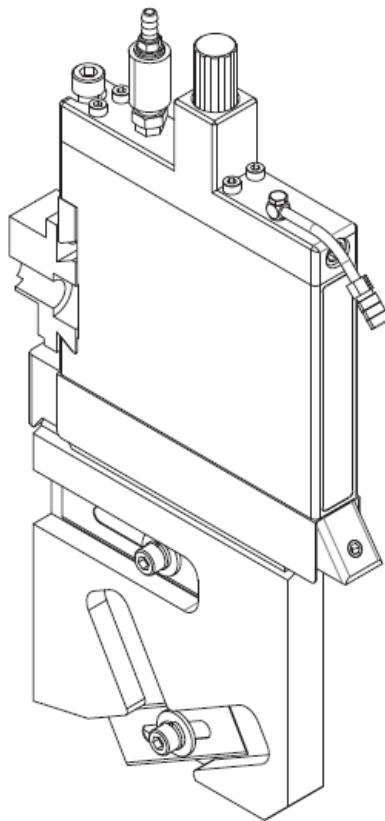




A **MAXCESS** BRAND

# Tidland Advantage Series Razor Knifeholder User Manual



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## 1 Overview

### 1.1 Operating Instructions Overview

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Periodically there will be updates to this manual. The latest version is available on our website or by calling your regional office listed on the back page of this publication.

The Razor Knifeholder was designed and manufactured to be installed as Partly Completed Machinery into a machine or partly completed machine.

The instructions must be read and used by all persons who have the responsibility of operating, installing, and maintaining the Razor Knifeholder.

These instructions must be retained and incorporated in the technical documentation for the machine or partly completed machinery into which the Razor Knifeholder is installed.

#### **Conventions used in this manual**

All dimensions and specifications are shown in the format mm [inches] unless specified otherwise.

#### **Language**

These are the original instructions, written in English.

## 2 Safety

### 2.1 Instructions for Use

To ensure safe and problem free installation of the Advantage Series 19 Razor Knifeholder, it must be properly transported and stored, professionally installed, and placed in operation. Proper operation and maintenance will ensure a long service life of the device. Only persons who are acquainted with the installation, commissioning, operation, and maintenance of the system and who possess the necessary qualifications, may work on the Razor Knifeholder.

---

#### ***Warning***



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



**IMPORTANT** – The Razor knifeholder requires a compressed air supply that is filtered, oil-free, and water-free.

- Read and understand all instructions before operating the Razor Knifeholder. Failure to follow instructions may cause the unit to function incorrectly that could result in injury.
- The Razor Knifeholder contains spring-loaded components. While operating the Razor Knifeholder, follow all existing plant safety instructions and/or requirements.
- Always wear stainless steel protective gloves when changing or removing the knife blade.
- 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.

## 2.2 Razor Knifeholder Specific Safety Information

To ensure safe and problem free installation of the Razor Knifeholder, please note the following

### 2.2.1 Proper use

The Razor Knifeholder is intended to be used on machines or systems to aid the cutting of a variety of web materials.

### 2.2.2 Improper use

- Operation outside the technical specifications.
- Operation in an intrinsically un-safe area.
- Outdoor operation.
- Any other use than the proper use shall be deemed inappropriate.

### 2.2.3 Installation and commissioning

- Any Razor Knifeholder that is damaged must not be installed.
- Only perform installation, maintenance, or repair tasks on the Razor Knifeholder when the machine into which it has been installed is stopped and is secured from starting and power is locked out.
- The Razor Knifeholder must be securely mounted before being placed in operation.
- Only replacement parts obtained from Maxcess may be used.
- No modifications may be made to the Razor Knifeholder .

### 2.2.4 Decommissioning

Note that oil and waste materials containing oil pose a high potential risk to the environment. The legal obligations with regard to waste prevention and proper use/removal must be complied with when carrying out installation, repair, or maintenance work on the Razor Knifeholder. When the Razor Knifeholder is finally decommissioned, the applicable state, local, and federal laws, and legal regulations with regard to recycling and disposal must be followed.

