

BETTCHER®



FOR USE WITH THE WHIZARD QUANTUM® DRIVE UNIT

Operating Instructions & Parts List for the Bettcher® Cyclone Skinner™

MANUAL #110115, ISSUED: AUGUST 5, 2022

MANUAL #110115

Issued: August 5, 2022

TMC: #842

For Assistance:

E-mail:

quantum@bettcher.com:

Address:

BETTCHER INDUSTRIES INC.
6801 State Route 60
Birmingham, OH
44889 U.S.A.

Phone:

440/965-4422
800/321-8763

Fax:

440/328-4535

www.bettcher.com

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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:

Address:

BETTCHER INDUSTRIES INC.
6801 State Route 60
Birmingham, OH
44889 U.S.A.

Phone:

440/965-4422
800/321-8763

Fax:

440/328-4535

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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.



MACHINE SPECIFICATIONS

Has No Functionality By Itself, However, When Combined With: WHIZARD QUANTUM® DRIVE

Is In Conformity With The Following Directive: Directive 2006/ 42/ EC Relating To Machinery Which Includes Conformity With The Following Standards:

- BS EN 60204-1 Safety of Machinery Parts 1
- ISO 3744 Acoustics-Determination of Sound Power Levels Noise Sources Using Sound Pressure-Engineering Methods
- BS EN 28662-1 Hand-Held Portable Power Tools-Measurement of Vibration At The Handle
- BS EN 12984 Food Processing Machinery Portable And/Or Hand Operated Machines And Appliances Equipped With Mechanical Driven Cutting Tools Safety And Hygiene Requirements

This Declaration of Conformity applies only to the original equipment and to original equipment replacement parts as sold by Bettcher Industries or its authorized distributors. The use of replacement parts or equipment that are not manufactured or sold by Bettcher Industries, Inc. or its authorized distributors may cause or contribute to non-compliance of the specified Products to this Declaration of Conformity, the consequences of which is then the sole responsibility of the owner of these products.

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SECTION 1

Safety

Signal word panels	12
Safety symbols	13
Safety recommendations and warnings	14
Safety features	15
Noise and vibration levels	15

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.

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)

NOTICE

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.

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

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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 Cyclone Skinner® must **ONLY** be used with a disconnect lever type of driveline or a remote start driveline. **NEVER** operate this tool without a disconnect driveline or remote start driveline.



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 Cyclone 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.



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



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.



ALWAYS turn off the Whizard Quantum® Drive Unit when not in use.

NEVER lay the skinner down on the workstation without a remote start driveline or let it hang free by the driveline.



Avoid use of this machine in standing water.

Long or repeated use of various power tools vibrating excessively is suspected of contributing to certain hand, wrist or forearm disorders in susceptible individuals.



SAFETY RECOMMENDATIONS AND WARNINGS (CONTINUED)

If excessive vibration occurs, it is an indication that there are worn parts that need replacement.



If your Cyclone Skinner® develops unusual vibration, do not continue to use it without first undertaking corrective action as outlined in the troubleshooting guide in this operating instruction.

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.

NOTICE

USE SAFTY FEATURES

All Cyclone Skinner® tools have been designed for use with a Whizard Quantum® disconnect driveline or Remote Start 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.

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 77 dB(A).
- Vibration of the handpiece is less than .345 m/sec².
- No negative side effects have been reported.

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SECTION 2

Designated Use

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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 Cyclone Skinner® has been specifically designed for use with the Whizard Quantum® Drive. Cyclone 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® Drive and the Cyclone Skinner® were designed and built may result in serious injuries.

RECOMMENDED OPERATION

The Cyclone Skinner® must **ONLY** be used with a disconnect lever or remote start type of driveline. **NEVER** operate this tool with a non-disconnect or remote start driveline.

Recommended operating temperature: -5 °C to 30 °C

Recommended storage temperature: -25 °C to 55 °C

Recommended operating humidity: 10% to 90%

Recommended operating barometric pressure: 850mb to 1100mb

FUNCTION

The Whizard Quantum® Drive Unit will drive the Cyclone Skinner® with all the advantages, power, and performance to improve your yields and profits.

The Whizard Quantum® 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.

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The Cyclone Skinner® must **ONLY** be used with a disconnect lever type of driveline or a remote start driveline. **NEVER** operate this tool without a disconnect driveline or remote start driveline.



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

NOTICE

WORK STATION

Correct installation is extremely important to achieve maximum efficiency for both the Cyclone Skinner® 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.

NOTICE

The work station for each operator should be designed so that the operator's movements in performing the job are natural, easy and use in a well lit environment. A sideways sweeping motion with the Cyclone Skinner® 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.

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



CAUTION

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

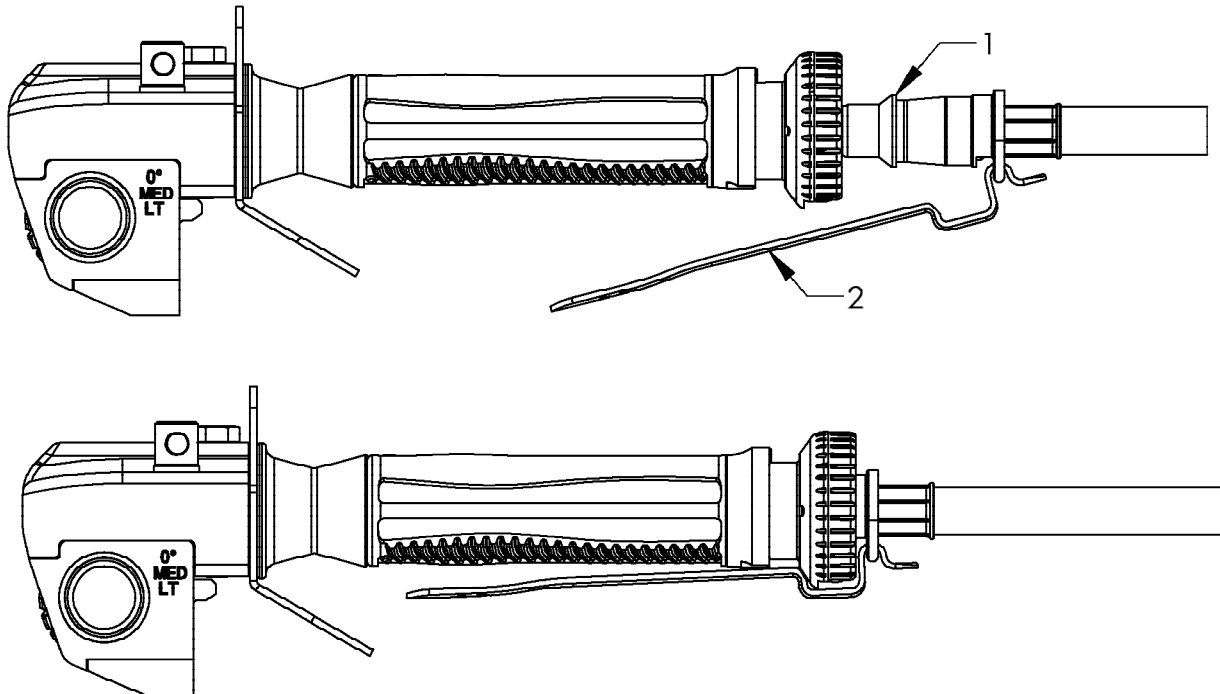
ATTACHING CYCLONE SKINNER® TO THE WHIZARD QUANTUM® DRIVELINE

The Cyclone Skinner® must **ONLY** be used with a disconnect lever type of driveline or a remote start driveline. **NEVER** operate this tool without a disconnect driveline or remote start driveline.



DISCONNECT DRIVELINE

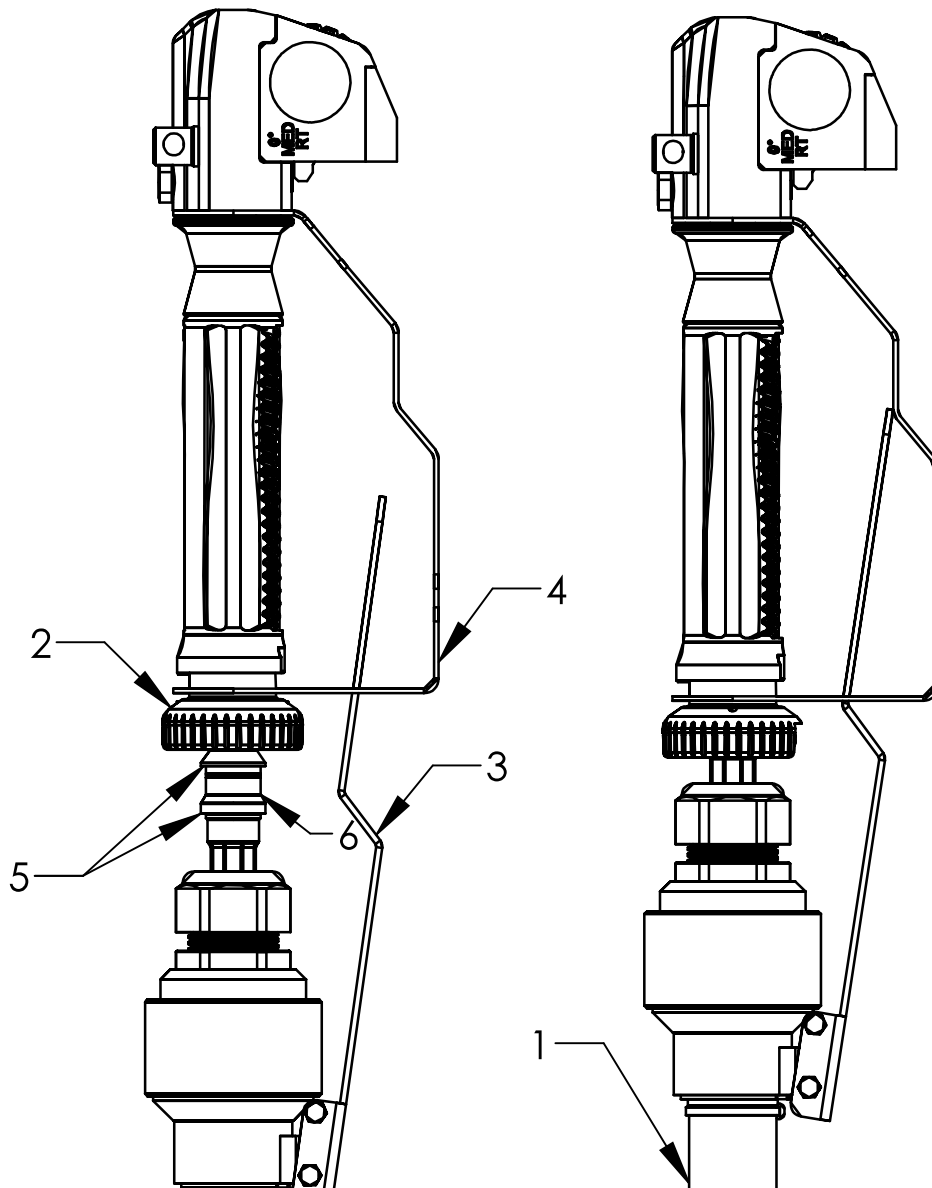
1. Hold the skinner in the hand you will use in operation, and with the other hand, grasp the Whizard Quantum® driveline and push it into the end of the tool through the handle retaining knob until the latch catches the detent (#1).
2. The disconnect lever (#2) rotates freely around the handle.
3. Align the disconnect lever (#2) 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.
4. Check to see that the lever is seated completely flat within the groove.
5. Release the disconnect lever (#2) and the driveline should pop out and stop the tooth roll from turning. The motor will continue to operate.



