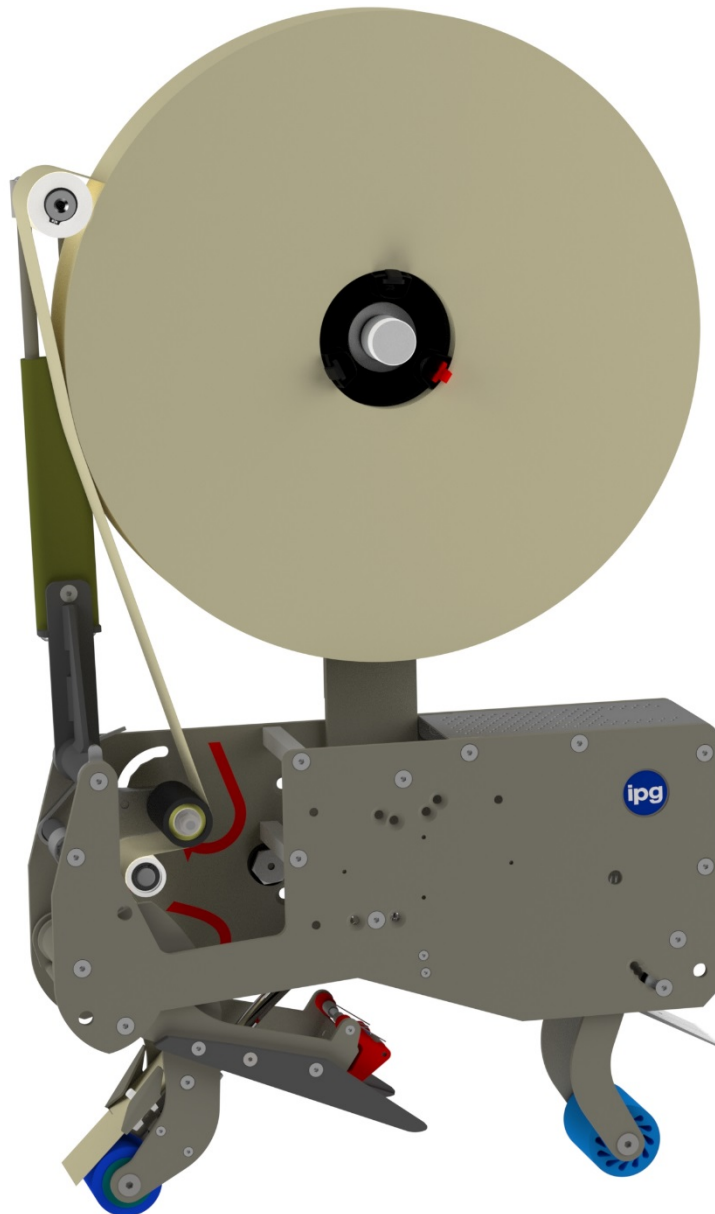




ET xtreme[®]

MIRROR TAPE HEAD

OPERATIONS MANUAL & PARTS LIST



Serial Numbers UH231T, UH431T

TABLE OF CONTENTS

| | | |
|-------------------|--|----|
| Section 1 | Table Of Contents ----- | 3 |
| Section 2 | Technical Assistance ----- | 4 |
| Section 3 | Warranty ----- | 5 |
| Section 4 | Description Of Tape Head ----- | 6 |
| Section 5 | Safety Issues ----- | 7 |
| Section 6 | Specifications ----- | 10 |
| | Tape Head Dimensions ----- | 10 |
| | Tape Head Components ----- | 11 |
| | Operating Conditions ----- | 12 |
| | Tape Head Specifications ----- | 12 |
| | Installation In Other Machinery ----- | 13 |
| Section 7 | Set Up Procedures ----- | 14 |
| | Receiving and Handling ----- | 14 |
| | Mounting Adapters ----- | 15 |
| | Tape Loading ----- | 16 |
| | Tape Threading ----- | 17 |
| | Tape Centering ----- | 19 |
| | Tape Leg Length Adjustment ----- | 21 |
| | One Way Clutched Roller Adjustment ----- | 22 |
| | Main Spring Adjustment ----- | 22 |
| | Low Profile Setting ----- | 24 |
| | Knife Arm Spring Adjustment ----- | 24 |
| Section 8 | Troubleshooting ----- | 25 |
| Section 9 | Recommended Spare Parts List ----- | 28 |
| Section 10 | Preventive Maintenance ----- | 30 |
| | Knife Blade Replacement ----- | 30 |
| | Oiler Pad Lubrication ----- | 31 |
| | Urethane Tucking Roller Replacement ----- | 32 |
| | Spring Replacements ----- | 33 |
| | Wipe Down Brush Replacement ----- | 40 |
| | Schedule Of Preventive Maintenance ----- | 41 |
| Section 11 | Appendix A-Illustrations And Parts Lists ----- | 42 |

TECHNICAL ASSISTANCE

Technical Support

This is the Interpack Model ET xtreme® Series Tape Head you ordered. It has been set up and tested in our factory with Intertape brand tapes. If any problems occur when setting up or operating this equipment, please contact the authorized distributor from where you purchased this item.

If contact with the authorized distributor is not possible, **Interpack Technical Support** is available. Should you need to contact **Interpack Technical Support**, please have the Tape Head's **model number and serial number** on hand. This information can be found on the label affixed to the Cover Frame of the Tape Head. Interpack Technical Support is available during normal business hours 8:30 a.m. to 5:00 p.m. (Eastern Time).

Tel: 1-800-474-8273 Option 3

If you have a technical question that does not require an immediate response, you may contact Interpack by fax.

Fax: 1-800-462-1293

Technical support may also be contacted via email at the address below:

Email: machsupp@itape.com

Replacement Parts

Order parts by part number, item description and quantity required. Replacement parts are available from your Authorized Interpack Distributor exclusively.

Should you require assistance selecting the correct part, you may call:

Intertape Polymer Group
Interpack Machinery

Tel: 1-800-474-8273 Option 3

Fax: 1-800-462-1293

MODEL:

SERIAL NUMBER:

DISTRIBUTOR PURCHASED FROM:

DATE OF PURCHASE:

WARRANTY

EQUIPMENT WARRANTY AND LIMITED REMEDY: The following warranty is made in lieu of all other warranties, express or implied, including, but not limited to, the implied warranty of merchantability, the implied warranty of fitness for a particular purpose, and any implied warranty arising out of a course of dealing, a custom or usage of trade:

Intertape sells its Interpack Tape Heads, Case Tapers and Case Erectors with the following warranties:

1. The ET xtreme® Tape Heads' knife blades, springs and wiping rollers will be free from all defects for a period of ninety (90) days.
2. All other ET xtreme® Tape Head parts will be free from all defects for one (1) year after delivery.
3. Water Activated Tapers' blades and brushes will be free from defects for ninety (90) days after delivery.
4. Drive Belts will be free from defects for ninety (90) days after delivery.
5. The Gear Motors will be free from defects for one (1) year after delivery.
6. All other components will be free from defects for one (1) year after delivery.

If any part is proven defective within its warranty period, then the exclusive remedy and Intertape's and the seller's sole obligation shall be, at Intertape's option, to repair or replace the part, provided the defective part is returned immediately to Intertape's factory or an authorized service station designated by Intertape.

A part will be presumed to have become defective after its warranty period unless the part is received or Intertape is notified of the problem no later than five (5) calendar days after the warranty period.

If Intertape is unable to repair or replace the part within a reasonable time, then Intertape, at its option, will replace the equipment or refund the purchase price. Intertape shall have no obligation to install the repaired or replacement part.

Intertape shall have no obligation to provide or pay for the labor required to install the repaired or replacement part. Intertape shall have no obligation to repair or replace (1) those parts failing due to: operator misuse, carelessness, or due to any accidental cause other than equipment failure, or (2) parts.

1. Failure or damage is due to misapplication, lack of proper maintenance, abuse, improper installation or abnormal conditions such as temperature, moisture, dirt or corrosive matter, etc.
2. Failure due to inadequate cleaning, improper operating environment, improper utilities or operator error.
3. Failure due to operations above the rated capacities, or in any other improper manner, either intentional or otherwise.
4. Failure is due to equipment, which has been altered by anyone other than an authorized representative of Intertape Polymer Group.
5. Failure is due to an attempt by the purchaser to correct alleged defective equipment. In this event the purchaser is responsible for all expenses incurred.

LIMITATION OF LIABILITY: Intertape and seller shall not be liable for direct, indirect, special, incidental or consequential damages based upon breach of warranty, breach of contract, negligence, strict liability or any other legal theory.

The foregoing Equipment Warranty and Limited Remedy and Limitation of Liability may be changed only by written agreement signed by authorized officers of Intertape and seller.

DESCRIPTION OF TAPE HEAD

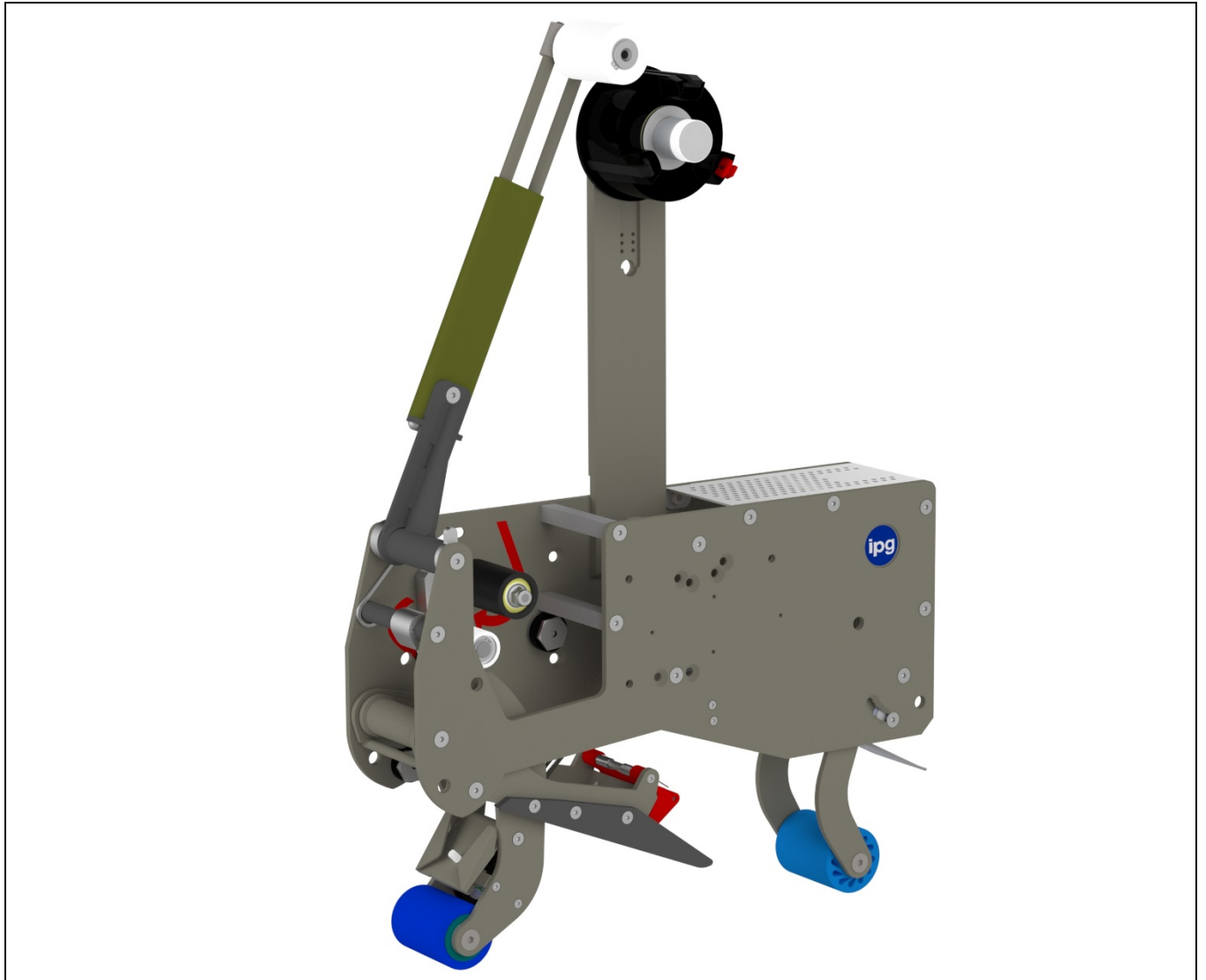


Figure 4-1

The Intertape ET xtreme® Family of Tape Heads are designed to apply Intertape brand pressure sensitive carton sealing tape to the top and bottom center seam of regular slotted corrugated cartons.

The ET xtreme® can be configured into all Interpack case sealers.

The ET xtreme® is also designed to upgrade most competitive case sealers. Interpack can provide a variety of adapter kits to install this tape head into most case sealers.

SAFETY ISSUES

There is a safety label used on all Interpack Tape Heads. This label is placed on the Tape Head knife guard to warn operators and service personnel of the sharp cutting edge of the blade. Please read the label and the following safety precautions before using the Tape Head.

- ✓ **Read this manual for other important safety operating and service information.**
- ✓ **Only trained personnel are to operate and service Tape Head.**
- ✓ **Wear safety glasses.**
- ✓ **Shut off power to machine before adjusting.**
- ✓ **Unplug electrical power before servicing.**
- ✓ **All covers and guards must be in place before operating.**
- ✓ **Stay clear of moving parts which can shear and cut.**
- ✓ **Never operate the Tape Heads with the Knife Guard removed.**
- ✓ **Turn electrical supply off before servicing the Tape Heads, including tape loading and threading.**

Note: Should any of the safety labels placed on the Tape Head be damaged or destroyed, replacements are available.

SAFETY ISSUES

The illustrated label shown in **Figure 5-1** is attached to the Knife Guard. The label warns operators and service personnel of the very sharp blade. The guard shall only be removed when the torsion spring or the guard itself are being replaced.

Should the tape head be operated without blade guard, user voids all warranty implied, the manufacturer bears no responsibility for the consequences.

Tape head shall never be serviced while mounted in a machine.



Figure 5-1

Label on **Figure 5-2** is visible on carton sealing machine.



Figure 5-2

While the tape head is processing cartons, or it is in motion, keep your hands away (**Figure 5-3**).



Figure 5-3

SAFETY ISSUES

The illustrated label shown in **Figure 5-4** is attached to the operator side plate of each tape head. The label provides operators and service personnel the proper method of threading a new roll of tape through the tape head.

More detailed information is provided in the “Set Up Procedures” portion of this manual.

Turn air and electrical supplies off before servicing the tape heads.

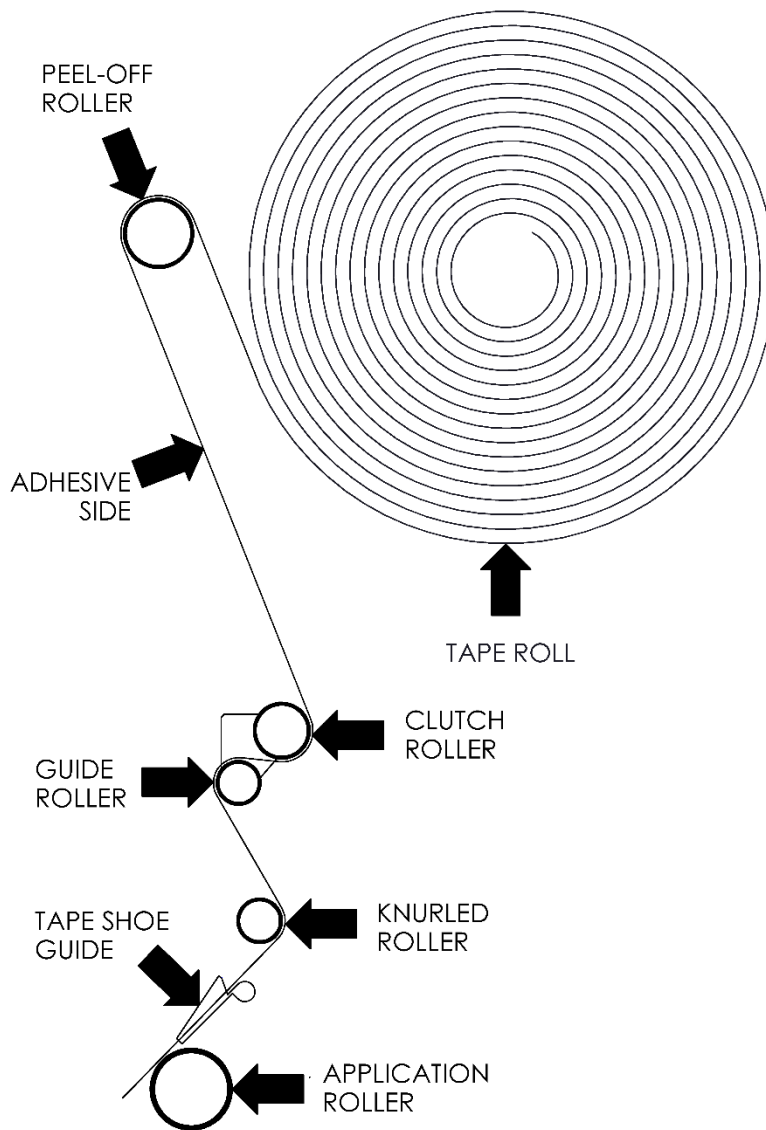


Figure 5-4

SPECIFICATIONS

Tape Head Dimensions

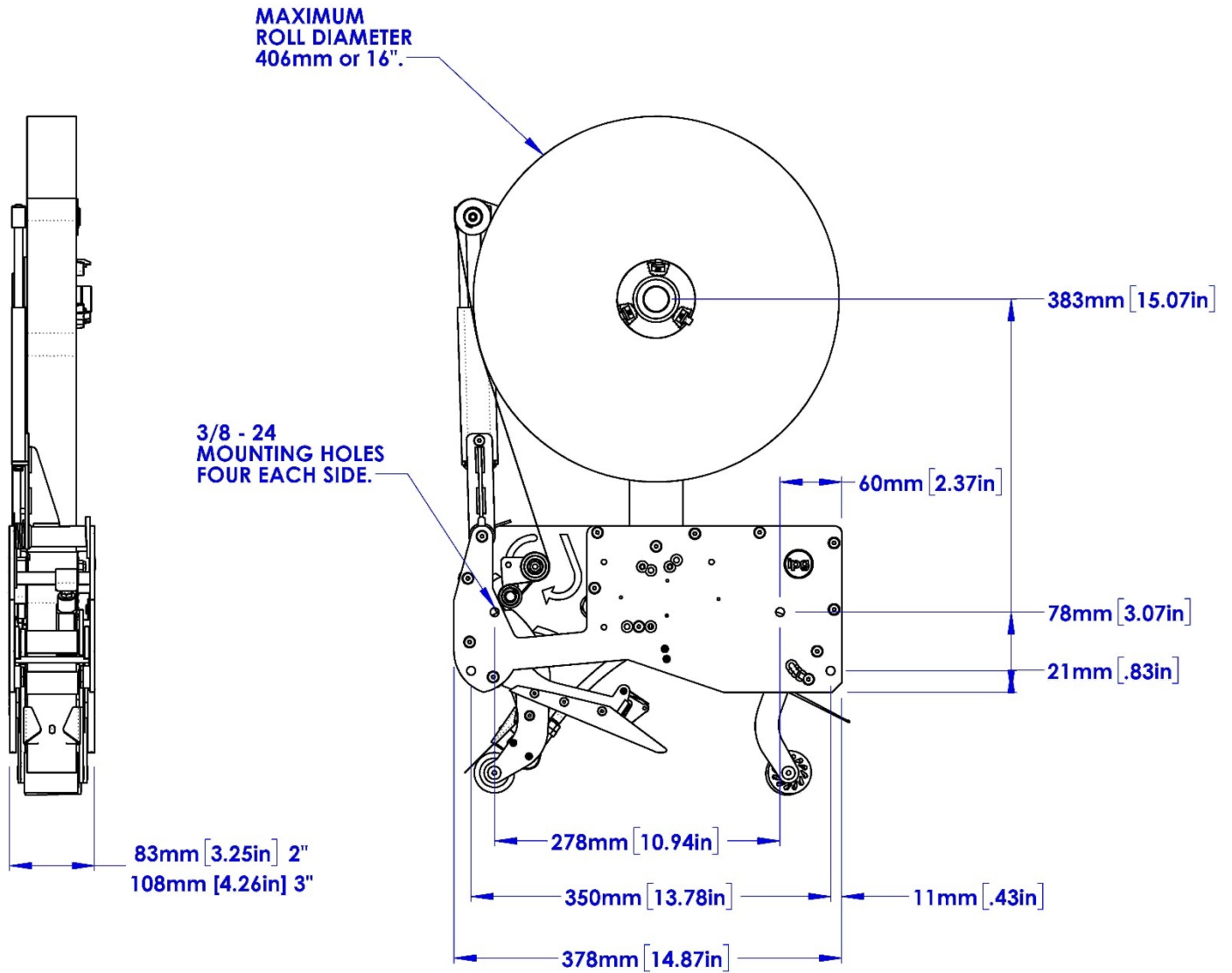


Figure 6-1

SPECIFICATIONS

Tape Head Components

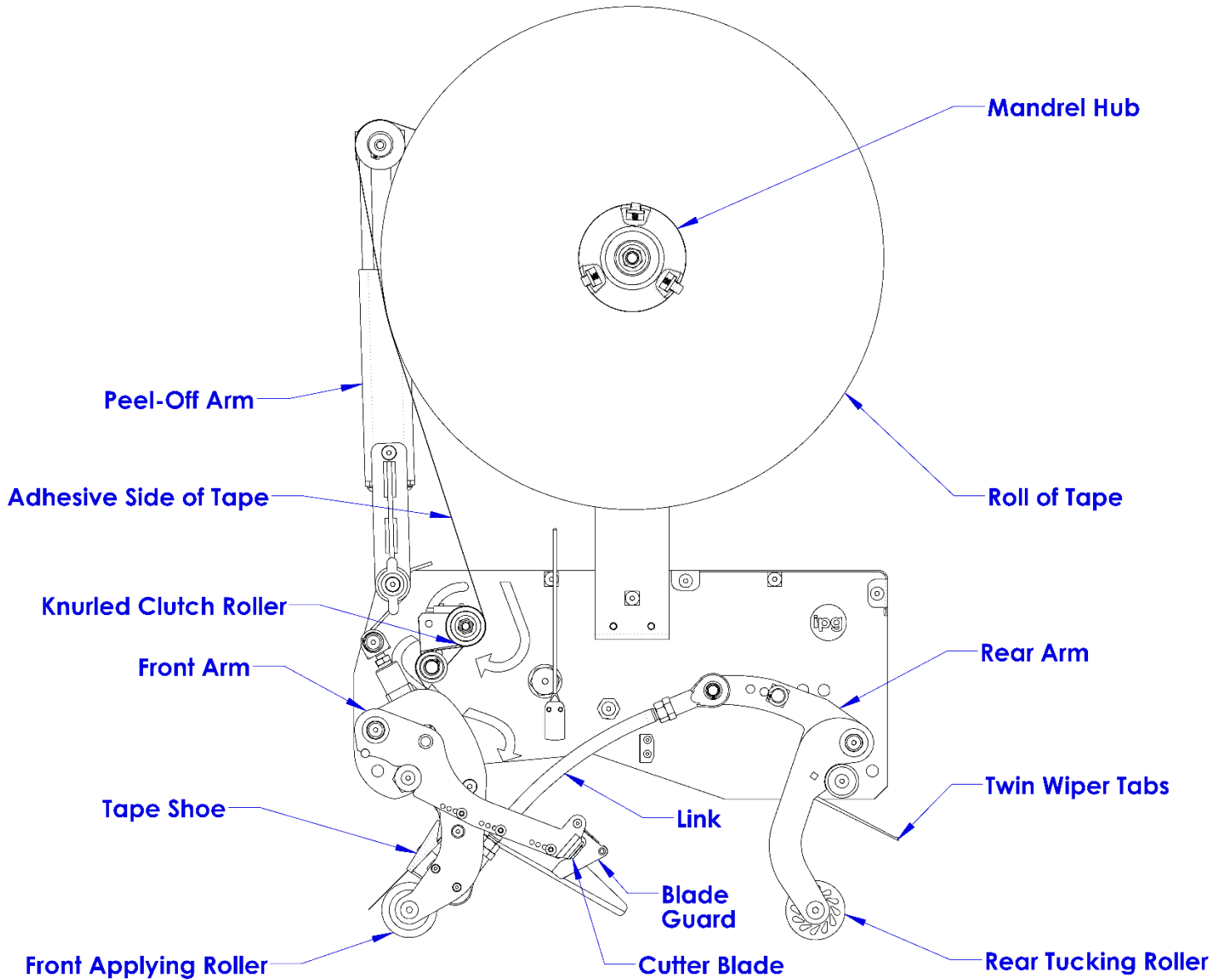


Figure 6-2

SPECIFICATIONS

Operating Conditions

Use in a dry, relatively clean environment at 40° to 105° F (5° to 40° C) with clean, dry cartons.