### 3 Product Overview

The Razor Knifeholder is an air-actuated knifeholder with a removable and reversible rigid cartridge for Razor cutting. The knifeholder control body also supports optional shear or crush (score) blade cartridges for different slitting types (see separate Shear or Crush User Manuals for information).

#### 3.1 Razor Knifeholder Features and Controls

Below is a list of features of the Razor Knifeholder:

- 1) Air input (10–32 hose fitting)
- 2) Depth control knob
- 3) Brake screw
- 4) Brake gib
- 5) Control body dovetail block
- 6) Cartridge lock set screw
- 7) Removable/reversible blade cartridge
- 8) Blade storage position

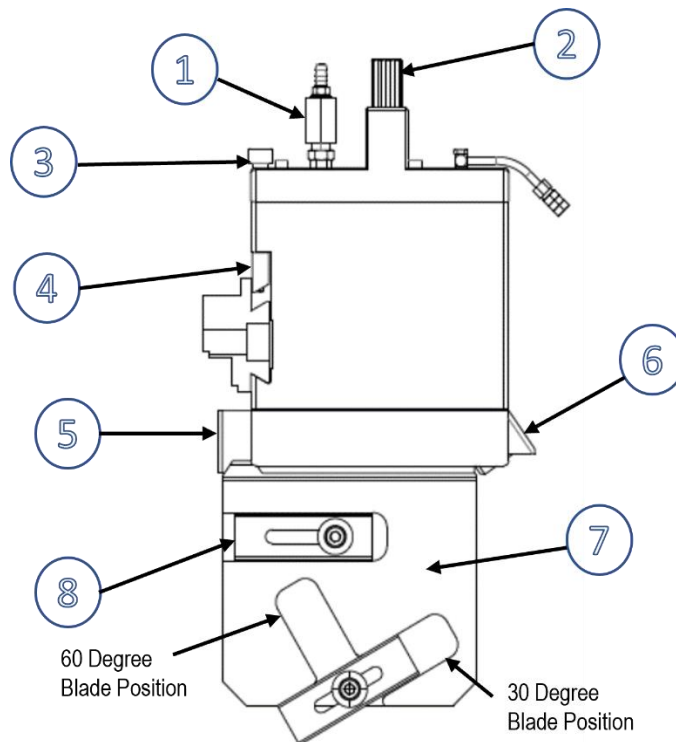


Figure 1 – Razor Knifeholder Features and Controls



## PRODUCT OVERVIEW

### 3.2 Specifications

Definition	Dimension
Minimum Slit Width	19.0 mm (0.768 in.)
Vertical stroke (Max down stroke)	19.0 mm (0.768 in.)
Designed Maximum Speed **	300 m/min (1000 ft/min)
Down Force at 6 bar (Vertical)	467 N (105 lbs.)
Operating Air Pressure	2.7 to 6.2 bar (40 to 90psi)

**Table 1 – Razor Knifeholder Specifications**

#### NOTES

\*\* The actual speed depends on the application and the material.

# INSTALLATION

## 4 Installation

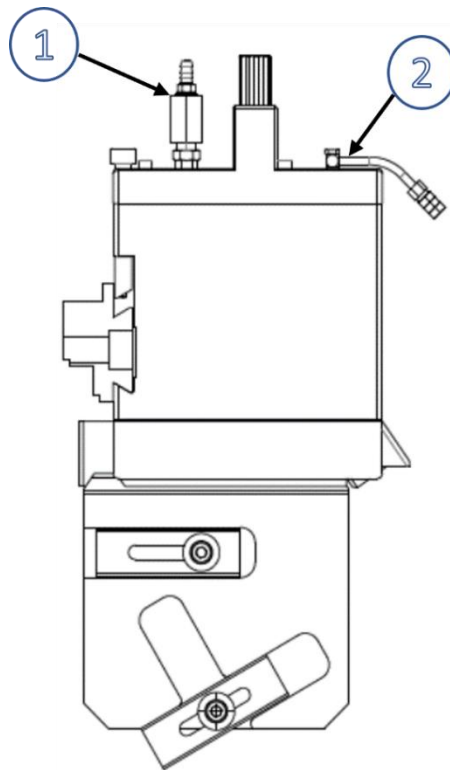


**CAUTION** – Please be sure to wear protective goggles when you come into contact with compressed air and use air tools.