ATTACHING CYCLONE SKINNER® TO THE WHIZARD QUANTUM® DRIVELINE (CONTINUED)

REMOTE START DRIVELINE

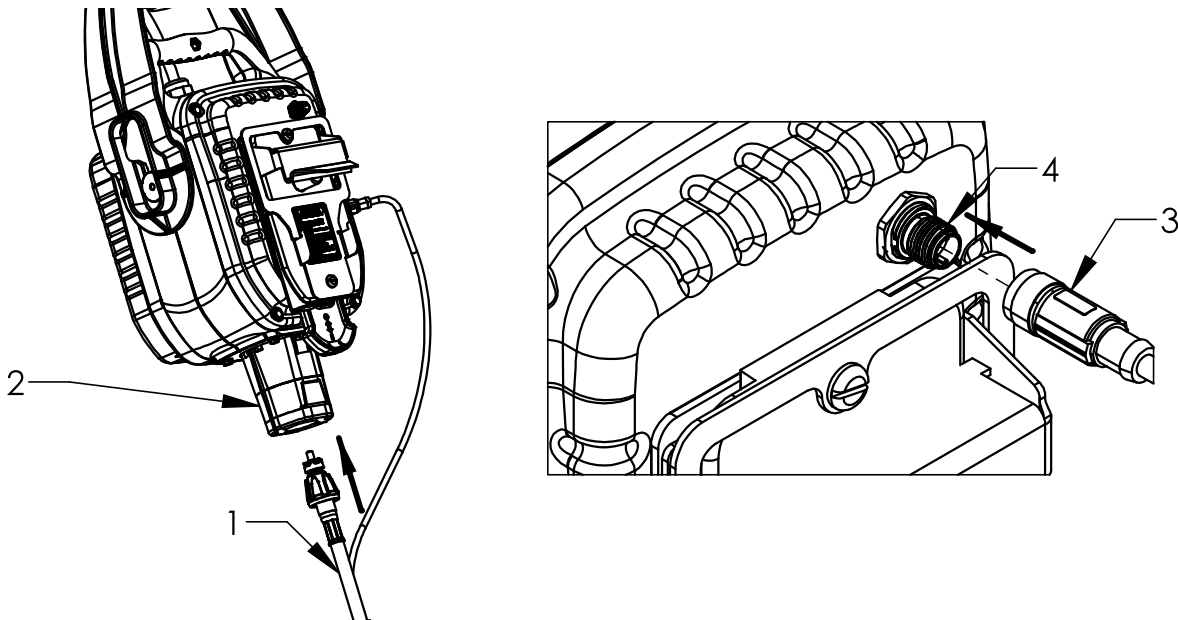
1. Hold tool in the hand you will use in operation.
2. With opposite hand, grasp driveline (#1) and push it through handle retaining knob (#2), lining up the lever (#3) with the guard (#4).
3. Push driveline (#1) until both detents (#5) on latch collar (#6) are inserted. Two clicks (2) will be heard.
4. The tool is now ready for operation.



ATTACHING WHIZARD QUANTUM® DRIVELINE TO THE WHIZARD QUANTUM® DRIVE UNIT

INSTALL WHIZARD QUANTUM® DRIVELINE TO DISCONNECT BODY

Insert proper end of the driveline (#1) into disconnect body (#2). The driveline (#1) will latch in place when fully inserted into disconnect body (#2) and an audible click can be heard. For a remote start driveline plug the cable (#3) into the connector (#4), then tighten the cable (#3) to secure.



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The Cyclone Skinner® must **ONLY** be used with a disconnect lever type of driveline or a remote start driveline. **NEVER** operate this tool without a disconnect driveline or remote start driveline.



BLADE INSTALLATION / REMOVAL

Sharp blade and tooth roller may cause cut injury!

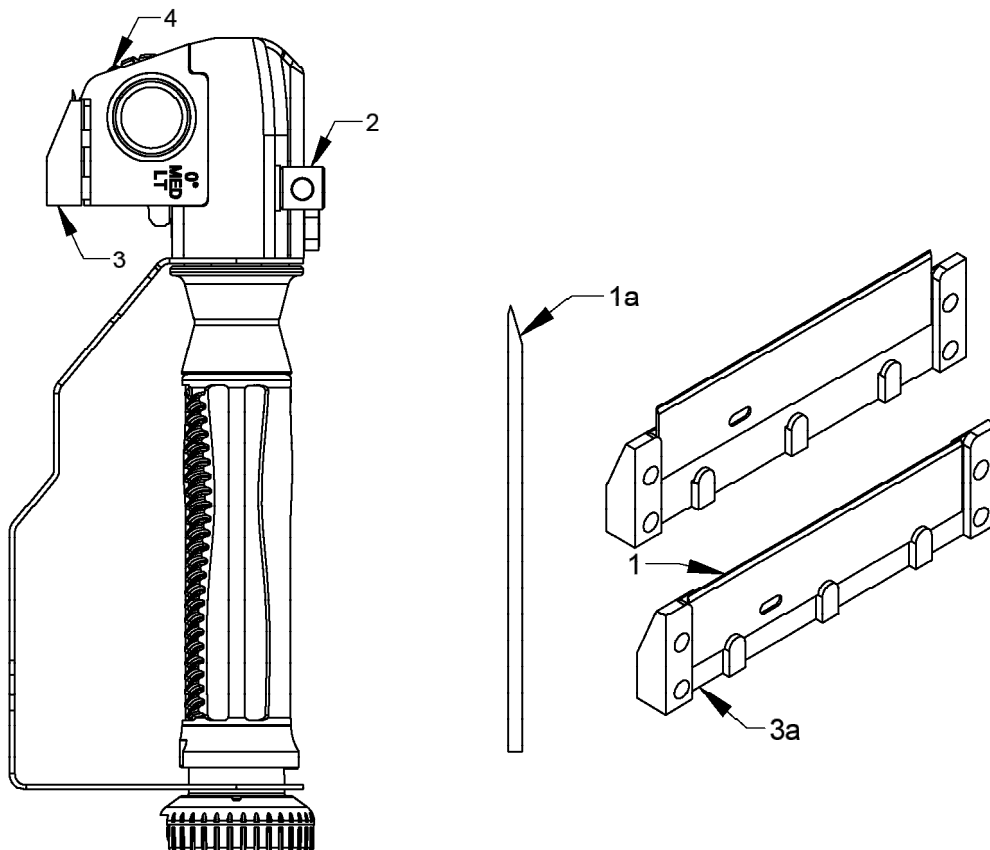
For proper protection of hands, a stainless steel mesh “cut” glove must be worn on the free hand along with an arm guard on the free arm during the operation of the Cyclone Skinner®.

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.



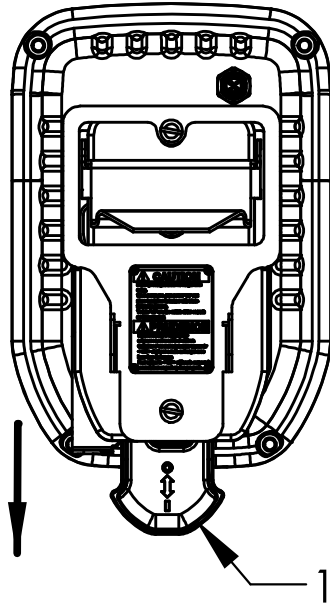
1. To remove blade (#1) slightly loosen thumb screws (#2).
2. Pull blade retaining plate (#3) away from the tooth roll (#4).
3. Remove old blade (#1) if present.
4. Place new blade (#1) in pocket (#3a) on the blade retaining plate (#3). Be sure to wipe debris from mating surfaces. NOTICE: Install blade with sharp edge facing forward and the bevel (#1a) facing upward towards the tooth roll (#4).
5. Tighten thumb screws (#2), pulling the blade retaining plate (#3) back into place.