Note: The *ET xtreme*® Mirror Tape Head CAN be washed down with mild Detergent (soap).

Tape Head Specifications

1) General

Use Intertape brand Pressure Sensitive Sealing Tape.

2) Tape Width

For ET xtreme® Mirror 2" (48mm) models:

1 ½ to 2 inch wide tape (36 to 48 mm).

For ET xtreme® Mirror 3" (72mm) models:

2 ½ to 3 inch wide tape (60 to 72mm).

3) Tape Roll Diameter

Maximum of 16 inches (405 mm) on a 3-inch (76.86 mm) diameter core.
(Accommodates all Intertape brand film tape machine roll lengths).

4) Tape Application Leg Length – Standard

2 ¾" ± ⅛" (70 ± 3mm).

5) Tape Application Leg Length – Optional

The tape leg length can be adjusted from:
2 inches to 3 inches (50 mm to 76 mm).

6) Tape Head Weight

ET xtreme® Mirror 2" Tape Head weighs 9 lbs. (4 kg.).

ET xtreme® Mirror 3" Tape Head weighs 9.9 lbs. (4.5 kg.).

7) Operating Speed

For use with line speeds up to 140 ft/min maximum.

PLEASE NOTE: A stronger main spring may be necessary to process cases at 140 ft/ min. Void filled cases should not be processed with the stronger main spring.

SPECIFICATIONS

Installation of ET xtreme® in Other Machinery

This tape head can be used to upgrade case sealers provided by other manufacturers. It can be mounted in upper, lower, or horizontal positions. For installation of tape heads on non-IPG branded machines, contact your distributor or technical support (see pg. 4) for required mounting adaptors. For expedited service, please have machine model and serial number on hand.

- 1) The case must be positively propelled through the case sealer taking into account any void fills, overfills, stability factors or weight factors.
- 2) Verify the case sizes which will be processed through the case sealer. Installing Interpack ET xtreme® tape heads to process very short cases may cause the tape heads to collide with each other.
- 3) If a flight bar or lug drive system propels the case, ensure that these devices provide proper clearance and do not contact any portion of the tape head.
- 4) Ascertain that the proper adapter kits have been ordered and received with the tape head.

SET-UP PROCEDURES

Receiving and Handling

All contents must be verified upon reception. The following items are included with each tape head.

| DESCRIPTION | UH 231T 2" WIDE | UH 431T 3" WIDE |
|--|--------------------|--------------------|
| Main Tape Head assembly | 1 | 1 |
| SS SHCS M6 – 1 x 8 (part no. UF3170) | 4 | 4 |
| Mounting adaptors (part no. UPH0283) | 4 | - |
| Mounting adaptors (part no. UPH3881) | 4 | 4 |
| Mounting adaptors (part no. UPH0256) | - | 4 |
| Mounting adaptors (part no. UPH0284) | 4 | - |
| Mounting adaptors (part no. UPH3883) | | |
| SS Main spring (part no. UPH1091) | 1 | 1 |
| SS Ext. Main spring (part no. UPH0910) | 1 | 1 |
| Knife arm spring (part no. UPH7427) | 1 | 1 |
| Operational manual & parts list | 1 | 1 |

Note: After unpacking the Tape Head, look for any damage that may have occurred during shipping. Should the Tape Head be damaged, file a claim with the transport company and notify your Intertape representative.

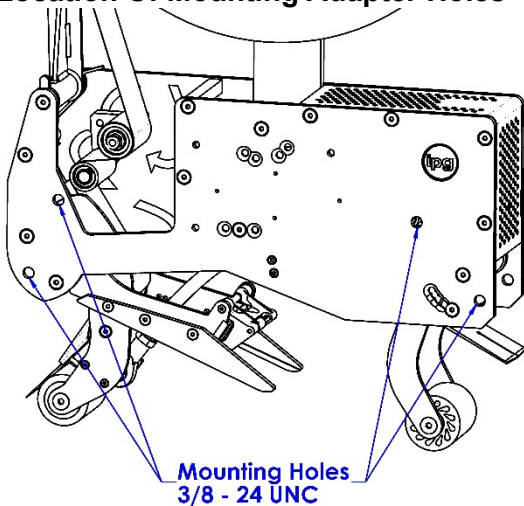
SET-UP PROCEDURES

WARNING! TURN OFF ELECTRICAL POWER SUPPLY AND DISCONNECT THE POWER CORD FROM THE ELECTRICAL SUPPLY BEFORE BEGINNING TO WORK ON THE TAPE HEADS OR TO LOAD TAPE. IF POWER CORDS ARE NOT DISCONNECTED, SEVERE INJURY TO PERSONNEL COULD RESULT.

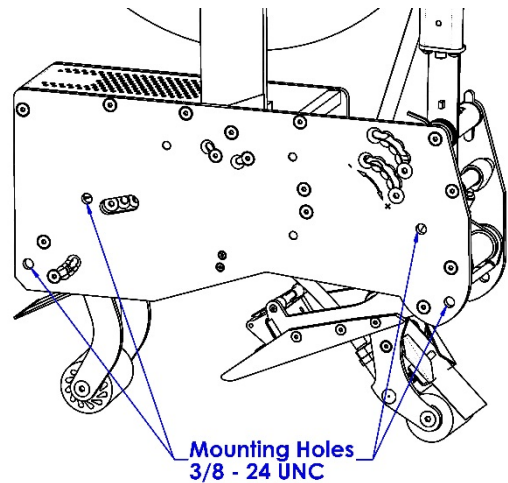
Mounting Adapters

ET xtreme® Tape Heads require **Mounting Adapter Hardware** to install in any case sealer or case erector. If your Tape Heads are pre-installed in your Interpack case sealer or case erector, you do not need to follow any instructions from this section. If your tape heads will be installed in any other brand machinery, please review these general guidelines plus any additional instructions included with your ET xtreme® tape head.

Location Of Mounting Adapter Holes



Cover Plate Side
Figure 7-1



Main Plate Side
Figure 7-2

Examples Of Mounting Hardware

There are four (4) mounting holes on the main and cover plates of the tape head. These are used to install various mounting adapters. Examples of these mounting adapters are:

1. Internal and external threaded nuts.
2. Mounting Bars.
3. Threaded Spacers.

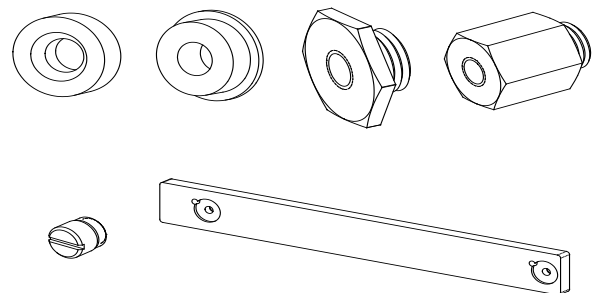


Figure 7-3

SET-UP PROCEDURES

Tape Loading

The ET xtreme® is designed to accommodate “2 inch” (48mm) wide tape rolls, while the ET xtreme®/3" accommodates “3 inch” (72mm) wide rolls.

1. Place the tape head onto a sturdy, flat surface.
2. Move the Peel Off Roller away from the mandrel. if you need help to keep Peel Off arm away, latch the friction washer temporarily.
3. Push the roll of tape onto the mandrel with the adhesive side facing away from the peel Off Roller (refer to **Threading Diagram on Figure 5-4** under Tape Threading section in this manual) until the core sits against the mandrel flange. The hooked red sprag should latch on the tape core. While removing the tape this should be pressed down to free the core.
4. Loosen friction washer and turn the Peel Off Arm against the tape roll.

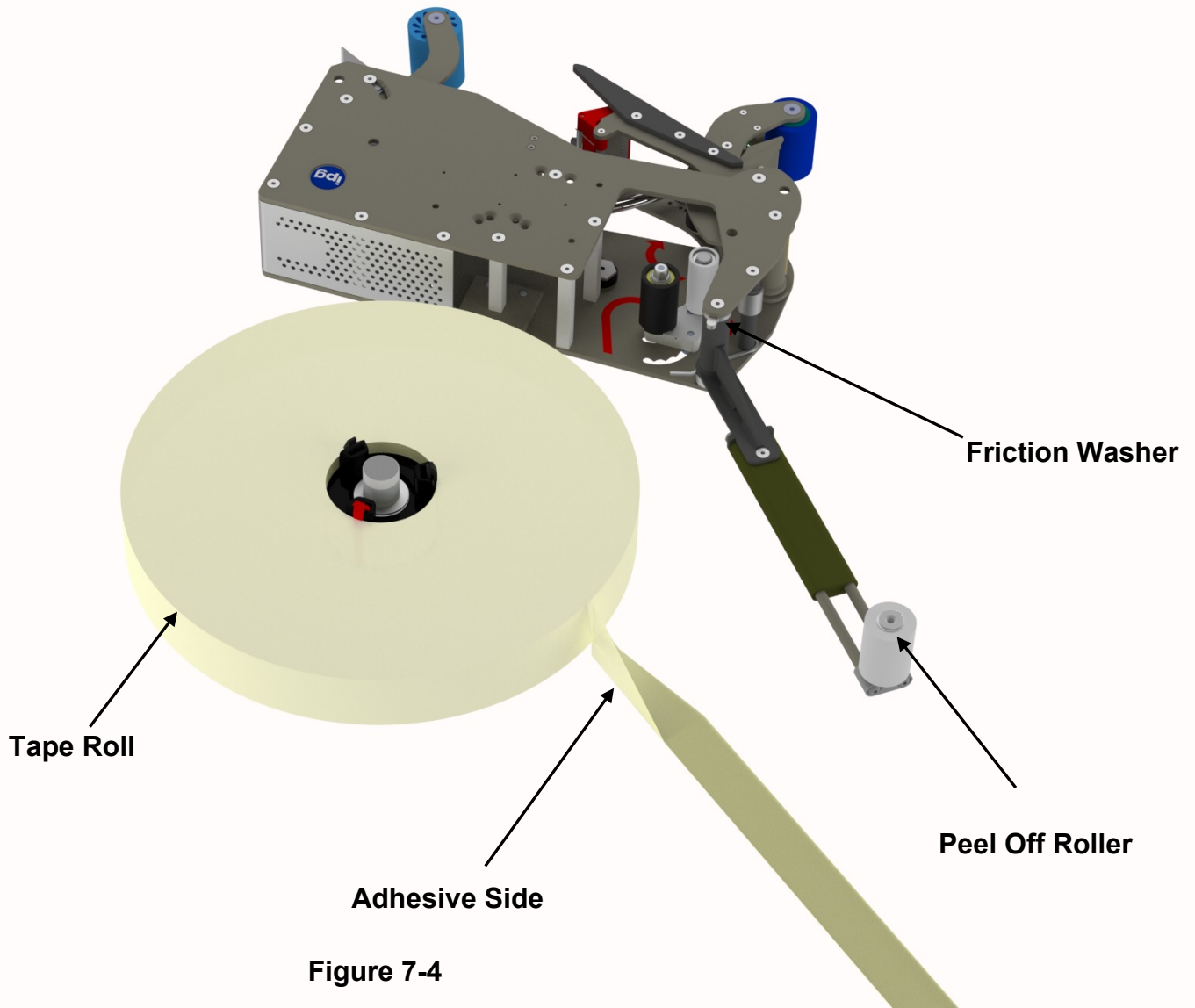


Figure 7-4

SET-UP PROCEDURES

WARNING! THE KNIFE CONTAINED IN THE TAPE HEAD IS EXTREMELY SHARP. USE CAUTION WHEN REMOVING THE BLADE GUARD AND THREADING THE TAPE TO AVOID PERSONNEL INJURY.

Tape Threading Preparation

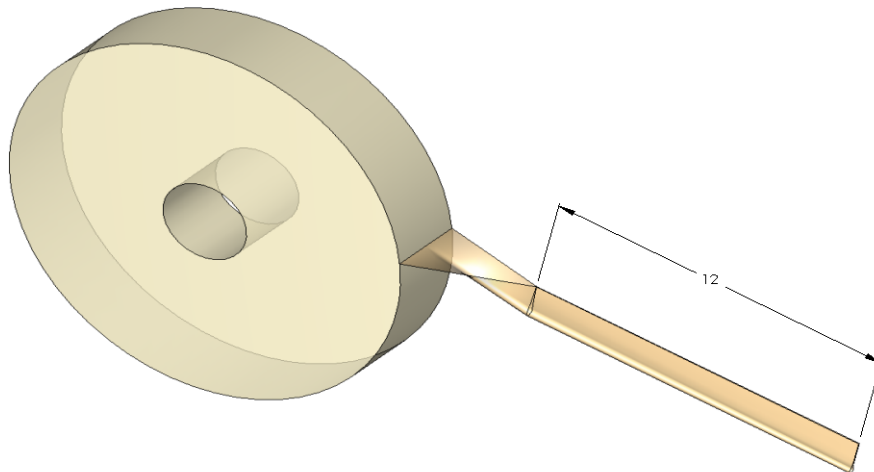


Figure 7-5

Threading the tape in the Tape Head does not require any special tools.

1. Pull approximately twelve (12) inches of tape from the roll and fold in half lengthwise, adhesive side to adhesive side. This allows you to thread the tape without it adhering to the guide and clutch rollers inside the Tape Head.

SET-UP PROCEDURES

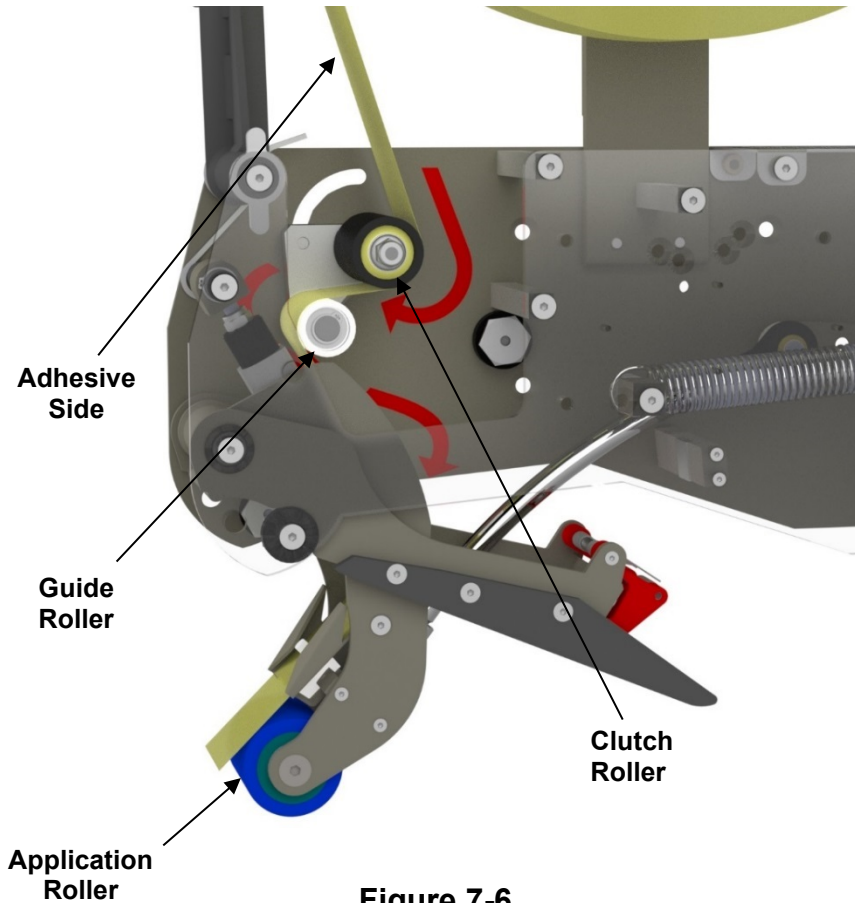


Figure 7-6

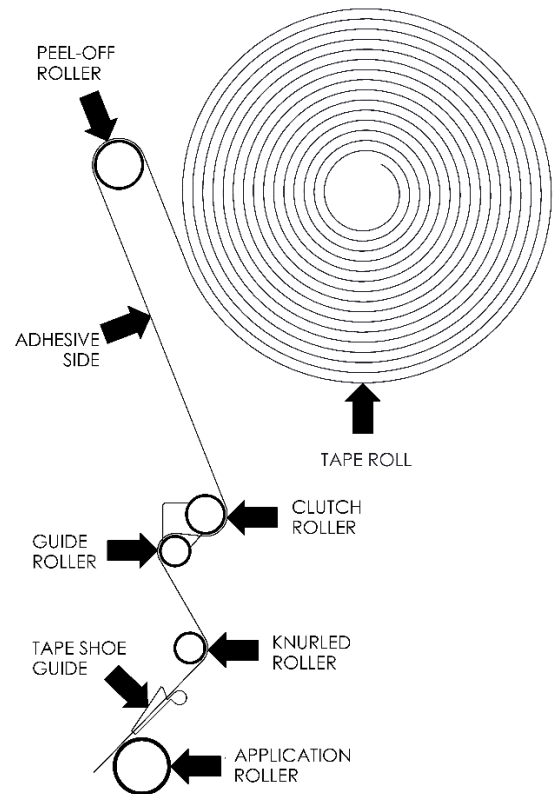


Figure 7-7

Refer to **Figures 7-6 & 7-7** for visual assistance of the following tape threading.

1. First thread the tape tail over the **Peel Off Roller**.
2. Continue to thread the tape over and around the “knurled” **Clutch Roller**.
3. Then pass the tape up and over the “smooth” **Guide Roller**.
4. Continue threading the tape over and behind the final “knurled” **Guide Rollers**.
5. Thread the tape through the cut-out provided in the **Tape Guide Shoe** and pull the tape through to the front of the **Application Roller**, ensuring that the tape is retained in the tape guide shoe.
6. Cut off the folded tape.
7. Replace the Tape Head to its initial position in the machine.

SET-UP PROCEDURES

Tape Centering

If the tape is not centered as it travels through the tape shoe guide, the tape mandrel can be adjusted in or out to correct this.

Loosen the M18 inverse jam nut on the rear of the mandrel as shown in **Figure 7-8**. with a 10 mm allen key. (Turn it counterclockwise to unlock it.)

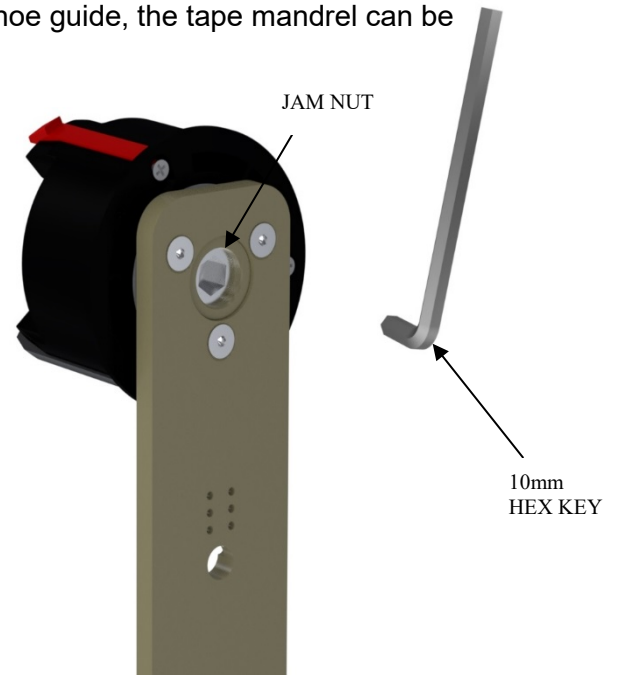


Figure 7-8

Adjust the shaft in or out as required using a flathead screwdriver as illustrated in **Figure 7-9**. When the tape is centered, tighten the jam nut.

Note: One full turn will result in 1mm tape displacement.

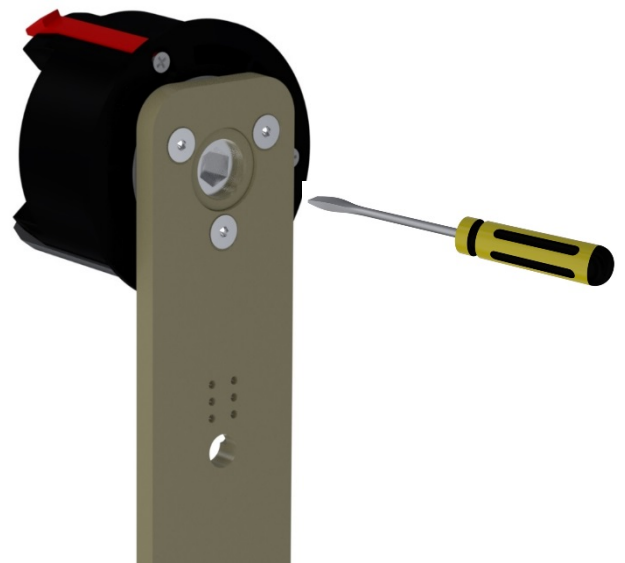


Figure 7-9

SET-UP PROCEDURES

Centring 36mm(1 1/2") & 60mm(2 1/2") Tapes

If the tape is not a standard size, the tape mandrel hub will need a Spacer Ring to center the tape.

Spacer Ring part # is UPH7435. Use the Spacer rings for the 36mm(1 1/2") tape on a 2" mandrel hub and the 60mm(2 1/2") tape on a 3" mandrel hub.

1. Position the Spacer Ring in front of the mandrel hub in a way that the notches of the Spacer Ring will align with the Sprags on the mandrel hub as shown in **Figure 7-10**.
2. Push the Spacer Ring all the way on the mandrel hub as shown in **Figure 7-11**.
3. It will take a second ring to sandwich the tape roll into position.

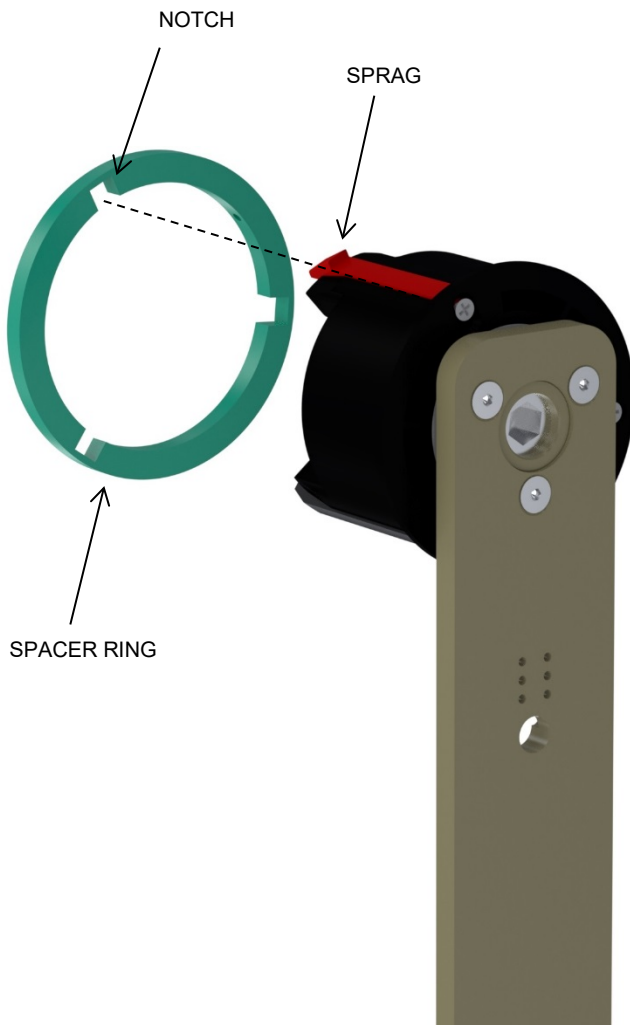


Figure 7-10

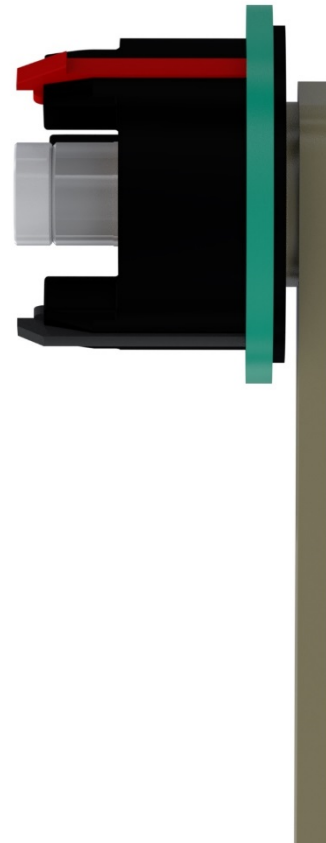


Figure 7-11

SET-UP PROCEDURES

Tape Leg Length Adjustment

For safe sealing, the tape leg length has been factory set at 2 ¾ inches (70 mm). However, the tape leg length can be shortened.

