



Maintenance Overview



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Form: TS1014E

WARNING!



- Sharp blades may cause a cut injury!
- Keep hands away from blades!
- For proper protection of hands, protective cut resistant gloves should be used when cleaning equipment and during the handling of the blades.

1. Rinse: Immediately after use.



2. Soak: Use 2 oz per gallon of Extra Cleaner of warm water ... soak for 30 minutes.



Case Part
#184331

3. Clean:



Whizard[®] Cleaning
Tools Kit #184334
(see next page)

4. Clean Handle & Frame:

Remove handle and clean all surfaces of handle and frame.



5. Rinse & Dry: Rinse and completely dry all parts.



► Compressed Air Helps

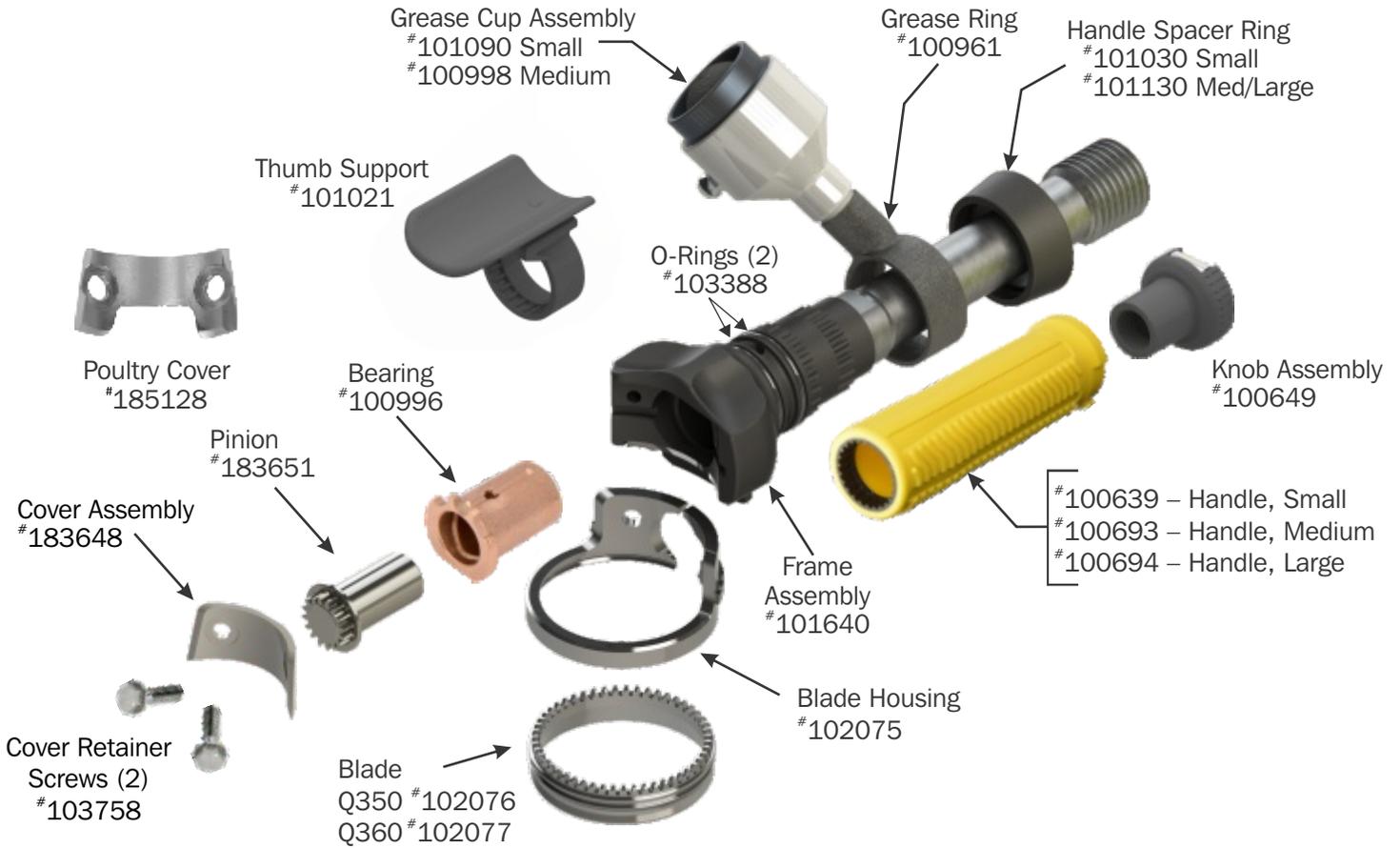


eXtra
Heavy Duty Cleaner

Case #184331