TURNING ON / OFF THE WHIZARD QUANTUM® DRIVE UNIT

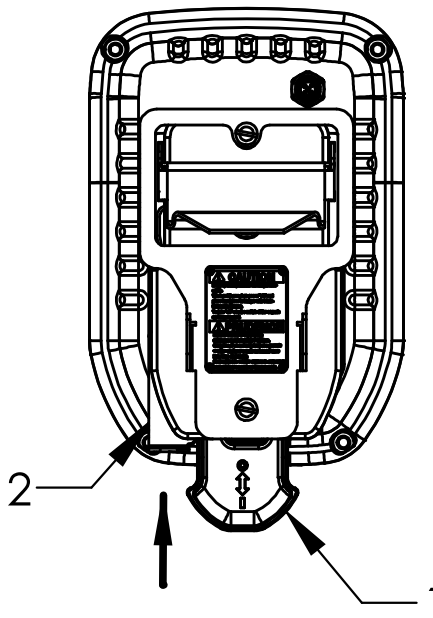
TO TURN ON THE WHIZARD QUANTUM® DRIVE UNIT:

1. Pull down on switch lever (#1) to turn unit ON.



TO TURN OFF THE WHIZARD QUANTUM® DRIVE UNIT:

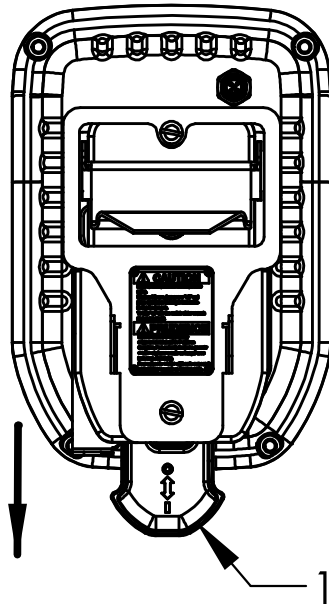
1. Push up on switch lever (#1) or latch (#2) to turn unit OFF.



TURNING ON THE WHIZARD QUANTUM® DRIVE

TO TURN ON THE WHIZARD QUANTUM® DRIVE:

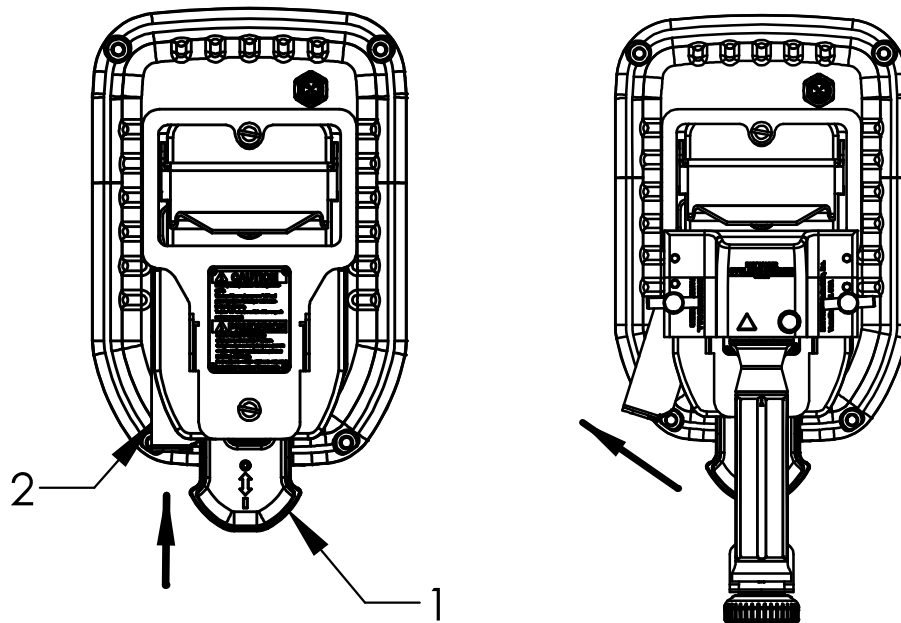
1. If necessary, remove tool from hanger.
2. Pull down on switch lever (#1).
3. FOR REMOTE START: The tool lever must also be depressed to actuate the motor.



TURNING OFF THE WHIZARD QUANTUM® DRIVE

THERE ARE 2 WAYS TO TURN OFF THE WHIZARD QUANTUM® DRIVE:

1. Push up on switch lever (#1).
2. Lift latch/handpiece bracket with your hand or place front portion of tool in the “lip” area of handpiece bracket and lift up on handpiece bracket with tool in hand.
3. FOR REMOTE START: Releasing the tool lever will turn off the motor. For added safety it is recommended to turn OFF the Whizard Quantum Drive at the motor switch lever when the tool will not be in operation for extended periods.



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 Cyclone 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® Driveline.

With your other hand, turn on the Whizard Quantum® Drive Unit by pulling down on the switch lever.

Refer to Section 4, Turning ON The Whizard Quantum® Drive Unit.

For disconnect driveline, 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 Cyclone Skinner® to the Whizard Quantum Driveline.

For remote start driveline, hold down remote start lever to operate the Cyclone Skinner. The tooth roll is now rotating and you are ready to operate the skinner.

Refer to Section 3, Attaching Cyclone Skinner® to the Whizard Quantum® Driveline.

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.

For the disconnect driveline, when disconnect lever is released, the driveline will pop out of operating position and stop the tooth roll from turning. The Whizard Quantum® 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® Drive Unit.

For the remote start driveline, when the remote start lever is released, the tooth roll will stop turning. The Whizard Quantum® drive can continue to operate if the remote start lever is held down again. To manually shut off the Whizard Quantum® drive push up on switch lever or latch to turn unit off.

Refer to Section 4, Turning OFF The Whizard Quantum® Drive Unit.

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Fault Detection and Correction	45

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.

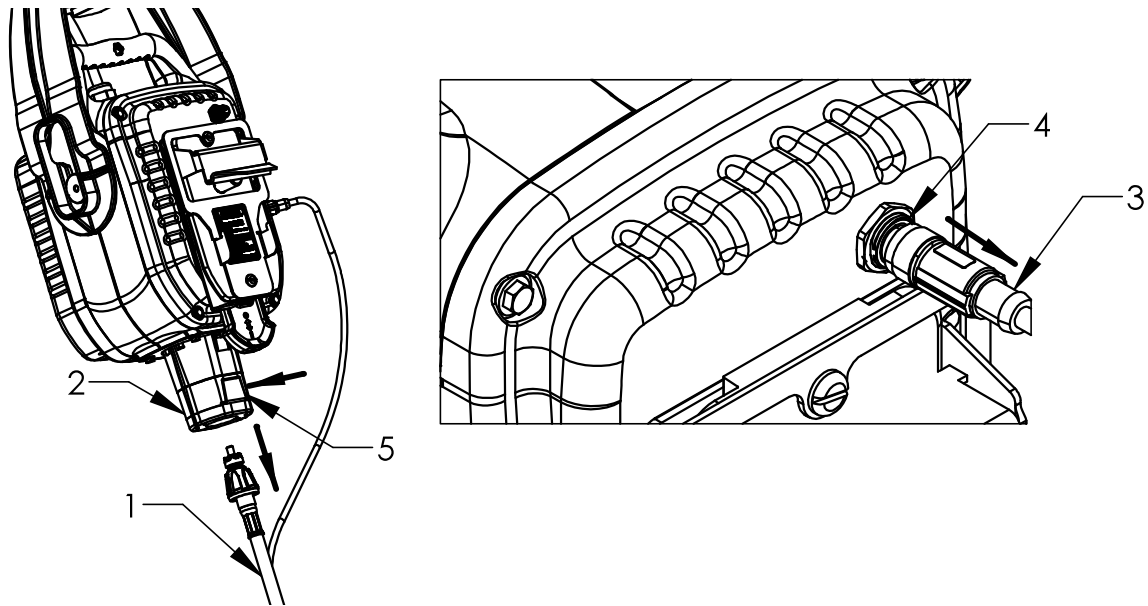
All electrical repairs should be completed by a qualified electrician or approved service provider.



REMOVING WHIZARD QUANTUM® DRIVELINE FROM THE WHIZARD QUANTUM® DRIVE UNIT

REMOVE WHIZARD QUANTUM® DRIVELINE FROM DISCONNECT BODY

1. Loosen the cable from the connector (#4).
2. Un-plug the cable (#3) from the connector(#4).
3. Hold driveline assembly (#1) around the top exposed portion, just below the disconnect body (#2).
4. Push casing retainer latch (#5) inward and pull driveline (#1) down and out of disconnect body (#2).



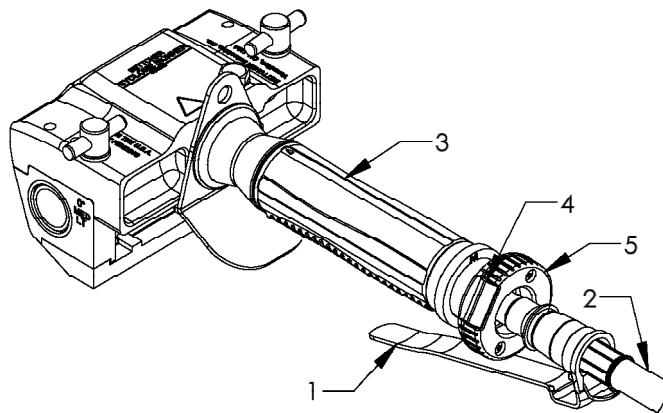
REMOVING CYCLONE SKINNER® FROM THE WHIZARD QUANTUM® DRIVELINE

The Cyclone Skinner® must **ONLY** be used with a disconnect lever type of driveline or a remote start driveline. **NEVER** operate this tool without a disconnect driveline or remote start driveline.



WITH DISCONNECT

1. Release the disconnect lever (#1) and the driveline (#2) should partially eject from the handle (#3).
2. With the opposite hand, press the latch button (#4) in the handle retaining knob (#5).
3. The driveline (#2) should eject from the handle (#3).



WITH REMOTE START

1. Hold the Cyclone Skinner in the hand you will use in operation.
2. With the opposite hand, press the latch button (#1) in the handle retaining knob (#2).
3. The driveline (#3) should eject from the handle (#4).