**IMPORTANT** – The Razor knifeholder requires a compressed air supply with filtered, oil-free, and water-free air.

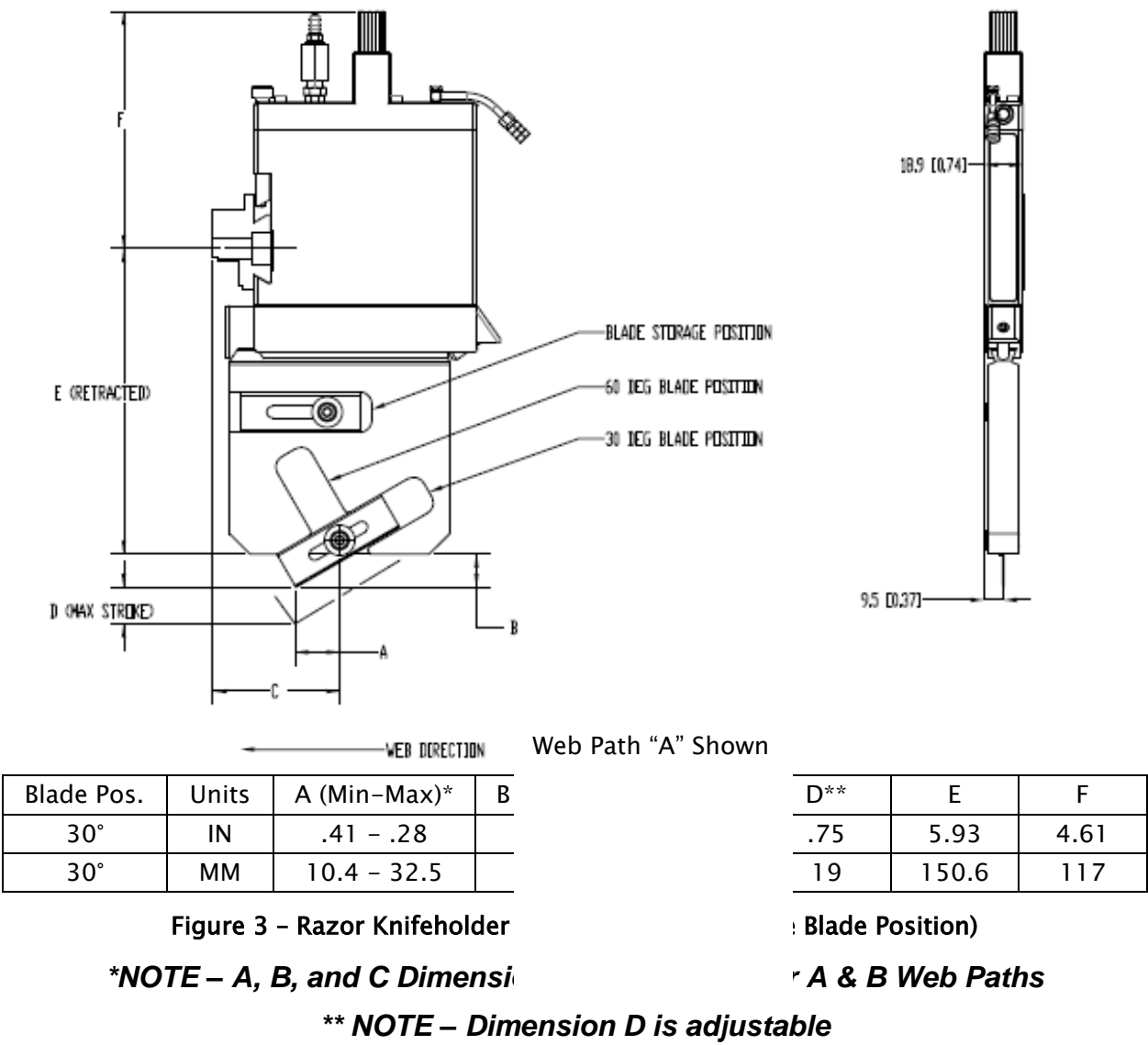
- 1) The control body and the cartridge are equipped with separate compressed air hoses as shown in Figure 2 below. The control body compressed air fitting (Item 1) is polyurethane tubing with a 4 mm (0.157 in.) inner diameter. Air connection (Item 2) is not used in this application.