4 gallons and pump

Gallon #184332

Inspect Parts & Re-Assemble



Labor Saving Cleaning Kit

#184334

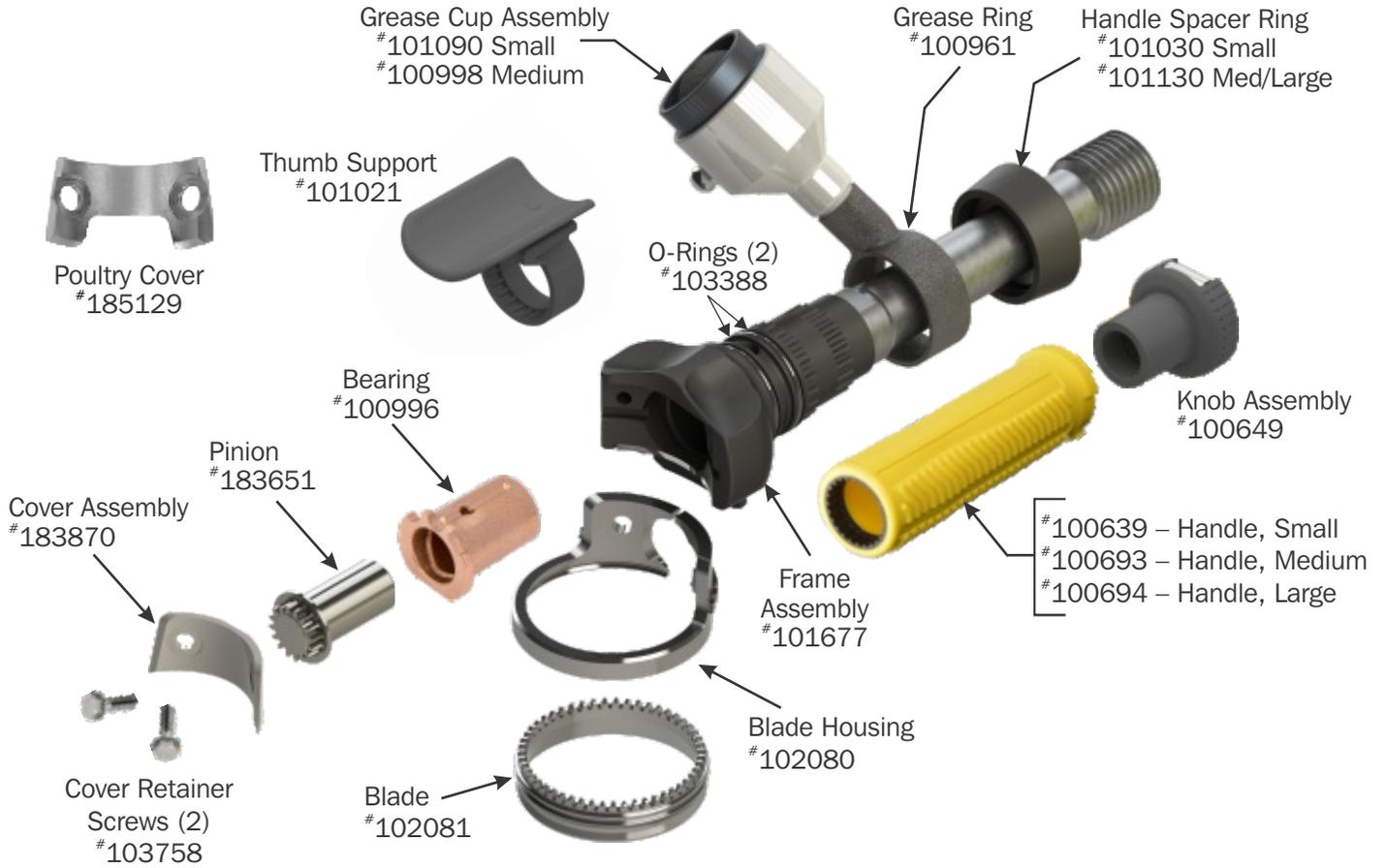


Bearing Removal Kit

Part #184983



Inspect Parts & Re-Assemble



Blade Wear Gauge - Simple 'Go / No Go' Test

► Quantum Blade Wear Gauges

Part #	Trimmer Model(s)
163918	Q360/Q350 360M2/350M2 L.P.
173575	Q500/500M2 Low Profile
163920	Q505 / 505M2
163923	Q620/625M2 Low Profile
173577	Q620 Low Profile
163924	Q625 / 620M2 Low Profile
163925	Q750 / 7520M2 Low Profile
163926	Q850
163927	Q1850 / 1850M2
163928	Q1000 / Q1500 / Q1000 / Q1500

With the gear teeth facing the back, simply drop a blade into the gauge.

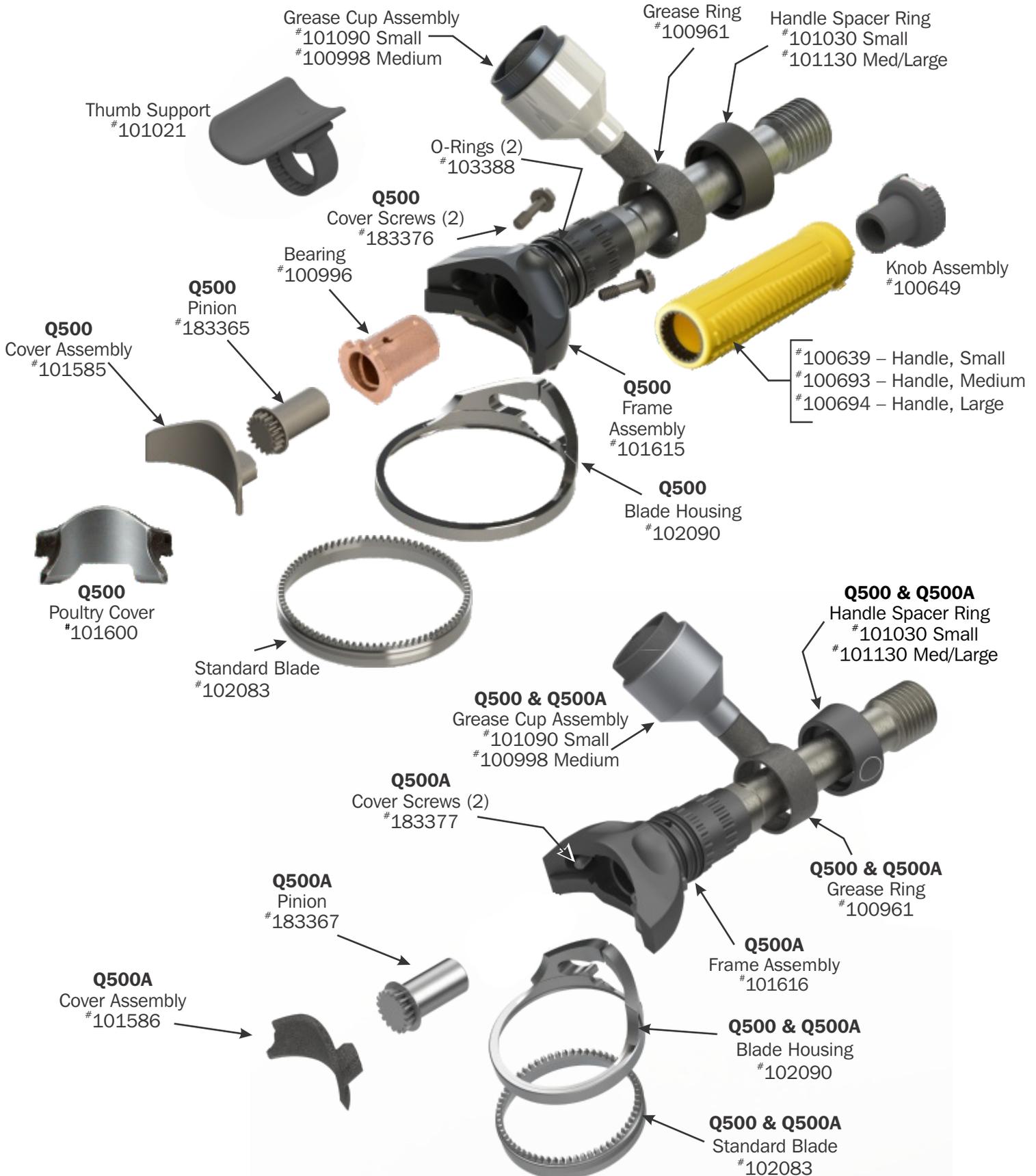
Any blade that passes through the gauge is worn. **Replace Blade.**