DISASSEMBLY OF HANDPIECE

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

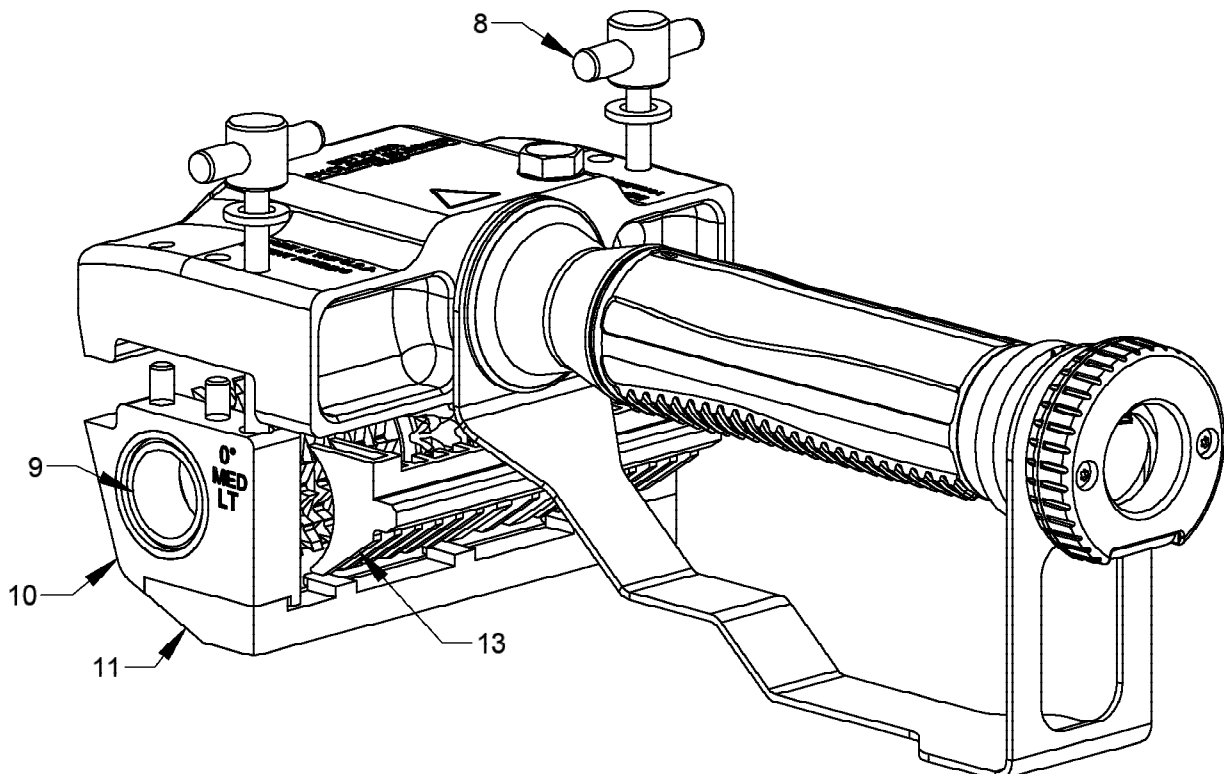
For proper protection of hands, a protective glove should be used when operating this equipment and during the handling of blades.

Metal mesh gloves are recommended for the free hand.



HEAD ASSEMBLY

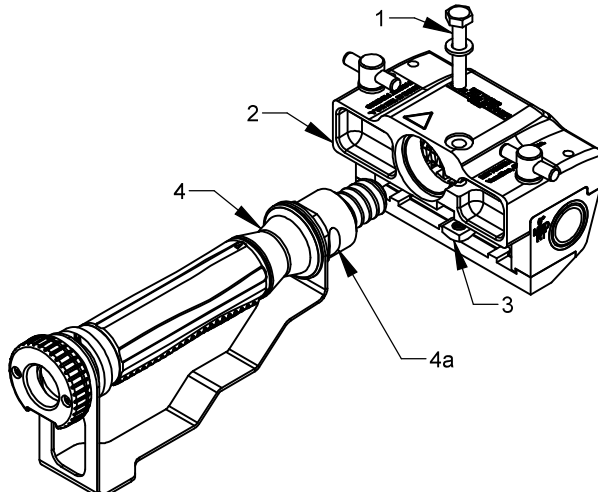
1. Remove blade. Refer to Section 4, Blade Installation / Removal.
2. Unthread thumb screws (#8) from blade retaining plate (#11) completely.
3. You can now remove the side plates (#10) with the tooth roll (#9), the comb bar (#13) can now be removed.



DISASSEMBLY OF HANDPIECE (CONTINUED)

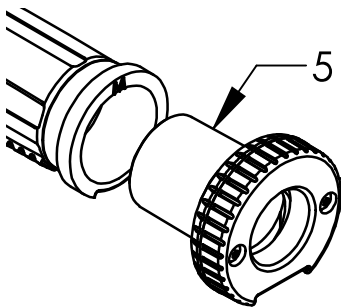
REMOVE FRAME FROM HANDLE

1. Loosen and remove clamp screw (#1) on the top of the frame (#2) from square nut (#3) using a 7/16" wrench.
2. Pull out the clamp screw (#1) completely to remove the frame (#2) from the handle assembly (#4).



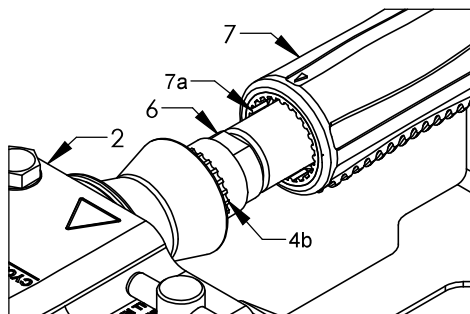
REMOVE THE HANDLE RETAINING KNOB

1. Turn retaining knob (#5) counterclockwise.



REMOVE THE HANDLE FROM THE TOOL

1. Pull the handle (#7) off the tube (#6).



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.
- Change blade with performance degradation.

TOOTH ROLL

- Check for worn or chipped teeth on the center bronze gear.
- Check for broken teeth on the two sides.

COMB BAR

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

BLADE RETAINING PLATE

- Check for bending in the plate.
- Check blade retaining tabs for damage.

SIDE PLATES

- Check bronze bushing for wear/damage.
- Check that all pins are present.

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.

DRIVELINE QUICK DISCONNECT LEVER

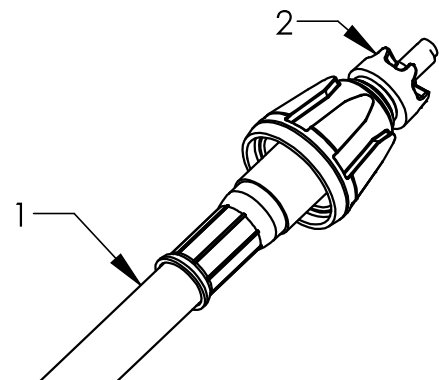
- Check to make sure that the disconnect lever is not bent, such that would prevent the disconnect assembly from ejecting from the tool.

DRIVELINE REMOTE START LEVER

- Check to make sure that the remote start lever is not bent, such that would prevent the tool from turning on.

WHIZARD QUANTUM® DRIVELINE INSPECTION

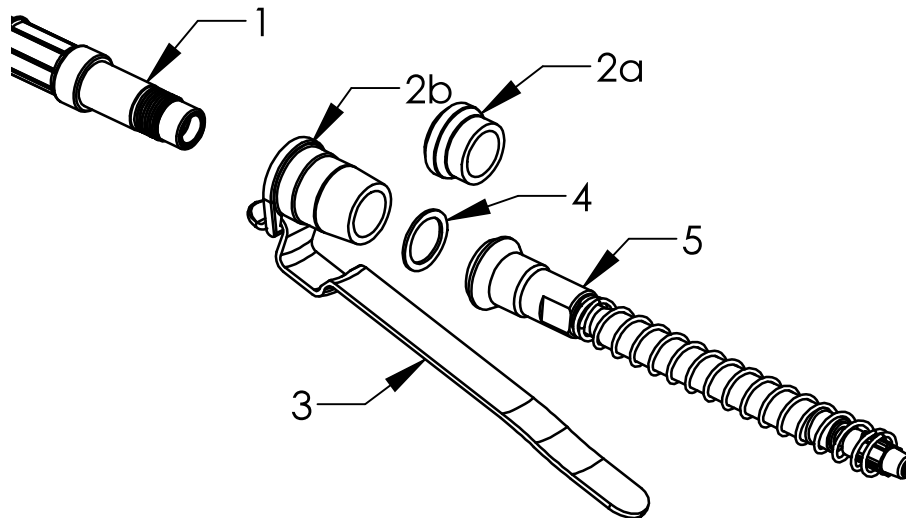
- The Whizard Quantum® Driveline includes a casing (#1) and flexible shaft that is factory lubricated and does not require ongoing maintenance lubrication.
NOTE: The flexible shaft is not removable from the casing (#1).
- Inspect the casing (#1) for any cracks, tears or other wear. If any damage is found, replace the Whizard Quantum® Driveline.
- Check to ensure that the flexshaft driver (#2) can freely rotate in the casing (#1). If it will not rotate, replace the entire assembly.



DRIVER ASSEMBLY INSPECTION AND REPLACEMENT

WHIZARD QUANTUM® DRIVELINE REPLACEMENT

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



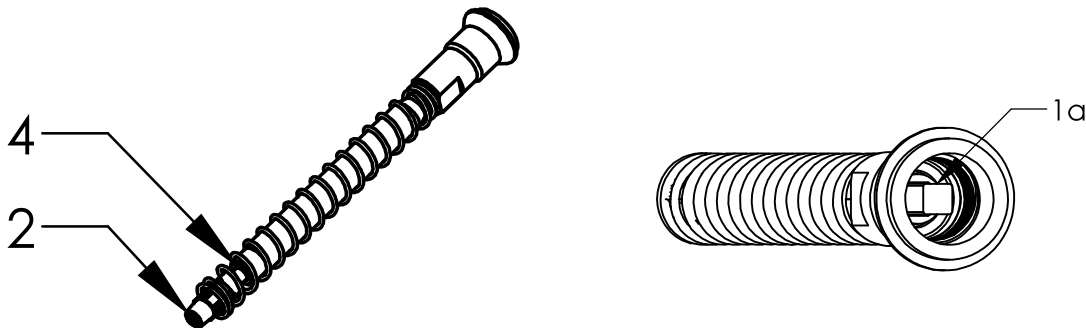
TO REASSEMBLE THE DRIVE END ASSEMBLY TO A NEW WHIZARD QUANTUM® DRIVELINE

1. When using the driveline disconnect, place the disconnect lever (#3) onto the collar (#2).
2. Slip the collar (#2) with disconnect lever (#3) onto the new driveline.
3. Slip the nylon washer (#4) onto the new driveline.
4. Clean the threads of the new driveline assembly and apply Loctite #242 Thread locker.
5. Screw the driver assembly (#5) on the new driveline.
6. 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.