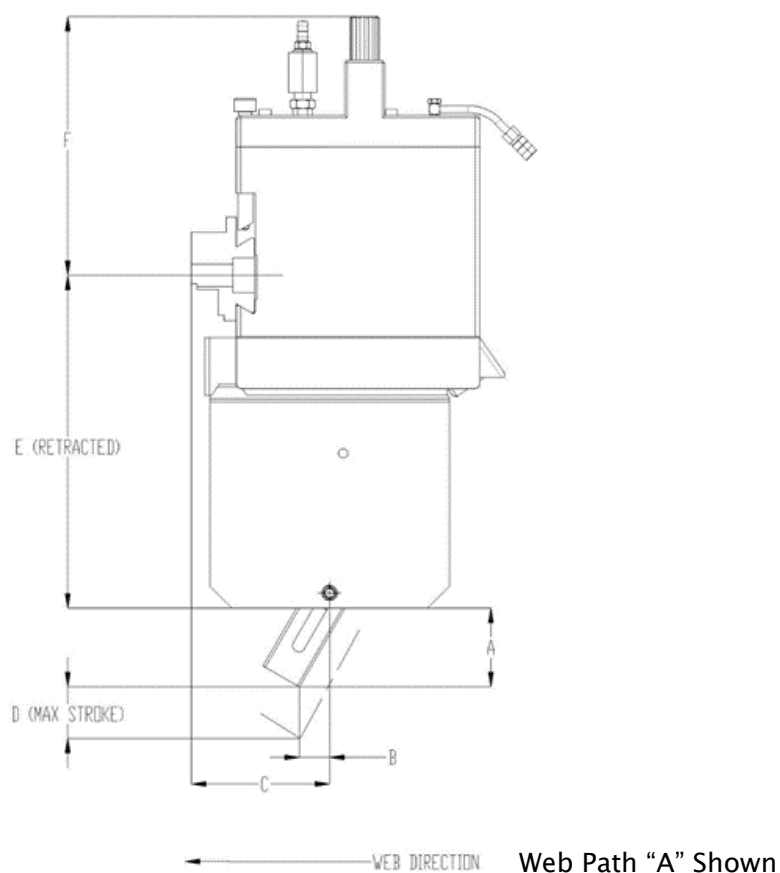
**Figure 2 – Razor Knifeholder Air Connections**

# INSTALLATION

## 4.1 Knifeholder Dimensions



# INSTALLATION



Blade Pos.	Units	A (Min-Max)*	B (Min-Max)*	C*	F
60°	IN	.46 - .38	0 - .53	2.45	.61
60°	MM	11.7 - 35.1	0 - 13.5	62.2	17

Figure 4 - Razor Knifeholder Dimensions (60 Degree Blade Position)