Front Tape Leg

To adjust the tape leg length on the front panel of the box, refer to **Figure 7-12** of the clutch assembly. Facing the rear main frame, loosen the two (2) M6 Flat Head Cap Screws using a 4 mm hexagonal key. Move the clutch assembly to bring it towards the minus (-) sign stamped on the plate for a shorter tape leg. Conversely, bring the M6 screw towards the plus (+) sign for a longer tape leg. Re-tighten both M6 Flat Head Cap Screws.

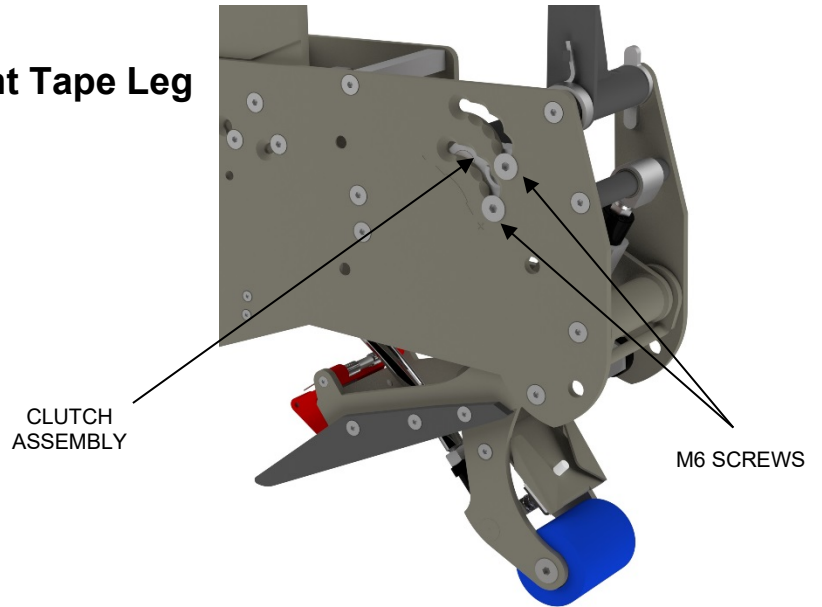


Figure 7-12

Rear Tape Leg

To adjust the tape leg length on the trailing end of the box, both knife arm extension brackets must be re-positioned in unison. Unscrew the three (3) M4 Screws on each knife arm extension using a 2.5 mm hexagonal key. For a Shorter Tape Leg, bring the knife arm towards the front of the tape head. Conversely, for a Longer Tape Leg, bring the knife arm Extension towards the rear of the tape head. Replace the three (3) M4 screws on each knife arm extension and tighten. Once you obtained the required rear tape leg, secure the screws with Loctatie 222 (purple) threading agent. Please note that the rear tape leg is dependent on line speed.

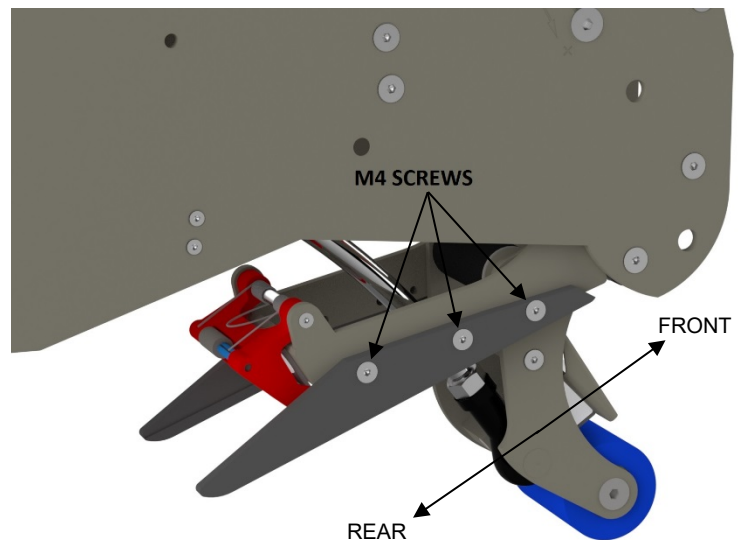


Figure 7-13

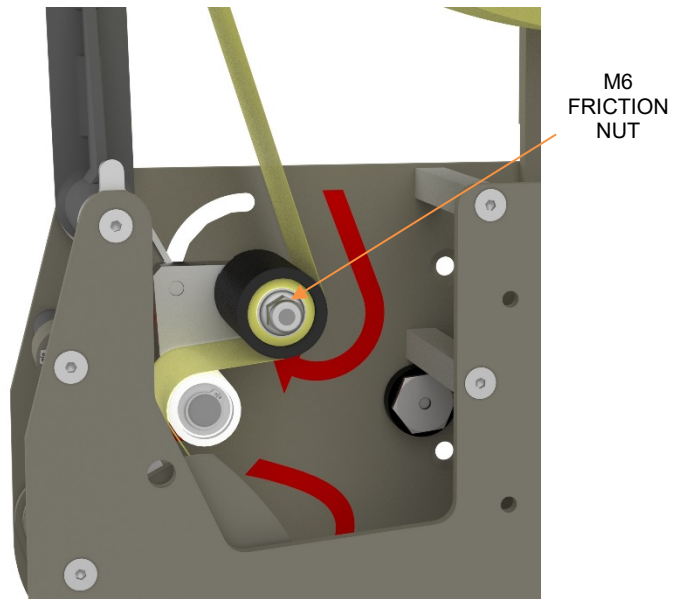
SET-UP PROCEDURES

Clutch Roller Adjustment

The one-way clutch roller assures that the tape does not go backwards any time during dispensing, further more it is a tool in achieving correct front tape leg length.

Different quality tapes have different adhesives and release coats. This has an effect on the dispensing, e.g. very “sticky” tapes are peeling-off with bigger resistance, so they will need minimal tension on the clutch roller. Tapes that unwind easy on the other hand may need more tension on the clutch roller to achieve uniform front tape leg length during sealing.

- 1.) To decrease the clutch roller’s tension, turn the M6 friction nut at the end of roller counterclockwise. (One needs a 10 mm wrench to accomplish this.) If the clutch roller has a play alongside the shaft the decrease was overdone.
- 2.) To increase the clutch roller’s tension one needs to turn the M6 friction nut clockwise. Make tiny increments (less than eighths of a turn) at one time and check the sealing results before going any further. Once the disc spring has been over squeezed (flattened out) it loses its properties, you may need a new one, thus it is worth paying attention.



Main Spring Adjustment

The main spring retainers are set at the factory for the most common applications. The top tape head will need lighter springs, UPH0910 or UPH0911, while the bottom positioned tape head will need heavier springs, UPH1091.

The ET-X 3-inch tape heads can run up to 140 ft/min line speed, the 2-inch version up to 150 ft/min line speed. In applications one might have normal cases, over filled cases, void filled cases, flimsy corrugated boxes, stiff double fluted cases. The speed and the nature of the box will determine the best main spring setting. Typically, the higher the line speed the more tension one requires from the main spring. To increase the rollers’ pressure we have the following techniques to choose from in order of ease:

Option 1:

If one needs a little bit more (~15%) pressure on the tacking rollers and have a stainless steel spring mounted on the tape head, may change the spring for the music wire version. (UPH0911 for top tape head and UPH1091 for bottom tape head)

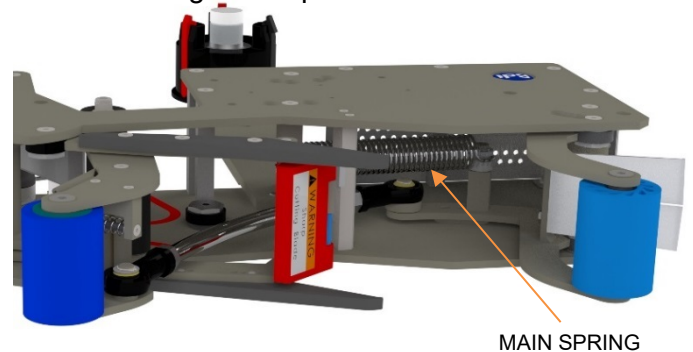


Figure 8-1

SET-UP PROCEDURES

Option 2:

To change the rollers' pressure one can move the spring retainers position on the cover frame. Move the M5 FHCS towards the front of the tape head to increase the pressure towards the rear to decrease the pressure. See **Figure 8-2**.

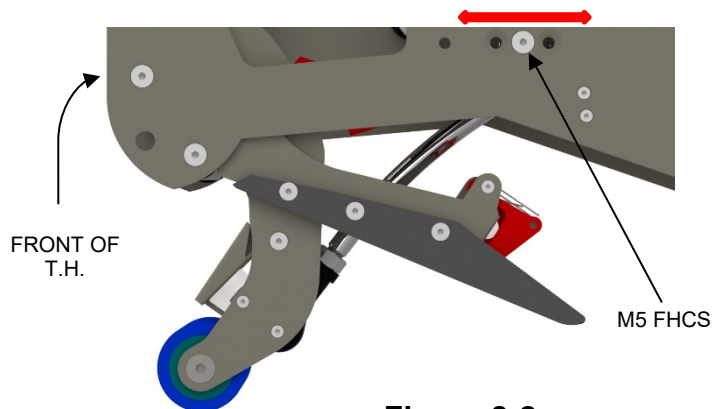


Figure 8-2

Option 3:

When the loop is still persevering in the rear leg, one can raise the spring retainer's position on the rear arm. This will increase the torque on the rear arm. Loosen the M6 FHCS on the rear arm and move a position up, farther away from the pivot axis.

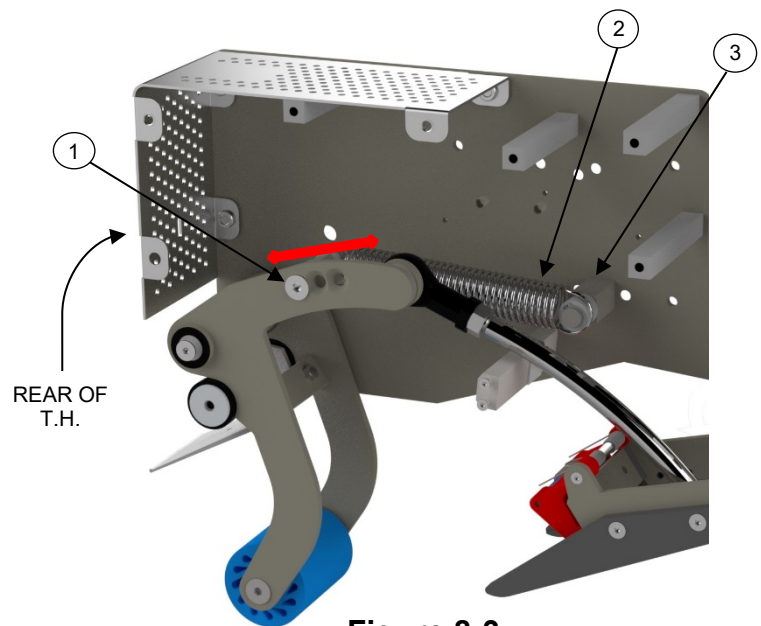


Figure 8-3

The previously listed 3 options may need to be employed in combination to get the best result. For instance, to get the 3-inch tape head in top tape head mode at 120 ft/min line speed make the following set up, refer to **Figure 8-3**. Put the M6 FHCS (**item 1**) on rear arm on the second position from pivot shaft. Put the M6 FHCS (**Item 3**) on the Cover Frame closest to the rear end position. Take the heavy stainless steel main spring UPH1091 (**item 2**) and attach it to these spring retainer points.

A reminder to tone down unrealistic expectations; boxes without stamina cannot be processed at high speeds.

SET-UP PROCEDURES

Low Profile Setting

When processing 4"-6" high cases, one might want to set the tape head into low profile position. In this case the application rollers will extend to 2". To achieve these 2" tape legs, the rear bumpers have to be moved on the main frame and cover frame in synch. With the help of a $\frac{3}{4}$ " wrench and a 3 mm allen key loosen the M5 FHCS holding the bumpers. Reposition them into the third notch in the middle, see figure 8-4. Making the arms extending shorter than 2" is not recommended. Also refer to page 21 for tape leg settings.

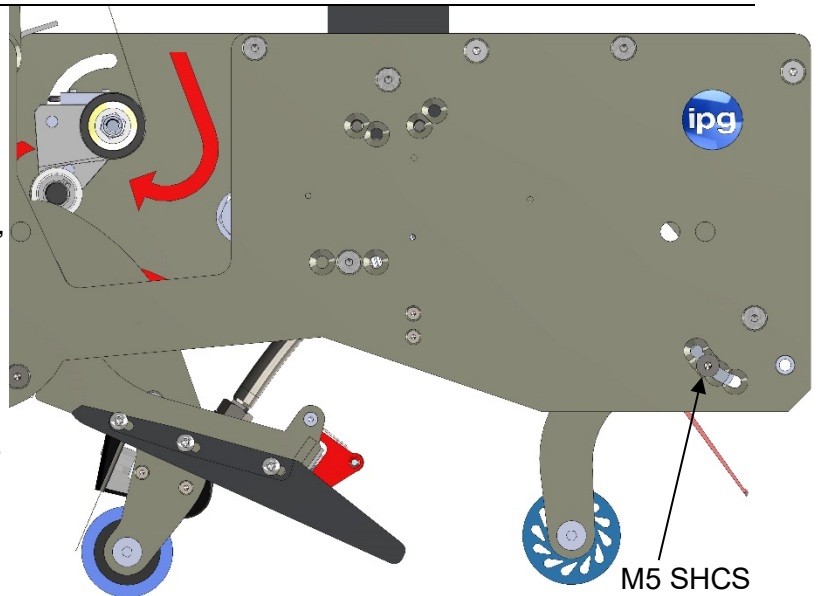
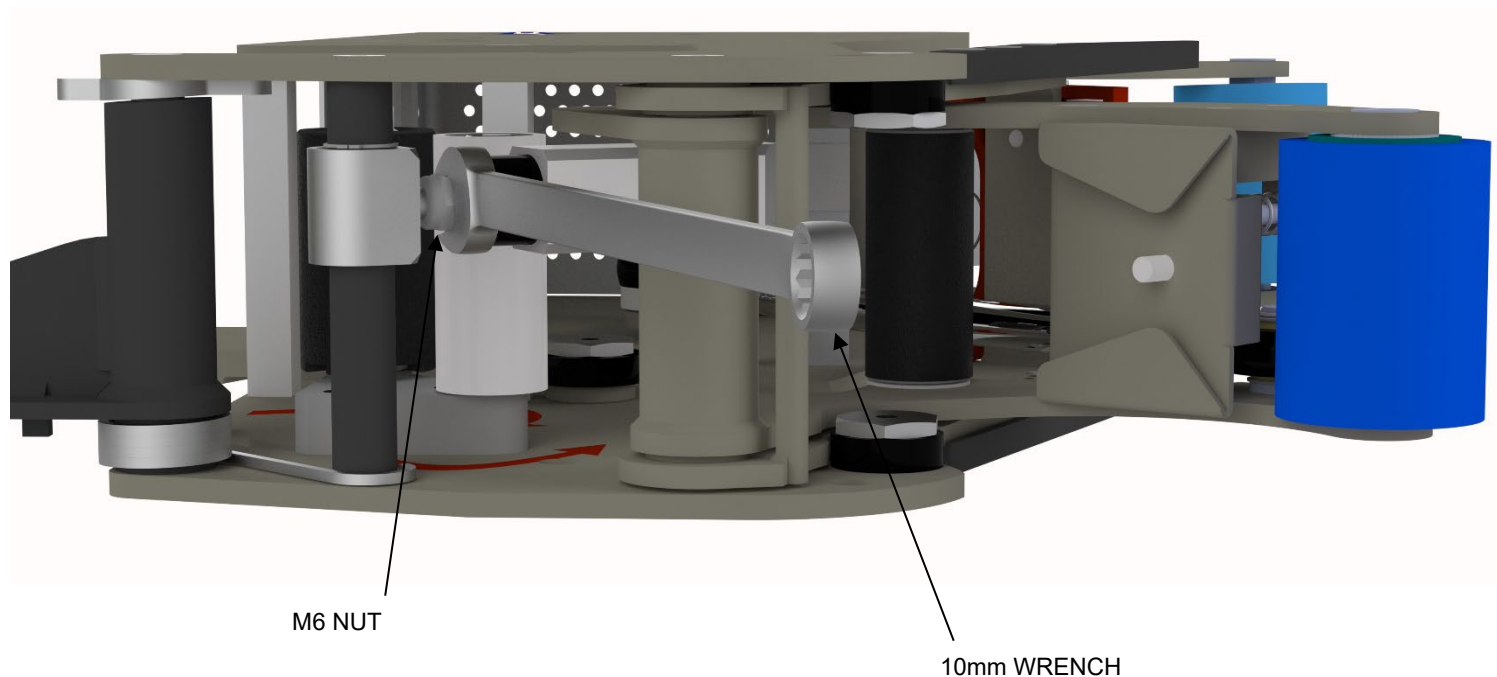


Figure 8-4

Knife Arm Spring Adjustment

1. To increase the force, using a 10 mm open end wrench, turn the M6 nylon lock nut clockwise until desired pressure achieved.
2. To decrease the force, using a 10 mm open end wrench turn the nylon lock nut counterclockwise, so that the pressure on the major flaps is reduced, but it still cuts the tape.



TROUBLESHOOTING

ET xtreme® Tape Heads are fabricated with high quality components that provide trouble-free operation for a long period of time. However, should a problem occur, we recommend that you consult the following table. If the problem you encounter is not discussed in this table, call Interpack Technical Support. (see page 2 of this document).

| TROUBLE | POSSIBLE CAUSES | SOLUTIONS |
|---|--|---|
| Tape does not cut cleanly. | Blade needs to be replaced. | Replace blade. Refer to preventive maintenance section for details. |
| | Knife compression spring too weak or broken. Increase pressure on compression spring in repulsive pivot assembly. | Replace Knife Arm Spring. Refer to preventive maintenance section for details. |
| | One way clutch roller needs adjusting. | Slightly increase the tension on the one way clutched roller. |
| Front tape leg too short. | Generally, too much tension on the application of the tape. | Follow corrective action in "Tape Flagging" section below. |
| | Tape threaded incorrectly. | Check for proper tape threading against threading diagram on side plate of tape head. |
| | Tape leg length misadjusted. | Re-set front tape leg length. |
| Tape Leg <i>in the tape head</i> folds up on itself. | Strong air circulation (fan) is in the vicinity. | Redirect airflow away from the tape head. |
| | Spring loaded finger is out of position. | Check compression spring mobility. |
| Rear tape leg does not fit tight on the box. (ripple effect). | Main spring is not strong enough. | Change for the stronger main spring. (Part no. UPH1090). |

TROUBLESHOOTING, CONTINUED

| TROUBLE | POSSIBLE CAUSES | SOLUTIONS |
|--|---|---|
| <p>“Tape Flagging” or folding on itself on the trailing tape leg.</p> | <p>Generally, too much tension on the application of the tape. Follow steps below.</p> | |
| | <p>Applying urethane rollers, delrin guide rollers, knurled metal rollers should spin freely. Check for any adhesive migration or build up.</p> | <p>Remove any adhesive build up with silicon spray. Disassemble any non free spinning rollers and remove any adhesive build up on shafts.</p> |
| | <p>Mandrel does not spin freely even after tension is reduced.</p> | <p>Disassemble mandrel assembly and check debris.</p> |
| | <p>Too much one way clutch roller tension.</p> | <p>Decrease clutch roller tension.</p> |
| | <p>Tape unwind is difficult.</p> | <p>Check freedom of Peel Off Roller.</p> |
| | <p>Cutter blade is dull.</p> | <p>Replace blade and oil blade pad.</p> |

TROUBLESHOOTING, CONTINUED

| TROUBLE | POSSIBLE CAUSES | SOLUTIONS |
|---|--|--|
| Front tape leg too long. | Tape threaded incorrectly. | Check for proper tape threading against threading diagram on side plate of tape head. Tighten clutch roller a tad. |
| | Tape leg length misadjusted. | Re-set front tape leg length. |
| Rear tape leg too short. | Generally, too much tension on the application of the tape. | Follow corrective action in “ Tape Flagging ” section above. |
| | Tape leg length misadjusted. | Adjust knife arm extensions. |
| Rear tape leg too long. | Tape threaded incorrectly. | Check for proper tape threading against threading diagram on side plate of tape head. |
| | Tape leg length misadjusted. | Adjust knife arm extensions. |
| Tape not centered on the center seam of the case. | <p>Check the box, are the flaps overlapping on each other?</p> <p>Check if the whole tape head is mounted in between the centering guides or drive belts.</p> <p>Check if tape is against the mandrel hub’s flange.</p> <p>Tape Head mandrel not centered.</p> | <p>Readjust mandrel so tape is centered on the case.</p> <p>As a last resort use unequal adaptors on the left and right sides.</p> |

RECOMMENDED SPARE PARTS LIST

We recommend that you stock the following spare parts. These parts are contained in the “spare parts kit” indicated below. The components of the spare parts kits are also referenced should individual components need to be ordered.

ET xtreme® Mirror 2” Wide Spare Parts Kit UH1010

| Parts Contained in UH 1010 Spare Parts Kit | | | |
|--|-------------------------|-------------|----------|
| MODEL NUMBER | DESCRIPTION | ITEM NUMBER | QUANTITY |
| | Front Roller 2” | UPH1448 | 1 |
| | Twin Wiper Tabs 2” | UPH4894 | 1 |
| | Ext. spring, light | UPH0999 | 1 |
| | Ext. spring, light SS | UPH0910 | 1 |
| | Knife guard spring | UPH7009 | 1 |
| | Cut-off blade 2” SS, NC | UPH0193 | 1 |
| | SS Main Spring ETM.080 | UPH1091 | 1 |

RECOMMENDED SPARE PARTS LIST

ET xtreme® Mirror 3” Wide Spare Parts Kit UH 1011

| Parts Contained in UH 1011 Spare Parts Kit | | | |
|--|-------------------------|-------------|----------|
| MODEL NUMBER | DESCRIPTION | ITEM NUMBER | QUANTITY |
| | Front Roller 3” | UPH1449 | 1 |
| | Twin Wiper Tabs 3” | UPH4895 | 1 |
| | Ext. spring, light | UPH0999 | 1 |
| | Ext. spring, light SS | UPH0910 | 1 |
| | Knife guard spring | UPH7009 | 1 |
| | Cut-off blade 3” SS, NC | UPH0271 | 1 |
| | SS Main Spring ETM.080 | UPH1091 | 1 |

PREVENTIVE MAINTENANCE

WARNING! TURN OFF ELECTRICAL POWER SUPPLY AND DISCONNECT THE POWER CORD FROM THE ELECTRICAL SUPPLY BEFORE BEGINNING TO WORK ON THE TAPE HEADS OR TO LOAD TAPE. IF POWER CORDS ARE NOT DISCONNECTED, SEVERE INJURY TO PERSONNEL COULD RESULT.

The ET xtreme® has been designed and manufactured with the finest components to provide long, trouble free performance. General preventive maintenance will improve performance and prolong the life of the tape head.

Please review the illustration and chart below for information regarding tape head maintenance.

Knife Blade Replacement

The knife blade is made from stainless steel and should provide a minimum of 250,000 cycles before replacement.

The cut-off blade is secured in position using two (2) M5 Button Head Cap Screws. To replace the cut-off blade:

1. Loosen both screws with a 3 mm hexagonal key. Do not remove the screws.
2. Remove the blade by sliding out.
3. Insert the new blade with the inclined face facing toward the rear roller.
4. Ensure the blade goes all the way against the screws and tighten properly.

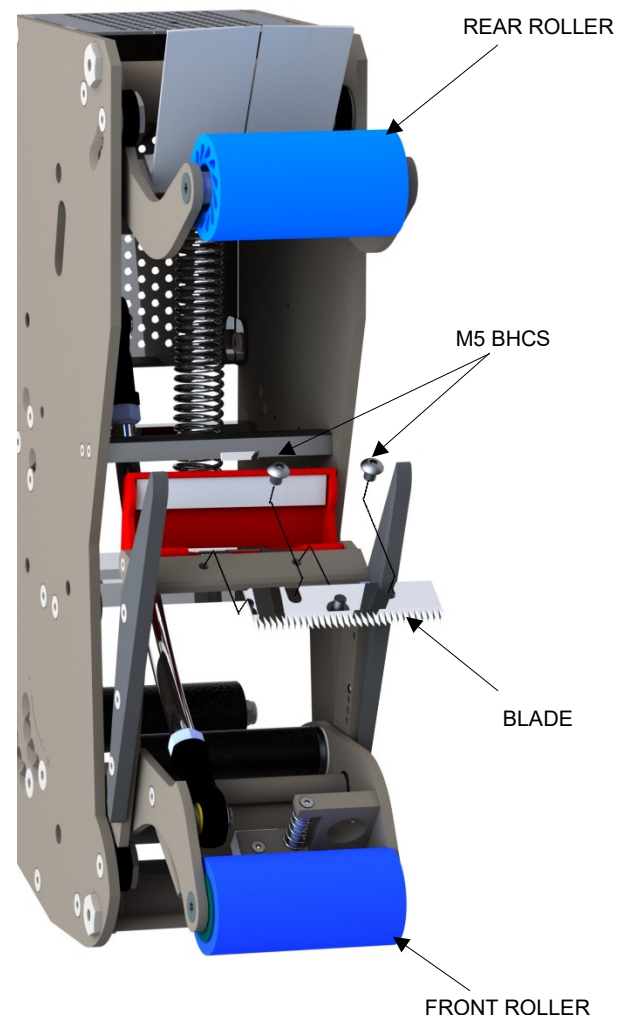


Figure 10-1

PREVENTIVE MAINTENANCE

Lubrication

The ET xtreme® components ship from the factory permanently lubricated. No additional lubrication is necessary, however, a small amount of lightweight oil applied to rotating and pivot points will extend the life of the tape head and assure maximum performance.