DRIVER ASSEMBLY INSPECTION AND REPLACEMENT (CONTINUED)

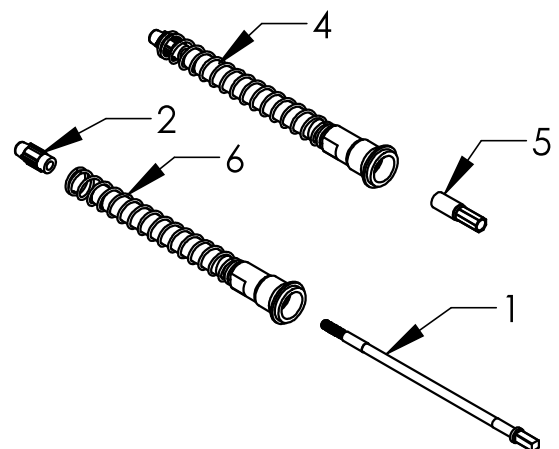
WHIZARD QUANTUM® DRIVER ASSEMBLY INSPECTION

1. Make certain the driver shaft (#1) and driver tip (#2) rotate freely and also that they can slide back and forth freely.
2. Check for wear on the bearing (#3) at the end of the tube assembly (#4). If the bearing (#3) flange is excessively worn, replace the tube assembly (#4).
3. Inspect the flutes of the driver tip (#2). If they are excessively worn, replace the driver tip (#2).
4. Inspect the square end (#1a) of the driver shaft. If the corners are rounded, replace the driver shaft.



WHIZARD QUANTUM® DRIVER TIP AND DRIVER SHAFT REMOVAL

1. Grip the driver shaft tool (#5) (Part #101252) in a vice and place the driver assembly over the tool so that the square end (#1a) of the driver shaft fits into the square hole of the tool.
2. Pull the spring (#6) back and use a crescent wrench to grip the driver tip (#2).
3. Turn the driver tip (#2) CLOCKWISE. Continue to turn the driver tip (#2) CLOCKWISE until it is free from the driver shaft (#1).
4. Pull the driver shaft (#1) out of the tube (#4)



NOTICE: The Cyclone Skinner® uses a large drivertip (100305).

NOTICE: The large driver tip is a left-handed thread.

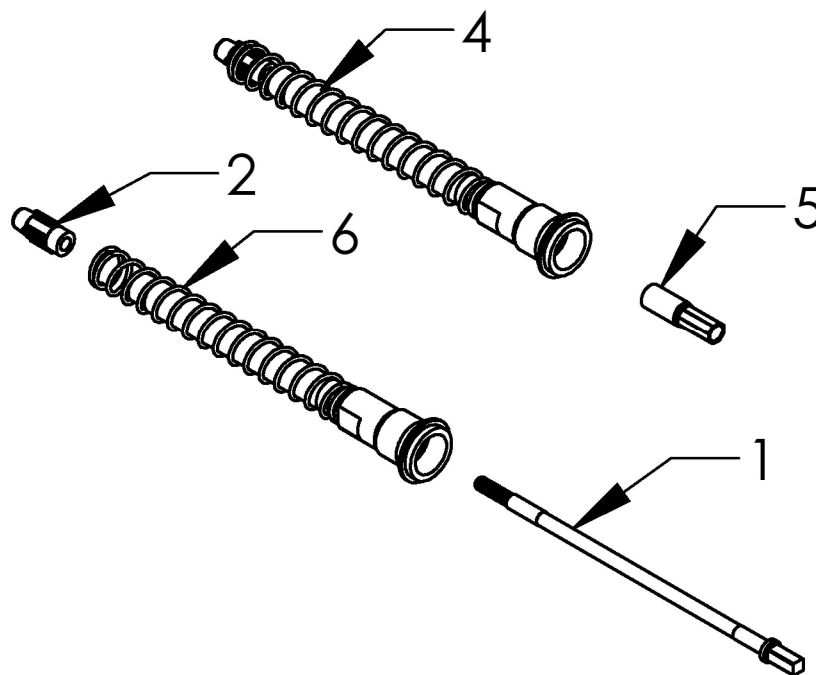
DRIVER ASSEMBLY INSPECTION AND REPLACEMENT (CONTINUED)

DO NOT overtighten the driver tip. Doing so could break the driver shaft.

NOTICE

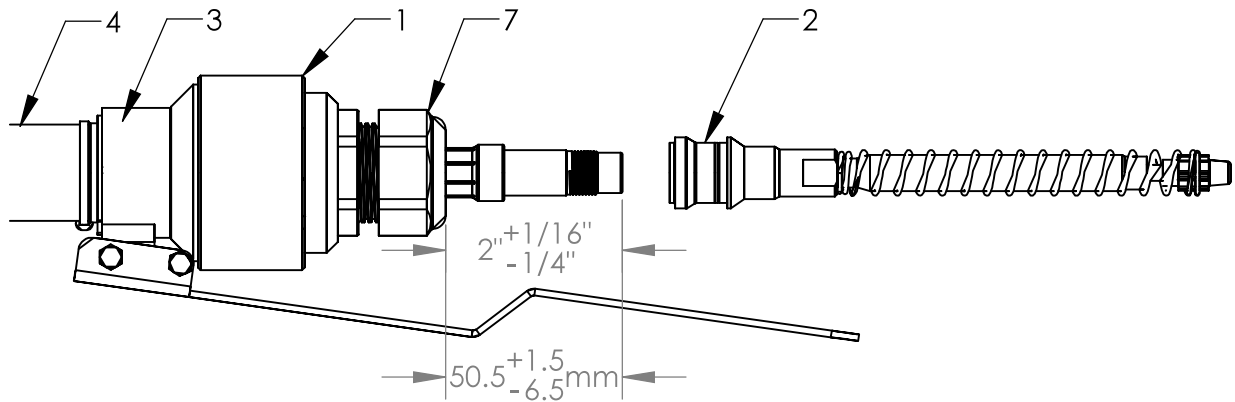
ASSEMBLY OF THE WHIZARD QUANTUM® DRIVER ASSEMBLY

1. Apply Max-Z-lube grease to the 2 bearing areas of the driver shaft (#1). Refer to Section 7, Lubrication and Lubrication Equipment.
2. Insert the driver shaft (#1) into the tube assembly.
3. Grip the driver shaft tool (#5) in a vice and place the driver assembly over the tool so that the square end (#1a) of the driver shaft (#1) fits into the square hole of the tool.
4. Clean the threads of the driver shaft (#1) and apply a small amount of Loctite #242 thread locker.
5. Pull back the spring with one hand then thread the driver tip (#2) onto the threads with a **COUNTER-CLOCKWISE** motion. Turn by hand until the driver tip (#2) bottoms out.
6. Using a crescent wrench, apply a small amount of torque (25 in-lbs max) to snug the driver tip (#2).

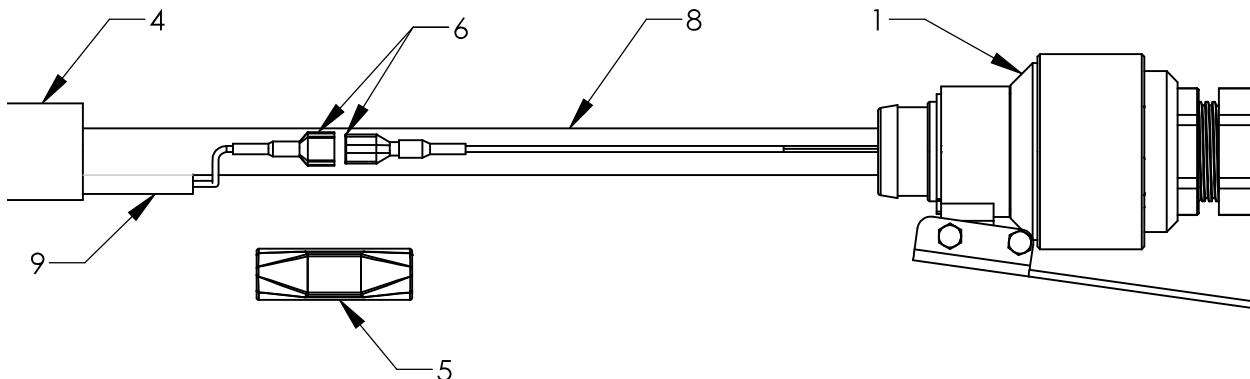


REMOTE START REPLACEMENT

- If Remote Start unit (#1) stops working it can be replaced.
- Remove driver assembly (#2) and zip tie (#3).



- Pull outer tubing (#4) back and cut shrink tubing (#5) around connectors (#6) be careful to not cut the wires (#9) or driveline casing. Loosen nut (#7). You can now remove the remote start unit (#1).



- Slide a new piece of shrink tube (#5) onto the driveline (#8). Slide a new remote start unit (#1) onto the driveline (#8) and connect the wires (#9). Pull wires (#9) away from the remote start unit (#1) then push them back about 1/2" to give the wires (#9) some slack. Heat shrink the piece of heat shrink (#5) over the connected wires (#9).
- Position remote start unit (#1) as shown. Tighten nut (#7) to secure.
- Pull the outer tubing (#4) back over the remote start unit (#1) and use a zip tie (#3) to secure it.
- Reattach the driver assembly (#2). The remote start is now ready for use.