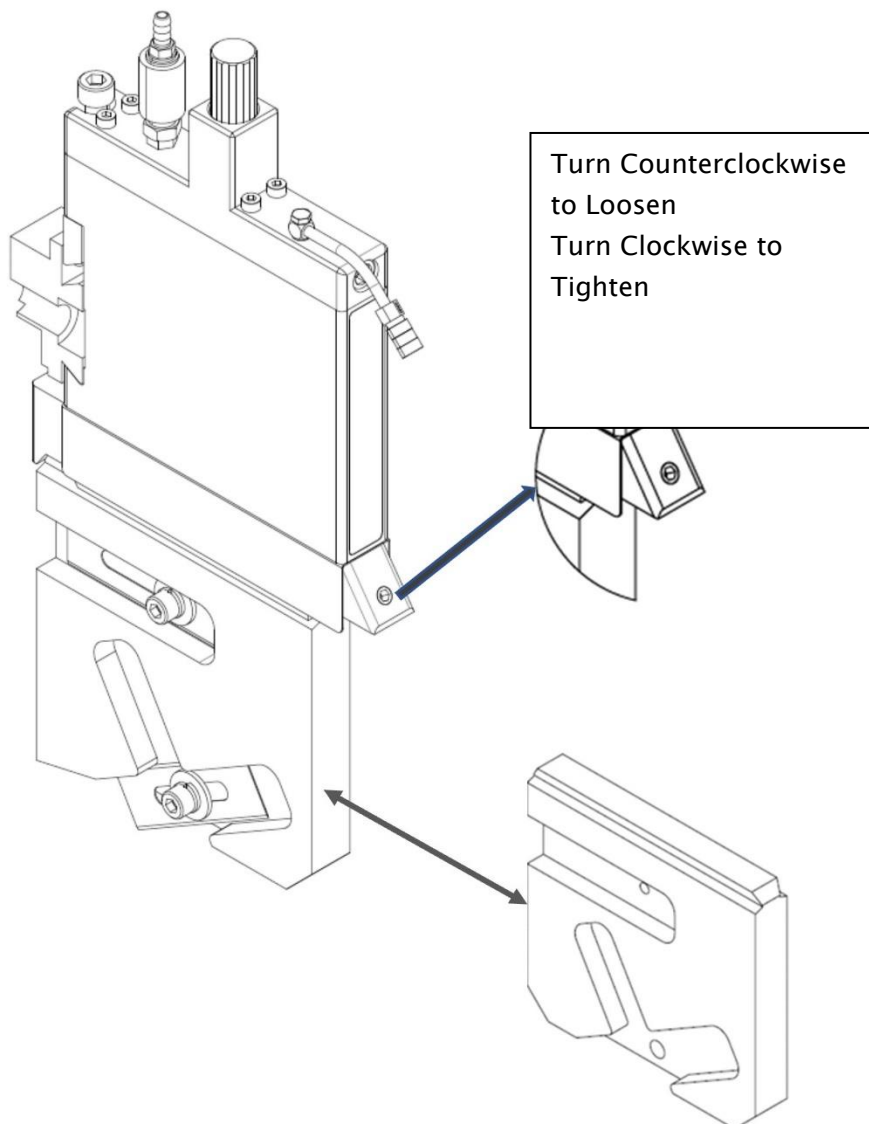
**\*NOTE – A, B, and C Dimensions are the same for A & B Web Paths**

**\*\* NOTE – Dimension D is adjustable**

## 5 Operation

### 5.1 Cartridge Removal and Installation

- 1) Turn the hex cartridge lock set screw counterclockwise to loosen until the bottom end clears the knifeholder body. Slide the cartridge outward toward the front of the Razor Knifeholder.
- 2) To insert the cartridge into the body, first ensure the hex cartridge lock set screw is clear of the cant key slot. It should be installed with flat side down, and hex socket facing outward. Align the cartridge and insert into the Razor Knifeholder, then tighten the set screw to 5.0 to 6.0 in-lbs. (0.56 to 0.68 nm) of torque.



**Figure 5 – Cartridge Removal and Installation**

### 5.2 Blade Removal and Installation

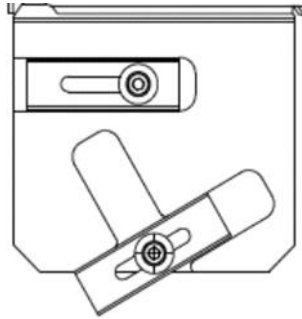


Figure 6 – Blade Removal and Installation

- 1) Remove the cartridge assembly from the control body (as shown in Figure 5 and Section 5.1 on previous page).