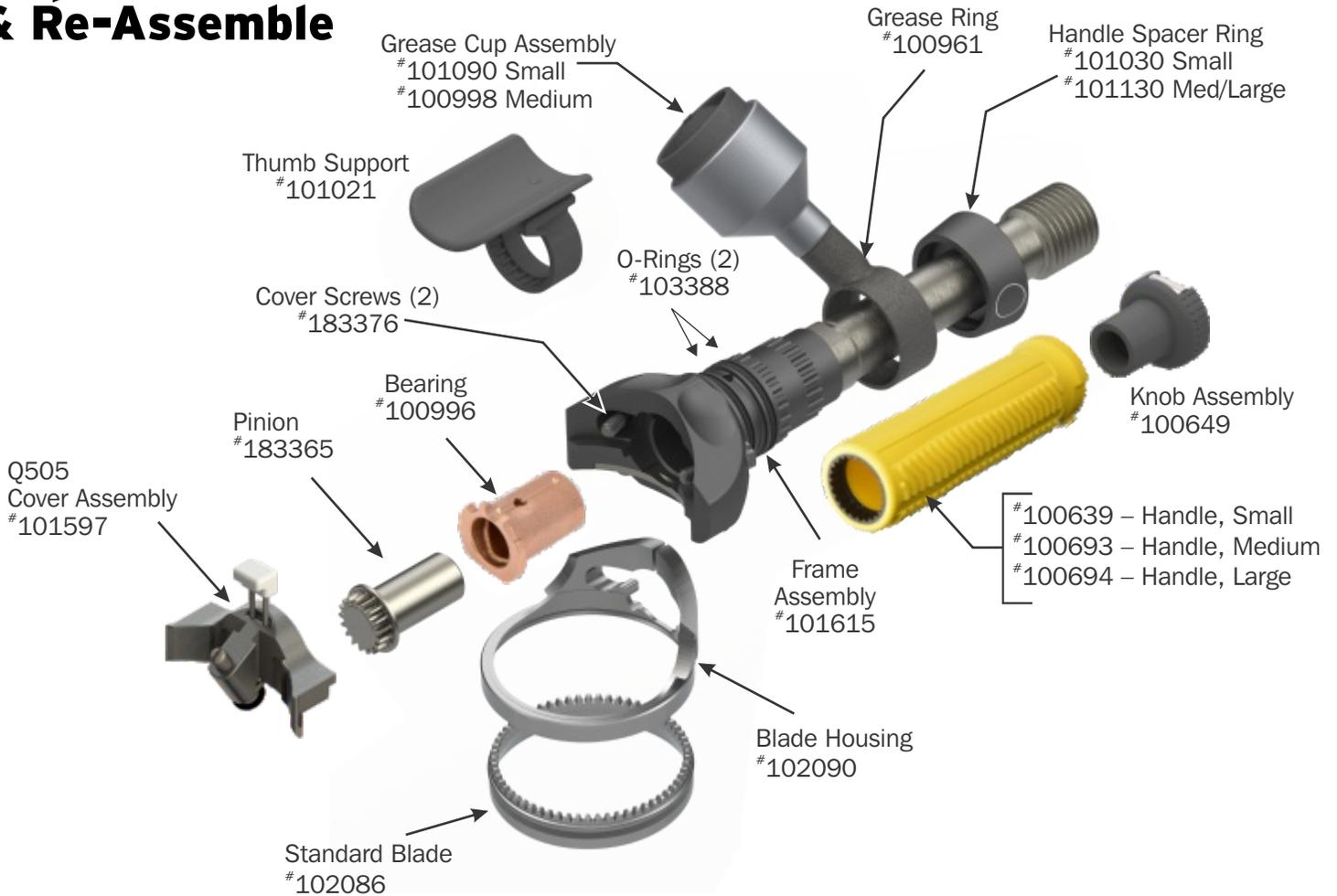
Q500 / Q500A Trimmers



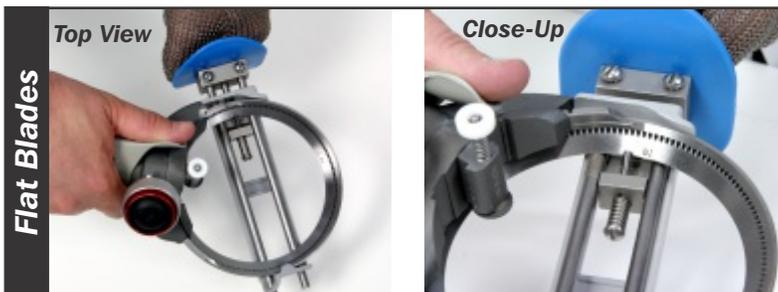
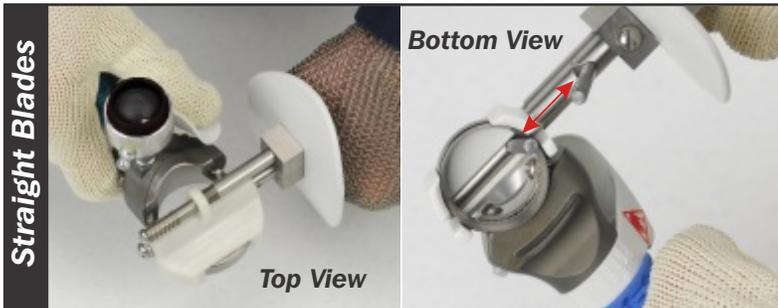
Inspect Parts & Re-Assemble