ASSEMBLY OF HANDPIECE

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

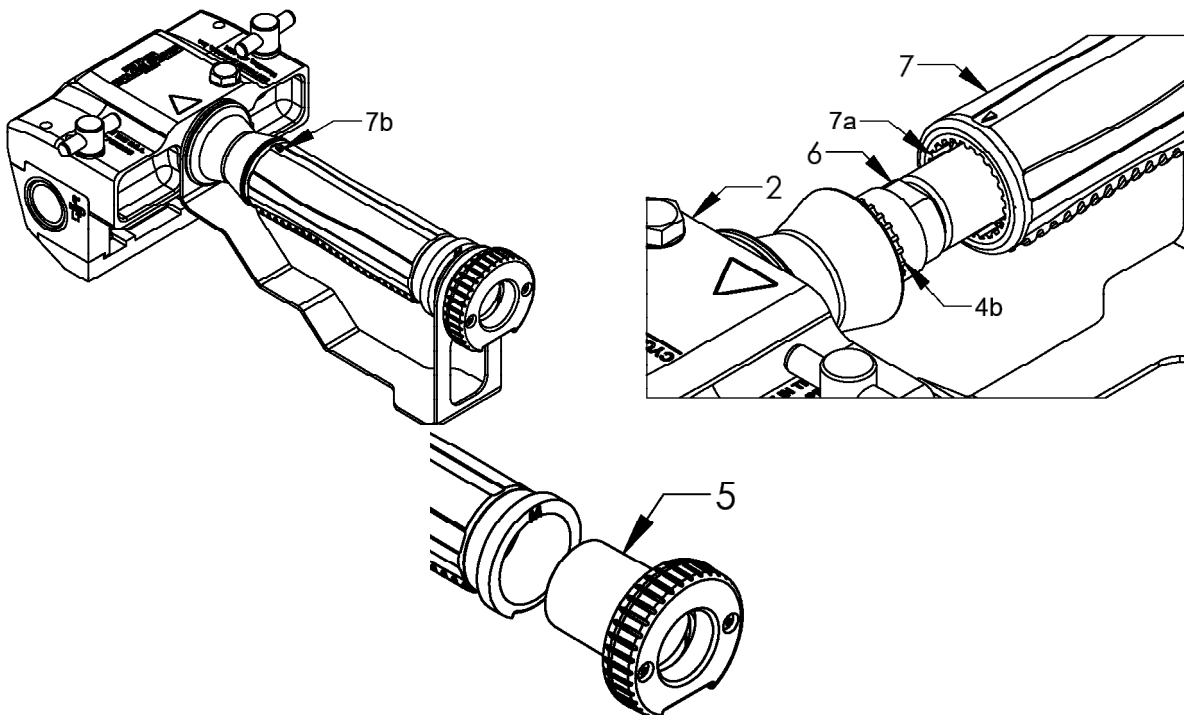
For proper protection of hands, a protective glove should be used when operating this equipment and during the handling of blades. Metal mesh gloves are recommended for the free hand.

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.



HANDLE

1. While holding the skinner, pick up the handle (#7) .
2. Firmly push the handle (#7) towards the frame (#2). Align the handle spline (#7a) with the splines on the handle assembly (4b).
3. For the initial adjustment position, the arrow (#7b) on the handle (#7) 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.
4. Screw on the handle retaining knob (#5) by turning clockwise



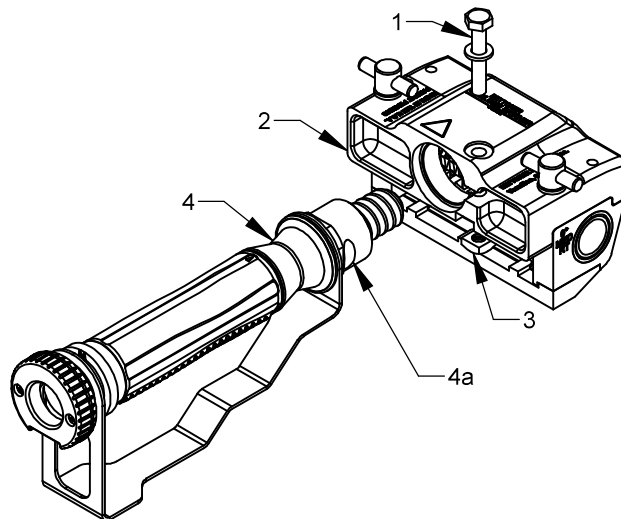
Tighten firmly but take care not to overtighten or the retaining knob will be damaged.

NOTICE

ASSEMBLY OF HANDPIECE CONTINUED

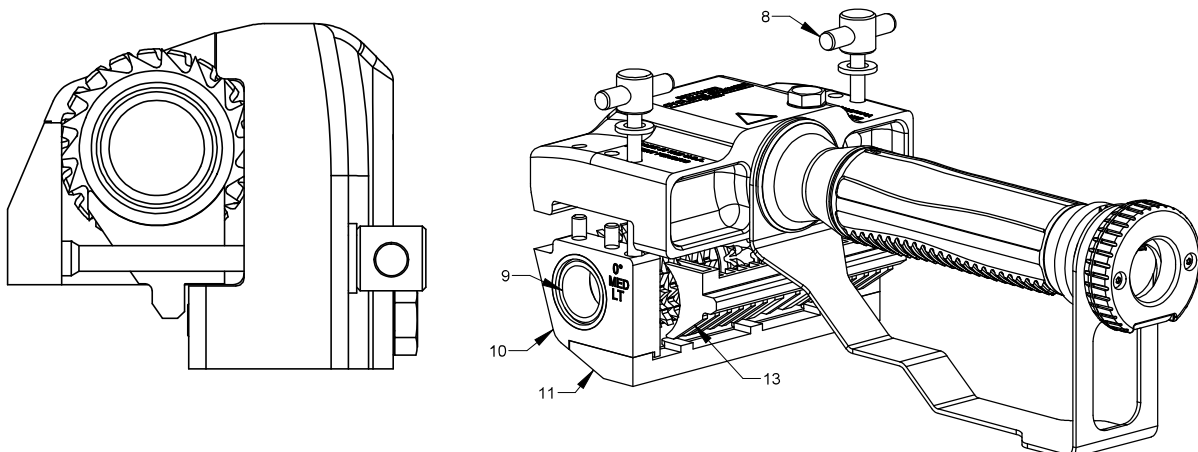
ATTACH FRAME TO HANDLE ASSEMBLY

1. Slide frame (#2) onto handle assembly (#4). Align frame (#2) with notch (#4a).
2. Tighten clamp screw (#1) using a 7/16" wrench. Torque to 150 in-lbs.



ASSEMBLE HEAD ASSEMBLY

1. Thread the thumb screws (#8) into frame with washer:
2. Place tooth roll (#9) between two side plates (#10). NOTICE: Tooth roll must be installed with teeth in the proper orientation.
3. Slide side plates (#10) with tooth roll (#9) onto frame.
4. Install blade retaining plate (#11) and blade (#12). NOTICE: See Blade change section for blade orientation.
5. Pull out the side plates (#10) slightly to allow the comb bar (#13) to slid into place. Push the side plates (#10) back and tighten thumb screws (#8). The comb bar (#13) should not fall out.



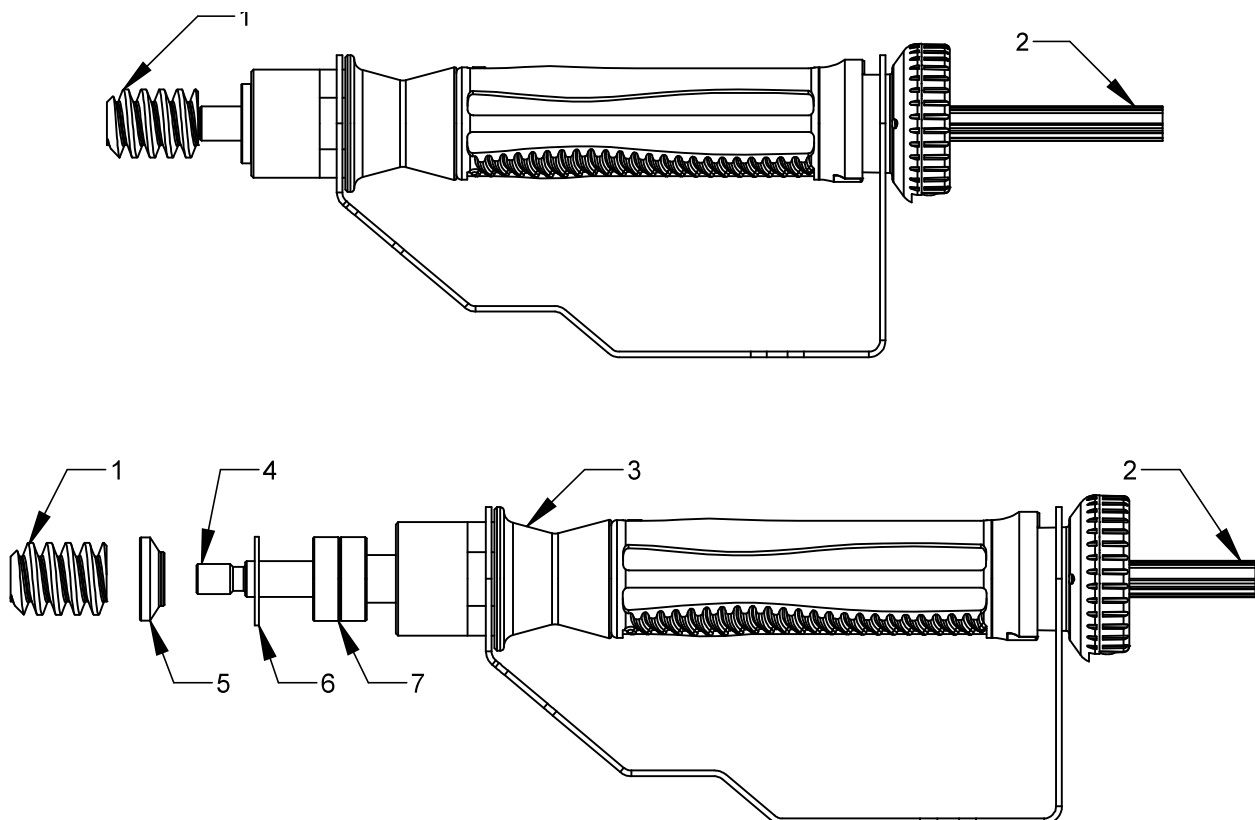
HANDLE ASSEMBLY REPLACEMENT

REPLACING WORM

1. When the worm (#1) needs to be replaced, the other components may be reused.
2. Hold the worm (#1) in a vise. Insert the worm removal tool (#2) into the handle (#3) and turn it with a wrench (left-hand thread) to unthread the worm (#1).
3. To re-install a new worm (#1), hand tighten the worm (#1) on to the intermediate shaft (#4).