#### Warning



- Razor blades are sharp and can cause serious hand injuries.
  - Always wear stainless steel protective gloves when changing or removing the razor blade.
  - Do not remove safety guards.
  - Use only recommended tools when handling razor blades.
- 2) Loosen and remove the Socket Head Cap screw Lock washer, and Flat washer.
  - 3) Remove the Razor blade.
  - 4) Clean the cartridge base surface where the blade mounts to ensure secure blade fit.
  - 5) Install the new razor blade, washer, lock washer, and cap screw.
  - 6) Tighten the cap screw to 40 in-lbs. (4.5 N-m).
  - 7) Reinstall the cartridge onto the control body (as shown in Figure 5 and Section 5.1).

### 5.3 Air Manifolds

Razor knifeholders are connected to one air manifold. The Razor knifeholders will down-stroke by activating the air supply and adjusting the air pressure to control the down force. To set the input air pressure on the regulator, consult the charts of down force as a function of air pressure below in Figure 7.

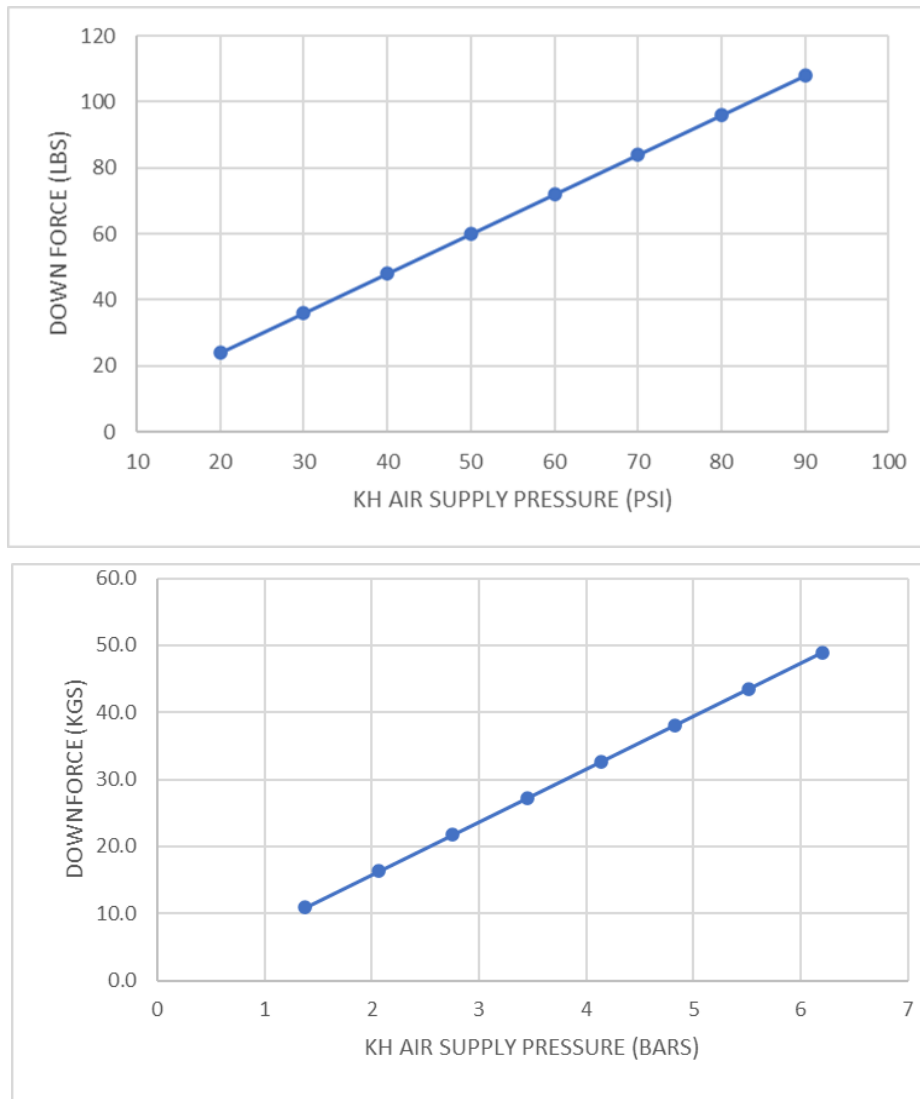


Figure 7 – Down Force as Function of Air Pressure

### 5.4 Setup

Ensure that:

