



# BETTCHER<sup>®</sup> Industries, Inc.

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## Operating Instructions & Parts List for the



## For Use With the Whizard Quantum<sup>®</sup> Drive Unit

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Operating Instructions in other languages are available on request. Additional copies of Operating Instructions are available by calling or writing your Regional Manager, or by contacting:

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*<http://www.bettcher.com>*

The Information Provided In These Operating Instructions Is  
Important To Your Health, Comfort And Safety.

For Safe And Proper Operation, Read This Entire Manual  
Before Using This Equipment.



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Original Instructions

## **Table of Contents**

<b>Section 1 .....</b>	<b><i>Safety</i></b>
<b>Section 2 .....</b>	<b><i>Designated Use</i></b>
<b>Section 3 .....</b>	<b><i>Installation</i></b>
<b>Section 4 .....</b>	<b><i>Instructions for Operation</i></b>
<b>Section 5 .....</b>	<b><i>Maintenance</i></b>
<b>Section 6 .....</b>	<b><i>Cleaning</i></b>
<b>Section 7 .....</b>	<b><i>Service Parts</i></b>
<b>Section 8 .....</b>	<b><i>Contact and Document Information</i></b>



# Section 1

# Safety

## CONTENTS OF THIS SECTION

Signal Word Panels .....	1-2
Safety Symbols .....	1-3
Safety Recommendations and Warnings .....	1-4
Safety Features .....	1-6
Ergonomic Features .....	1-6
Noise and Vibration Levels .....	1-6



The information provided in these operating instructions is important to your health, comfort and safety. For safe and proper operation, read this entire manual before using this equipment.



Please read and save these instructions. Read carefully before attempting to assemble, install, operate or maintain this product. Protect yourself, others and equipment by observing all safety information. Failure to comply with instructions could result in personal injury and/or damage to the equipment. Any use in applications other than those for which the equipment was designed and built may result in equipment damage and/or serious injuries.

Retain this manual for future reference. Be thoroughly familiar with the controls and proper use of this equipment.

The manufacturer assumes no liability for any unauthorized changes in operating procedures or for unauthorized changes or modifications made to the design of the machine or any factory-installed safety equipment, whether these changes are made by the owner of this equipment, by his employees, or by service providers not previously approved by Bettcher Industries, Inc.

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## SIGNAL WORD PANELS



Indicates a hazardous situation that, if not avoided, will result in death or serious injury.  
(The signal word **Danger** is in white letters on a safety red background)



Indicates a hazardous situation that, if not avoided, could result in death or serious injury.  
(The signal word **WARNING** is in black letters on a safety orange background)



Indicates a hazardous situation that, if not avoided, could result in minor or moderate injury.  
(The signal word **CAUTION** is in black letters on a safety yellow background)



Indicates information considered important, but not hazard-related (e.g. messages relating to property damage).  
(The signal word **NOTICE** is in italicized, white letters on a safety blue background)

The signal word definitions provided, comply with the American National Standard for Product Safety Information in Product Manuals, Instructions, and Other Collateral Materials (ANSI Z535.6-2011).

This technical manual is printed in black and white.

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## SAFETY SYMBOLS



The safety alert symbol indicates a potential personal injury hazard. It is not used for messages related to property damage. The safety alert symbol may be used alone or in conjunction with a signal word in a signal word panel



Danger of electrical shock



Blade hazard, keep hands clear



Read operator's manual



Protective safety gloves must be worn

Symbols are harmonized with ANSI Z535.4 and ISO 3864-2 standards. Warning symbols are presented on a safety yellow background. Mandatory action symbols are presented on a safety blue background.

This technical manual is printed in black and white.

---

## SAFETY RECOMMENDATIONS AND WARNINGS

 **WARNING**

The manufacturer assumes no liability for any unauthorized changes in operating procedures or for unauthorized changes or modifications made to the design of the machine or any factory-installed safety equipment, whether these changes are made by the owner of this equipment, by his employees, or by service providers not previously approved by Bettcher Industries, Inc.

Use only replacement parts manufactured by Bettcher Industries, Inc. Use of substitute parts will void the warranty and may cause injury to operators and damage to equipment.

The use of parts other than those listed in the parts list for the specific model may cause tooth roll lock-up, resulting in an unsafe operating condition.

 **WARNING**

The Quantum Skinner<sup>™</sup> must **ONLY** be used with a disconnect lever type of driveline. **NEVER** operate this tool with a non-disconnect driveline.

 **WARNING**

Sharp blade and tooth roll may cause cut injury!

For proper protection of hands, a stainless steel mesh “cut” glove must be worn on the free hand along with an arm guard on the free arm during the operation of the Quantum Skinner<sup>®</sup>.

Never put hands or other parts of the body within the cutting path of the machine.

**DO NOT** wear loose clothing or jewelry as these could become tangled up in moving parts.

 **WARNING**

**ALWAYS** disconnect the power and remove the tool from the driveline prior to performing any adjustments, disassembly/assembly, troubleshooting or cleaning.

 **WARNING**

If at any time this machine does not appear to operate normally or exhibits a marked change in performance, it should be immediately shut down, unplugged, and tagged as “UNSAFE” until such time as proper repairs are made and the machine again operates normally.



---

## SAFETY RECOMMENDATIONS AND WARNINGS (CONTINUED)

 **WARNING**

**ALWAYS** turn off the Whizard Quantum<sup>®</sup> Drive Unit when not in use.

**NEVER** lay the skinner down on the workstation or let it hang free by the driveline.

 **WARNING**

Avoid use of this machine in standing water.



 **WARNING**

Long or repeated use of various power tools vibrating excessively is suspected of contributing to certain hand, wrist or forearm disorders in susceptible individuals. If excessive vibration occurs, it is an indication that there are worn parts that need replacement.

If your Quantum Skinner<sup>™</sup> develops unusual vibration, do not continue to use it without first undertaking corrective action as outlined in the troubleshooting guide in this operating instruction.

**NOTICE**

**DO NOT** continuously submerge this tool in hot water. If using a “hot pot” to clean during use, **DO NOT** exceed 3 seconds of contact with the hot water every 5 minutes.

**DO NOT** use aggressive detergents.

**NOTICE**

Avoid the use of aggressive cleaning products as they will damage the aluminum handle assembly.

Do not use hydrocarbon solvents on the driveline. This will cause driveline to shrink in length and become brittle.

---

## **SAFETY FEATURES**

All Quantum Skinner<sup>™</sup> tools have been designed for use with a Whizard Quantum<sup>®</sup> disconnect driveline which will stop the tool when the trigger/lever is released. This trigger/lever has been designed in such a way that minimal grip force is required for operation, using three fingers.

## **ERGONOMIC FEATURES**

Small, Medium, and Large Handle sizes are available to help improve the operator's grip and comfort. Fitting the correct size handle to the worker's hand is a very important step. Quantum Skinner<sup>™</sup> tools can be configured in both right and left handed configurations.

Optional Thumb Support - An adjustable thumb support is available to ensure a proper and comfortable fit while providing added control and stability of the tool during use.

## **NOISE AND VIBRATION LEVELS**

Forces applied by the worker are greatly reduced via the drive motor and limited to guiding the skinner.

The noise emission value is less than 74 dB(A)

Vibration of the handpiece is less than 0.315 m/sec<sup>2</sup>

No negative side effects have been reported

# Section 2

# Designated Use

## CONTENTS OF THIS SECTION

Designated Use .....	2-2
Recommended Operation .....	2-2
Function .....	2-2



The manufacturer assumes no liability for any unauthorized changes in operating procedures or for unauthorized changes or modifications made to the design of the machine or any factory-installed safety equipment, whether these changes are made by the owner of this equipment, by his employees, or by service providers not previously approved by Bettcher Industries, Inc.

Use only replacement parts manufactured by Bettcher Industries, Inc. Use of substitute parts will void the warranty and may cause injury to operators and damage to equipment.

The use of parts other than those listed in the parts list for the specific model may cause tooth roll lock-up, resulting in an unsafe operating condition.

## **DESIGNATED USE**

The Quantum Skinner<sup>™</sup> has been specifically designed for use with the Whizard Quantum<sup>®</sup> Drive. Quantum Skinners are used for removal of fat and tissue, derinding and skin patching. Any use in application other than those for which the Whizard Quantum<sup>®</sup> Drive and the Quantum Skinner<sup>™</sup> were designed and built may result in serious injuries.

## **RECOMMENDED OPERATION**

The Quantum Skinner<sup>™</sup> must **ONLY** be used with a disconnect lever type of driveline. **NEVER** operate this tool with a non-disconnect driveline.

## **FUNCTION**

The Whizard Quantum<sup>®</sup> Drive Unit will drive the Quantum Skinner<sup>™</sup> with all the advantages, power, and performance to improve your yields and profits.

The Whizard Quantum<sup>®</sup> Drive Unit rotates a flexible shaft. The flexible shaft drives a rotating tooth roll via a worm gear drive. Forces applied by the worker are greatly reduced and limited to guiding the skinner.

# Section 3

# Unpacking and Installation

## CONTENTS OF THIS SECTION

Contents .....	3-2
Work Station .....	3-2
Optional Thumb Support and Handle Selection .....	3-3
Attaching Quantum Skinner <sup>™</sup> to the Whizard Quantum <sup>®</sup> Driveline With Disconnect .....	3-5
Attaching Whizard Quantum <sup>®</sup> Driveline to the Whizard Quantum <sup>®</sup> Drive Unit .....	3-6



The Quantum Skinner<sup>™</sup> must **ONLY** be used with a disconnect lever type of driveline. **NEVER** operate this tool with a non-disconnect driveline.



Correct installation is extremely important to achieve maximum efficiency for both the Quantum Skinner<sup>™</sup> unit being used and the operator. Incorrect installation may possibly hamper the operator's movements and cause undue wear or damage to the equipment.

---

## CONTENTS

The following parts are included with each Quantum Skinner<sup>™</sup>. Please check when unpacking and advise your local Bettcher Industries representative if delivery is incomplete.