REPLACING INTERMEDIATE SHAFT

1. When the intermediate shaft (#4) needs to be replaced, the other components may be reused.
2. Remove worm (#1). Slide off the worm spacer (#5). Remove the retaining ring (#6). Press on the worm removal tool (#2) to push out the intermediate shaft (#4) with bearings (#7).
3. Replace the intermediate shaft (#4). Slide bearings (#7) onto intermediate shaft (#4). Press the bearings (#7) back into the handle assembly (#8) on the outer race of the bearings (#7). Re-install the retaining ring (#6). Slide the worm spacer (#5) back onto the intermediate shaft (#4). Hand tighten the worm (#1) on to the intermediate shaft (#4) (left-handed thread).



FAULT DETECTION AND CORRECTION

Problem	Probable Cause	Remedy
Tooth Roll not spinning	Whizard Quantum® Drive Unit issue.	Check that the Whizard Quantum® Drive Unit is properly running. Reference Whizard Quantum® 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	Cycle the motor to remove material clogging tooth roll. if material does not clear, disassemble tool to clear jam.
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 CYCLONE SKINNER® must ONLY be used with a disconnect lever type of driveline. NEVER operate this tool with a non- disconnect driveline.
Unusual sound from tooth roll when running	Worn side plate bearings.	Replace both side plate assemblies.
Uneven cutting	Different size side plates are being used.	Use matching side plate assemblies.
Tool is heating up	Worm gear needs lubrication	Apply Whiz-Lube to worm gear.
	Worm gear is worn/damaged.	Replace worm gear or handle assembly.
Remote Start not working	Bent Lever not Activating Switch	Bend Lever back into Place..
	Damaged Wires	Replace Drive Line or Remote Start Unit.
	Damaged Pins on Connector	Replace Connector
Tool is excessively vibrating	Parts are Worn.	Inspect Tool and Replace Worn Parts.
	Material Build Up on Tool.	Clean Tool to Remove Build Up.

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SECTION 6

Cleaning

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Cleaning Prior to Assembly	48
Periodic Cleaning During Use	48
Cleaning After Daily Use	49

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



WARNING

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

NOTICE

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



Avoid the use of aggressive cleaning products as they will damage the aluminum frame, side plates and handle assembly.

NOTICE

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

CLEANING SOLUTIONS

The recommended cleaning solution for the Cyclone 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

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

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.
- Finish cleaning using a bottle brush and XTRA® 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.
- Finish cleaning using a brush and XTRA® Heavy Duty Cleaner, diluted according to the directions on the container.
- Rinse thoroughly with clean water then dry.

ALL OTHER COMPONENTS

- Includes: Frame, Thumb Screw, Side Plate Assemblies, Comb Bar, Blade Retaining Plate, Clamp Screw, Washers and Square Nut.
- Remove the majority of meat particles using high-pressure spray.
- Finish cleaning using a brush and XTRA® 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

Cyclone Skinner® - Head Assembly	52
Cyclone Skinner® - Handle Assembly	54
Whizard Quantum® Driveline Assembly	56
Whizard Quantum® Drive Unit	58
Also Available	59

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.



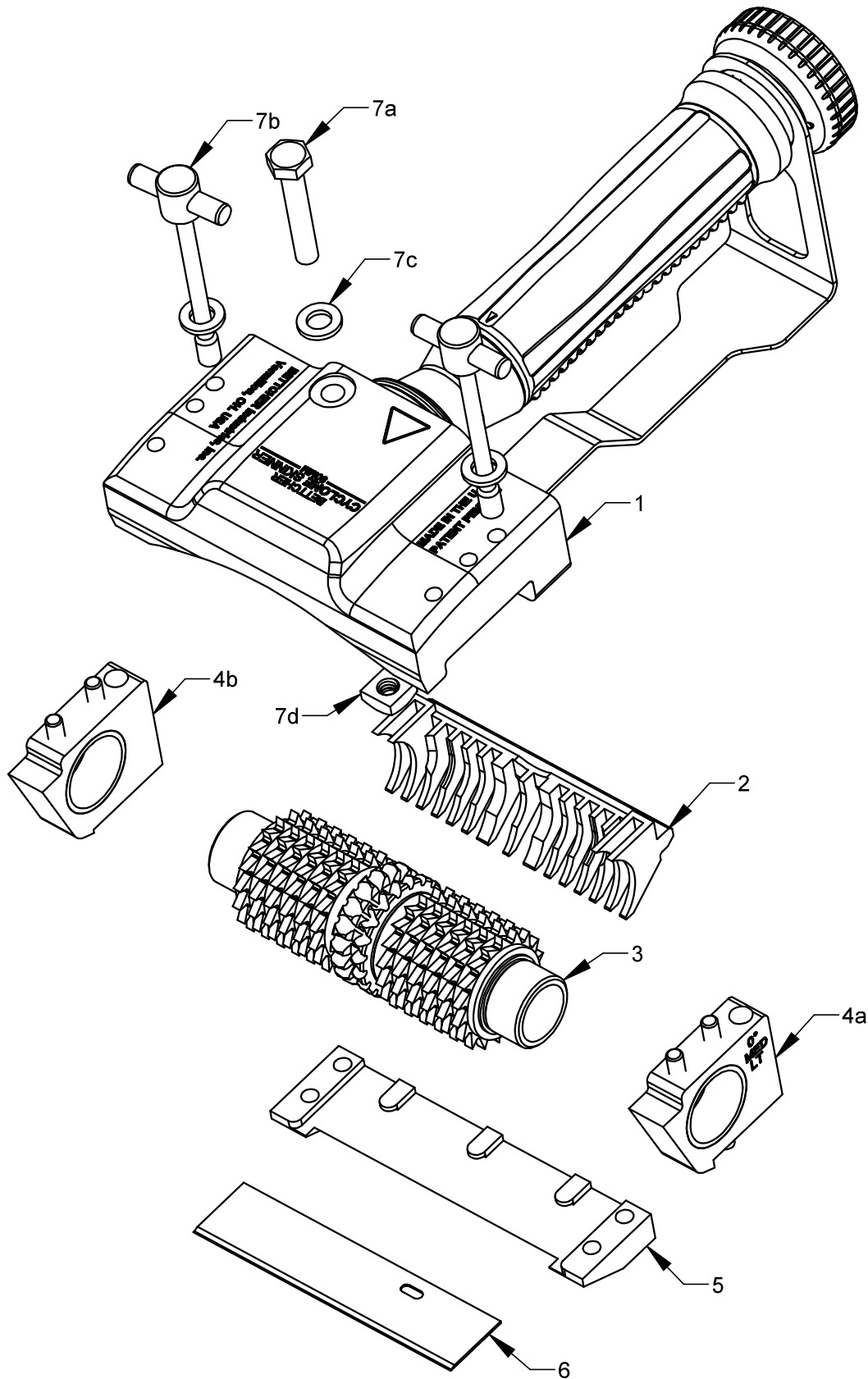
Use only replacement parts manufactured by Bettcher Industries, Inc. Use of substitute parts will void the warranty and may cause injury to operators and damage to equipment.

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 Cyclone Skinner® must **ONLY** be used with a disconnect lever type of driveline or a remote start driveline. **NEVER** operate this tool without a disconnect driveline or remote start driveline.



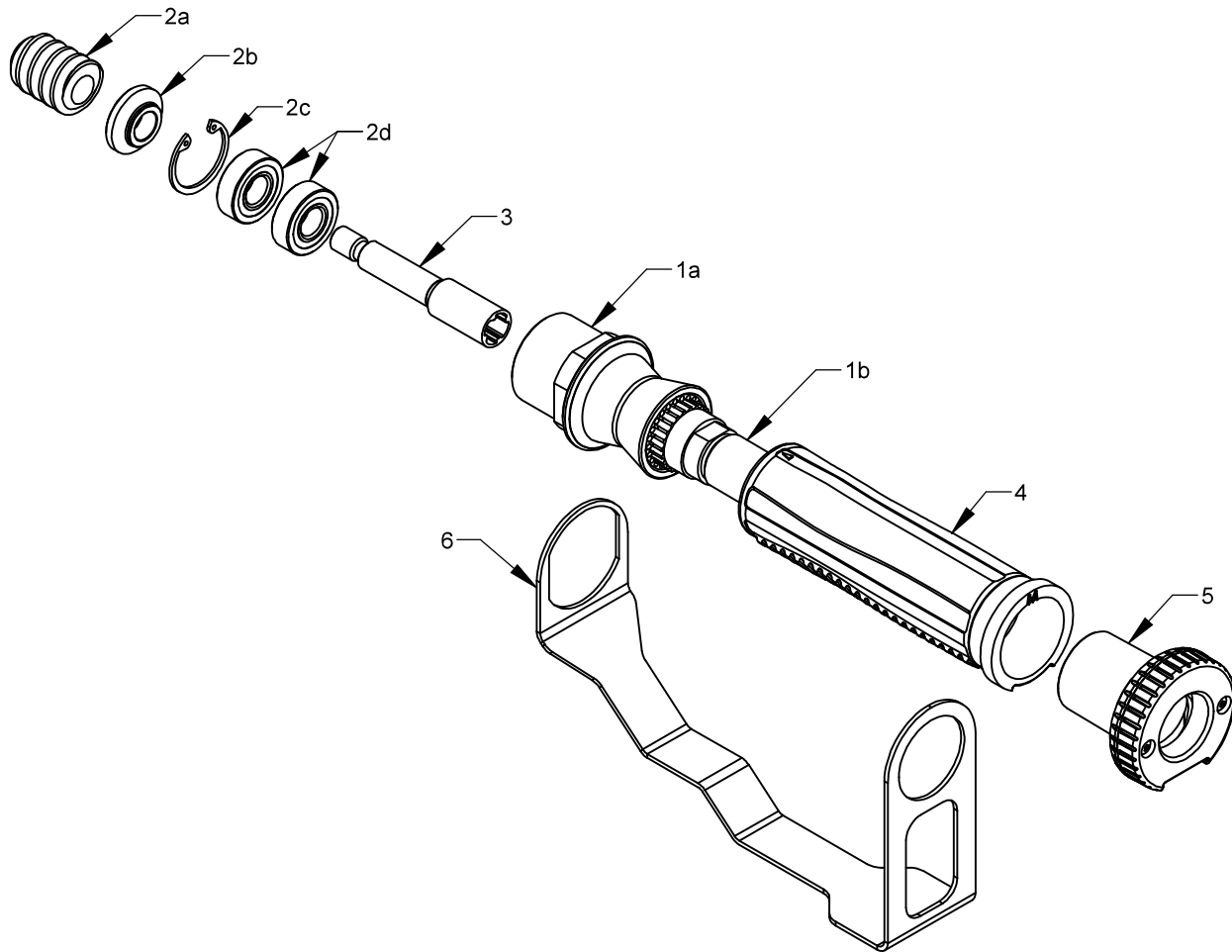
CYCLONE SKINNER® - HEAD ASSEMBLY



CYCLONE SKINNER® - HEAD ASSEMBLY (CONTINUED)