- Support grooves or rings (if present) are in the desired position.
  - Blade cartridge is secured in the control body
  - Air supply is attached and set to minimum pressure required to slit your web material.
- 1) Adjust depth control knob to achieve the desired cartridge downstroke depth in order to position the razor blade in the web path when engaged. DO NOT SCREW the depth control knob all the way into the body – there will be no travel during carriage extension.
  - 2) Loosen the guide bar locking screw.
  - 3) Manually slide the Razor Knifeholder along the guide bar until the knife blade is positioned in the desired cutting location.  
Hand tighten guide bar locking screw as needed to hold position.

### 5.5 Operate

Engage the blade by activating the air supply using an external switch or regulator. For models with a slider valve fitted to the control body input air hose, activate the input air, and use the slider valve to engage and disengage the Razor Knifeholder.

## 6 Options

### 6.1 Guide Bar



CAUTION – Only use a C1 guide bar.

The guide bar is installed in the slitting unit. The Razor Knifeholder can be arrested on the guide bar and can be slid to the desired position.



## 7 Maintenance

### 7.1 Preventive

- Keep Razor Knifemaker blades clean and balanced.
- Do not use oil lubricants in Razor Knifemaker. Oil lubricants may cause the Razor Knifemaker to function improperly. Use only those lubricants recommended in this publication.

### 7.2 Daily

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



CAUTION – DO NOT IMMERSE Razor Knifemakers in solvents. Wipe the outer surfaces with a clean, dry rag.

### 7.3 Weekly

- Check Razor Knifemaker air pressure. Razor Knifemaker air pressure requirements: 1½ Cfm @ 40–90 psi (2.7–6.2 bar).
- Blow down the blade cartridge to remove dust build-up.
- Check hose connections to the Razor Knifemakers for leaks or cracks.
- Check blade cartridge stroke function.

### 7.4 Monthly

- Check adjustment of gib to the guide bar for minimal clearance between Razor Knifemaker mount and guide bar.
- Clean all surfaces of the control body and blade cartridge.

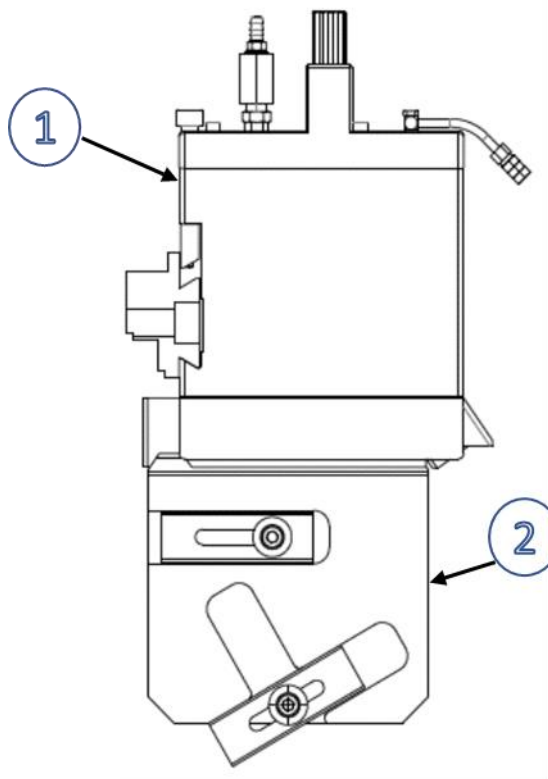
### 7.5 Guide Bar Cleaning

Periodically wipe the dovetail guide bar clean with a dry cloth and lubricate with a silicone dry film lubricant. Maxcess recommends using Dow Corning 557 Silicone Dry Film Lubrication to assure smooth Razor Knifeholder movement.