PART NUMBER	DESCRIPTION
--	Quantum Skinner <sup>™</sup> Assembly
107182	Operating Instructions and Spare Parts List
107999	5/16" x 3/8" Open End Wrench

## WORK STATION

**NOTICE**

**Correct installation is extremely important to achieve maximum efficiency for both the Quantum Skinner<sup>™</sup> unit being used and the operator. Incorrect installation may possibly hamper the operator's movements and cause undue wear or damage to the driveline and parts of the unit.**

The work station for each operator should be designed so that the operator's movements in performing the job are natural and easy. A sideways sweeping motion with the Quantum Skinner<sup>™</sup> is preferable to a reaching motion. Long reaching motions and high muscle strain should be avoided if possible. Also, a proper working height is needed to avoid excessive shoulder and back exertion.

 **CAUTION**

**Improperly hung drive units may result in excessive operator effort & decrease in mobility. Increased fatigue & loss of efficiency may occur.**

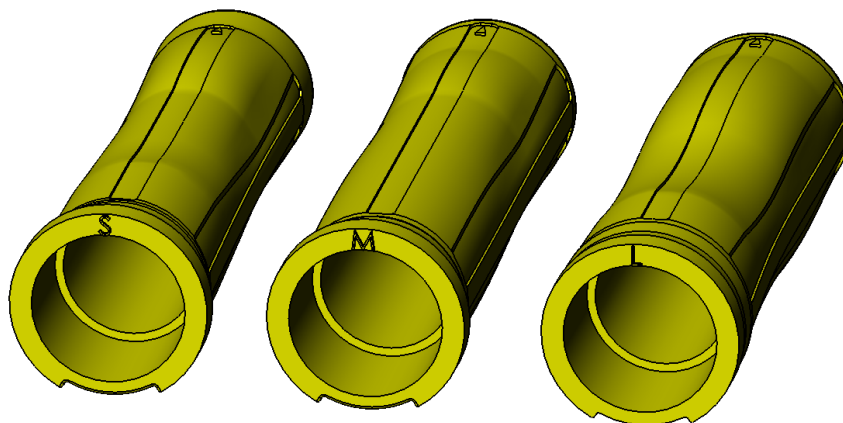
Refer to the Whizard Quantum<sup>®</sup> Drive Manual for instructions on the proper placement and installation of the Whizard Quantum<sup>®</sup> Drive Unit.

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## OPTIONAL THUMB SUPPORT AND HANDLE SELECTION

Your Quantum Skinner<sup>™</sup> has been supplied with a spacer ring or optional thumb support. If using the optional thumb support, the operator's thumb should be fully supported and rest comfortably in the support. The thumb support has been optimized to fit most hands comfortably.

Fitting the correct size handle to the grip of an operator's hand is a very important step when trying to reduce risks associated with cumulative trauma disorders. **NOTE:** *S,M,L markings on handle.*



The operator should choose the handle that is most comfortable. Allow the operator to work with this handle on a tool for several days. If the operator is not comfortable with the handle selection, allow the operator to try a different size.

**NOTE:** *If the operator normally wears a glove, this process should be done with all the gloves used in normal operation.*

---

## OPTIONAL THUMB SUPPORT AND HANDLE ADJUSTMENT (CONTINUED)

The Quantum Skinners<sup>™</sup> have been designed to allow the head of the tool and the thumb support to be rotated relative to the handle. In this way, the tool can be adjusted to position the blade properly to the product while the handle can be set to allow the operator to have a comfortable position for the wrist.

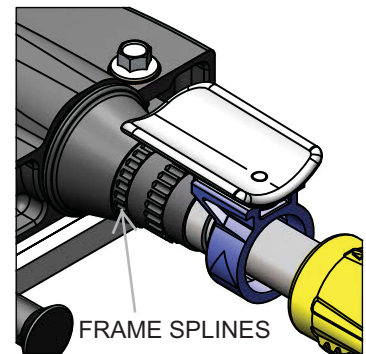
The position which is selected will vary based on the individual work station, product, and operator. To determine the proper position, it will be necessary to observe the operator while trying various positions. Select the position in which the operator's wrist appears to maintain the most neutral position and which is comfortable to the operator.

### STEP 1

- Pick up the Quantum Skinner<sup>™</sup>.
- Loosen the handle retaining knob enough to be able to pull the handle back far enough to disengage it from the frame splines.

### STEP 2

- Pull the thumb support back to disengage it from the frame splines.
- Rotate the thumb support to a new position and push it forward to engage the frame splines.





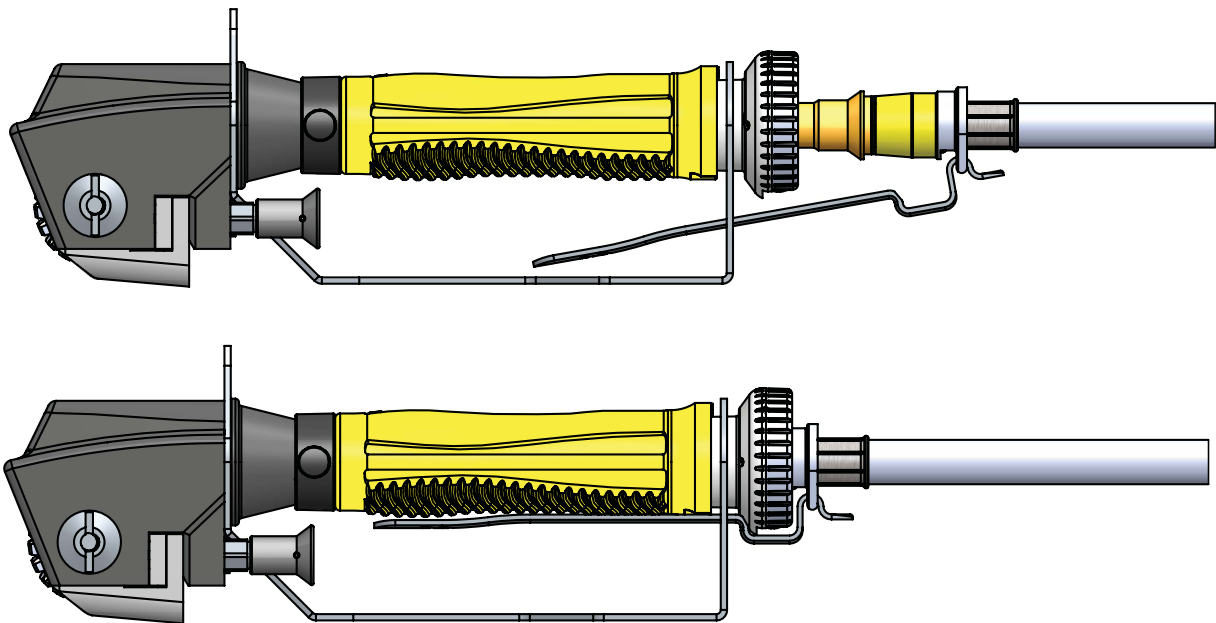
## ATTACHING QUANTUM SKINNER<sup>™</sup> TO THE WHIZARD QUANTUM<sup>®</sup> DRIVELINE WITH DISCONNECT

 **WARNING**

The Quantum Skinner<sup>™</sup> must **ONLY** be used with a disconnect lever type of driveline. **NEVER** operate this tool with a non-disconnect driveline.

### The Disconnect Casing

- Hold the skinner in the hand you will use in operation, and with the other hand, grasp the Whizard Quantum<sup>®</sup> driveline and push it into the end of the tool through the handle retaining knob until the latch catches the detent.
- The disconnect lever rotates freely around the handle.
- Align the disconnect lever in the notched-out area of the handle. Slightly open the fingers on the hand holding the trimmer. Push the driveline inward and hold the lever down in the handle groove with the normal operating hand.
- Check to see that the lever is seated completely flat within the groove.
- Release the disconnect lever and the driveline should pop out and stop the tooth roll from turning. The motor will continue to operate.

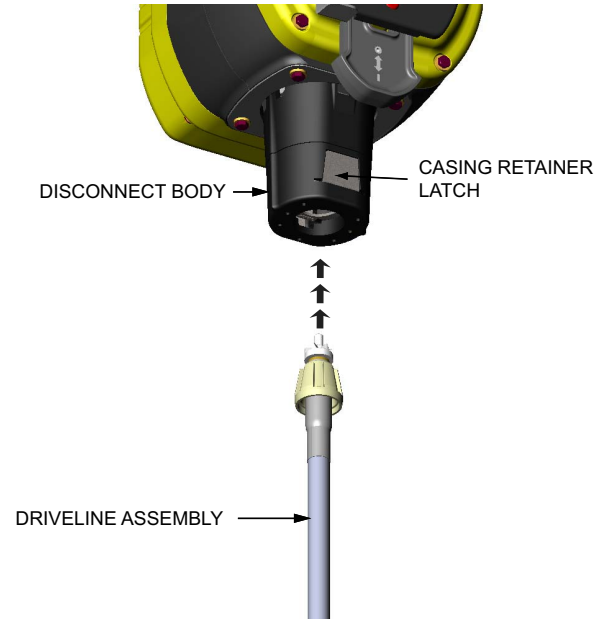


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## ATTACHING WHIZARD QUANTUM<sup>®</sup> DRIVELINE TO THE WHIZARD QUANTUM<sup>®</sup> DRIVE UNIT

### Install Whizard Quantum<sup>®</sup> Driveline to Disconnect Body

Insert proper end of the driveline into disconnect body. The driveline will latch in place when fully inserted into disconnect body.



# Section 4

# Instructions for Operation

## CONTENTS OF THIS SECTION

Blade Installation / Removal .....	4-2
Turning ON The Whizard Quantum <sup>®</sup> Drive Unit .....	4-3
Turning OFF The Whizard Quantum <sup>®</sup> Drive Unit .....	4-3
Preparation for Operation .....	4-4
Operation .....	4-4



The Quantum Skinner<sup>™</sup> must **ONLY** be used with a disconnect lever type of driveline. **NEVER** operate this tool with a non-disconnect driveline.