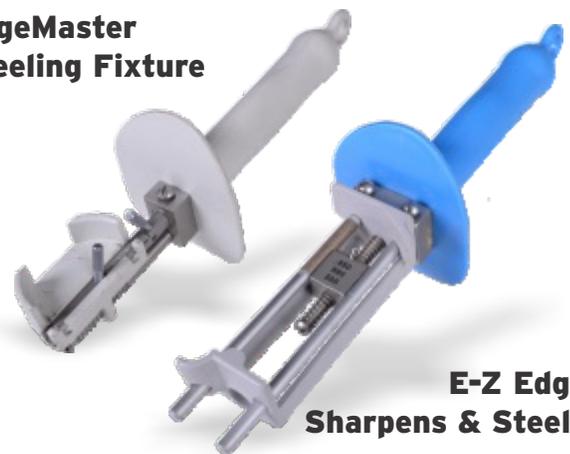
**Inspect Parts
& Re-Assemble**



Easy to Train, Simple to Use



**EdgeMaster
Steeling Fixture**



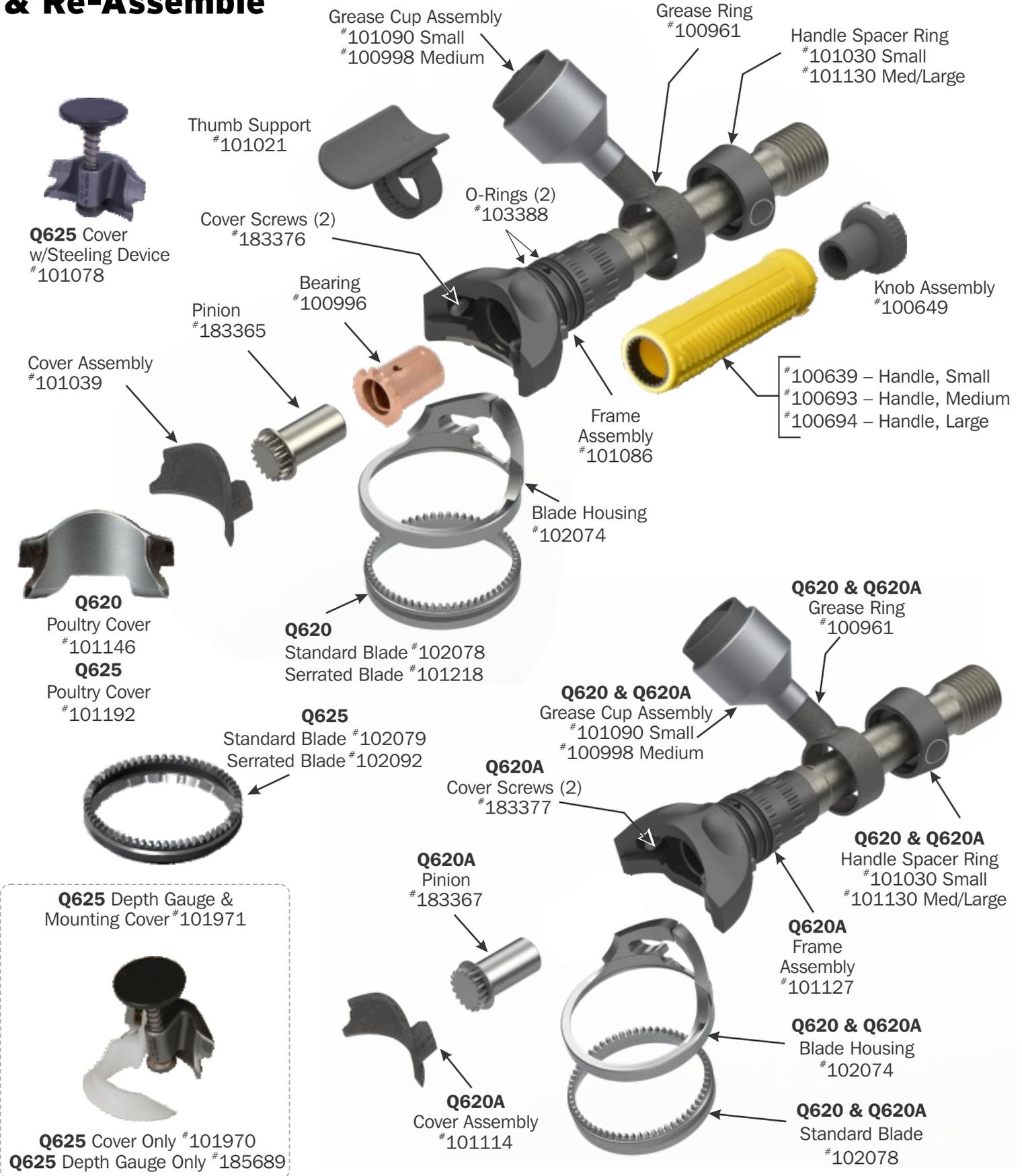
The **EdgeMaster** handheld steeling device quickly restores rolled edges using a fixture that guarantees the correct angle every time.

E-Z Edge (blue handle) takes just seconds to sharpen *and* steel blades at the same time.

