 3-way slider	1	737248	737248
8	Adapter, 1/8 NPT to G1/8	1	n/a	737249

\* Tidland supplies 24" of air hose with each kit. You will need to cut the hose to length as required for your installation.



# ASSEMBLY DIAGRAM AND PARTS LIST

## Lock Knob Assembly

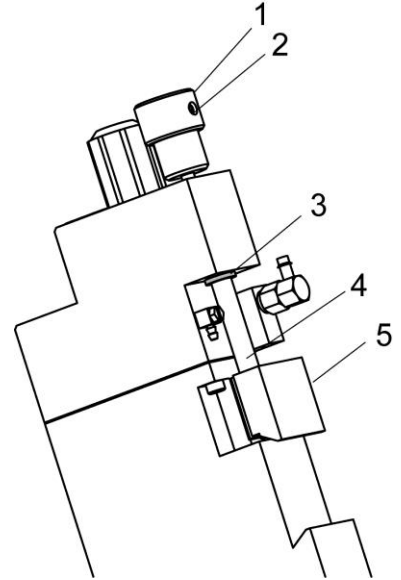


Do not remove the guide bar clamp / lock knob assembly from the knifeholder.  
If this assembly should require repair, contact Tidland for assistance.

### Class I

The guide bar clamp lock knob is factory-assembled to the knifeholder using the following parts.

Item	Description	Tidland Part No.
1	Knob	720518
2	Set screw	134011
3	Flat washer	720895
4	Lock rod	720519
5	Guide bar clamp	720429



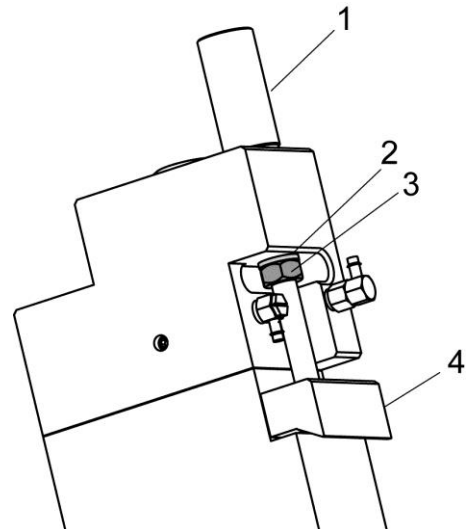
### Class II and III

The guide bar clamp lock knob is factory-assembled to the knifeholder using the following parts.

Item	Description	Tidland Part No.	
		Class II	Class III
1	Lock screw w/ knob	730386	730531
2	Flat washer	744925	744925
3	Hex nut	744307	744307
4	Guide bar clamp	724208	727691

**Note:**

The hex nut is permanently secured with Loctite 290.









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