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**BLADE INSTALLATION / REMOVAL** **WARNING**

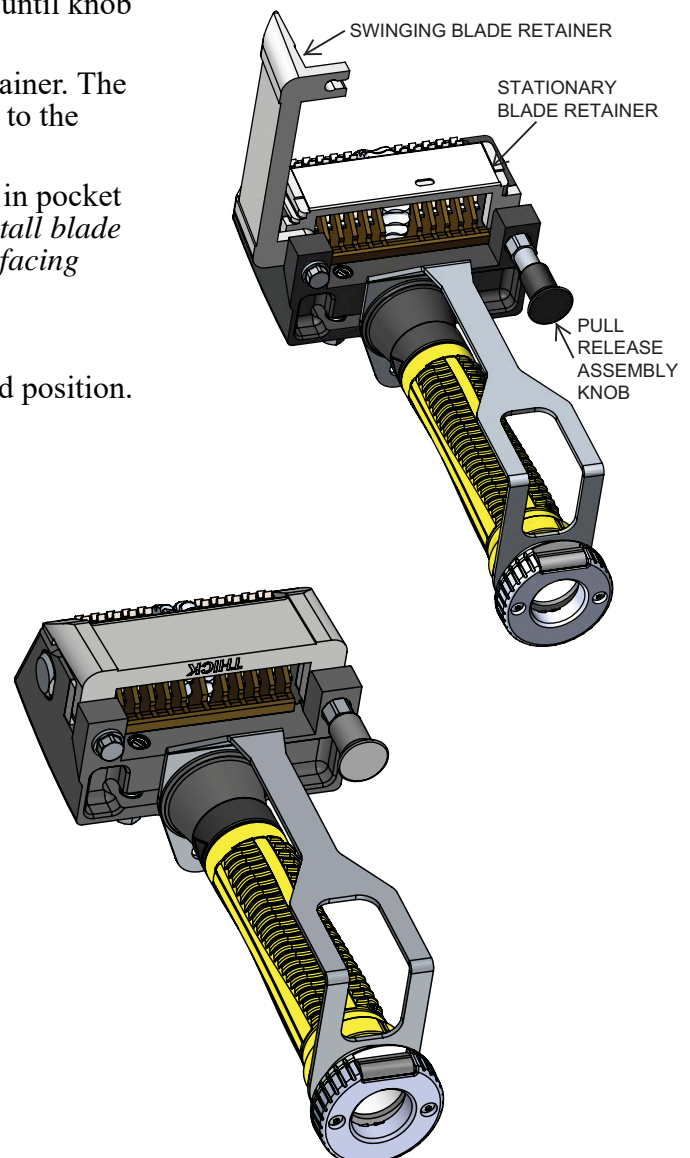
Sharp blade and tooth roller may cause cut injury!

For proper protection of hands, a stainless steel mesh “cut” glove must be worn on the free hand along with an arm guard on the free arm during the operation of the Quantum Skinner<sup>®</sup>.

Never put hands or other parts of the body within the cutting path of the machine.

**DO NOT** wear loose clothing or jewelry as these could become tangled up in moving parts.

- Grasp knob on the pull release assembly. Pull until knob has gone through its full range of motion.
- Apply upward pressure on Swinging blade retainer. The blade retainer should open and provide access to the blade.
- Remove old blade if present. Place new blade in pocket on the stationary blade retainer. **NOTICE:** *Install blade with sharp edge facing forward and the bevel facing upward towards the tooth roll.*
- Pull knob on pull release assembly.
- Return the swinging blade retainer to its closed position.
- Release knob of pull release assembly.

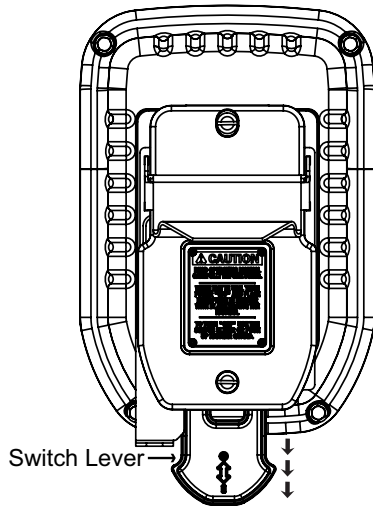


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## TURNING ON THE WHIZARD QUANTUM<sup>®</sup> DRIVE UNIT

To turn **ON** the Whizard Quantum<sup>®</sup> Drive Unit:

1. Pull down on switch lever to turn unit **ON**.

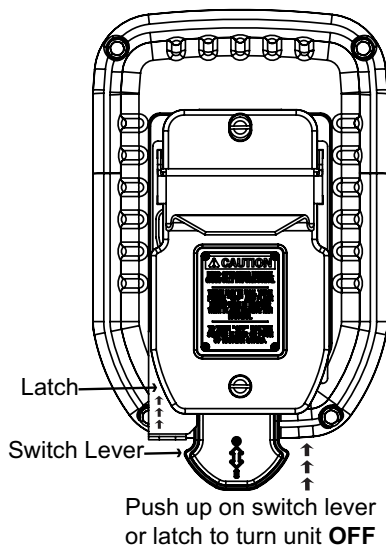


Pull down switch lever to turn unit **ON**

## TURNING OFF THE WHIZARD QUANTUM<sup>®</sup> DRIVE UNIT

To turn **OFF** the Whizard Quantum<sup>®</sup> Drive Unit:

1. Push up on switch lever or latch to turn unit **OFF**.



Push up on switch lever  
or latch to turn unit **OFF**

---

## PREPARATION FOR OPERATION



Sharp blade and tooth roller may cause cut injury!



For proper protection of hands, a stainless steel mesh “cut” glove must be worn on the free hand along with an arm guard on the free arm during the operation of the Quantum Skinner™.

Never put hands or other parts of the body within the cutting path of the machine.

**DO NOT** wear loose clothing or jewelry as these could become tangled up in moving parts.

With the skinner handpiece held firmly in your operating hand, stand at your normal work position and move your hand with the skinner handpiece over your normal work area to check that there are no binds or sharp bends in the Whizard Quantum<sup>®</sup> Driveline.

With your other hand, turn on the Whizard Quantum<sup>®</sup> Drive Unit by pulling down on the switch lever. Refer to Section 4, *Turning ON The Whizard Quantum<sup>®</sup> Drive Unit*.

Align disconnect lever in notched-out area of handle. Slightly open fingers on the hand holding the skinner. Push driveline inward and hold disconnect lever down in handle groove with normal operating hand. Make certain disconnect lever is seated completely flat within handle groove. The tooth roll is now rotating and you are ready to operate the skinner. Refer to Section 3, *Attaching Quantum Skinner™ to the Whizard Quantum<sup>®</sup> Driveline With Disconnect*.

## OPERATION

Push skinner over the desired area to be trimmed. The tooth roll will grab a layer of tissue and pull it over the blade. This layer of tissue is pushed out of the back of the skinner. **DO NOT STOP** the handpiece during this procedure until the tissue is severed by the blade.

When disconnect lever is released, driveline will pop out of operating position and stop the tooth roll from turning. The Whizard Quantum<sup>®</sup> drive will continue to operate until it is manually shut off by pushing up on switch lever or latch to turn unit off. Refer to Section 4, *Turning OFF The Whizard Quantum<sup>®</sup> Drive Unit*.

# Section 5

# Maintenance

## CONTENTS OF THIS SECTION

Removing Whizard Quantum <sup>®</sup> Driveline from the Whizard Quantum <sup>®</sup> Drive Unit .....	5-2
Removing Quantum Skinner <sup>™</sup> from the Whizard Quantum <sup>®</sup> Driveline with Disconnect .....	5-2
Disassembly of Handpiece .....	5-3
Daily Inspections & Maintenance .....	5-6
Driver Assembly Inspection and Replacement .....	5-9
Assembly of Handpiece .....	5-12
Fault Detection and Correction .....	5-15



### **WARNING**



To avoid personal injury, always disconnect the power cord before performing any adjustments, disassembly/assembly, troubleshooting or cleaning.

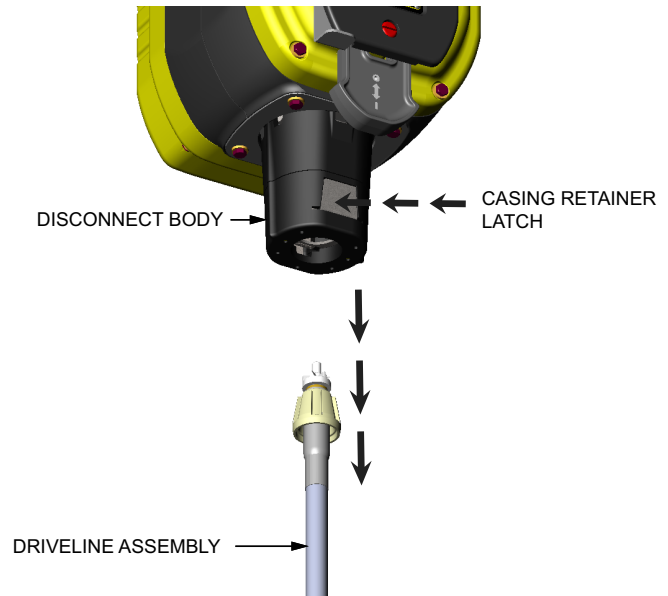
Always disconnect the power and remove the tool from the driveline prior to servicing.

All electrical repairs should be completed by a qualified electrician or approved service provider.

## REMOVING WHIZARD QUANTUM<sup>®</sup> DRIVELINE FROM THE WHIZARD QUANTUM<sup>®</sup> DRIVE UNIT

### Remove Whizard Quantum<sup>®</sup> Driveline from Disconnect Body

Hold driveline assembly around the top exposed portion, just below the disconnect body. Push casing retainer latch inward and pull driveline down and out of disconnect body.

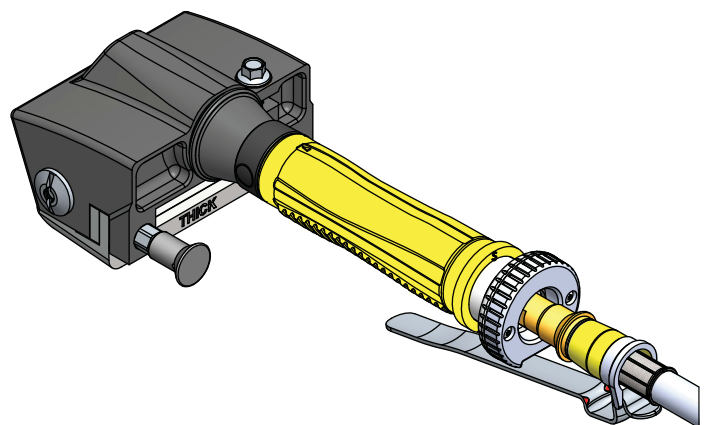


## REMOVING QUANTUM SKINNER<sup>™</sup> FROM THE WHIZARD QUANTUM<sup>®</sup> DRIVELINE WITH DISCONNECT

 **WARNING**

The Quantum Skinner<sup>™</sup> must **ONLY** be used with a disconnect lever type of driveline. **NEVER** operate this tool with a non-disconnect driveline.