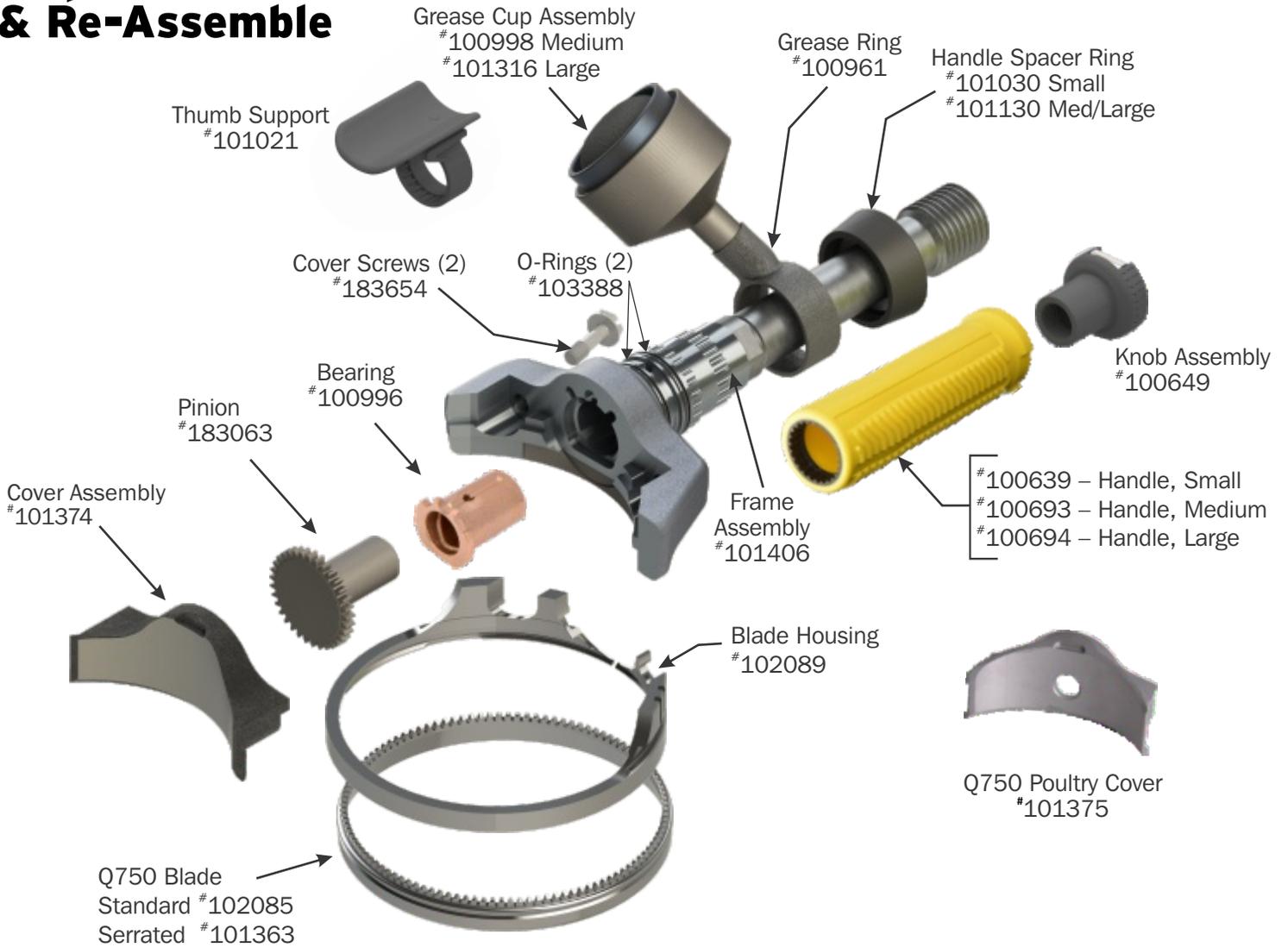
Q620 / Q625 / Q620A Trimmers



Inspect Parts & Re-Assemble



**Inspect Parts
& Re-Assemble**



The Quantum electric handle now features two rows of grooves on the underside of the handle for an improved grip.

Quantum Electric Handle Sizes:

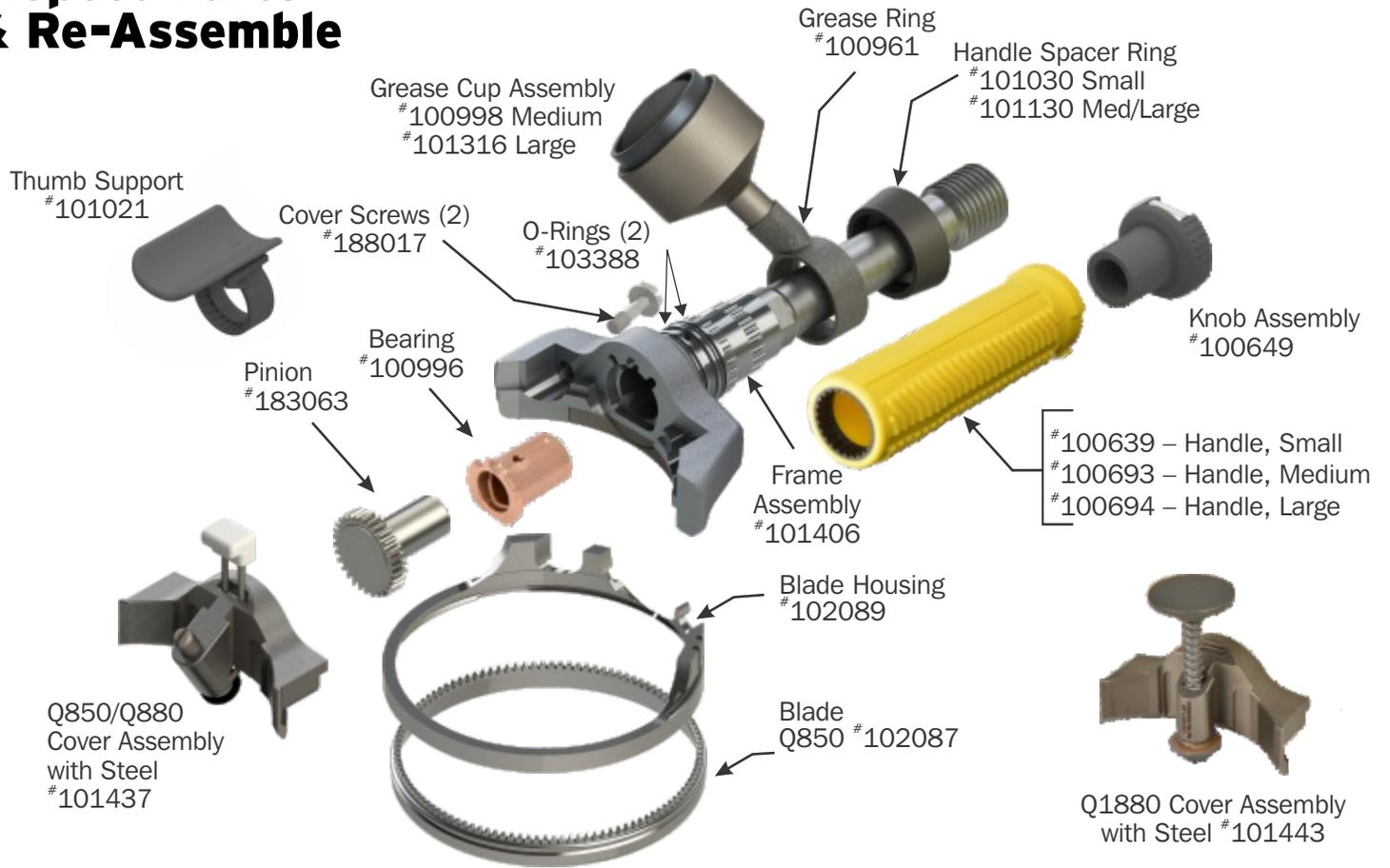


#100639
Small

#100693
Medium

#100694
Large

Inspect Parts & Re-Assemble



► Inspect Pinion

Check for rounded or broken teeth. **When replacing the pinion also replace the bearing.**