There is a felt pad however on the blade guard that serves as an oiler pad to help keep the blade free of adhesive accumulation. Add a small amount of lightweight oil (mineral oil, food grade 70) or silicon spray so that when a case is processed, the oil from the pad is transferred to the blade as the knife guard is opened and closed (refer to Preventative Maintenance on pg. 40 for further information).

Oiler Pad Lubrication

WARNING! USE CAUTION WHEN OILING THIS PAD AS THE CUTTER BLADE IS VERY SHARP. DO NOT OPERATE THE TAPE HEAD WITHOUT THE FELT PAD OR BLADEGUARD FOR THAT MATTER.

1. Retract the blade guard.
2. Remove any debris or accumulated adhesive build up.
3. Apply 5 to 10 drops of either mineral oil or silicon lubricant to the pad.
4. Release the blade guard against the blade.

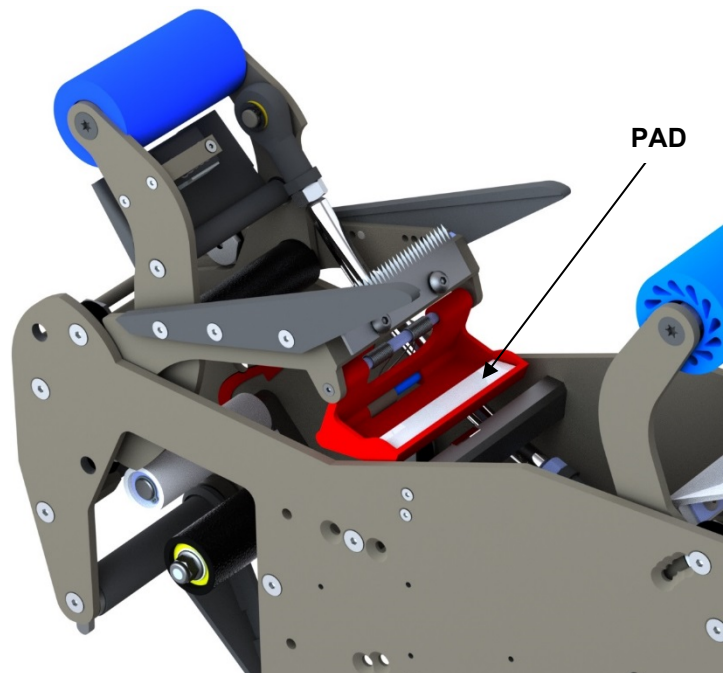


Figure 10-2

PREVENTIVE MAINTENANCE

Urethane Tucking Roller Replacement

These blue rollers are wear items and should be inspected regularly and replaced if necessary.

Front & Rear Urethane Roller Replacement

Removing The Urethane Roller

1. Using two allen keys, remove the M6 screws.
2. Application of heat may be required to break loose from the threading agent. When one of the M6 screws comes out, insert a 5 mm allen key into its place, thereby locking down the shaft.
3. Now one can proceed to remove the other screw.
4. Remove the PTFE washer and spring washer.
5. Remove the front roller hub.
6. With a sharp utility knife, cut away the blue urethane roller from its roller core.

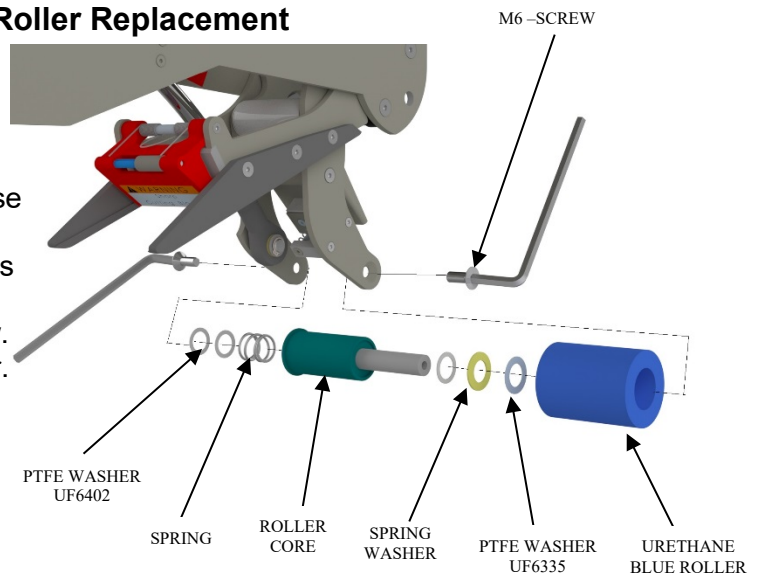


Figure 10-3

Installing The New Urethane Roller

1. Moisten the roller core's outside and the urethane roller's inside by applying soapy water or soap foam.
2. Feed the urethane roller onto the end of the roller core. The closed air pocket will help the urethane tube to hop over the core.
3. Press the urethane roller until it reaches the roller core's rim/shoulder. (do not exert excessive force so that the rim would crack)
4. Place roller back onto the shaft, rimmed side closer to main frame.
5. To reinstall back into the roller arm, refer to **Figure 10-3**. for an exploded view. The smaller PTFE washer (UF6402) will go to the clutch bearing side, the bigger PTFE washers (UF6335) and the disc spring (UF4401) go into the recessed side of the roller core.

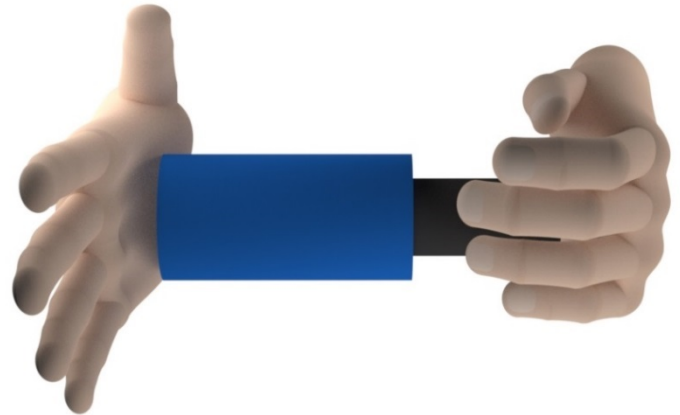


Figure 10-4

NOTE: The front roller assembly should have just enough tension so that it is not free spinning. (If the urethane rubber was shiny, prime it with a pinch of talcum powder). Apply a drop of purple Loctite on the M6 Screws when reassembling. Ascertain that Loctite does not bleed out (as it could prevent spinning).

PREVENTIVE MAINTENANCE

Spring Replacements

There are three springs on the ET xtreme® tape head. These springs are wear items and should be inspected regularly and replaced if necessary. Below are instructions for replacing the two most common springs.

Main Spring Replacement

1. Using a spring puller tool, remove one end of the main spring from the spring retainer.
2. Take off the damaged spring.
3. Hook one end of the new spring over the nylon spring retainer sleeve's groove.
4. Stretch the spring over rear arms spring retainer ring using either a spring puller (10" approx.) or your fingers. Hook the loop securely into the retainer's groove.

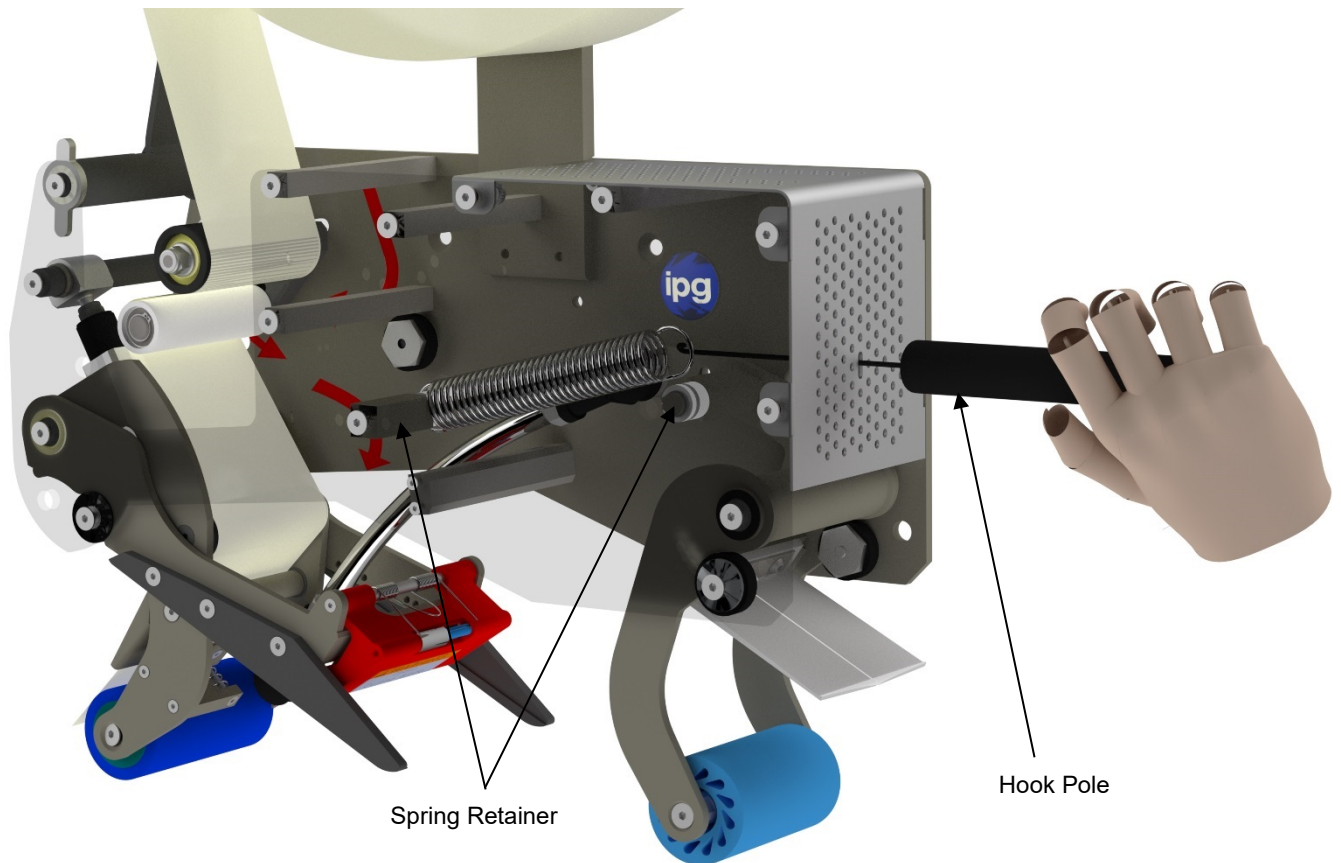


Figure 10-5

PREVENTIVE MAINTENANCE

Knife Arm Spring Replacement

If the compression spring breaks, the sequence to change it is as follows.

1. Remove the snap ring attached to the knife arm assembly. (Wear safety glasses while working with retaining rings).

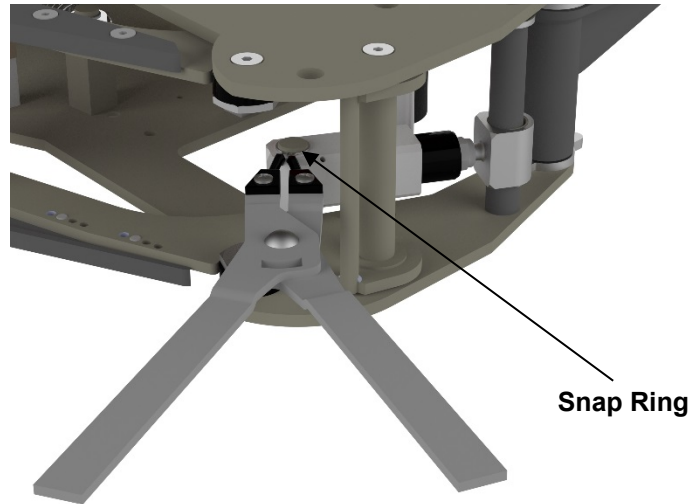


Figure 10-6

2. Slide off the repulsive pivot assembly from current position as shown in Figure 10-7.

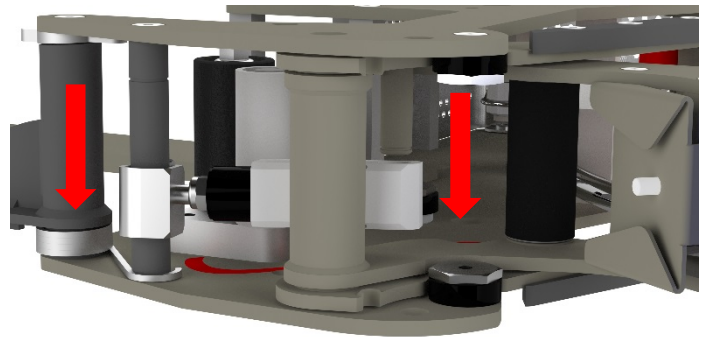


Figure 10-7

3. Remove the spring barrel from overlapping position as shown in Figure 10-8. Remove any broken particle from the spring guide. Install new compression spring into the captive position.

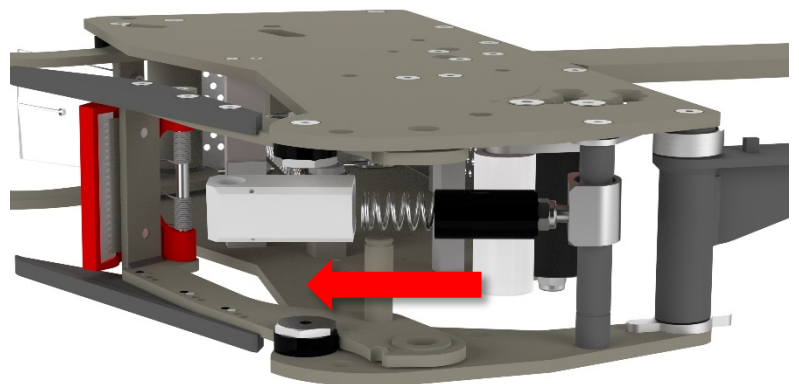


Figure 10-8

PREVENTIVE MAINTENANCE

4. Press the spring barrel against the spring mandrel until it is ready to slide back on the short shaft. **See Figure 10-9.** Move the whole sub assembly back to its original position.

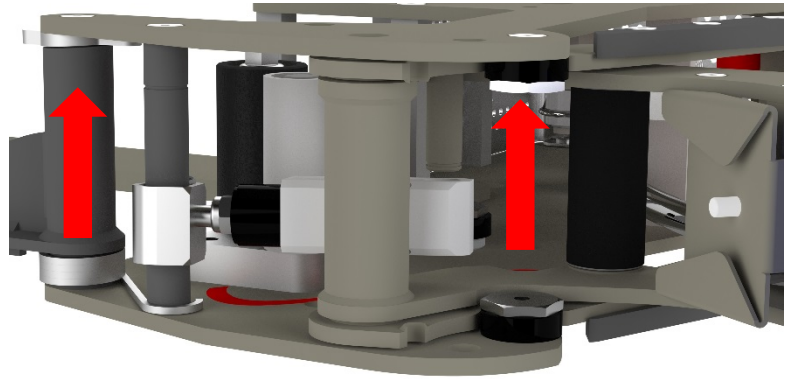


Figure 10-9

5. Reinsert retaining ring to the groove. Should the 10 mm retaining ring get damaged, replace it with a new one. **(Figure 10-10.)** Calibrate the spring pressure with the M6 nylon lock nut as described earlier.

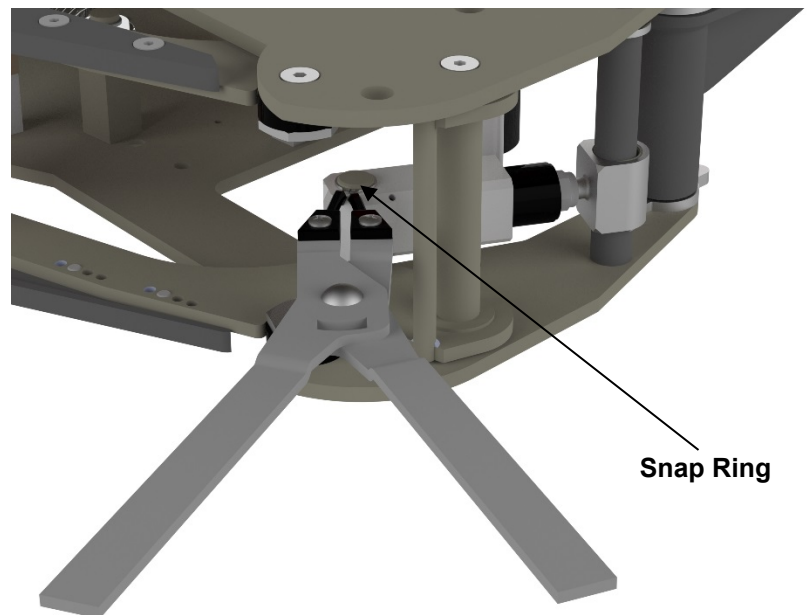


Figure 10-10

PREVENTIVE MAINTENANCE

Knife Guard Spring Replacement

As a precaution, remove the cutter blade to avoid injury.

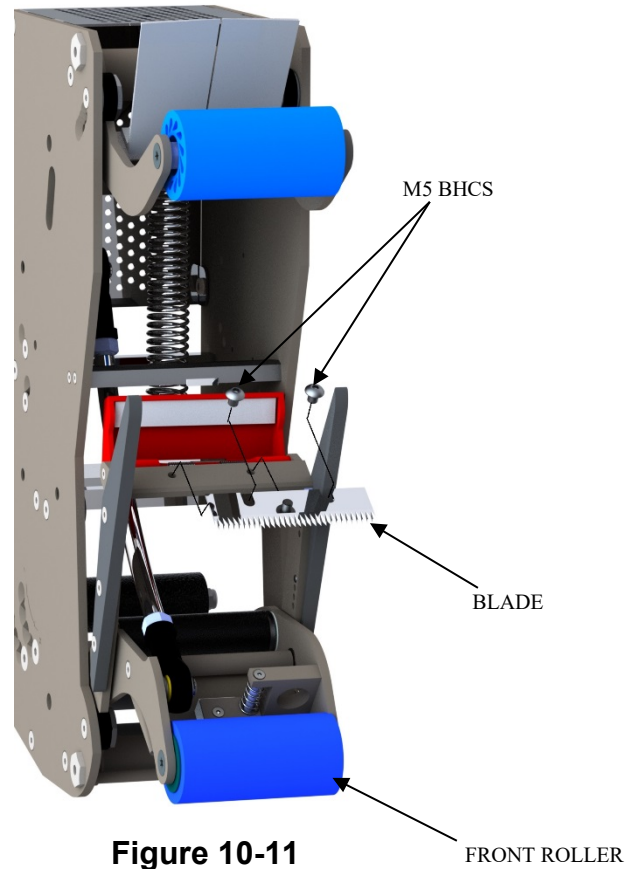


Figure 10-11

Remove the cross shaft

NOTE: These screws are secured with loctite and may require applied heat prior to removal.

1. Using two 2mm hexagonal keys as shown, remove one of the flathead screws by applying force on both hexagonal key in an attempt to break free one from locking agent.
2. Once one of the screws is free, only continue to remove that screw.
3. Leave the remaining flathead screw that did not yield, attached to the cross shaft.

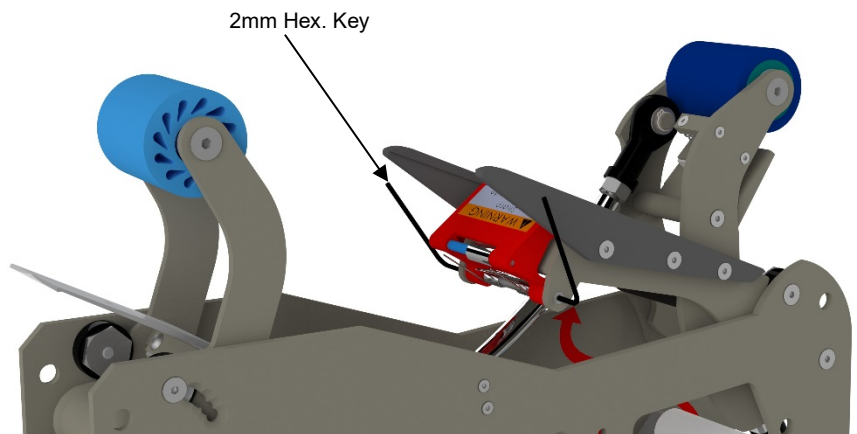


Figure 10-12

PREVENTIVE MAINTENANCE

Carefully slide out the shaft from the end of the shaft that contains the remaining flathead screw.

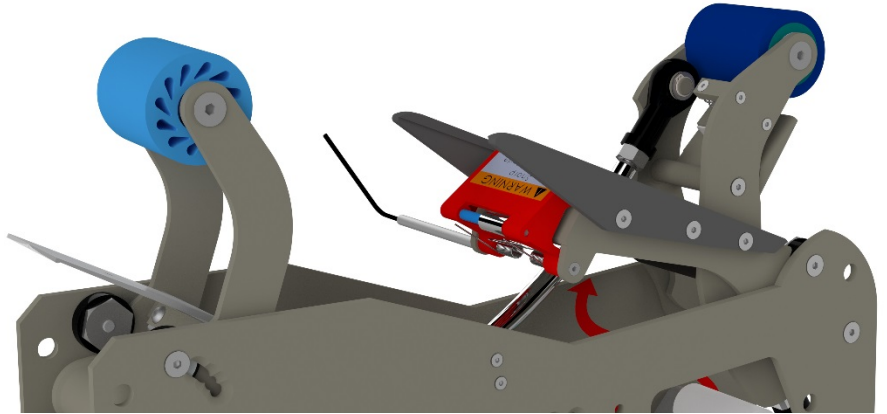


Figure 10-13

Remove the broken spring.

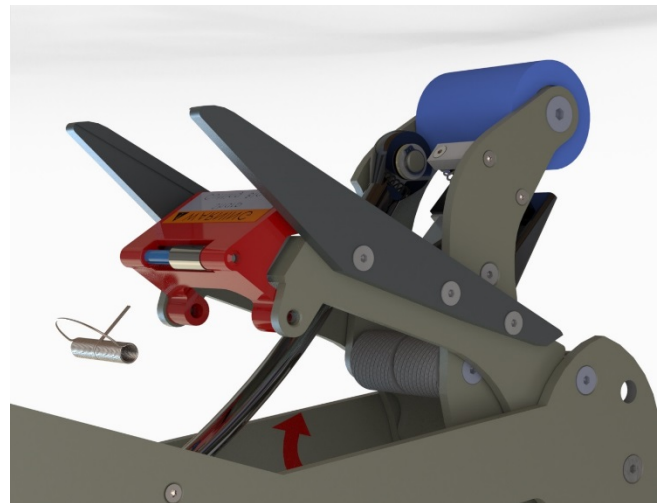


Figure 10-14

PREVENTIVE MAINTENANCE

To properly position the new knife spring

1. Position the new knife spring as shown in **Figure 10-15**.
2. Note which leg of the spring should lie behind the cutter blade mounting plate.
3. Note that the looped leg shall wrap around the blade guard.