- Release the disconnect lever and the driveline should partially eject from the handle.
- With the opposite hand, press the latch button in the handle retaining knob.
- The driveline should eject from the handle.





## DISASSEMBLY OF HANDPIECE

### **WARNING**

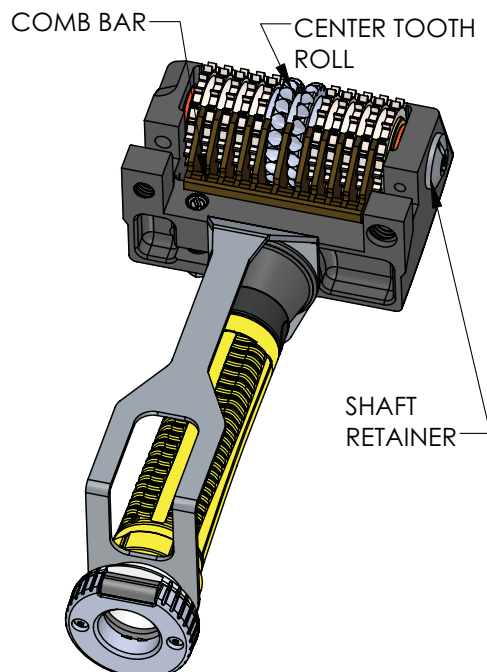
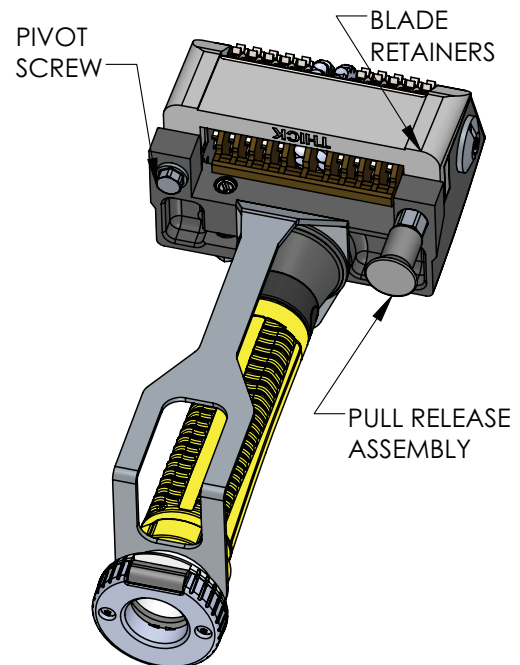
Sharp blades may cause cut injury! Keep hands away from blade and tooth roller.



For proper protection of hands, a protective glove should be used when operating this equipment and during the handling of blades. Metal mesh gloves are recommended for the free hand.

## Head Assembly

- Remove blade. *Refer to Section 4, Blade Installation / Removal.*
- Remove pull release assembly using a 3/8" wrench.
- Remove the pivot screw using a 5/16" wrench.
- Remove blade retainers.
- Insert a flat head screwdriver into slot in the shaft retainer. Unscrew shaft retainer completely to remove the tooth roll shaft.
- The tooth roll and comb bar can now be removed.

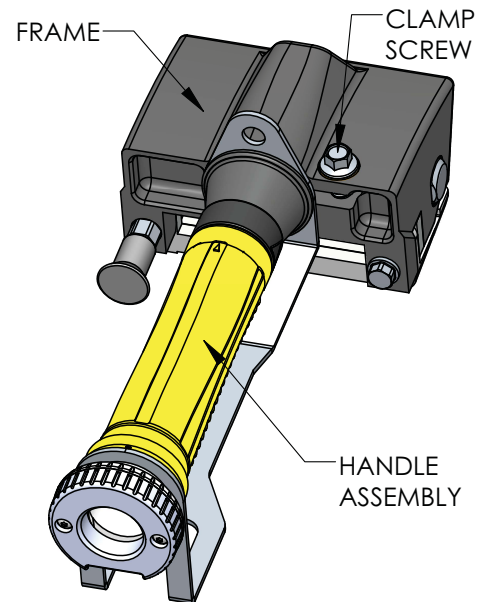


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## DISASSEMBLY OF HANDPIECE (CONTINUED)

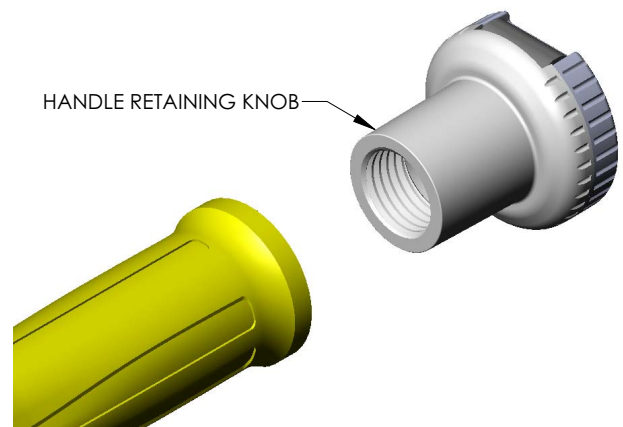
### Remove frame from handle

- Loosen clamp screw on top of the frame using a 5/16" wrench to remove the frame from the handle.



### Remove the handle retaining knob

- Turn retaining knob counterclockwise.

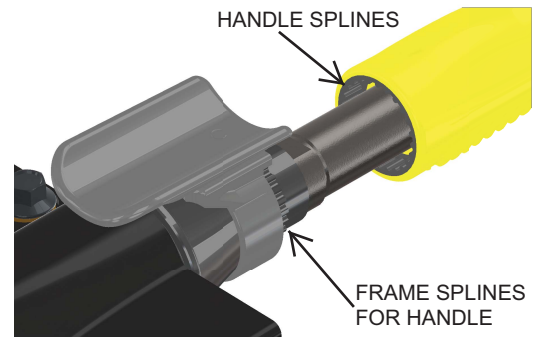


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## DISASSEMBLY OF HANDPIECE (CONTINUED)

### Remove the handle from the tool

- Pull the handle off the tube.
- Remove the handle spacer ring or optional thumb support.



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## DAILY INSPECTIONS & MAINTENANCE



Inspection of all parts for excessive wear is critical to ensure proper and safe operation. Vibration or lock-up may occur as a result of the use of excessively worn parts.



Sharp blades may cause cut injury! Keep hands away from blade and tooth roller.

Always disconnect power and remove the tool from the driveline prior to servicing.

Prior to assembly, be sure all parts are clean and have been inspected for wear.

### Blade

- Check for damage to the cutting edge.

### Tooth Roll

- Check for worn or chipped teeth on the center bronze gear.
- Check for broken teeth on the two side sleeves.
- Inspect PEEK hub for excessive wear around the ends and center bore.

### Shaft

- Check shaft for excessive wear.
- Inspect threads for any damage.

### Comb Bar

- Check for any bent or missing teeth on the comb bar.

---

## **DAILY INSPECTIONS & MAINTENANCE (CONTINUED)**

### **Frame**

- Inspect frame surfaces where the handle assembly mounts.
- Look for corrosion and any nicks or burrs that may prevent proper handle assembly or cleaning.
- Inspect the shaft supports for any damage.

### **Handle Retaining Knob**

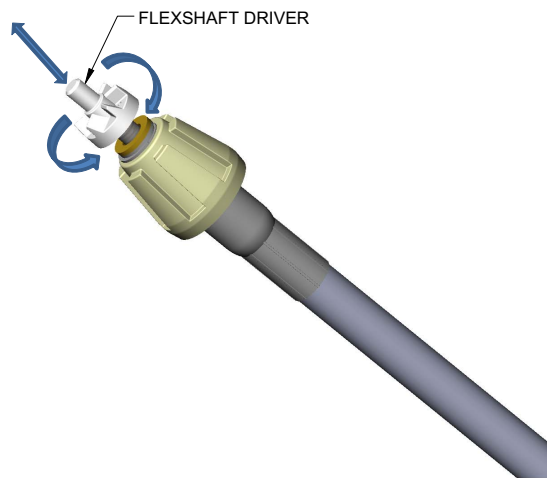
- Inspect for cracks.
- Make certain spring tension in the metal button is adequate.
- Make certain the metal button is clean and moves freely.

---

## DAILY INSPECTIONS & MAINTENANCE (CONTINUED)

### Whizard Quantum<sup>®</sup> Driveline Inspection

- The Whizard Quantum<sup>®</sup> Driveline includes a casing and flexible shaft that is factory lubricated and does not require ongoing maintenance lubrication.
- **NOTE:** *The flexible shaft is not removable from the casing.*
- Inspect the casing for any cracks, tears or other wear. If any damage is found, replace the Whizard Quantum<sup>®</sup> Driveline.
- Check to ensure that the flexshaft driver can freely rotate in the casing. If it will not rotate, replace the entire assembly.

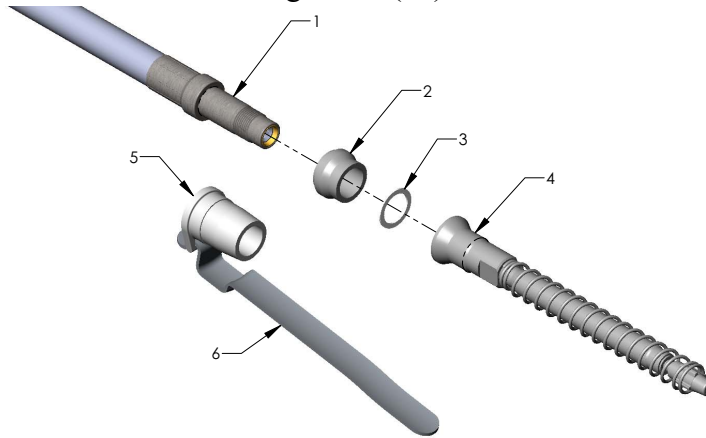


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## DRIVER ASSEMBLY INSPECTION AND REPLACEMENT

### Whizard Quantum<sup>®</sup> Driveline Replacement

- When the driveline needs to be replaced, the driver assembly may be retained and reused.
- Hold the driveline (#1) in a vise.
- Unscrew the driver assembly (#4) by turning counterclockwise using the wrench flats on the drive end assembly.
- Remove the nylon washer (#3), casing latch collar (#2) or lever mounting collar (#5) from the casing.
- Discard the driveline but retain and reuse the driver assembly (#4), the nylon washer (#3), the casing latch collar (#2) - or the lever mounting collar (#5) and disconnect lever (#6).