## 8 Assembly

Item	QTY	Maxcess Asia P/N	Maxcess USA P/N	Description
1 *	1	6200772-001	270043425	Control body Base model
	1	(620000145-001+T567944+620000294-001)	270043429	Control body with quick-disconnect and manual input valve
2	1	620000773-001.	270046792	Cartridge base model

**Table 2 – Razor Control and Cartridge Assemblies**



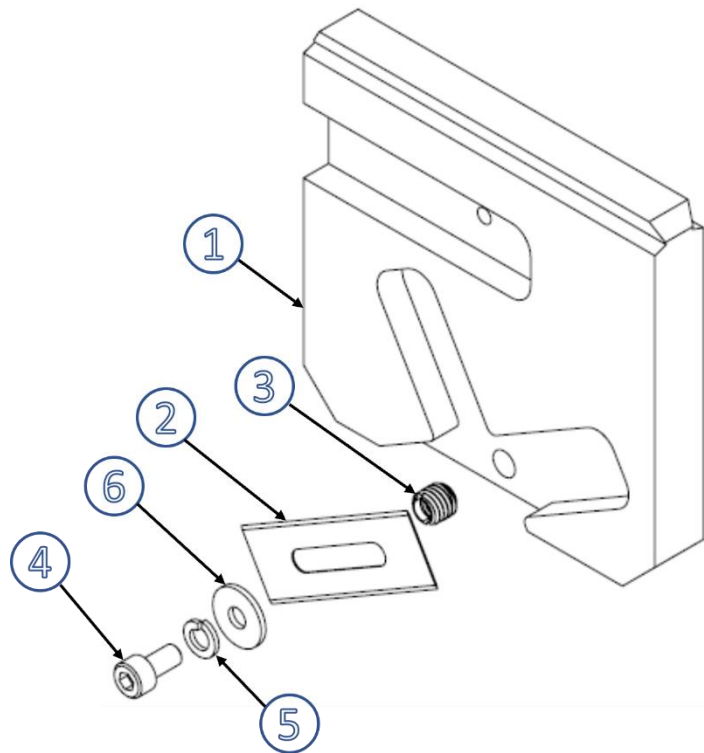
**Figure 8 – Razor Assemblies**

\*Reference the Advantage Series Shear User Manual (MI 270043496 1 A) for Control Body details

## ASSEMBLY

Item	QTY	Maxcess Asia P/N	Maxcess Americas P/N	Description
1	1	620000772-001	270046768	ASKH Razor Cartridge Body
2	1	T566811	566811	Razor Blade Class 1
3	1	T134216	134216	THREADED INSERT M5 X 0.8 INT THRD M8 X 1.25 EXT THRD
4	1	C200225-050	130168	SOC HD CPSCR M5 x 0.8 x 10mm ZINC PLATE DIN 912 CLASS 8.8
5	1	C200274-016	27L897488	LOCKWASHER, SPLIT 5mm
6	1	C200205-005	897486	M5 WASHER

**Table 3 – Cartridge Assembly Parts List**



**Figure 9 – Razor Cartridge Assembly**

## 9 Troubleshooting

Problem	Possible Cause	Recommended Solution
The slit edge is fuzzy	Cutting edge is worn	Reposition the blade in the cartridge or replace the blade.
Slit line is not straight	Blade clamp assembly not tightened	Loosen the Cap screw and ensure that the blade holder is tight. Then tighten the Cap screw.
	Dovetail lock screw not tightened	Tighten the cartridge lock set screw. Refer to section 5.1
Blade not holding its position	Blade clamp assembly not tightened	Loosen the Cap screw and ensure that the blade holder is tight. Then tighten the Cap screw.
Short blade life	Web material too dense or abrasive	Consider Shear slitting for improved cut quality and blade life
Knifeholder does not fully retract (Upstroke)	Cartridge lock set screw is too tight	Loosen and tighten screw to recommended torque
Knifeholder does not downstroke	Loose blade cartridge	Tighten set screw to recommended torque
	Input air hose damaged or shut	Check valve and connection, apply minimum air pressure

## 10 Service

If you have any questions about the products in this document or need to speak with a Customer Service representative, please use the contact information below.



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