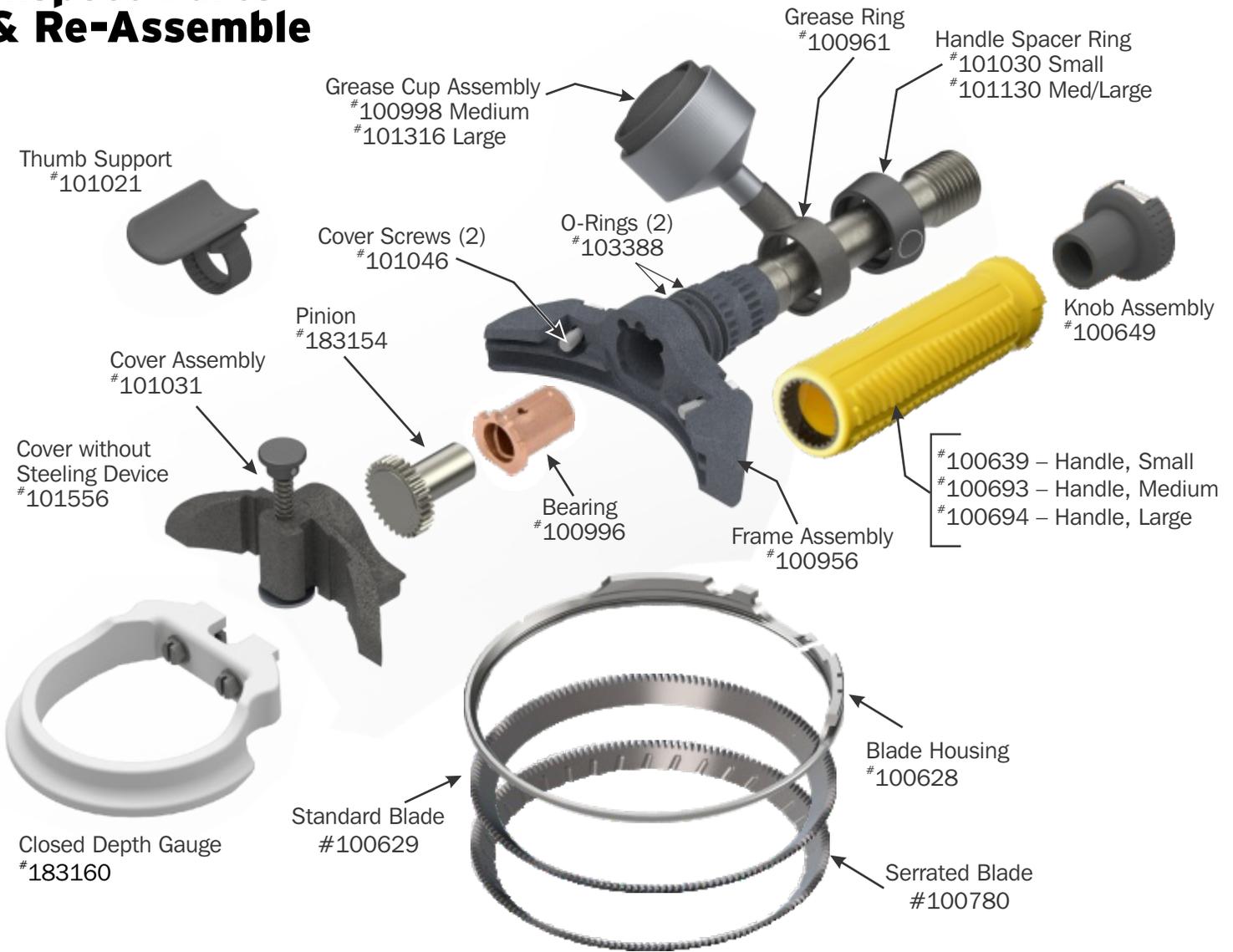


Damaged teeth caused by worn parts or improper housing adjustment.