### To Reassemble the Drive End Assembly to a new Whizard Quantum<sup>®</sup> Driveline

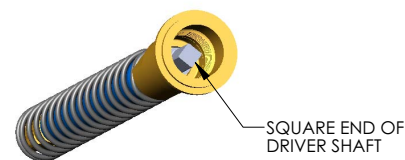
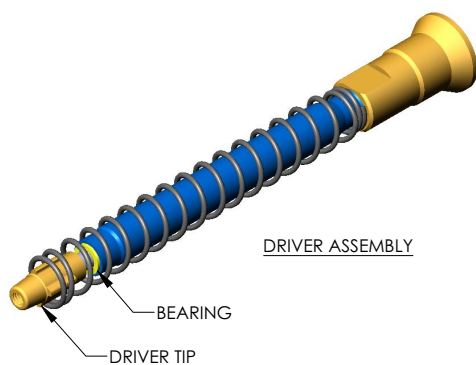
- If using the driveline disconnect, place the disconnect lever (#6) onto the lever mounting collar (#5).
- Slip the driveline latch collar (#2) or lever mounting collar (#5) with disconnect lever (#6) onto the new driveline.
- Slip the nylon washer (#3) onto the new driveline.
- Clean the threads of the new driveline assembly and apply Loctite #242 Thread locker or equivalent.
- Screw the driver assembly (#4) on the new driveline.
- Tighten by hand and then with a wrench while holding the driveline by hand. **NOTICE: DO NOT hold the new driveline in a vise or use pliers as damage will occur.** It is not necessary to over-tighten this joint.

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## DRIVER ASSEMBLY INSPECTION AND REPLACEMENT (CONTINUED)

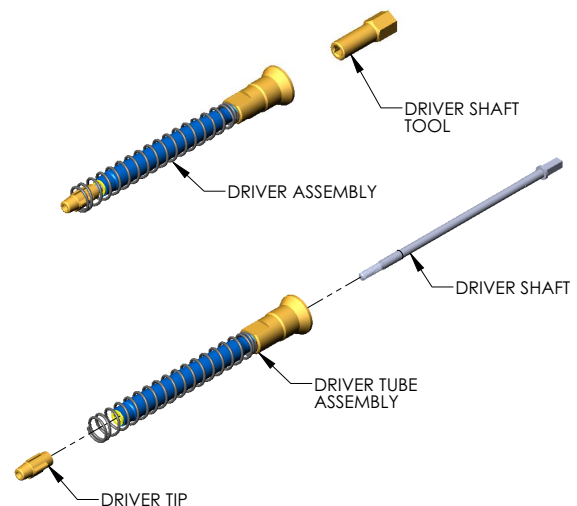
### Whizard Quantum<sup>®</sup> Driver Assembly Inspection

- Make certain the driver shaft and tip rotate freely and also that they can slide back and forth freely.
- Check for wear on the bearing at the end of the tube assembly. If the bearing flange is excessively worn, replace the tube assembly.
- Inspect the flutes of the driver tip. If they are excessively worn, replace the driver tip.
- Inspect the square end of the driver shaft. If the corners are rounded, replace the driver shaft.



### Whizard Quantum<sup>®</sup> Driver Tip and Driver Shaft Removal

- Grip the driver shaft tool (Part #101252) in a vice and place the driver assembly over the tool so that the square end of the driver shaft fits into the square hole of the tool.
- Pull the spring back and use a crescent wrench to grip the driver tip.
- Turn the driver tip **CLOCKWISE**. Continue to turn the driver tip **CLOCKWISE** until it is free from the driver shaft.
- Pull the driver shaft out of the tube.



**NOTICE:** The Quantum Skinner<sup>™</sup> uses a large driver tip.



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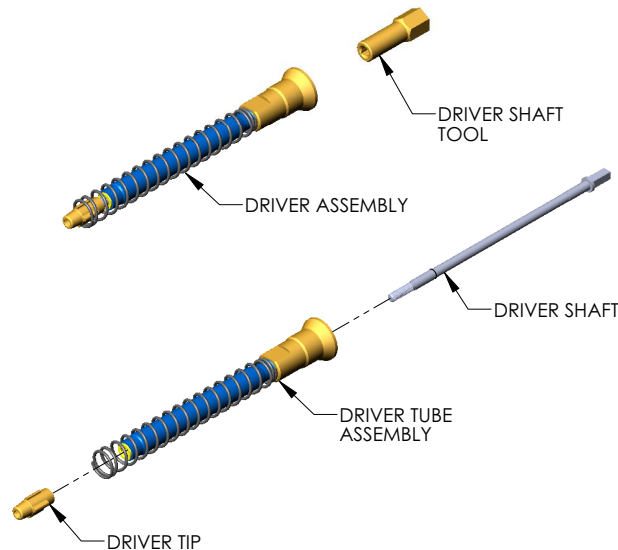
## DRIVER ASSEMBLY INSPECTION AND REPLACEMENT (CONTINUED)

### Assembly of the Whizard Quantum<sup>®</sup> Driver Assembly

**NOTICE**

Do not overtighten the driver tip. Doing so could break the driver shaft.

- Apply Max-Z-lube grease to the 2 bearing areas of the driver shaft. *Refer to Section 7, Lubrication and Lubrication Equipment.*
- Insert the driver shaft into the tube assembly.
- Grip the driver shaft tool in a vice and place the driver assembly over the tool so that the square end of the driver shaft fits into the square hole of the tool.
- Clean the threads of the driver shaft and apply a small amount of Loctite #242 thread locker.
- Pull back the spring with one hand then thread the driver tip onto the threads with a COUNTER-CLOCKWISE motion. Turn by hand until the driver tip bottoms out.
- Using a crescent wrench, apply a small amount of torque (25 in-lbs max) to snug the driver tip.



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## ASSEMBLY OF HANDPIECE

 **WARNING**

Sharp blades may cause cut injury! Keep hands away from blade and tooth roller.



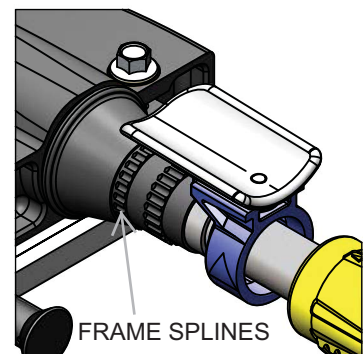
For proper protection of hands, a protective glove should be used when operating this equipment and during the handling of blades. Metal mesh gloves are recommended for the free hand.

 **WARNING**

Inspection of all parts for excessive wear is critical to ensure proper and safe operation. Vibration or lock-up may occur as a result of the use of excessively worn parts. Prior to assembly, be sure all parts are clean and have been inspected for wear.

### Optional Thumb Support

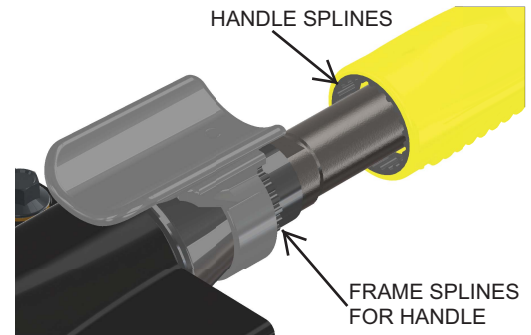
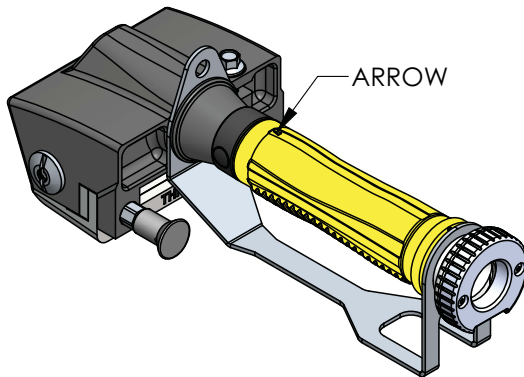
- Pick up a spacer ring or optional thumb support.
- If the optional thumb support is used, align the thumb support splines with the frame splines.



## ASSEMBLY OF HANDPIECE (CONTINUED)

### Handle

- While holding the skinner, pick up a handle.
- Firmly push the handle towards the bottom of the spacer ring or optional thumb support. Align the handle spline with the splines on the front of the tube.
- For the initial adjustment position, the arrow on the handle should be on top *as shown*.

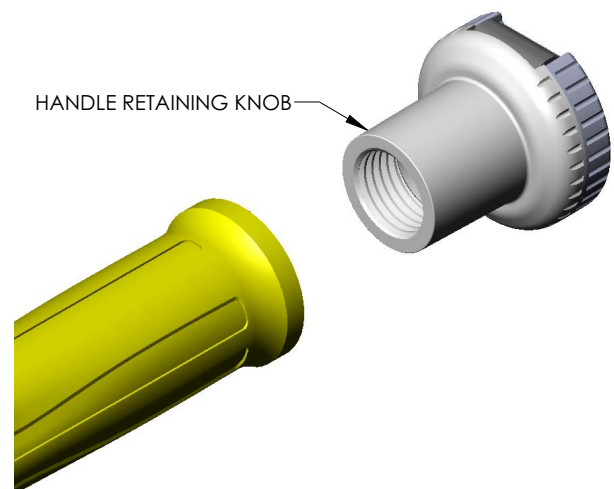


**NOTE:** The handle can be adjusted to suit the operator and the work station by pulling the handle back away from the frame and re-locating it on another set of notches on the frame tube.

- Screw on the handle retaining knob by turning clockwise.