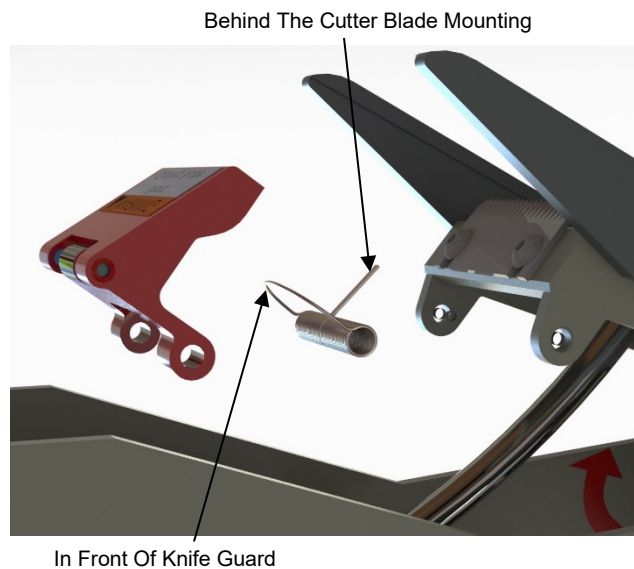


Figure 10-15

Insert the cross shaft through the knife arm, knife guard and knife guard spring as shown in **Figure 10-16**.

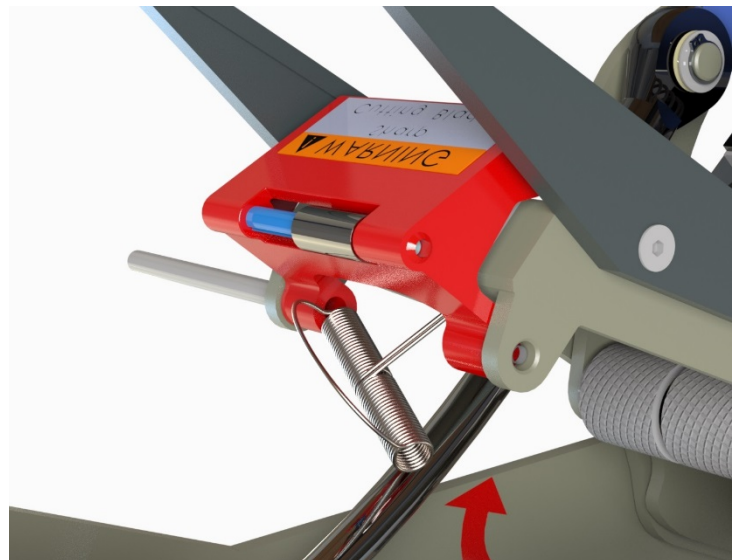


Figure 10-16

PREVENTIVE MAINTENANCE

To Complete The Installation:

1. Apply some Purple Loctite (222) to the threads of the M3 screw and fasten to the end of the cross shaft. Tighten using two 2mm hexagonal keys as shown in **Figure 10-17**.
2. The shaft should not vacillate in the mounting holes.
3. Rotate the knife guard to make sure there is no binding.
4. Re-install the cutter blade as shown in **Figure 10-11**.
5. Inspect the oiler pad to make sure it is securely fastened. Clean the pad and apply some lightweight oil.
6. Check that the magnet catch is spinning free, if not spray the pin with silicon based lubricant.

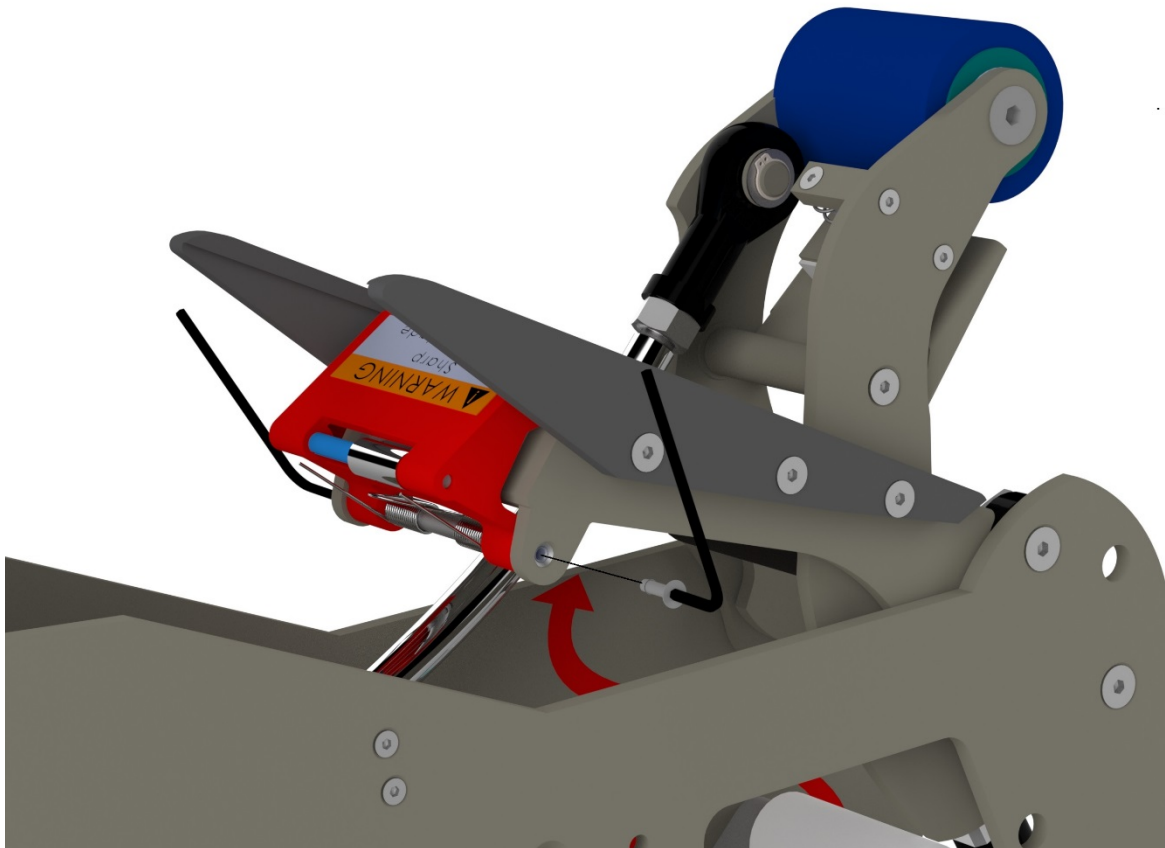


Figure 10-17

PREVENTIVE MAINTENANCE

Dual Wipe Down Tabs Replacement

The dual independent wiper tabs assist in wiping down the top center seam of the case. While the blue tucking rollers perform much of the wipe down, the wipe down tabs enhance the wipe down as it presses the adhesive into the corrugated fiber.

Over time, this tab can become distorted or worn and should be replaced.

Twin Wiper Tabs' Replacement

1. Remove the two M4 hex nuts (**Item 1**) from the rear arm with a 7mm wrench.
2. Unscrew the two M4 bottom head countersink screws (**item 2**).
3. Remove the rectangular washer (**Item 3**) and the dual Wiper Tabs (**Item 4**).
4. Install new wiper tabs with two M4 button head screws as shown in **Figure 10-18**.
5. Check the orientation of wiper tabs.

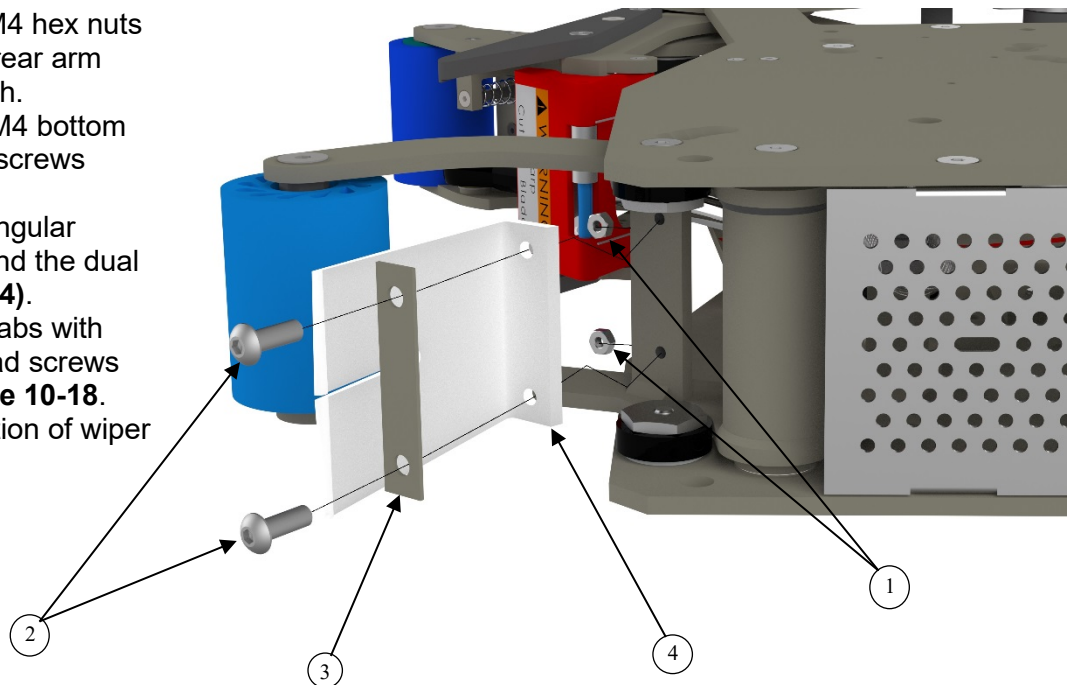


Figure 10-18

SCHEDULE OF PREVENTIVE MAINTENANCE

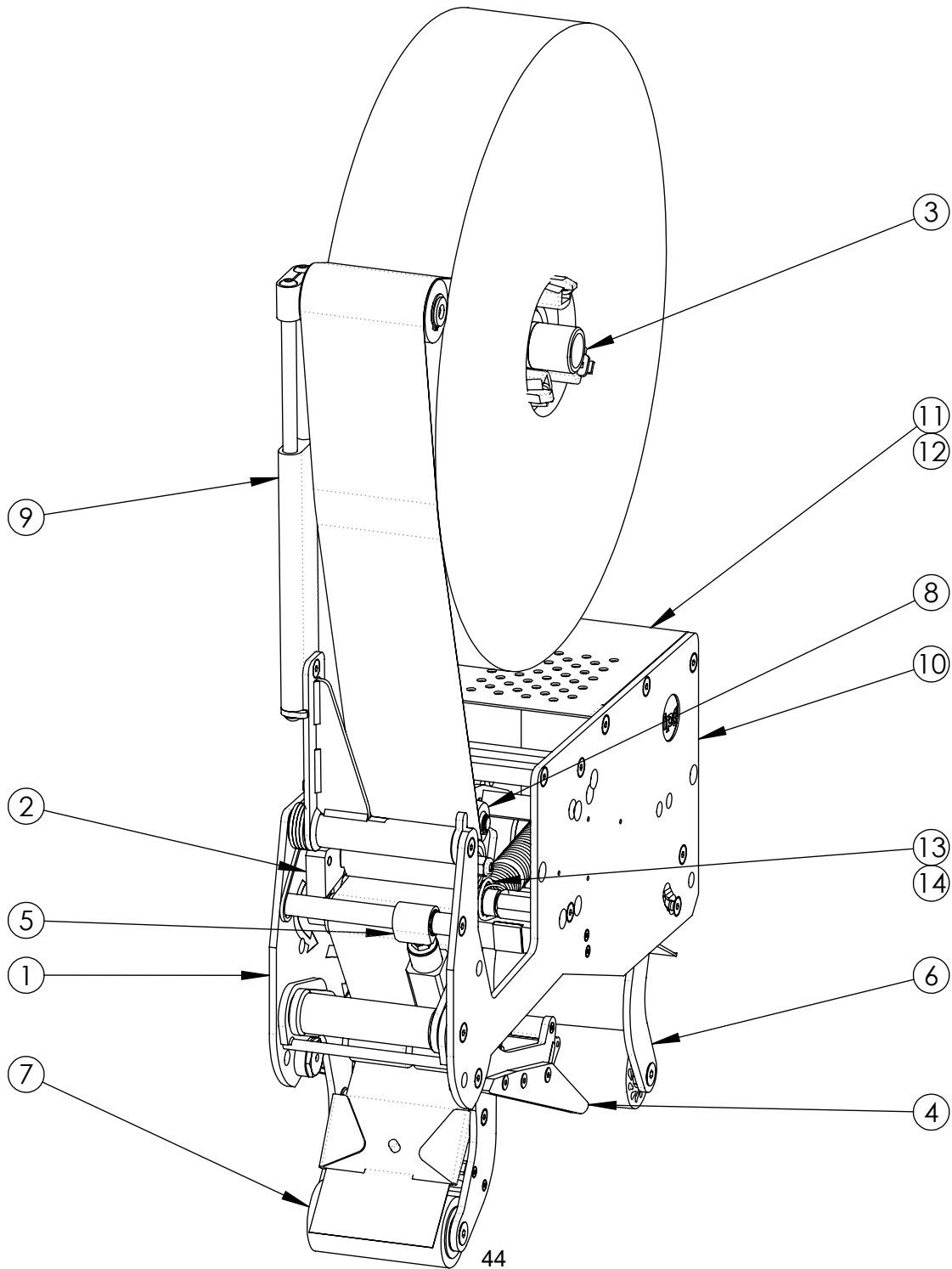
| Item | Action Required | Material | Frequency | | |
|---|---|--|-----------|---------|-----------|
| | | | Weekly | Monthly | Quarterly |
| Blade Guard Oiler Pad | Lubricate | Lightweight oil | X | | |
| Hardware | Re-tighten any loose hardware | | | | X |
| | Replace any missing hardware | | | | X |
| Cutter Blade | Inspect for wear | | X | | |
| | Clean | Solvent Cleaner | X | | |
| Mandrel Assembly | Disassemble & Observe | | | | X |
| Mandrel Friction Washer | Clean | Solvent Cleaner | | | X |
| Mandrel Metal Washer | None | None | | | X |
| Mandrel Shaft | Remove any dust and adhesive build up | Solvent Cleaner | | | X |
| Mandrel Bearing | Check for wear | None | | | X |
| Peel Roller | | | | | X |
| Delrin Roller | Check for free spinning. Disassemble and remove any adhesive build up. | Solvent Cleaner | | | X |
| Pivot Shaft | Check for any restriction | Solvent Cleaner | | | X |
| Peel Roller Spring | Check for total extension when force. | | | | X |
| Plastic Guide Rollers | Check for free spinning. Disassemble and remove any adhesive build up. | Solvent Cleaner | | X | |
| Knurled PTFE Coated Direction Clutch Roller | Back off tension. Check for free spinning. Disassemble and remove any adhesive build up. Oil needle rollers. | Solvent Cleaner | | X | |
| Knurled PTFE Guide Rollers | Rotation should be slightly restricted by spring washer. Disassemble and remove any adhesive build up if excessive restriction is detected. Check one way bearing grease bearing. | Oiled string and Damp Cloth | | X | |
| Front Blue Wipe Down Roller | Rotation should be slightly restricted by spring washer. Disassemble and remove any adhesive build up if excessive restriction is detected. | Solvent Cleaner | | X | |
| Rear Blue Wipe Down Roller | Check for free spinning. Disassemble and remove any adhesive build up. Check swivel bushing. | Solvent Cleaner | | | X |
| Main Spring | Remove and inspect for any wear or weakness. Replace as necessary. | | | X | |
| Knife Spring | Remove and inspect for any wear or weakness. Replace as necessary. | | | | X |
| Tape Shoe Guide Compression Spring | Inspect for finger popping up. Replace as necessary. | | | X | |
| Wipe Down Tab | Inspect for any wear or weakness. Replace as necessary. | | | X | |
| Main Applying And Wipe Down Assembly | Remove <i>Main Spring</i> and check for any restrictions when assembly is in motion | Worn bearings, bent shafts, bent roller arms | | | X |
| Knife Arm Assembly | Remove <i>Knife Spring</i> and check for any restrictions when assembly is in motion | Worn bearings, bent shafts. | | | X |

Refer To Assembly Drawings For Part Numbers Of Replacement Parts If Required

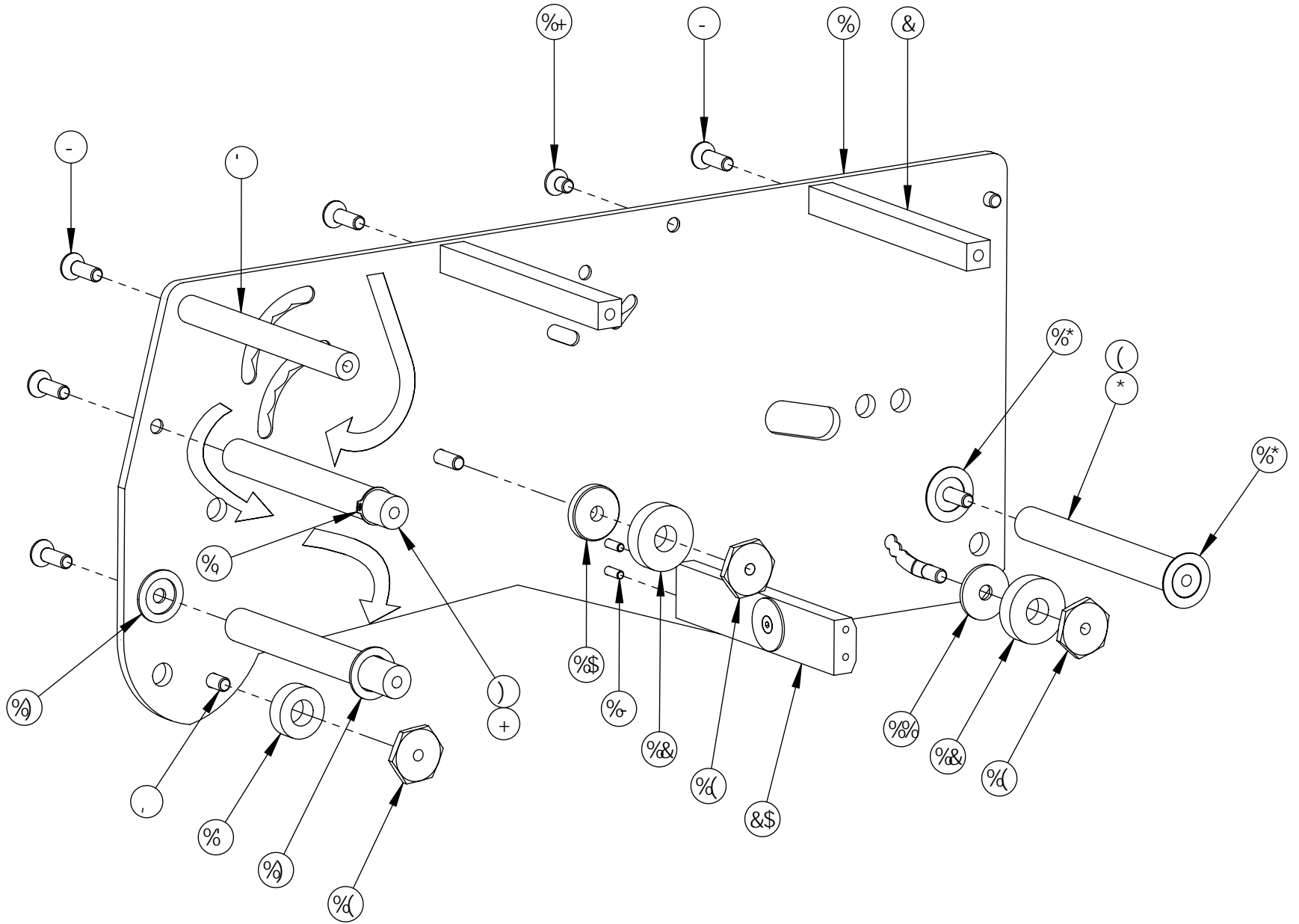
APPENDIX A – ILLUSTRATIONS & PARTS LISTS

| | |
|---------------------------------------|-----------|
| Tape Head Sub Assemblies | 44 |
| Main Frame Assembly | 46 |
| Cover Frame Assembly | 48 |
| Front Arm Assembly..... | 50 |
| Guide Roller..... | 52 |
| Tape Shoe Assembly..... | 54 |
| Front Roller..... | 56 |
| Rear Arm Assembly..... | 58 |
| Link Assembly | 60 |
| Knife Arm Assembly..... | 62 |
| Clutch Assembly..... | 64 |
| Clutch Roller | 66 |
| Mandrel Assembly | 68 |
| Mandrel Arm Sub Assembly..... | 70 |
| Mandrel Hub | 72 |
| Repulsive Pivot Assembly | 74 |
| Peel-Off Assembly | 76 |
| No Tape Sensor (Option)..... | 78 |
| Low Tape Sensor (Option)..... | 80 |

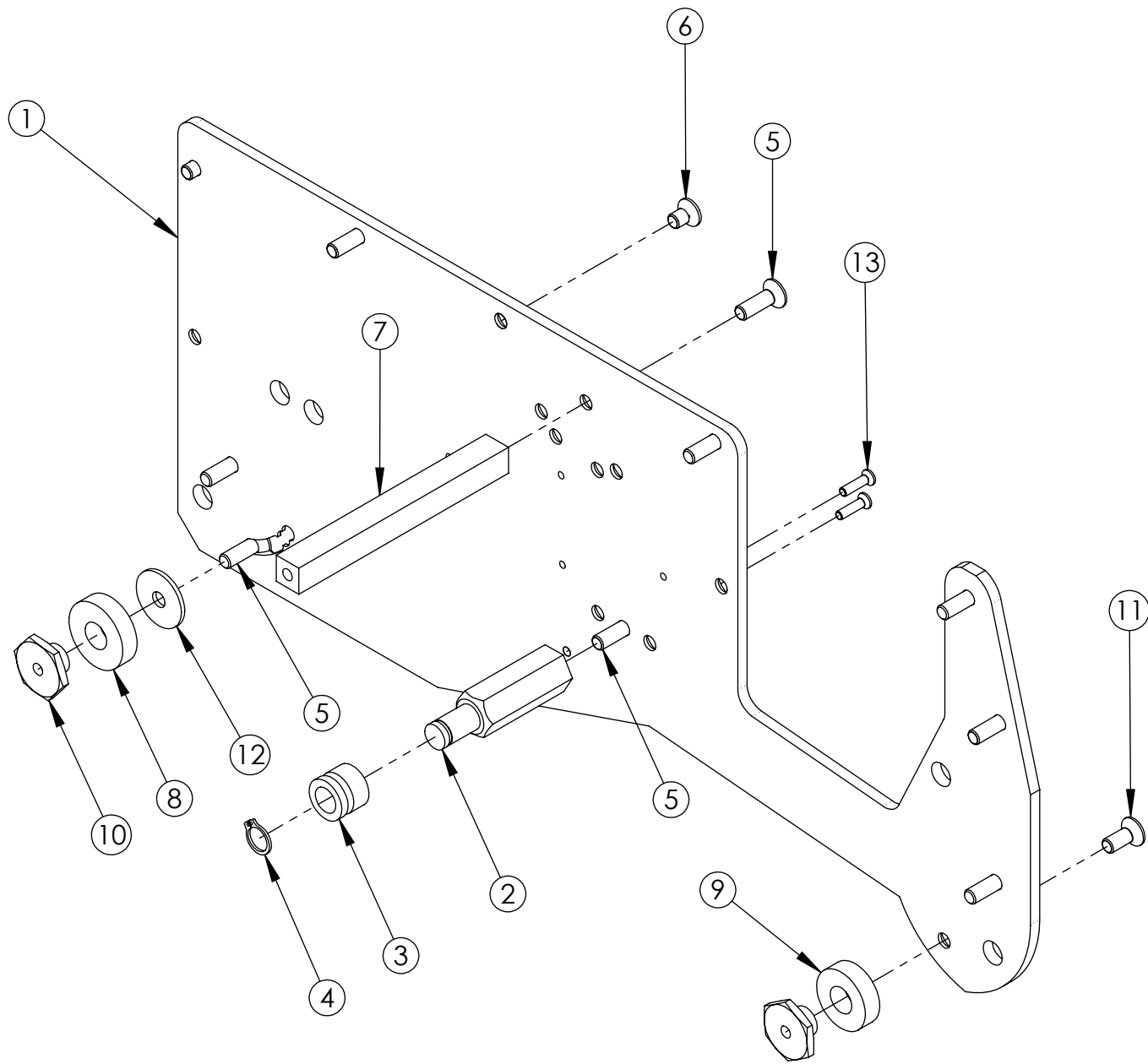
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| ITEM | PART # | DESCRIPTION | UH231 2"/ QTY. | UH431 3"/QTY. |
|------|---------|---------------------------|-------------------|------------------|
| 1 | USH6009 | MAIN FRAME ASS'Y 2" | 1 | - |
| 1 | USH6010 | MAIN FRAME ASS'Y 3" | - | 1 |
| 2 | USH6021 | CLUTCH MIRROR ASS'Y 2" | 1 | - |
| 2 | USH6022 | CLUTCH MIRROR ASS'Y 3" | - | 1 |
| 3 | USH1192 | MANDREL 2" MIRROR ASS'Y | 1 | - |
| 3 | USH1193 | MANDREL 3" MIRROR ASS'Y | - | 1 |
| 4 | USH6019 | KNIFE ARM MIRROR ASS'Y 2" | 1 | - |
| 4 | USH6020 | KNIFE ARM MIRROR ASS'Y | - | 1 |
| 5 | USH1129 | REPULSIVE PIVOT ASS'Y SS | 1 | 1 |
| 6 | USH6015 | REAR ARM MIRROR ASS'Y | 1 | - |
| 6 | USH6016 | REAR ARM MIRROR ASS'Y | - | 1 |
| 7 | USH6013 | FRONT ARM MIRROR 2" ASS'Y | 1 | - |
| 7 | USH6014 | FRONT ARM MIRROR 3" ASS'Y | - | 1 |
| 8 | USH4133 | LINK MIRROR ASS'Y | 1 | 1 |
| 9 | USH1194 | PEEL-OFF 2" MIRROR ASS'Y | 1 | - |
| 9 | USH1195 | PEEL-OFF 3" MIRROR ASS'Y | - | 1 |
| 10 | USH6011 | COVER FRAME 2" MIR. ASS'Y | 1 | - |
| 10 | USH6012 | COVER FRAME 3" MIR. ASS'Y | - | 1 |
| 11 | UPH1333 | SAFETY COVER MIRROR | - | 1 |
| 12 | UPH1425 | SAFETY COVER MIRROR | 1 | - |
| 13 | UPH1090 | MAIN SPRING | 1 | 1 |
| 14 | UPH0910 | EXTENSION SPRING | 1 | 1 |