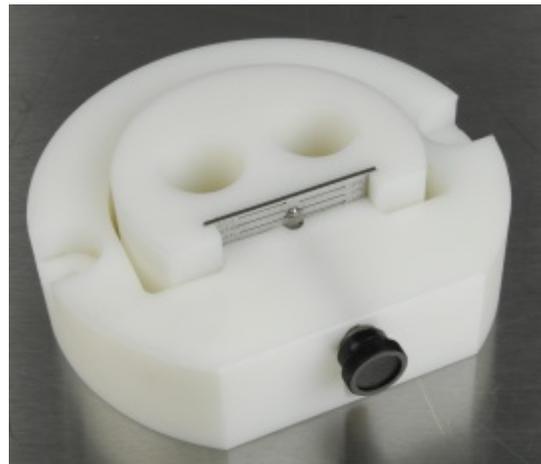


Normal wear pattern. **Replace pinion and bearing.**

**Inspect Parts
& Re-Assemble**

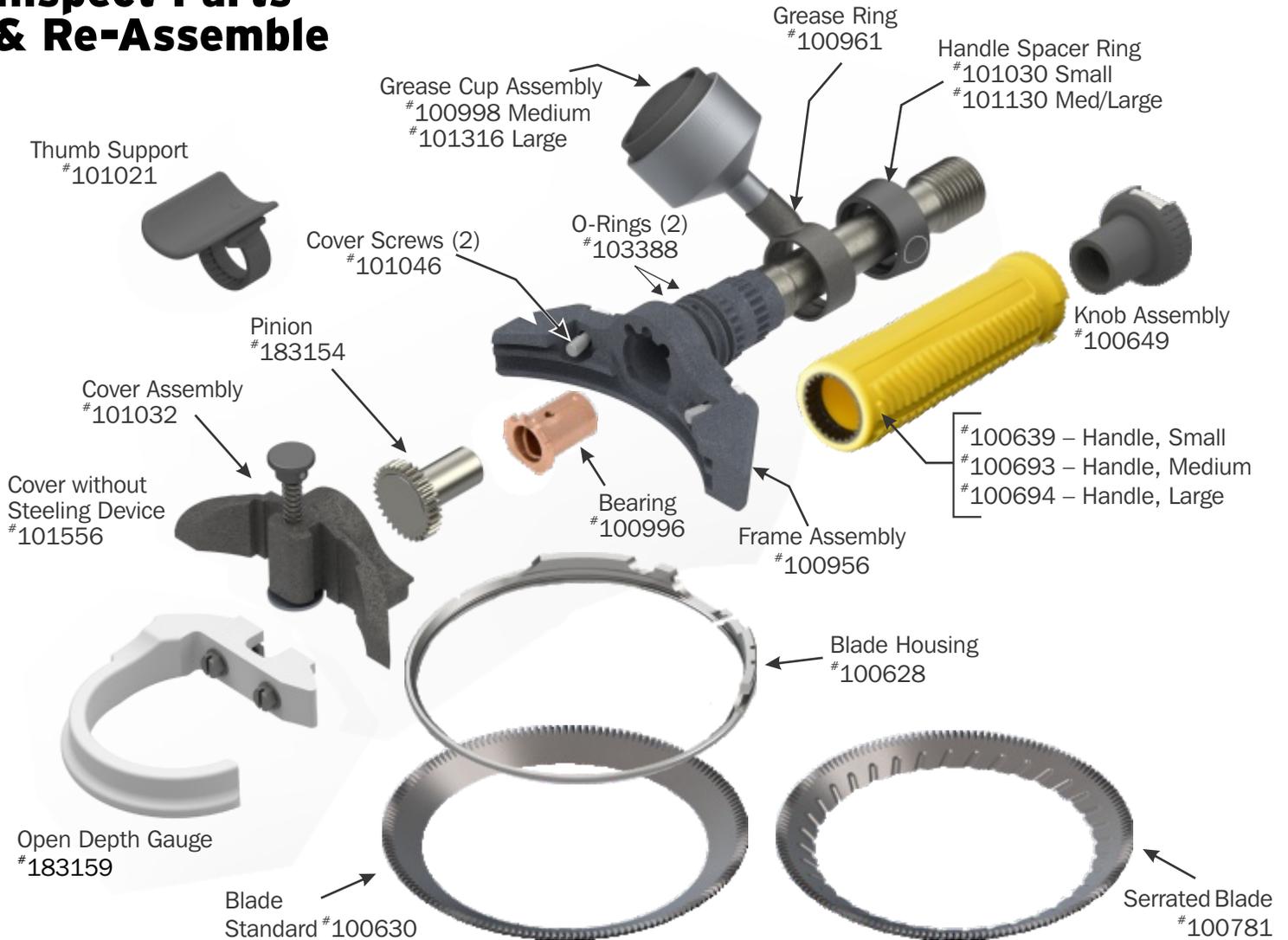


Depth Gauge Setting Fixture



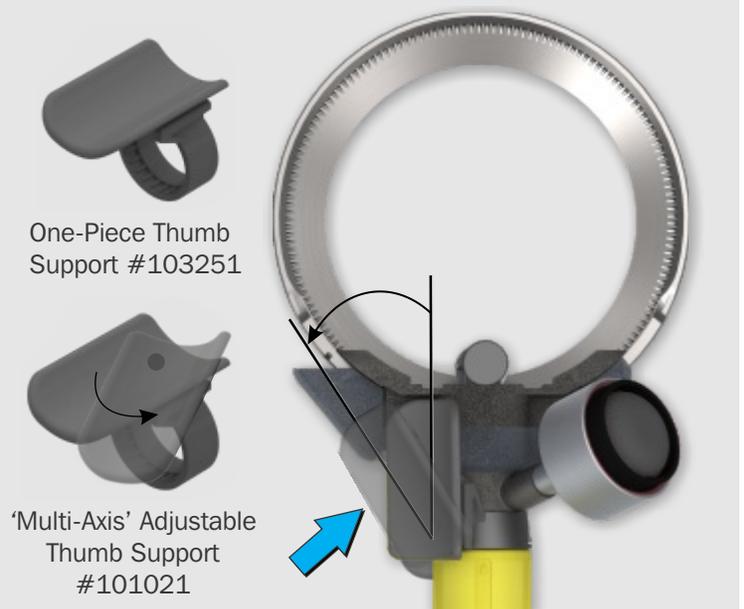
The inner disk can be flipped: metric on one side and Imperial on the other.

Inspect Parts & Re-Assemble



Quantum Adjustable and Fixed Thumb Supports

The Quantum Trimmer System was released with an adjustable thumb support (#101021), allowing users to create a custom tool fit. However, not all applications need this feature. A fixed position thumb support (#103251) is available without the multi-axis adjustment. While the thumb support still rotates around the handle for an ergonomic fit, the 'fixed' thumb support simplifies the setup and provides durability for tough trimming applications. Both parts will remain available on new tools and as replacement parts.



The correct blade housing adjustment is critical for proper trimmer operation. If the housing is **too tight** the trimmer may overheat. The motor-driven flex shaft and casing may be damaged, and parts life will be reduced. If the housing is adjusted **too loose**, it may cause rough operation and gear damage. Here's a procedure to help you get it right:

Tighten Blade Housing:

Begin by threading both screws in the pinion cover. Then tighten the right cover screw. Next, secure the left cover screw— then loosen the left screw a half turn to allow for blade and housing adjustment.

Blade Adjustment:

Gently pry the housing open (see Image 1) until the blade has a slight amount of side clearance in the housing in the direction of the arrow shown in Image 2 and the blade rotates freely. A slight amount of clearance is all that is needed. Finally, tighten both cover screws to the recommended torque and recheck the blade clearance and rotation.

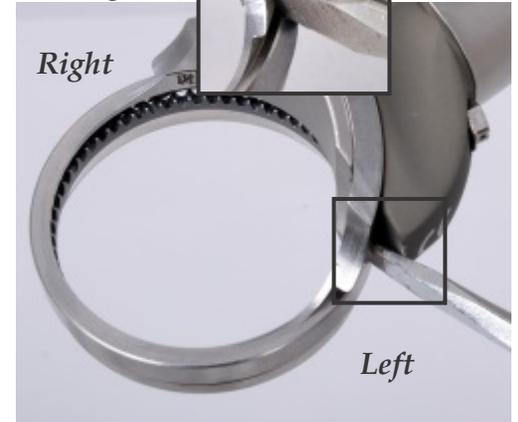
Recommended Torque: 30 - 35 lb. in. (3,4 - 4,0 N-m)

Important:

Make sure the blade is free to move in the housing. If the blade does not move freely, it may cause the trimmer to perform poorly or overheat.

Image 1.

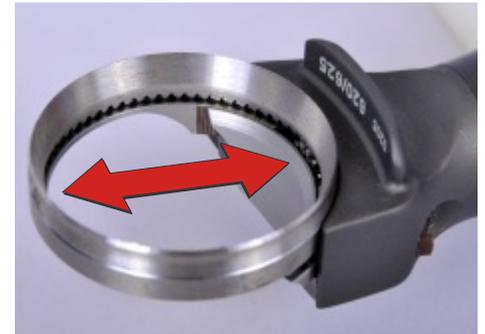
Loosen Blade Housing



If the blade is not moving freely, loosen the left screw and gently pry the housing open.

Image 2.

Check blade for clearance and rotation.

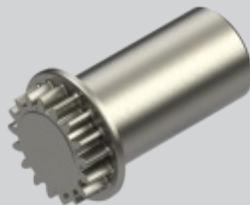


The blade should turn freely with a slight amount of clearance in the direction shown by the arrow.

▶ Quantum Pinions



Q350/Q360
Q440
#183651



Q620/Q625
Q500/Q505
#183365



Q750/Q850
Q880/Q1880
#183063



Q1000~Q1500
#183154



Q620A
Q500A
#183367
Angled Head Trimmer

Cover Wear Testing

Simple test to determine the time to replace.