### NOTICE

**Tighten firmly but take care not to overtighten or the handle will be damaged.**



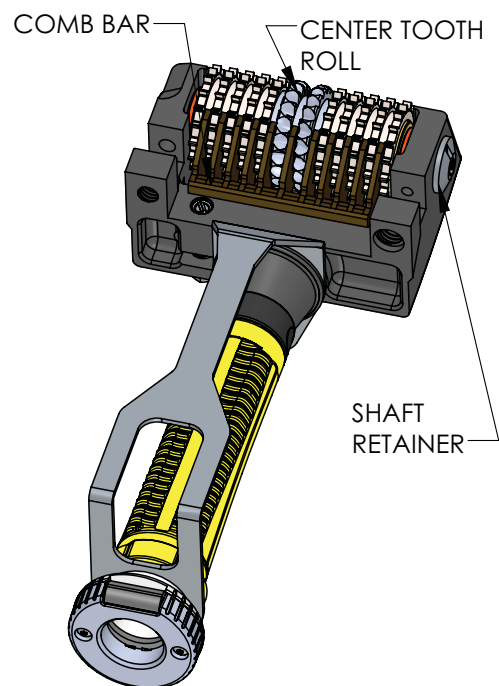
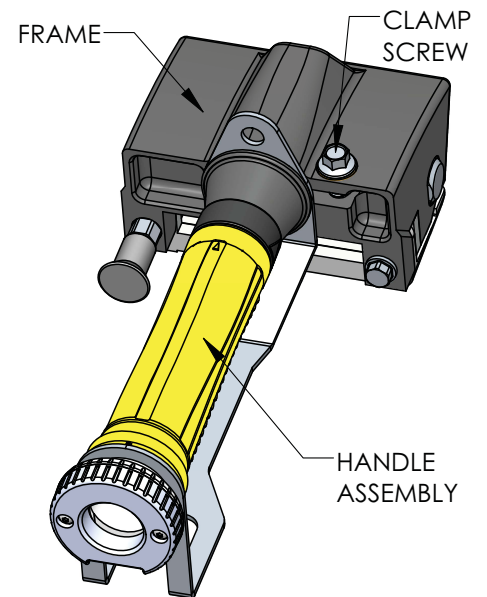
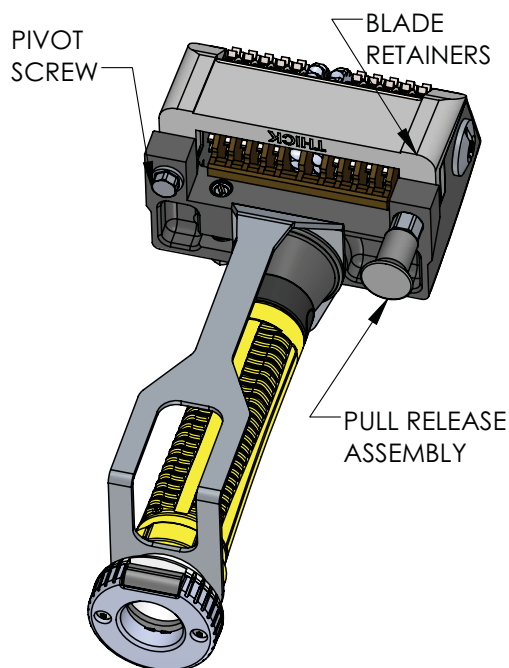
## ASSEMBLY OF HANDPIECE (CONTINUED)

### Attach Frame to Handle Assembly

- Slide frame onto handle assembly. Align frame as desired.
- Tighten clamp screw using a 5/15" wrench. Torque to 80-100 IN-LBS.

### Assemble Head Assembly

- Rest comb bar on rear ledge of frame.
- Place tooth roll on top of comb bar. **NOTICE:** *Tooth roll must be installed with teeth in the proper orientation.*
- Align bore in tooth roll with the bores in the frame. Insert shaft from side of frame that has flats that match the profile of the shaft head.
- Thread shaft retainer onto the shaft. Torque to 50-70 IN-LBS.
- Place blade retainers on frame and install pivot screw, using a 5/16" wrench. Torque to 40-50 IN-LBS. **NOTICE:** *Blade retainers are designed to work as pairs. Thicknesses must match between blade retainers.*
- Install pull release assembly using a 3/8" wrench. Torque to 50-70 IN-LBS.



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**FAULT DETECTION AND CORRECTION**

PROBLEM	PROBABLE CAUSE	REMEDY
Tooth Roll not spinning	Whizard Quantum <sup>®</sup> Drive Unit issue	Check that the Whizard Quantum <sup>®</sup> Drive Unit is properly running. Reference Whizard Quantum <sup>®</sup> Drive Manual.
	Driveline not fully engaged	Make certain disconnect handle driveline is fully engaged.
	Worm Gear issue	Check for damage to worm gear.
	Material jam in tooth roll.	Remove material clogging the material removal opening.
Tooth Roll Spinning, but product is not pulled through	Roller teeth are facing the incorrect direction.	Make certain that roller teeth are facing the correct direction.
	Debris clogging the material removal opening.	Remove material clogging the material removal opening.
	Dull Blade	Replace blade.
Skinner constantly running	Incorrect Driveline	The Quantum Skinner <sup>™</sup> must <b>ONLY</b> be used with a disconnect lever type of driveline. <b>NEVER</b> operate this tool with a non-disconnect driveline.
Unusual sound from tooth roll when running	Insufficient grease on tooth roll shaft.	Apply a small amount of Whizard Quantum <sup>®</sup> Grease to tooth roll shaft. After assembly, wipe off excess grease with clean towel.

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# Section 6

# Cleaning

## CONTENTS OF THIS SECTION

Cleaning Solutions .....	6-2
Cleaning Prior to Assembly .....	6-2
Periodic Cleaning During Use .....	6-2
Cleaning After Daily Use .....	6-3

 **WARNING**

**ALWAYS** disconnect the power and remove the tool from the driveline prior to performing any adjustments, disassembly/assembly, troubleshooting or cleaning.



**NOTICE**

**DO NOT** continuously submerge this tool in hot water. If using a “hot pot” to clean during use, **DO NOT** exceed 3 seconds of contact with the hot water every 5 minutes.

**NOTICE**

The recommended cleaning solution for the Whizard Quantum™ Skinner is eXtra© Heavy Duty Cleaner.



eXtra© Heavy Duty Cleaner, (PN: 184332), is a concentrated cleaner and degreaser for food processing equipment. Contact Bettcher Industries, Inc. for details.

**NOTICE**

Avoid the use of aggressive cleaning products as they will damage the aluminum handle assembly.

**Do not use hydrocarbon solvents on the driveline. This will cause driveline to shrink in length and become brittle.**

---

## CLEANING SOLUTIONS

**NOTICE**

Avoid the use of aggressive cleaning products as they will damage the aluminum handle assembly.

Do not use hydrocarbon solvents on the driveline. This will cause driveline to shrink in length and become brittle.

The recommended cleaning solution for the Whizard Quantum™ Skinner is eXtra© Heavy Duty Cleaner. eXtra© Heavy Duty Cleaner, (PN: 184332), is a concentrated cleaner and degreaser for food processing equipment. Contact Bettcher Industries, Inc. for details.

## CLEANING PRIOR TO ASSEMBLY

Prior to assembly, be sure all parts are clean and have been inspected for wear.

## PERIODIC CLEANING DURING USE

**NOTICE**

**DO NOT** continuously submerge this tool in hot water. If using a “hot pot” to clean during use, **DO NOT** exceed 3 seconds of contact with the hot water every 5 minutes.

Remove meat particles and rinse with warm soapy water. Wash the skinner with warm cleaning solution. For best results, clean the Quantum Skinner™ with EXTRA© Heavy Duty Cleaner, diluted according to the directions on the container. Rinse thoroughly with water. *Refer to Section 7, Cleaning Solution.*



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## CLEANING AFTER DAILY USE

Disassemble and clean thoroughly daily. Follow the disassembly instructions in this manual. *Refer to Section 5, Disassembly of Handpiece.*

### Tooth Roll

- Remove any meat particles present on tooth roll using a combination of high-pressure spray and manual removal.
- For best results, apply high-pressure spray in the opposite direction of the tooth orientation.
- Once teeth are clear of meat particles, use the high-pressure spray to clean tooth roll bore and keyway areas.
- Finish cleaning using a brush and XTRA<sup>®</sup> Heavy Duty Cleaner, diluted according to the directions on the container.
- Rinse thoroughly with clean water then dry.

### Handle Assembly

- Use high-pressure spray to clean plastic handle, aluminum body and worm gear areas.
- Take care around base of worm gear so that excess water does not enter bearing area.
- Remove plastics from the handle assembly and clean internal surfaces of plastics and newly exposed metal surfaces using high-pressure spray.
- Finish cleaning using a brush and XTRA<sup>®</sup> Heavy Duty Cleaner, diluted according to the directions on the container.
- Rinse thoroughly with clean water then dry.

### All Other Components

- Includes: Frame, Pivot Screw, Pull Release Assembly, Comb Bar, Tool Roll Shaft, Shaft Retainer and Blade Retainers
  - Remove the majority of meat particles using high-pressure spray.
  - Finish cleaning using a brush and XTRA<sup>®</sup> Heavy Duty Cleaner, diluted according to the directions on the container.
  - Rinse thoroughly with clean water then dry.

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# Section 7

# Service Parts

## CONTENTS OF THIS SECTION

Quantum Skinner <sup>™</sup> - Head Assembly .....	7-2
Quantum Skinner <sup>™</sup> - Handle Assembly .....	7-4
Quantum Skinner <sup>™</sup> - Tooth Roll Assembly .....	7-6
Whizard Quantum <sup>®</sup> Driveline Assembly .....	7-8
Also Available .....	7-10
Cleaning Solution .....	7-10
Cleaning Equipment .....	7-10
Lubrication and Lubrication Equipment .....	7-10



The manufacturer assumes no liability for any unauthorized changes in operating procedures or for unauthorized changes or modifications made to the design of the machine or any factory-installed safety equipment, whether these changes are made by the owner of this equipment, by his employees, or by service providers not previously approved by Bettcher Industries, Inc.