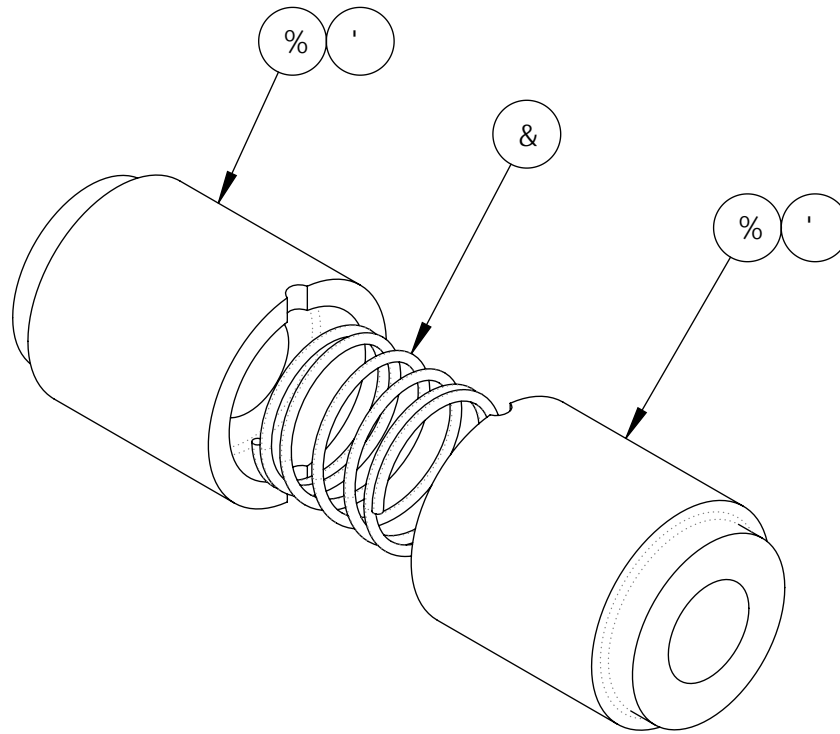
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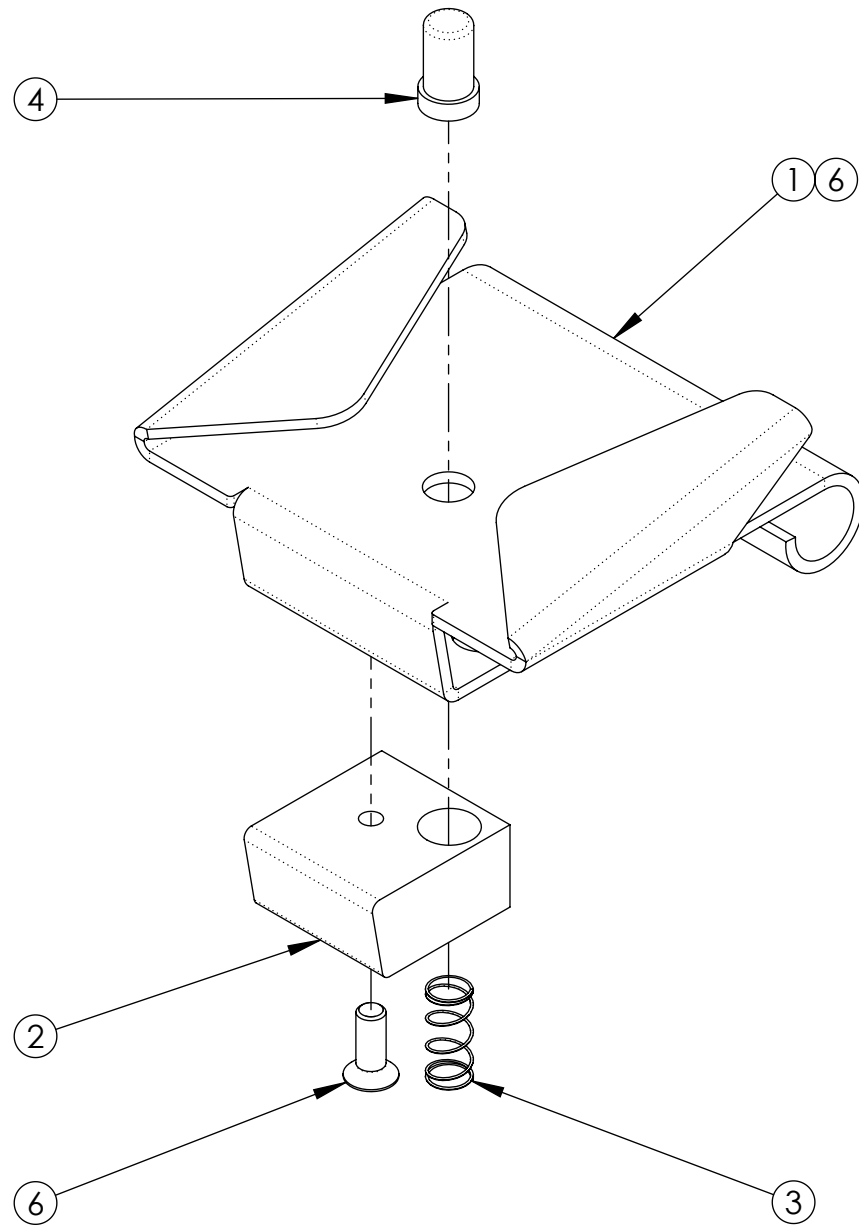
| ITEM | PART # | DESCRIPTION | USH6011 2"/ QTY. | USH6012 3"/ QTY. |
|------|---------|-----------------------------|---------------------|---------------------|
| 1 | UPH1366 | COVER FRAME MIRROR | 1 | - |
| 2 | UPH3909 | RETAINER, MAIN SPRING | - | 1 |
| 2 | UPH3908 | RETAINER, MAIN SPRING | 1 | - |
| 3 | UPH0863 | MAIN SPRING RETAINER SLEEVE | 1 | 1 |
| 4 | UF3556 | RETAINING RING 9 mm SS | 1 | 1 |
| 5 | UF3277 | SS FHCS M5 - 0.8 x 16 mm | 9 | 9 |
| 6 | UF7012 | SS FHCS M5-0.8 x 8 mm | 2 | 2 |
| 7 | UPH1368 | SPACER BAR | - | 1 |
| 7 | UPH4041 | SPACER BAR | 1 | - |
| 8 | UPH133 | URETHANE STOP | 1 | 1 |
| 9 | UPH1417 | URETHANE STOP | 1 | 1 |
| 10 | UPH1017 | SS STOP RETAINER | 2 | 2 |
| 11 | UF3282 | SS FHCS M5-0.8 x 12 mm | 1 | 1 |
| 12 | UPH4886 | SPACER WASHER | 1 | 1 |
| 13 | UF9170 | SS FHCS M3-0.5 x 12 | 2 | 2 |

| #9A | D5FH, | 89G7 F ðH€ B | I G< * \$% ' & "#E HM | I G< * \$%(' "#E HM |
|-----|------------|---------------------------------|-----------------------|----------------------|
| % | 5<\$&%{ | : FC BH5FA 'A #FCF'k '6l G<B; | % | ! |
| % | 5<\$&%} | : FC BH5FA 'A #FCF'k '6l G<B; | ! | % |
| & | D<%{ ' * | @A #6@C 7? | % | ! |
| & | D<%{ ' + | @A #6@C 7? | ! | % |
| ' | D<%{ +' | G@9J 9'H 6B; | % | % |
| (| D< (, - \$ | 7 C A DF9GG€ B 'GDF B; | % | % |
|) | : * (&) | GG: <7 GA ' ! \$") ' " \$a a | % | % |
| * | D<%{ (+ | G<5: H, 'a a '8]U" | % | ! |
| * | D<%{ (* | G<5: H, 'a a '8]U" | ! | % |
| + | 5<\$&%* | H5D9'G<C 9' &"A #FC F '5 GGfM | % | ! |
| + | 5<\$&%+ | H5D9'G<C 9' "A #FC F '5 GGfM | ! | % |
| , | D<%{ (& | G<5: H%\$a a '8]U" | % | ! |
| , | D<%{ (% | G<5: H%\$a a '8]U" | ! | % |
| - | 5<\$&&& | : FC BHFC @9F '5 GGfM(, | % | ! |
| - | 5<\$&&' | : FC BHFC @9F '5 GGfM+& | ! | % |
| %\$ | :) * \$, | GD97 -5@K 5G<9F | & | & |
| %% | : () %% | GG'F9H'F B; '9LH", a a | % | % |
| %& | : ' & * % | GG: <7 GA * ! % '%* 'a a | & | & |
| % | : ' & , & | GG: <7 GA) ! \$", ' '%&'a a | & | & |
| %{ | : ' + * % | GG: <7 GA (! \$" + ' '%&a a | & | & |
| %} | : - % + \$ | GG: <7 GA ' ! \$") ' '%& | & | & |
| %* | 5<\$% & | ; -89FC @9F '5 GGfM&" | % | ! |
| %* | 5<\$% ' | ; -89FC @9F '5 GGfM' " | ! | % |

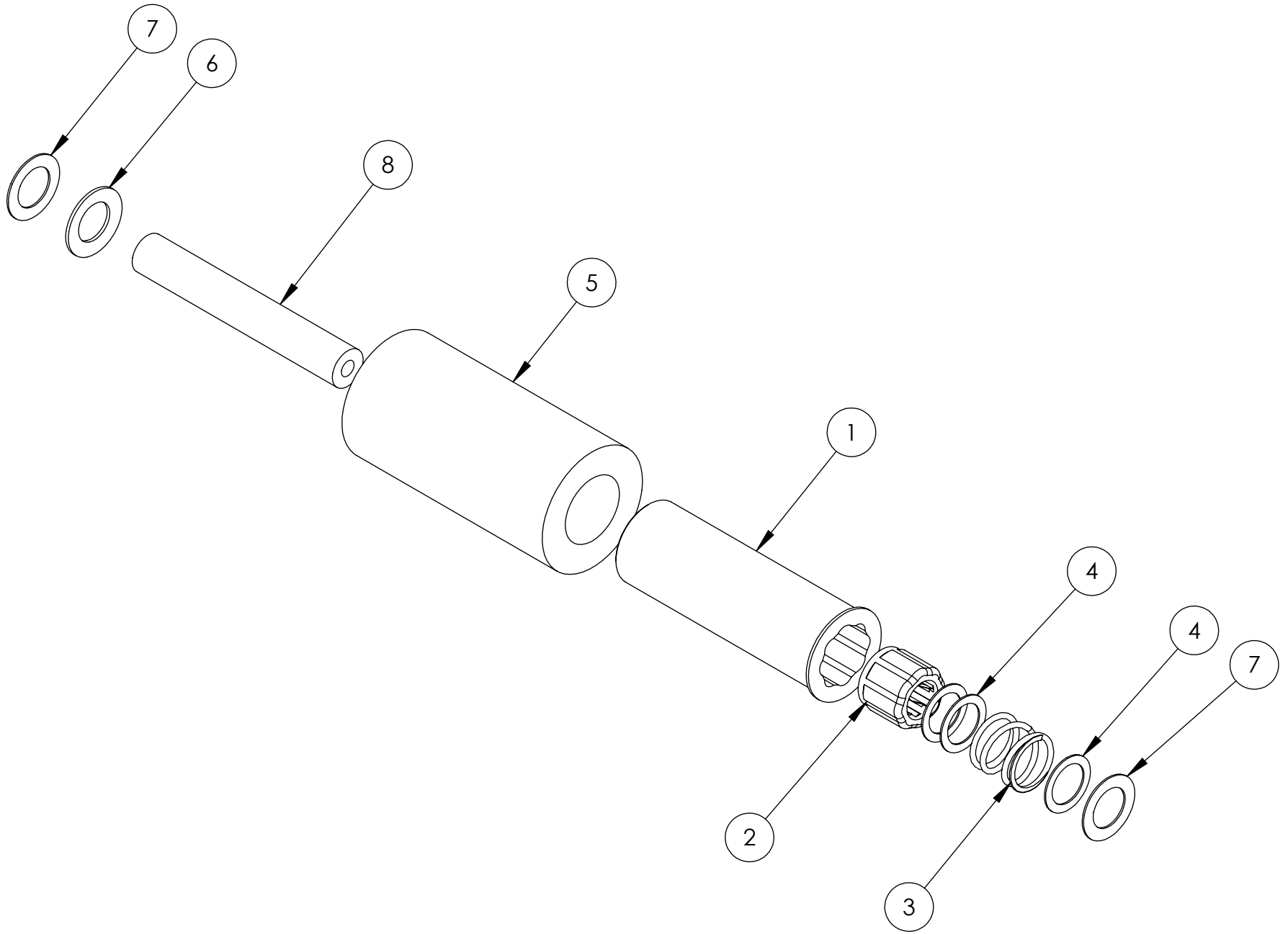
1 5 < \$ % & # 1 5 < \$ % '



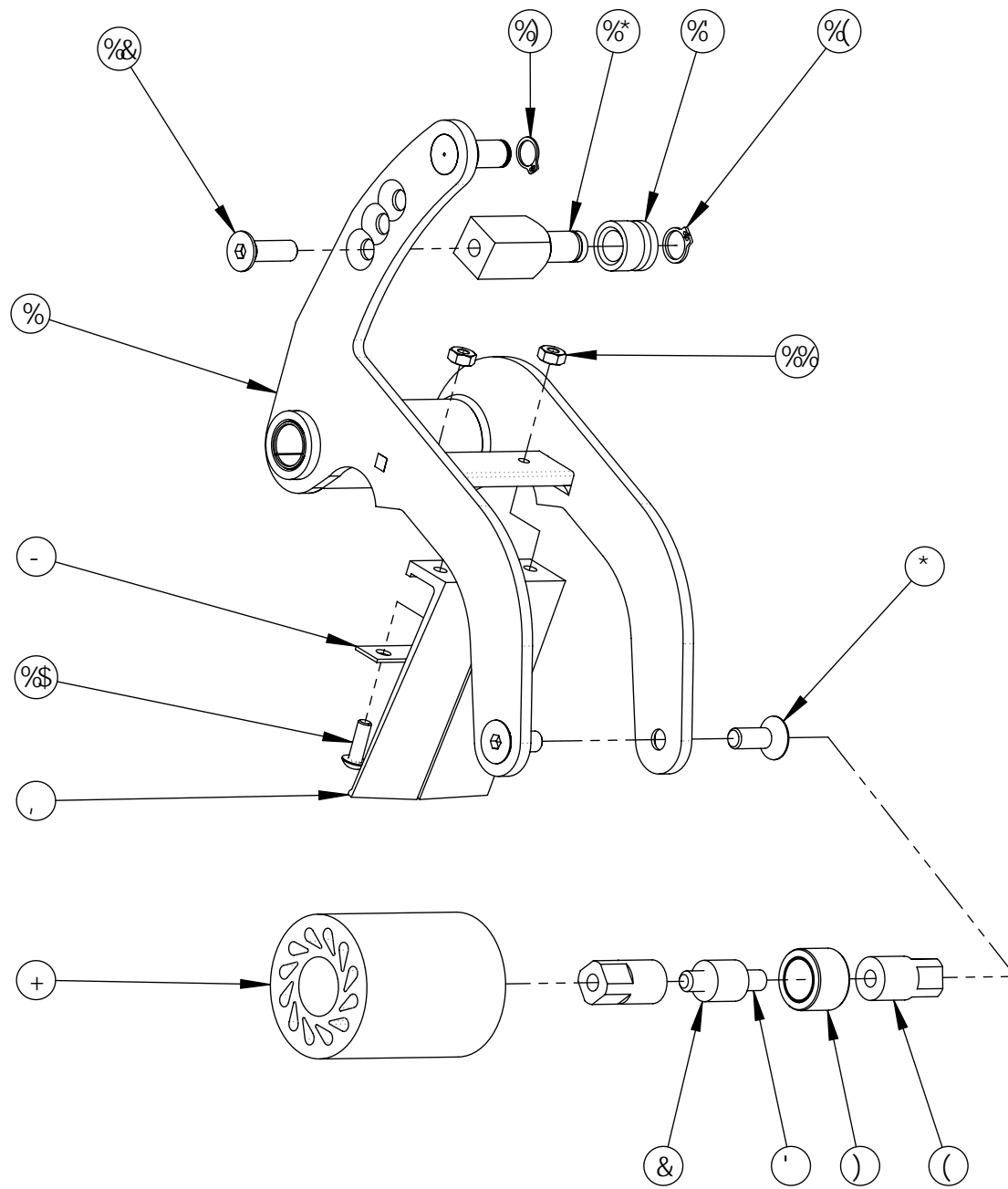
| | | | | |
|-----|------------|------------------------|-----------------------|---------------------------|
| #9A | D5FH, | 89G7 F DHC B | ! 5<\$% &' &"#E HM | ! 5<\$% ' ' ' ' "#E HM |
| % | I D< (- &) | ; I 89'FC @@9F | ! | & |
| & | I D< (- &* | 7 C A DF9GG€ B 'GDF B; | % | % |
| ' | I D< (- &(| ; I 89'FC @@9F | & | ! |



| ITEM | PART # | DESCRIPTION | UAH0216 2"/QTY. | UAH0217 3"/QTY. |
|------|---------|------------------------|--------------------|--------------------|
| 1 | UPH8147 | TAPE SHOE 3" MIRROR | - | 1 |
| 2 | UPH8151 | STIFFENER BLOCK MIRROR | 1 | 1 |
| 3 | UPH7010 | SS COMPRESSION SPRING | 1 | 1 |
| 4 | UPH1510 | FINGER | 1 | 1 |
| 5 | UPH8148 | TAPE SHOE 2" MIRROR | 1 | - |
| 6 | UF6350 | SS FHCS M3-0.5 x 8 mm | 1 | 1 |

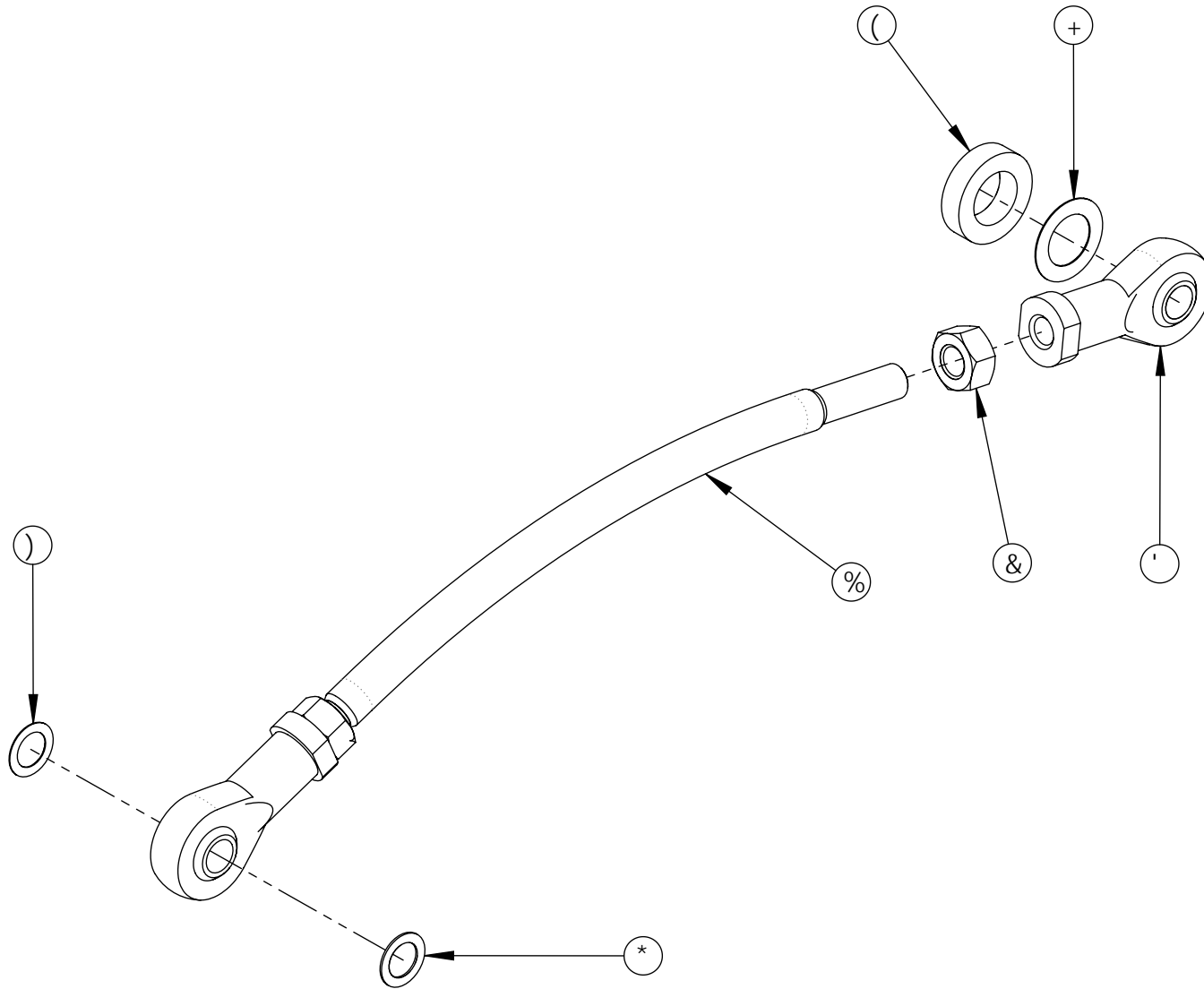


| ITEM | PART # | DESCRIPTION | UAH0184 2"QTY. | UAH0185 3"QTY. | UAH0222 2"QTY. | UAH0223 3"QTY. |
|------|---------|---------------------------------|-------------------|-------------------|-------------------|-------------------|
| 1 | UPH1439 | ROLLER CORE | 1 | - | 1 | - |
| 1 | UPH1440 | ROLLER CORE | - | 1 | - | 1 |
| 2 | UPH4857 | ONE WAY BEARING, STAINLESS | 1 | 1 | - | - |
| 3 | UPH8143 | TORSION SPRING | - | - | 1 | 1 |
| 4 | UF6402 | F.W. PTFE, 12.5 x 17.5 x 0.5 mm | - | - | 3 | 3 |
| 5 | UPH1448 | FRONT ROLLER | 1 | - | 1 | - |
| 5 | UPH1449 | FRONT ROLLER | - | 1 | - | 1 |
| 6 | UF4401 | DISC SPRING 12.2 id - 21 od | 1 | 1 | 1 | 1 |
| 7 | UF6335 | F.W. PTFE, 12.5 x 20 x 0.55 mm | 2 | 2 | 2 | 2 |
| 8 | UPH1444 | SHAFT 12mm Dia. | 1 | - | 1 | - |
| 8 | UPH1443 | SHAFT 12mm Dia. | - | 1 | - | 1 |