Item	Description	PART No.
--	CYCLONE SKINNER, TOOL (INCLUDES HEAD ASSEMBLY, WITH MEDIUM SIDE PLATES (119827) & HANDLE ASSEMBLY (110000))	111252
1	Cyclone Skinner, Frame	118918
2	Cyclone Skinner, Comb Bar	111506
3	Cyclone Skinner, Tooth Roll	111090
4	Skinner, Side Plate, Kit (Contains 4a&4b)	--
--	Skinner, Side Plate, Thin, Kit	119826
--	Skinner, Side Plate, Medium, Kit	119827
4a	Skinner, Side Plate, Left	--
4b	Skinner, Side Plate, Right	--
5	Blade Retaining Plate	119138
6	Blade, Pack of 100	109991
7	Skinner, Fastener, Kit (Contains 7a, 7b, 7c & 7d)	119828
7a	Clamp Screw	--
7b	Thumb Screw, Blade Retaining (QTY. 2)	--
7c	Washer - 1/4" Special (QTY. 3)	--
7d	Square Nut	--

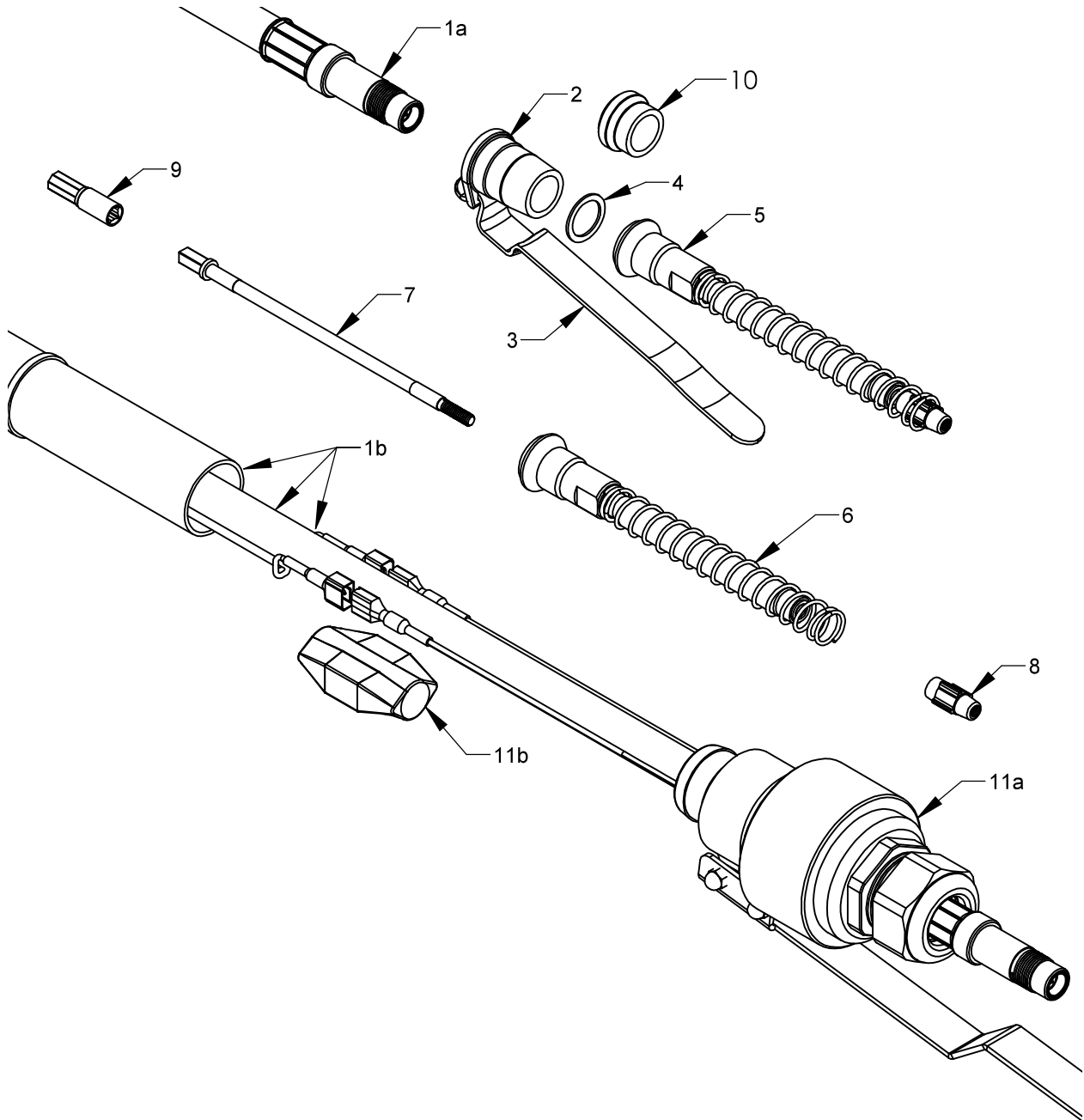
CYCLONE SKINNER® - HANDLE ASSEMBLY



CYCLONE SKINNER® - HANDLE ASSEMBLY (CONTINUED)

Item	Description	PART No.
1	Cyclone Skinner Handle Assembly (Contains 1a, 1b, 2a, 2b, 2c, 2d & 3)	110000
1a	Handle, Notched	--
1b	Frame Tube, Quantum	--
2	Skinner Worm Rebuild Kit (Contains 2a,2b,2c & 2d)	119829
2a	Worm	--
2b	Spacer, Worm	--
2c	Retaining Ring	--
2d	Ball Bearing (QTY. 2)	--
3	Shaft, Intermediate, Machined	106645
4	Handle, Modified	--
--	Medium	111001
5	Retaining Knob Assembly, Quantum	100649
6	Handle Guard	--
--	Handle Guard for Remote Start	108000
--	Handle Guard for Quick Disconnect	108058

WHIZARD QUANTUM® DRIVELINE ASSEMBLY



WHIZARD QUANTUM® DRIVELINE ASSEMBLY (CONTINUED)

Item	Description	With Disconnect		With Remote Start	
		60"	84"	60"	84"
	--	60"	84"	60"	84"
	Driveline Assembly Complete Large Diameter (With Disconnect Includes 1a,2,3,4,5) (With Remote Start Includes 1b,4,5,10,11)	101056	102672	119902	119903
1a	Whizard Quantum® Driveline Large Diameter	100619	102551	---	---
1b	Whizard Quantum® Driveline Large Diameter for Remote Start (Also includes 11b)	---	---	120726	120732
2	Disconnect Collar	101057	101057	---	---
3	Disconnect Lever	183108	183108	---	---
4	Plastic Washer	100713	100713	100713	100713
5	Complete Driver Assembly	100709	100709	100709	100709
6	Driver Tube Assembly	101138	101138	101138	101138
7	Driver Shaft	100821	100821	100821	100821
8	Driver Tip	100305	100305	100305	100305
9	Driver Shaft Tool	101252	101252	101252	101252
10	Collar	---	---	100711	100711
11	Remote Start Unit, Kit (Contains 11a & 11b)	---	---	120719	120719
11a	Remote Start Unit	---	---	---	---
11b	Shrink Tube	---	---	---	---

WHIZARD QUANTUM® DRIVE UNIT

Item	Description	PART No.
1	Motor Assembly, 115V, Quantum Skinner	108399
2	Motor Assembly, 230V, Quantum Skinner	108400
3	Motor Assembly, 115V, Quantum Remote Start	119737
4	Motor Assembly, 230V, Quantum Remote Start	119795

ALSO AVAILABLE

CLEANING SOLUTION

Item	Description	PART No.
1	Extra® Heavy Duty Cleaner (1 Case)	184331
2	Extra® Heavy Duty Cleaner (1 Gallon)	184332

CLEANING EQUIPMENT

Item	Description	PART No.
--	Handpiece Cleaning Kit (Contains the following)	184334
1	Handpiece Cleaning Pick	184335
2	Stainless Steel Hand Brush	184336
3	Scrub Brush	184337
4	1-1/2" Diameter Tubing Brush	184338
5	1/2" Diameter Tubing Brush	184339

LUBRICATION AND LUBRICATION EQUIPMENT

Item	Description	PART No.
1	13.5 oz. Cartridge of Whizard Quantum® High Performance Grease	102609
2	30 Pac - 13.5 oz. Cartridge of Whizard Quantum® High Performance Grease	103271
3	35 pound bucket of Whizard Quantum® High Performance Grease	102612
4	Whiz-Lube spray	173518

WORM REMOVAL TOOL

Item	Description	PART No.
1	Worm Removal Tool	108353

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SECTION 8

CONTACT & DOCUMENT INFORMATION

Contact Address and Phone

62

Document Identification

63

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

Pilatusstrasse 4

CH-6036 Dierikon

Switzerland

Tel: +011-49-32-221-850-896

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

Brazil

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 #110115

Document Description: Operating Instructions and Spare Parts List for the Cyclone Skinner™

Issued: Date: August 5, 2022

Operating Instructions for the Cyclone 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

BETTCHER®

MANUAL #110115, ISSUED: AUGUST 5, 2022