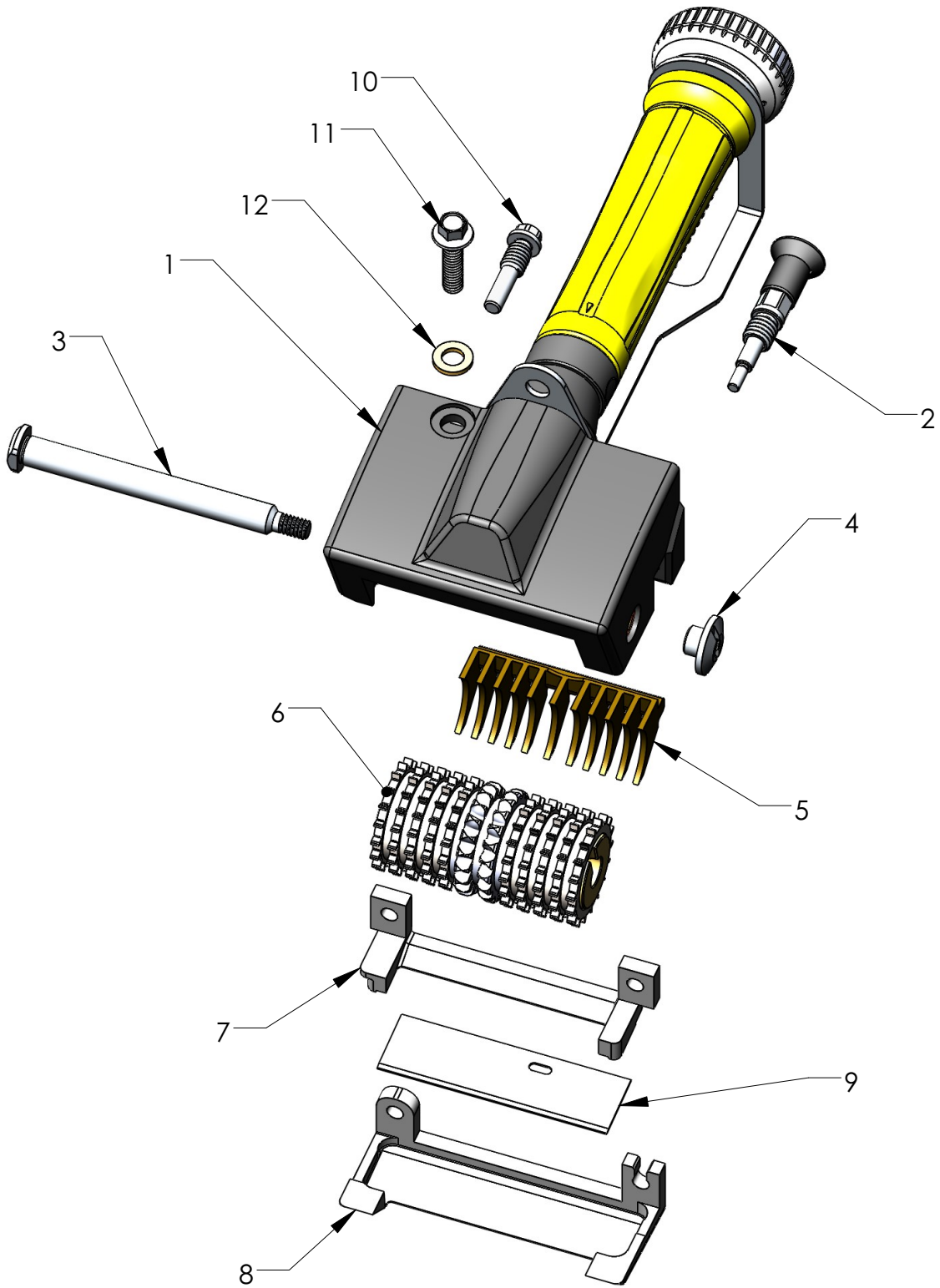
Use only replacement parts manufactured by Bettcher Industries, Inc. Use of substitute parts will void the warranty and may cause injury to operators and damage to equipment.

The use of parts other than those listed in the parts list for the specific model may cause tooth roll lock-up, resulting in an unsafe operating condition.



The Quantum Skinner<sup>™</sup> must ONLY be used with a disconnect lever type of driveline. NEVER operate this tool with a non-disconnect driveline.

**QUANTUM SKINNER™ - HEAD ASSEMBLY**

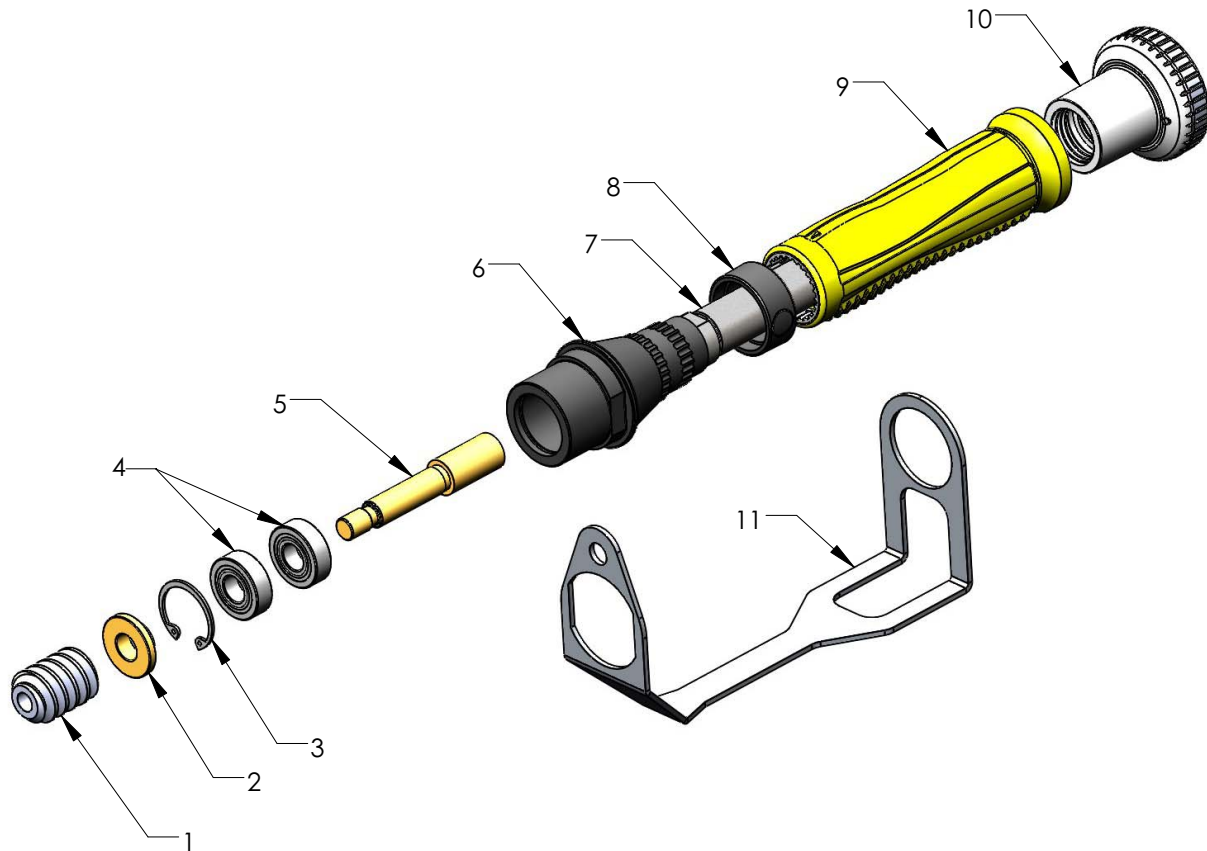


**QUANTUM SKINNER<sup>™</sup> - HEAD ASSEMBLY (CONTINUED)**

ITEM	DESCRIPTION	PART NUMBER
1	FRAME ASSEMBLY	108182
2	PULL RELEASE ASSEMBLY	107476
3	SHAFT, TOOTH ROLL	107456
4	RETAINER, SHAFT	107462
5	COMB BAR, FLOATING, CENTER TOOTH	108945
6	TOOTH ROLL ASSEMBLY	---
---	1/16" TOOTH, CENTER TOOTH	108946
---	1/8" TOOTH, CENTER TOOTH	108947
---	3/16" TOOTH, CENTER TOOTH	108948
7	BLADE RETAINER, STATIONARY	---
---	THIN	107444
---	MEDIUM	107619
---	THICK	107443
8	BLADE RETAINER, SWINGING	---
---	THIN	107446
---	MEDIUM	107620
---	THICK	107445
9	BLADE, PACK OF 100	108184
10	PIVOT SCREW	107447
11	FLANGED HEX HEAD SCREW	107537
12	WASHER PLAIN - 1/4" SPECIAL	120296

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**QUANTUM SKINNER<sup>™</sup> - HANDLE ASSEMBLY**

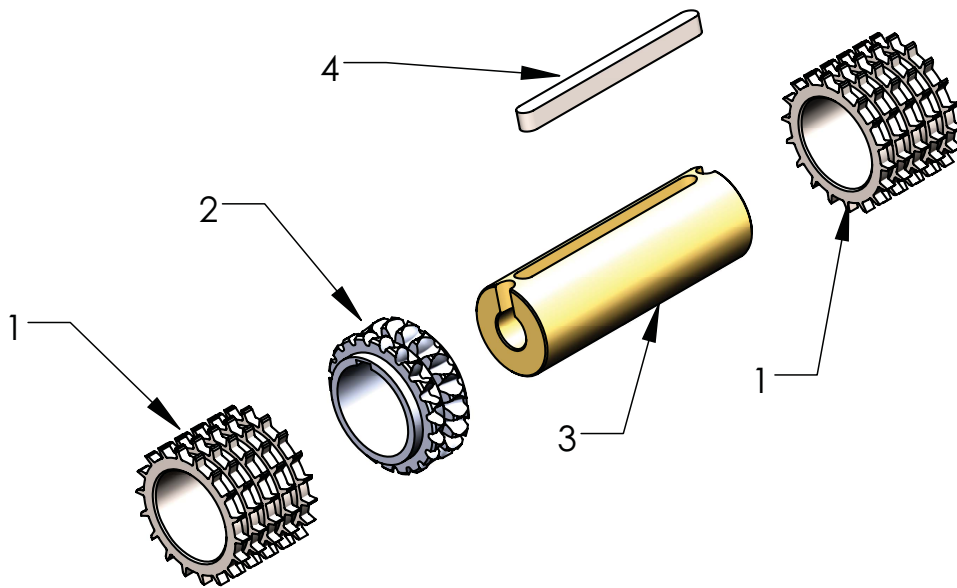


**QUANTUM SKINNER<sup>™</sup> - HANDLE ASSEMBLY (CONTINUED)**

ITEM	DESCRIPTION	PART NUMBER
1	WORM	107369
2	SPACER, WORM	106651
3	RETAINING RING	106740
4	BALL BEARING	106739
5	SHAFT, INTERMEDIATE, MACHINED	106645
6	HANDLE	107538
7	FRAME TUBE, QUANTUM	100644
8	SPACER RING	---
---	SMALL	101030
---	LARGE	101130
9	HANDLE	---
---	SMALL	100639
---	MEDIUM	100693
---	LARGE	100694
10	RETAINING KNOB ASSEMBLY, QUANTUM	100649
11	HANDLE GUARD	---
---	FULL	108000
---	PARTIAL	108058
---	HOOK ONLY	108106