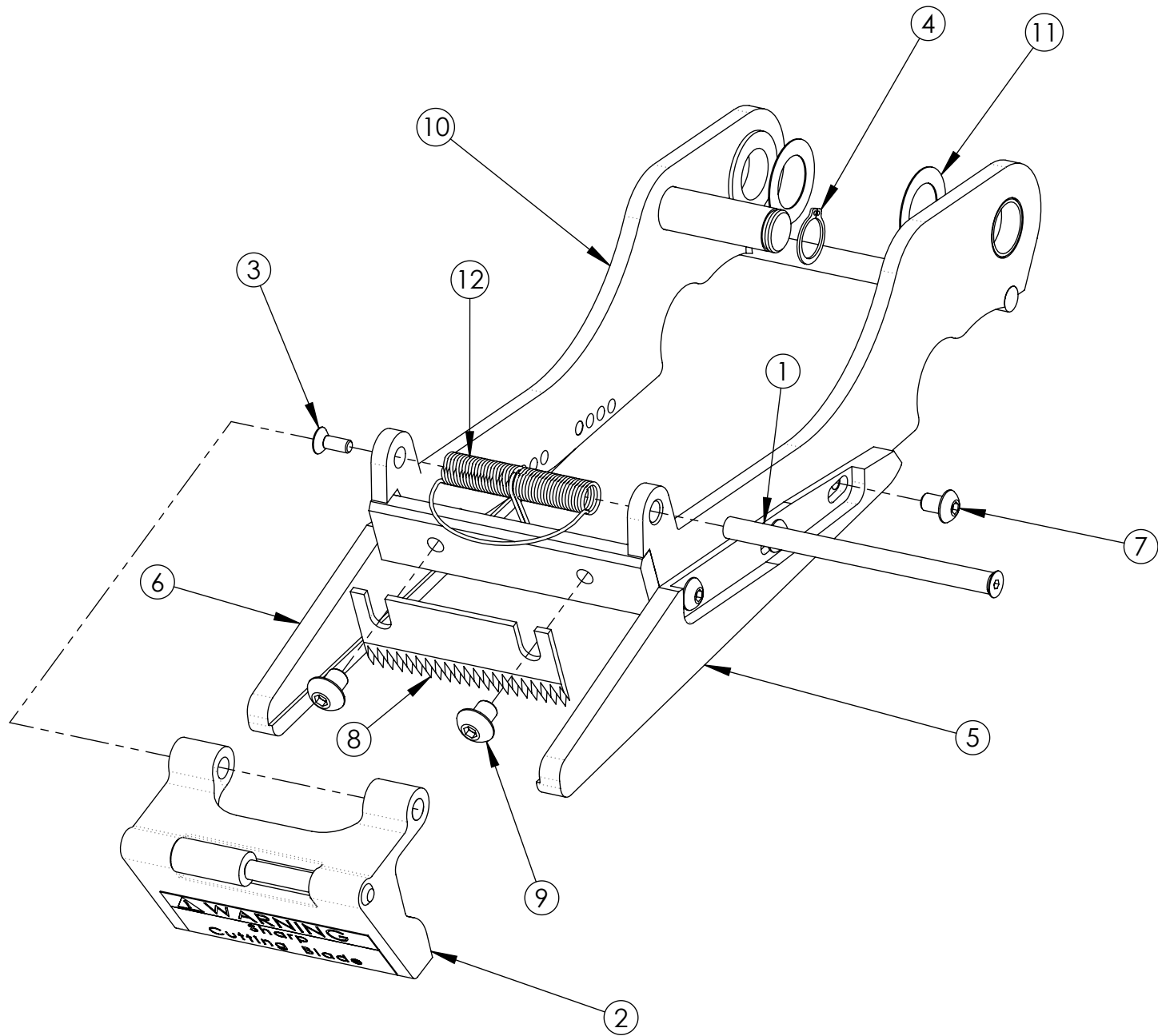


| #DA | D5FH | 89G7 F DHC B | I G< *\$%) &"#E HM | I G< *\$%* ' "#E HM |
|------|-------------|-----------------------------------|-----------------------|------------------------|
| % | I 5 < \$&% | F 95 F '5FA 'A #FC F 'k '6I G< B; | % | ! |
| % | I 5 < \$&% | F 95 F '5FA 'A #FC F 'k '6I G< B; | ! | % |
| & | I D<% * & | G<5: H%&a a '8JU" | % | % |
| ' | I : ' +- % | GG'GGG'A *!%"\$'I " \$ | % | % |
| (| I D<%&-) | G<5: HZF95F '5FA | ! | & |
| (| I D<%&- (| G<5: HZF95F '5FA | & | ! |
|) | I D< (*+(| DJ C HB; '695F B; '%&a a | % | % |
| * | I : ' &*% | GG': <7 GA *!%I '%* 'a a | & | & |
| + | I D<(, \$' | F 95 F 'K D9'FC @9F | % | ! |
| + | I D<(, \$(| F 95 F 'K D9'FC @9F | ! | % |
| , | I D<(, -(| 8I 5 @B 89D9B 89B HK D9F 'H5 6G | % | ! |
| , | I D<(, -) | 8I 5 @B 89D9B 89B HK D9F 'H5 6G | ! | % |
| - | I D<(, -* | F97 H5B; I @5F 'K 5G<9F | % | ! |
| - | I D<(, -+ | F97 H5B; I @5F 'K 5G<9F | ! | % |
| \$\$ | I : (' &) | GG'6<7 GA (!\$"+'I '%&a a | & | & |
| %% | I : +\$\$* | GG' <9L 'BI HA (!\$"+ | & | & |
| %& | I : ' &+' | GG': <7 GA *!%I '&\$ | % | % |
| % | I D<\$, '*' | A 5 B 'GDF B; 'F9H5 B9F 'G@99J 9 | % | % |
| %(| I : ')) * | F9H5 B B; 'F B; '- 'a a 'GG | % | % |
| %) | I : ()%% | GGF9H'F B; '9LH', a a | % | % |
| %* | I D<- &(, | F9H5 B9F | % | ! |
| %* | I D<- &(- | F9H5 B9F | ! | % |

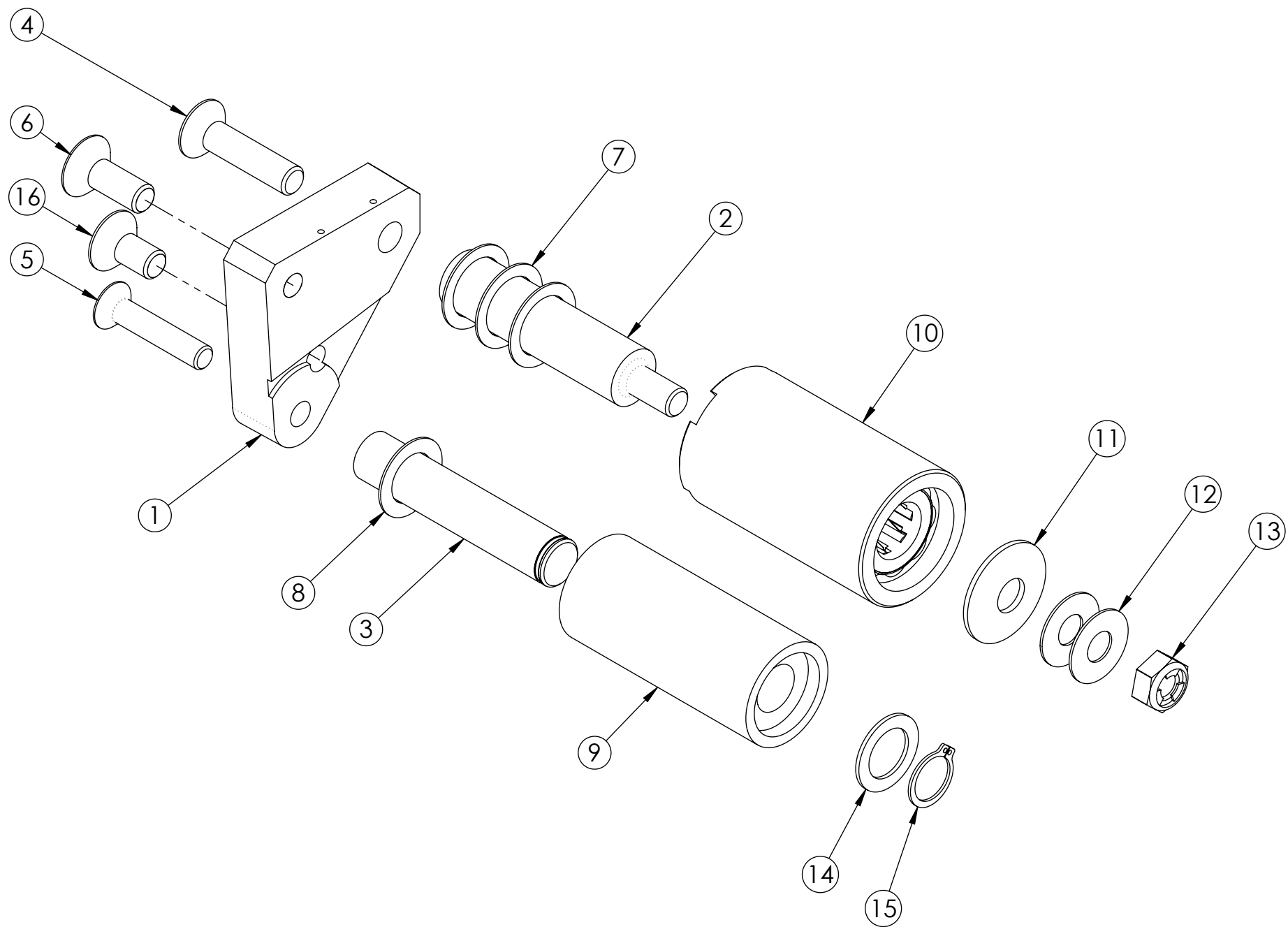
I G<(% '



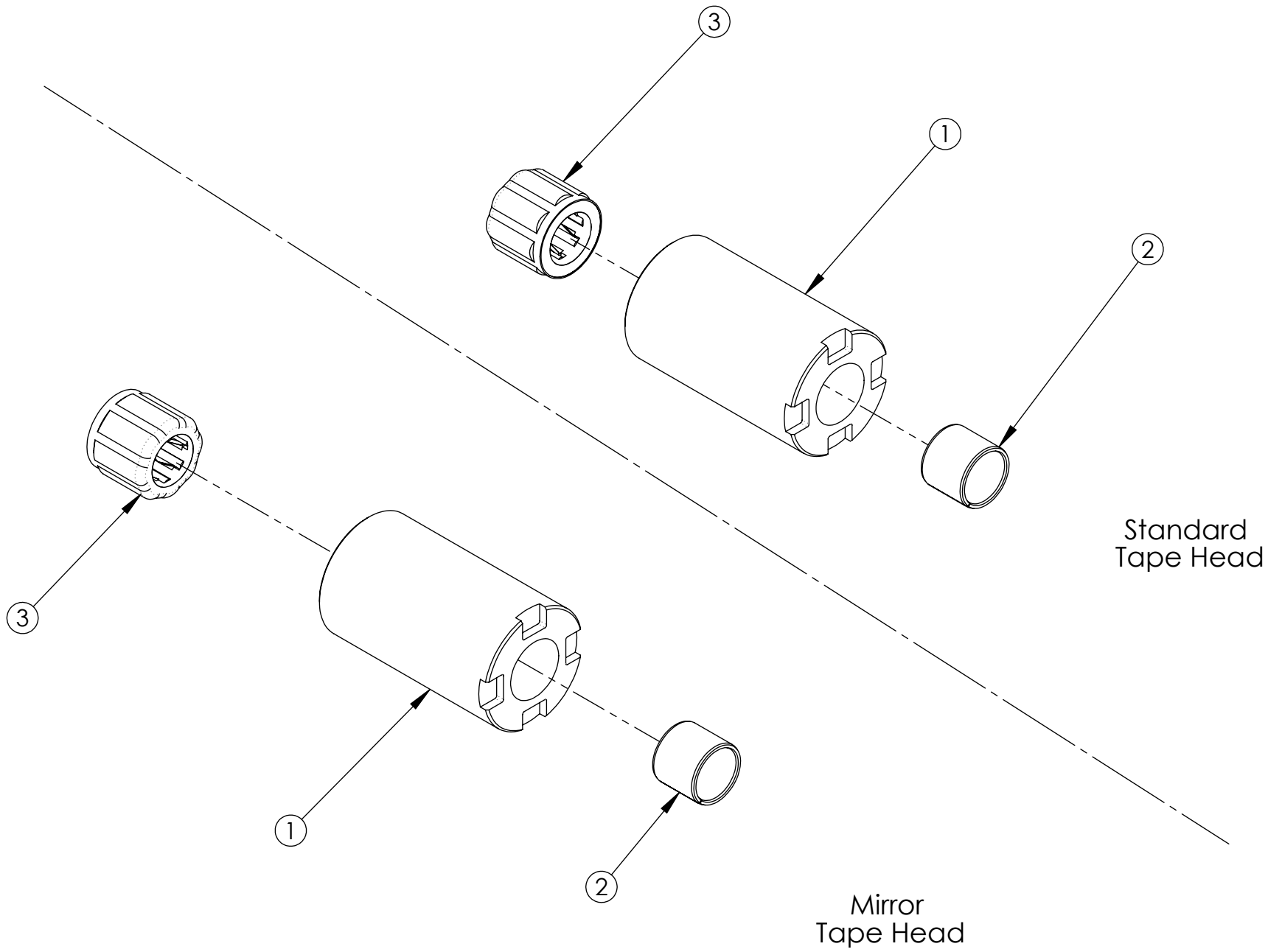
| | | | |
|-----|-------------|--|--------------------|
| #9A | D5FH, | 89G7 F DHCB | I G< (% ' ' ' E HM |
| % | I D< (, \$& | @B? FC 8 | % |
| & | I : ' + ') | GG<BF A , !%&) | & |
| ' | I D< (, , - | FC 8 '9B8 '695F B; ž, a a | & |
| (| I D< (, \$% | FC 8 '9MØ'GI DDC FH | % |
|) | I :) *%(| K 5G<9F 'DH 9% ' ; ') ' '\$"&) | % |
| * | I :) *\$, | GD97 -5@K 5G<9F | % |
| + | I : *' ' + | : "K " 'DH 9ž%&)" ' ' &\$' '\$"&- 'a a | % |



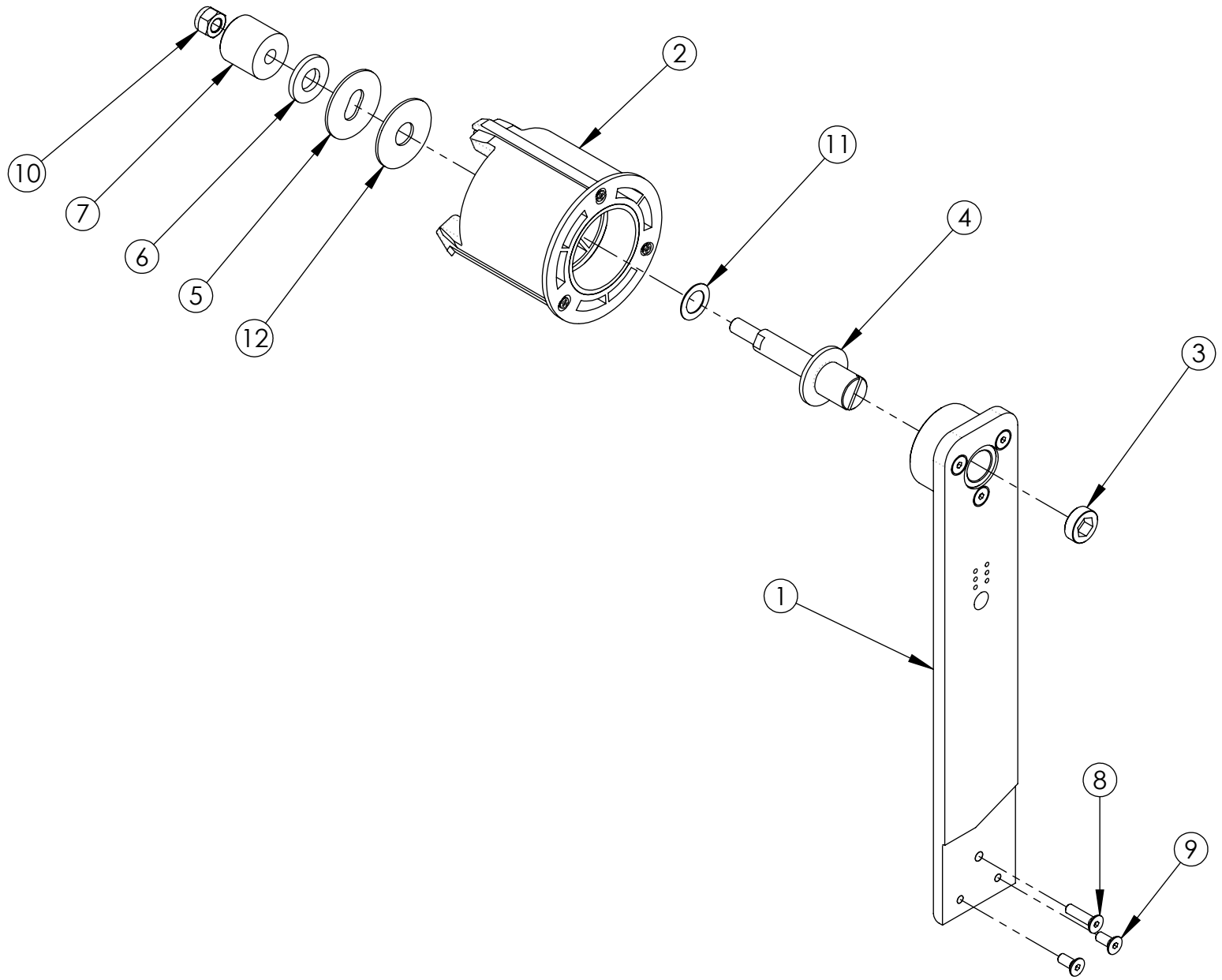
| ITEM | PART # | DESCRIPTION | USH6019 2"/QTY. | USH6020 3"/QTY. |
|------|---------|-----------------------------------|--------------------|--------------------|
| 1 | UPH9175 | SHAFT, BLADE GUARD | 1 | - |
| 1 | UPH9178 | SHAFT, BLADE GUARD | - | 1 |
| 2 | UAH0206 | KNIFE GUARD 2" | 1 | - |
| 2 | UAH0207 | KNIFE GUARD 3" | - | 1 |
| 3 | UF6350 | SS FHCS M3-0.5 x 8 mm | 2 | 2 |
| 4 | UF3557 | SS RETAINING RING FOR 10 mm SHAFT | 1 | 1 |
| 5 | UPH4930 | KNIFE AEM EXTENSION LEFT | 1 | 1 |
| 6 | UPH4931 | KNIFE ARM EXTENSION RIGHT | 1 | 1 |
| 7 | UF7008 | SS BHCS M4-0.7 x 6 | 6 | 6 |
| 8 | UPH0239 | CUT-OFF BLADE 48 | 1 | - |
| 8 | UPH0240 | CUT-OFF BLADE 75 | - | 1 |
| 9 | UF3276 | SS BHCS M5-0.8 x 6 | 2 | 2 |
| 10 | UAH0196 | KNIFE ARM MIRROR 2"W BUSHINGS | 1 | - |
| 10 | UAH0197 | KNIFE ARM MIRROR 3" W BUSHINGS | - | 1 |
| 11 | UF6337 | F.W. PTFE, 12.5 x 20 x 0.29 mm | 0-2 | 0-2 |
| 12 | UPH7009 | TORSION SPRING | 1 | 1 |



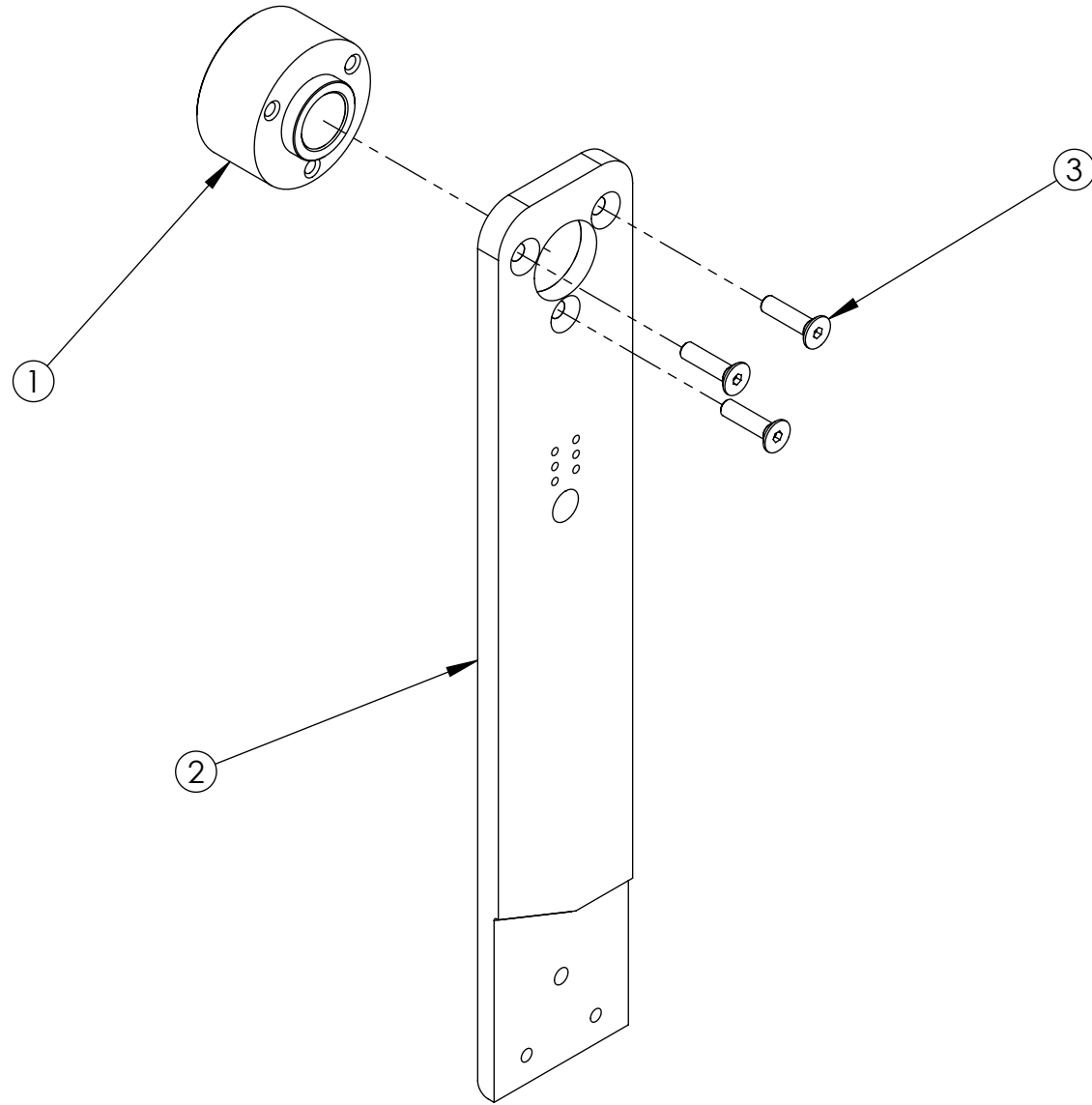
| ITEM | PART # | DESCRIPTION | USH6021 2"/QTY. | USH6022 3"/QTY. |
|------|---------|-----------------------------------|--------------------|--------------------|
| 1 | UPH8149 | CLUTCH BRACKET MIRROR | 1 | 1 |
| 2 | UPH7077 | CLUTCH SHAFT | 1 | - |
| 2 | UPH7078 | CLUTCH SHAFT | - | 1 |
| 3 | UPH1455 | SHAFT, 10mm | 1 | - |
| 3 | UPH1454 | SHAFT, 10mm | - | 1 |
| 4 | UF3275 | SS FHCS M6 - 1 x 25mm | 1 | 1 |
| 5 | UF5412 | SS FHCS M5-0.8 x 25 | 1 | 1 |
| 6 | UF3261 | SS FHCS M6 -1 x 16 mm | 1 | 1 |
| 7 | UF6402 | F.W. PTFE, 12.5 x 17.5 x 0.5 mm | 3 | 3 |
| 8 | UF6389 | NYLON WASHER METRIC | 1 | 1 |
| 9 | UPH1453 | GUIDE ROLLER | 1 | - |
| 9 | UPH1452 | GUIDE ROLLER | - | 1 |
| 10 | UAH0226 | CLUTCH ROLLER | 1 | - |
| 10 | UAH0227 | CLUTCH ROLLER | - | 1 |
| 11 | UPH8230 | DISC SPRING | 1 | 1 |
| 12 | UF3401 | NYLON WASHER 15.3 x 6.5 x 0.55 | 2 | 2 |
| 13 | UF3404 | M6-1.0 LOCK U NUT | 1 | 1 |
| 14 | UF6388 | NYLON F.W. 10.5 x 16 x 0.85 | 1 | 1 |
| 15 | UF3557 | SS RETAINING RING FOR 10 mm SHAFT | 1 | 1 |
| 16 | UF6353 | SS FHCS M6-1 x 12 mm | 1 | 1 |



| ITEM | PART # | DESCRIPTION | UAH0212 2" /QTY. | UAH0213 3"/QTY. | UAH0226 2"mir./QTY. | UAH0227 3"mir./QTY. |
|------|---------|----------------------------|---------------------|--------------------|------------------------|------------------------|
| 1 | UPH8139 | CLUTCH ROLLER | 1 | - | 1 | - |
| 1 | UPH8140 | CLUTCH ROLLER | - | 1 | - | 1 |
| 2 | UPH1034 | BEARING 12 x 14 x 12 LG SS | 1 | 1 | 1 | 1 |
| 3 | UPH4857 | ONE WAY BEARING, STAINLESS | 1 | 1 | 1 | 1 |