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**QUANTUM SKINNER<sup>™</sup> - TOOTH ROLL ASSEMBLY**





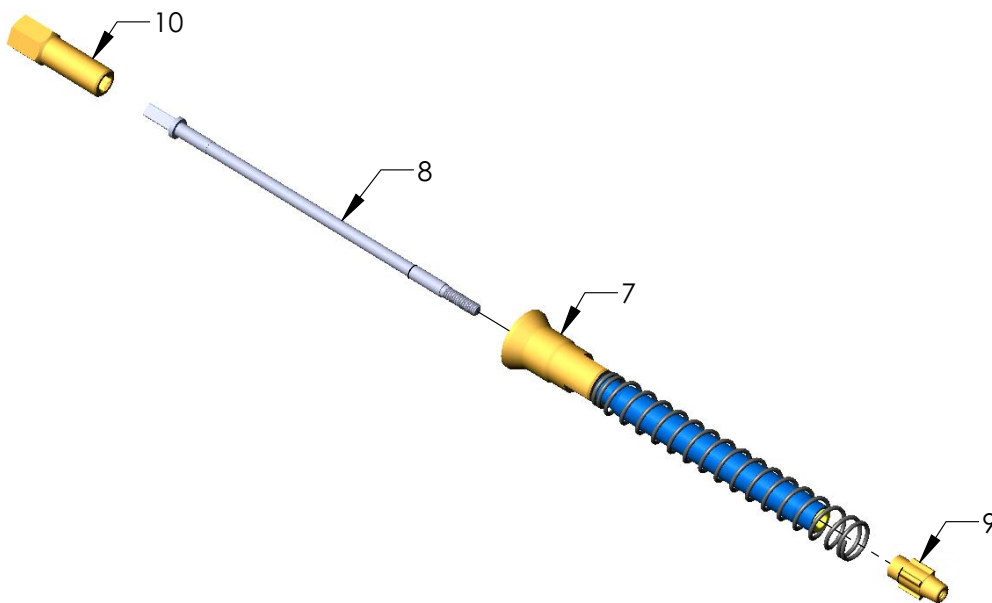
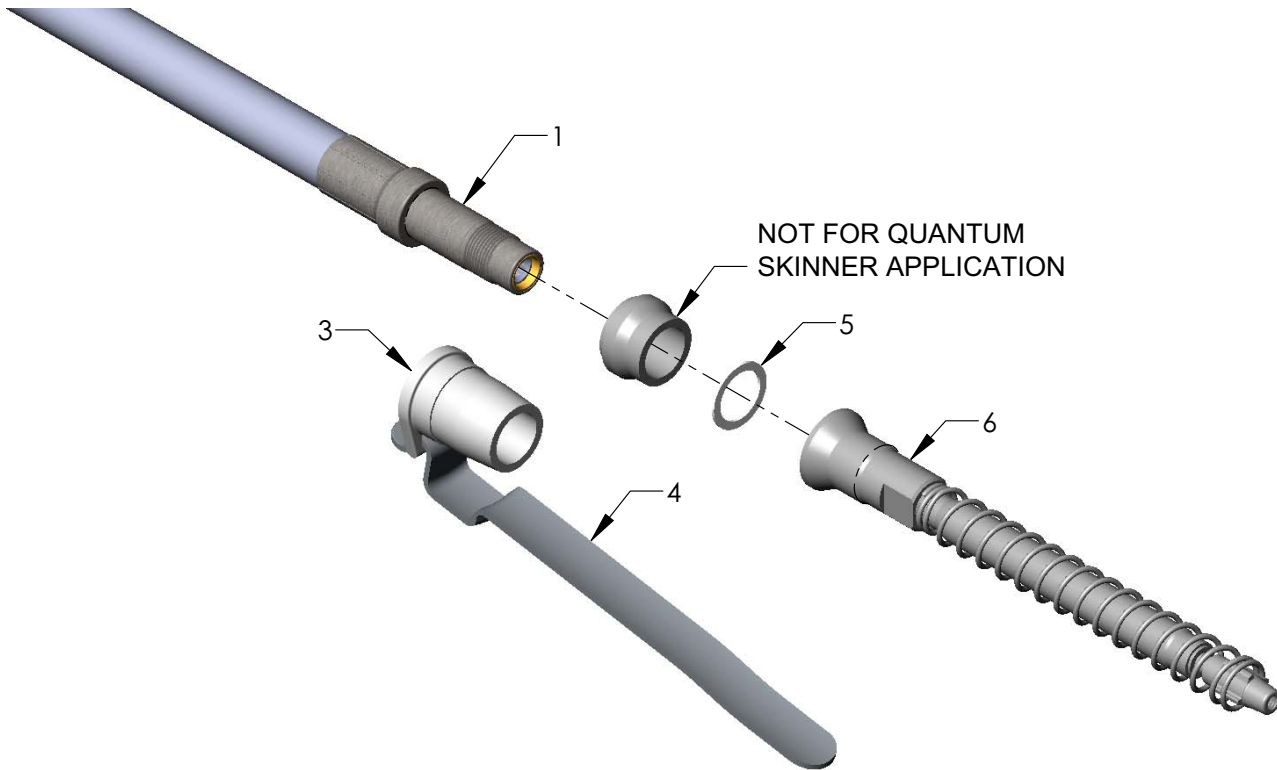
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**QUANTUM SKINNER<sup>™</sup> - TOOTH ROLL ASSEMBLY (CONTINUED)**

ITEM	DESCRIPTION	PART NUMBER
1	SLEEVE, TOOTH ROLL	---
---	1/16" TOOTH	107135
---	1/8" TOOTH	106517
---	1/16" TOOTH	107136
2	GEAR, BRONZE	107368
3	HUB, PEEK	107628
4	KEY	107587

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## WHIZARD QUANTUM<sup>®</sup> DRIVELINE ASSEMBLY



**WHIZARD QUANTUM<sup>®</sup> DRIVELINE ASSEMBLY (CONTINUED)**

ITEM	DESCRIPTION	WITH DISCONNECT		
		48"	60"	84"
	DRIVELINE ASSEMBLY COMPLETE LARGE DIAMETER (INCLUDES 1,3,4,5,6)	101055	101056	102672
1	WHIZARD QUANTUM <sup>®</sup> DRIVELINE LARGE DIAMETER	100618	100619	102551
3	DISCONNECT COLLAR	101057	101057	101057
4	DISCONNECT LEVER	183108	183108	183108
5	PLASTIC WASHER	100713	100713	100713
6	COMPLETE DRIVER ASSEMBLY	100709	100709	100709
7	DRIVER TUBE ASSEMBLY	101138	101138	101138
8	DRIVER SHAFT	100821	100821	100821
9	DRIVER TIP	100305	100305	100305
10	DRIVER SHAFT TOOL	101252	101252	101252

## ALSO AVAILABLE

### Cleaning Solution

PART NUMBER	DESCRIPTION
184331	EXTRA <sup>®</sup> HEAVY DUTY CLEANER (1 CASE)
184332	EXTRA <sup>®</sup> HEAVY DUTY CLEANER (1 GALLON)

### Cleaning Equipment

PART NUMBER	DESCRIPTION
184334	Handpiece Cleaning Kit (Contains the following)
--	184335 Handpiece Cleaning Pick
--	184336 Stainless Steel Hand Brush
--	184337 Scrub Brush
--	184338 1-1/2" Diameter Tubing Brush
--	184339 1/2" Diameter tubing

### Lubrication and Lubrication Equipment

PART NUMBER	DESCRIPTION
102609	13.5 OZ. CARTRIDGE OF WHIZARD QUANTUM <sup>®</sup> HIGH PERFORMANCE GREASE
103271	30 PACK - 13.5 OZ. CARTRIDGE OF WHIZARD QUANTUM <sup>®</sup> HIGH PERFORMANCE GREASE
102612	35 POUND BUCKET OF WHIZARD QUANTUM <sup>®</sup> HIGH PERFORMANCE GREASE

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# Section 8

# Contact and Document Information

## CONTENTS OF THIS SECTION

Contact Address and Phone .....	8-2
Document Identification .....	8-2

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## CONTACT ADDRESS AND PHONE

For additional information, technical support and spare parts, contact your Regional Manager, Distributor, or Bettcher Representative:

Bettcher Industries, Inc.  
P.O. Box 336  
Vermilion, Ohio 44089  
USA  
Tel: +1 440/965-4422  
Fax: +1 440/328-4535

BETTCHER GmbH  
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CH-6036 Dierikon  
SWITZERLAND  
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Fax: +011-41-41-348-0229

Bettcher do Brasil Comércio de Máquinas Ltda.  
Av. Fagundes Filho, 145 Cj 101/102 - São Judas  
São Paulo - SP  
CEP 04304-010 - BRASIL  
Tel: +55 11 4083 2516  
Fax: +55 11 4083 2515

## DOCUMENT IDENTIFICATION

Copies of this Operation Instruction may be ordered by quoting the Document ID as listed below:

Document ID:	Manual # 108115
Document Description:	Operating Instructions and Spare Parts List for the Quantum Skinner™
Issued:	Date: March 28, 2019

Operating Instructions for the Quantum Skinner™ may be requested by quoting the model designation of the tool.

## SOFTWARE AND DUPLICATION

For more information, contact your local Representative or:

Bettcher Industries, Inc.  
Administrative Assistant/Engineering Department  
PO Box 336  
Vermilion, Ohio 44089  
USA