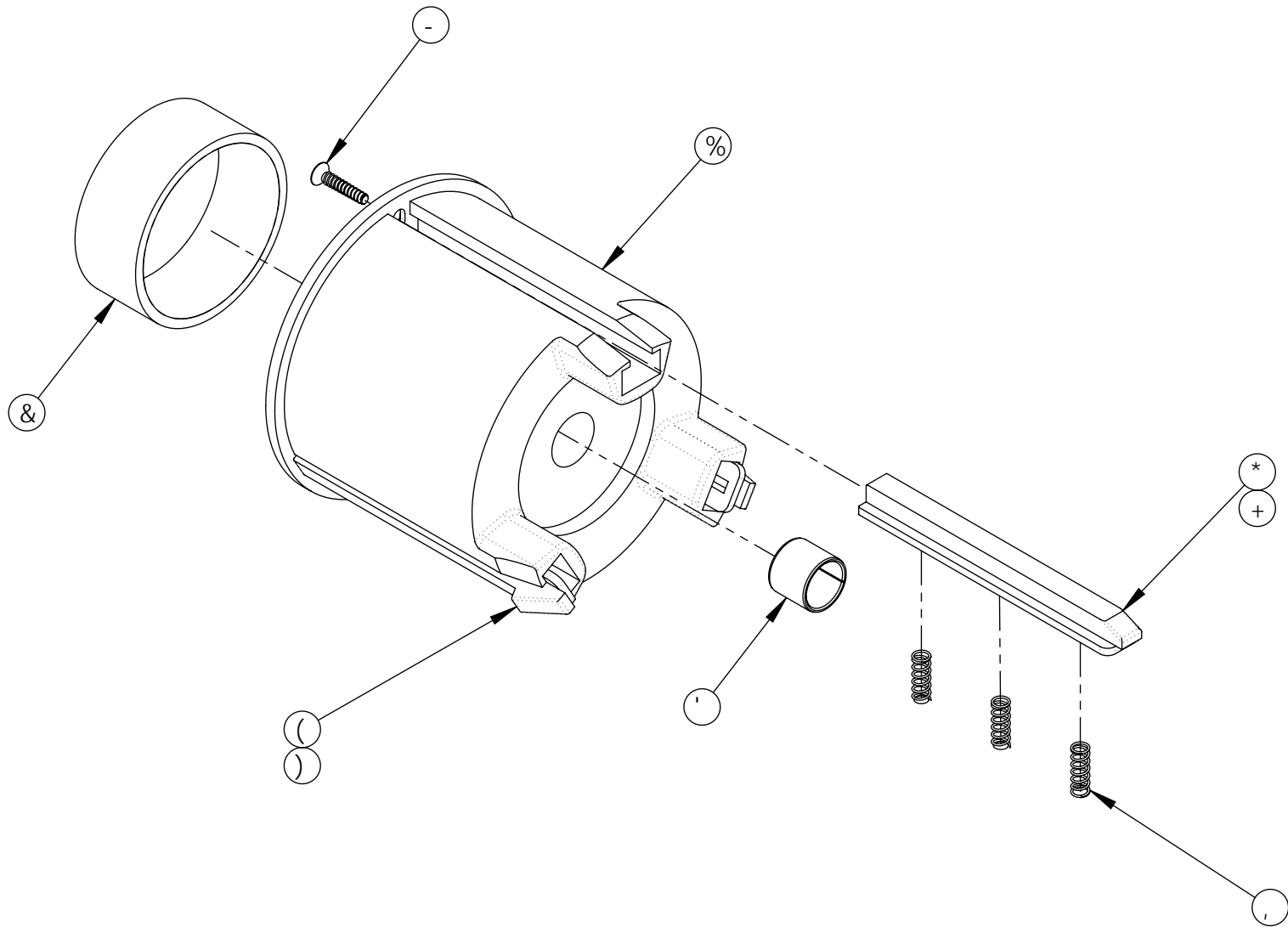


| ITEM | PART # | DESCRIPTION | USH1126 2"/QTY. | USH1127 3"/QTY. | USH1192 2" Mir./QTY. | USH1193 3" Mir./QTY. |
|------|---------|------------------------------------|--------------------|--------------------|-------------------------|-------------------------|
| 1 | UAH0224 | MANDREL ARM SUB ASS'Y | 1 | 1 | - | - |
| 1 | UAH0225 | MANDREL ARM SUB ASS'Y MIRROR | - | - | 1 | 1 |
| 2 | UAH0178 | MANDREL ASS'Y 2" | 1 | - | 1 | - |
| 2 | UAH0179 | MANDREL ASS'Y 3" | - | 1 | - | 1 |
| 3 | UPH7004 | SS HEX SOCKET PLUG | 1 | 1 | 1 | 1 |
| 4 | UPH7687 | SHAFT, MANDREL | 1 | - | 1 | - |
| 4 | UPH7688 | SHAFT, MANDREL | - | 1 | - | 1 |
| 5 | UPH1006 | SS MANDREL FRICTION WASHER | 1 | 1 | 1 | 1 |
| 6 | UPH7689 | NYLON SPACER | 1 | 1 | 1 | 1 |
| 7 | UPH4800 | ADJUSTMENT SLEEVE | 1 | 1 | 1 | 1 |
| 8 | UF5904 | SS FHCS M5-0.8 x 20mm | 1 | 1 | 1 | 1 |
| 9 | UF3282 | SS FHCS M5-0.8 x 12 mm | 2 | 2 | 2 | 2 |
| 10 | UF4512 | SS M8-1.0 NYLON LOCK NUT | 1 | 1 | 1 | 1 |
| 11 | UF6335 | F.W. PTFE, 12.5 x 20 x 0.55 mm | 1 | 1 | 1 | 1 |
| 12 | UF7028 | NYLON WASHER 1-1/2" x 1/2" x 1/16" | 1 | 1 | 1 | 1 |

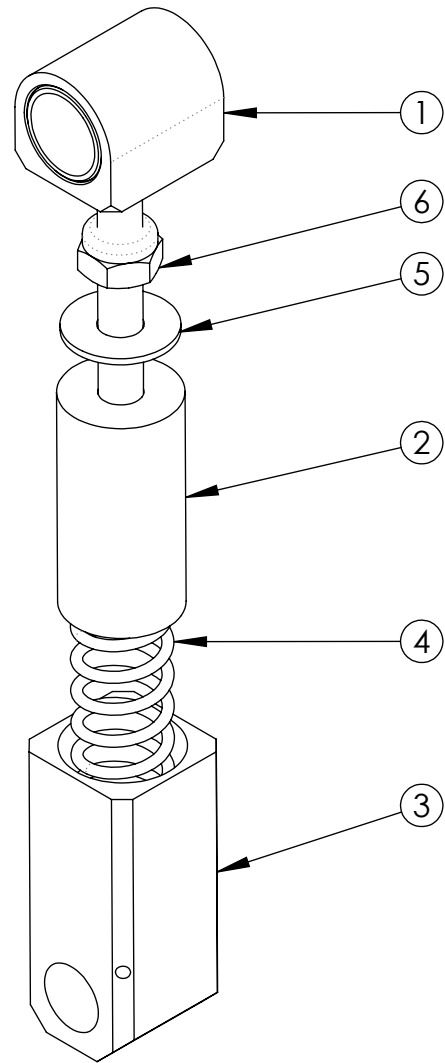


| ITEM | PART # | DESCRIPTION | UAH0224/ QTY. | UAH0225/ Mir./ QTY. |
|------|---------|-----------------------|------------------|------------------------|
| 1 | UPH1459 | MANDREL HUB | 1 | 1 |
| 2 | UPH4808 | MANDREL ARM | 1 | - |
| 3 | UF5904 | SS FHCS M5-0.8 x 20mm | 3 | 3 |
| 4 | UPH8150 | MANDREL ARM MIRROR | - | 1 |

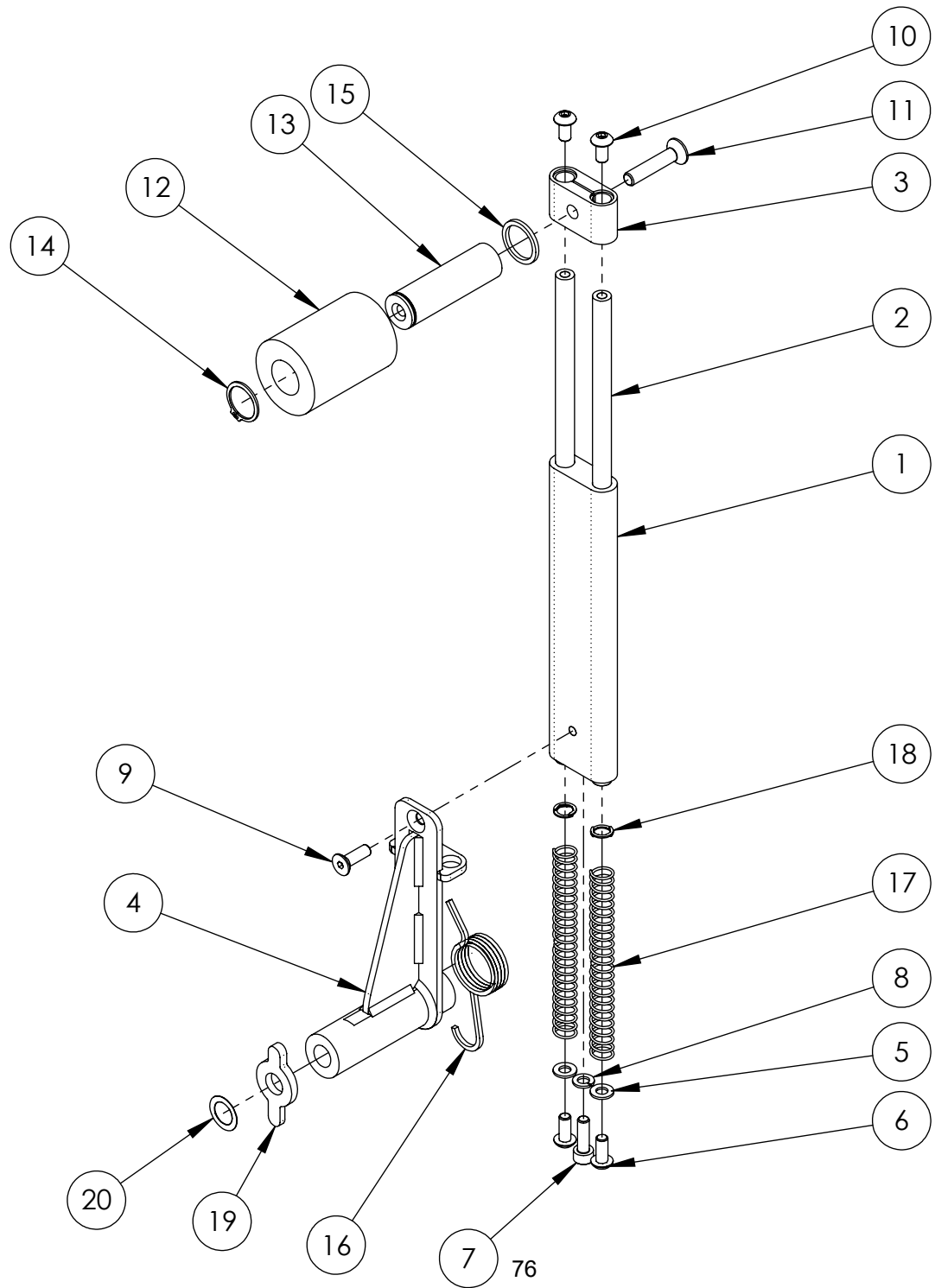
1 5 < \$%+, #1 5 < \$%+-



| #9A | D5FH, | 8 9G7 F ĐHC B | l 5 < \$%+, ' & '#E HM | l 5 < \$%+- ' '#E HM |
|-----|---------------|-------------------------------------|------------------------|----------------------|
| % | l D < % ,) | A 5B8F9@ | % | ! |
| % | l D < % , * | A 5B8F9@ | ! | % |
| & | l D < ' +* + | 695F Đ; ' () l ' & \$ | % | % |
| ' | l D < \$- \$+ | 695F Đ; '%&l '%(l '%&'@ " | % | % |
| (| l D < % , (| GDF 5; ž < C C ? 98 | ! | % |
|) | l D < % , ' | GDF 5; ž < C C ? 98 | % | ! |
| * | l D < % - ' | GDF 5; | ! | & |
| + | l D < % - & | GDF 5; | & | ! |
| , | l D < %(*, | 7 C A DF 9GG-€ B 'GDF Đ; | * | - |
| - | l : ' , & \$ | GG'A ' l ' % ' G9@ ' H5 DD Đ; ' : < | ' | ' |

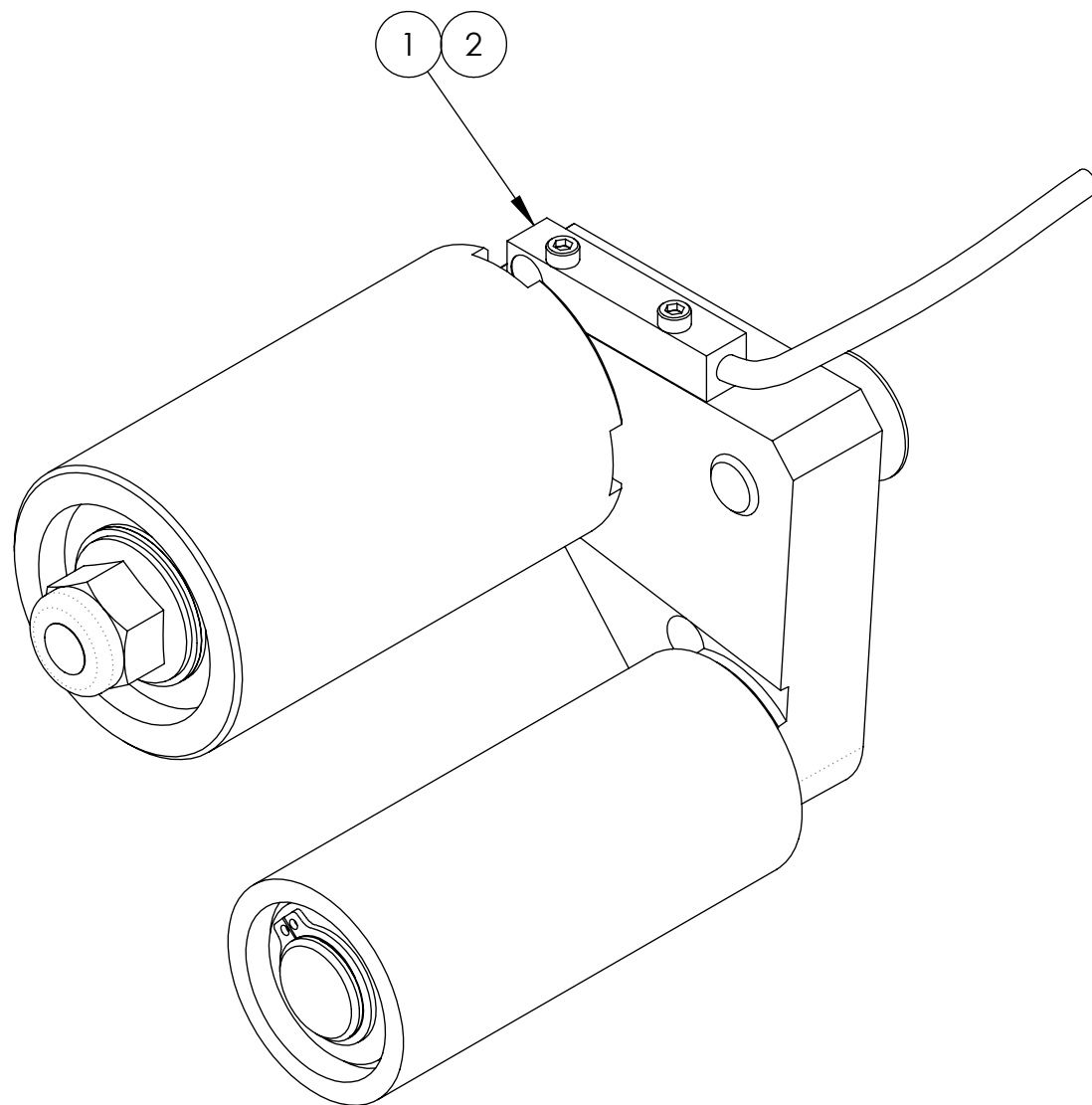


| ITEM | PART # | DESCRIPTION | USH1129/QTY. |
|------|---------|--|--------------|
| 1 | UAH0150 | SPRING MANDREL V2 | - |
| 1 | UAH0151 | SPRING MANDREL V2 SS | 1 |
| 2 | UPH7678 | SPRING GUIDE V2 | 1 |
| 3 | UPH8111 | SPRING BARREL V2 | - |
| 3 | UPH8123 | SPRING BARREL V2 | 1 |
| 4 | UPH4665 | COMP. SPRING 13.7 O.D. 1.7 W.D. 50.8 LONG | - |
| 4 | UPH7427 | COMP. SPRING 13.7 O.D. 1.7 W.D. 50.8 L. SS | 1 |
| 5 | UF6391 | F.W. 6 x 16 x 1 mm | - |
| 5 | UF6390 | SS F.W. 6 x 16 x 1 | 1 |
| 6 | UF3391 | SS NYLON LOCK NUT M6-1.0 | 1 |



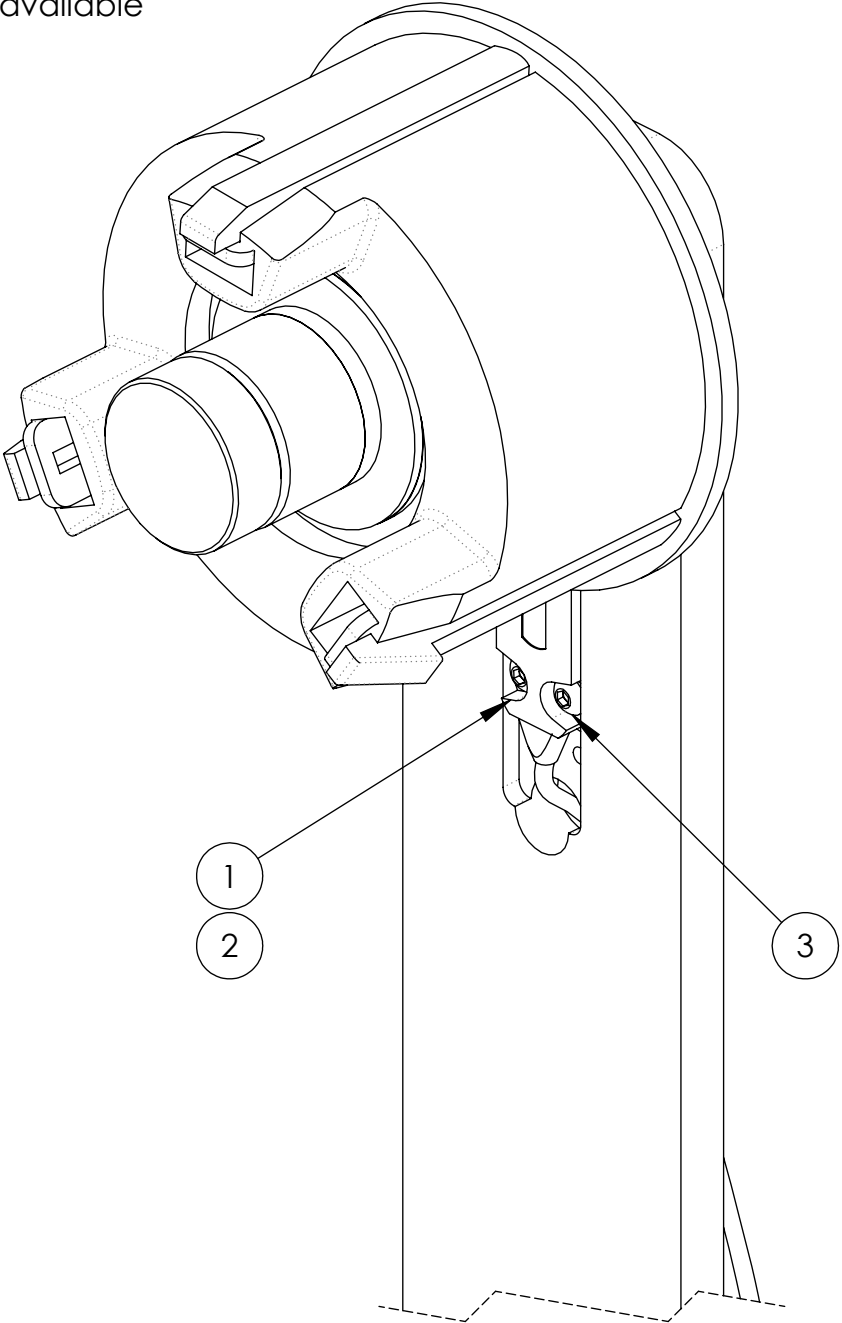
| ITEM | PART # | DESCRIPTION | USH1111 2"/QTY. | USH1112 3"/QTY. | USH1194 2" Mir./QTY. | USH1195 3" Mir./QTY. |
|------|---------|-------------------------------|--------------------|--------------------|-------------------------|-------------------------|
| 1 | UPH1348 | PEEL OFF ARM | 1 | 1 | 1 | 1 |
| 2 | UPH1349 | PEEL-OFF SLIDING ROD | 2 | 2 | 2 | 2 |
| 3 | UPH1350 | PEEL-OFF BLOCK | 1 | 1 | 1 | 1 |
| 4 | UPH1347 | PEEL-OFF BASE | 1 | - | 1 | - |
| 4 | UPH1347 | PEEL-OFF BASE | - | 1 | - | 1 |
| 5 | UF6340 | SS FW M5 | 2 | 2 | 2 | 2 |
| 6 | UF7011 | SS BHCS M5-0.8 X 12mm | 2 | 2 | 2 | 2 |
| 7 | UF3169 | SS M5-0.8 x 16 SHCS | 1 | 1 | 1 | 1 |
| 8 | UF7021 | SS LW M5 | 1 | 1 | 1 | 1 |
| 9 | UF3277 | SS FHCS M5 - 0.8 x 16 mm | 1 | 1 | 1 | 1 |
| 10 | UF3283 | SS BHCS M5-0.8 X 10mm | 2 | 2 | 2 | 2 |
| 11 | UF3781 | SS FHCS M6 - 1 x 30mm | 1 | 1 | 1 | 1 |
| 12 | UPH1354 | PEEL ROLLER | 1 | - | 1 | - |
| 12 | UPH1355 | PEEL ROLLER | - | 1 | - | 1 |
| 13 | UPH1351 | PEEL-OFF ROLLER SHAFT | 1 | - | 1 | - |
| 13 | UPH1353 | PEEL-OFF ROLLER SHAFT | - | 1 | - | 1 |
| 14 | UF7018 | SS RETAINING RING 16 mm SHAFT | 1 | 1 | 1 | 1 |
| 15 | UPH1379 | SPACER RING | 1 | 1 | 1 | 1 |
| 16 | UPH1361 | SS TORSION SPRING LEFT SQ | 1 | 1 | - | - |
| 16 | UPH1511 | SS TORSION SPRING RIGHT SQ | - | - | 1 | 1 |
| 17 | UPH1358 | COMPRESSION SPRING | 2 | 2 | 2 | 2 |
| 18 | UF9173 | C-RING 0.3125 | 4 | 4 | 4 | 4 |
| 19 | UPH1352 | FRICITION WASHER | - | 1 | - | 1 |
| 20 | UF6403 | NYLON F.W. 10.5 x 16 x 0.25 | 1 | 1 | 1 | 1 |

No Tape Options are available



| ITEM | PART # | DESCRIPTION | QTY. |
|------|---------|--------------------------|------|
| 1 | UPM7328 | PHOTOELECTRIC SENSOR PNP | 1 |
| 2 | UPM7329 | PHOTOELECTRIC SENSOR NPN | 1 |

Low Tape Options are available



| ITEM | PART # | DESCRIPTION | QTY. |
|------|---------|--------------------------|------|
| 1 | UPH8169 | PHOTOELECTRIC SENSOR PNP | 1 |
| 2 | UPH8144 | PHOTOELECTRIC SENSOR NPN | 1 |
| 3 | UF4518 | SS BHCS M3 - 0.5 X 6 | 2 |