Begin by making sure the cover is tightened securely ... that is, the cover retaining screws are tightened properly (very tight).



Begin with a properly tightened cover using the Bettcher Torque Limiter 30 - 35 lb. in (3,4 - 4,0 N-m)

The “best practice” to secure the pinon cover and housing is to use a torque limiting T-handle tool (Bettcher Part #183898) to secure the housing quickly and properly.



Apply gentle pressure, if the housing moves, the cover is worn.

Using a straight-blade screwdriver, slowly apply pressure to the housing. If the housing moves easily without much pressure, the cover is worn. It should be replaced, as it can no longer secure the blade and housing and may become a safety issue in addition to running rough.

If the blade housing does not move easily unless a lot of pressure is applied, then the cover is still good and has useful life.

That's all there is to it! By using this simple test, you should improve Trimmer performance and lower maintenance costs.

You may also view video clips demonstrating these procedures. Sign up for an account:

www.bettcher.com/sign-in

▶ Torque Limiting T-Handle



Torque Wrench Kit
Part #183900

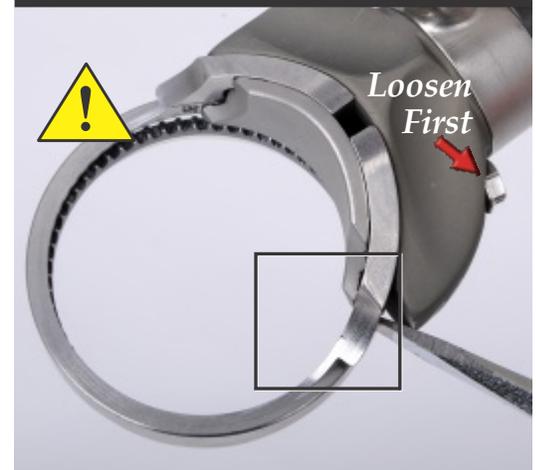
The cost of a T-handle torque limiter is about the same as a new pinon cover, so it makes sense to invest in this tool to ensure all Trimmer parts are properly assembled for maximum life and performance.

Additionally, many maintenance pros find that using the T-handle torque limiter is faster, easier and more precise than using a straight blade screwdriver.

▶ Torque Limiting Kit

Part #	Description
183900	Kit 183900
183898	Torque Wrench
183899	Socket 1/4" 6 pt
183901	Stecknuss 5/16" 6 pt
183902	Extension 1/4" x 3" long

▶ Preventing Cover Damage



Damage occurs when the housing is pried without first loosening the cover screw (red arrow).

▶ **Quantum Driveline**



Quick Disconnect

▶ **Non-Disconnect**

▶ **Quick Disconnect**



48" Small Dia. w/Driver #102755
60" Small Dia. w/Driver #102756

48" Small Dia. w/Driver #102758
60" Small Dia. w/Driver #102760

48" **Large** Dia. w/Driver #101051
60" **Large** Dia. w/Driver #101054
84" **Large** Dia. w/Driver #102671

48" **Large** Dia. w/Driver #101055
60" **Large** Dia. w/Driver #101056
84" **Large** Dia. w/Driver #102672

▶ **Driveline Only**

▶ **Drive End Assembly**

Not Pictured
48" Small Dia. #102367
60" Small Dia. #102368

48" **Large** Dia. #100618
60" **Large** Dia. #100619
84" **Large** Dia. #102551



Replaceable
Driver Assembly #100709



Driver Tip
#100305

▶ **Post Handle**



Post Handle Kit
#101280

▶ **Micro-Break Strap**



Micro-Break Strap
#103060

New



▶ **Higher Performance**
▶ **Superior Protection**



13.5 oz. Cartridge
#102609



35 lb. Pail
#102612

▶ **Grease Cups**



Small
#101090



Medium
#100998



Large
#101316

▶ **Quantum Handle**



Knob Assembly
#100649



Thumb Support
#103251



Sizes:

- #100639 – Handle, Small
- #100693 – Handle, Medium
- #100694 – Handle, Large

Handle Spacer Ring

- #101030 – Small
- #101130 – Medium / Large

Driveline Driver Assembly



Do NOT directly spray water in the 'gap' area of the Quantum Drivelines. Although sealed, they are not waterproof.

High pressure water sprayed at the gap below the driver (red arrow) can get inside the driveline and rust the metal flexshaft.

Proper Driveline cleaning

Spray with a mixture of Extra Heavy Duty Cleaner (Part #184331) and wipe down.

Inspect

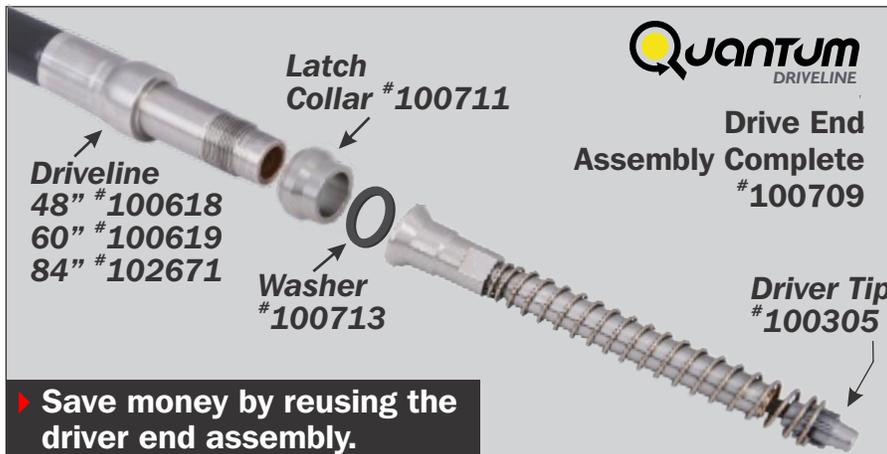
Look at the casing for any cracks, tears or other wear. Replace Driveline if damaged.

Check

Make sure the flex shaft rotates freely in the casing. If not, replace the Driveline.

When replacing a Quantum Driveline, the driver assembly may be removed and used on the new casing. To remove driver assembly:

- Hold the worn casing end in vise.
- Unscrew the drive end assembly, turning counterclockwise, using the wrench flats on the drive end assembly.
- Remove the washer and latch collar from casing.
- Discard the old casing, but reuse the driver assembly on the new casing.



Assembling the Driver Assembly to the Casing

- Slide casing latch collar and washer on to new casing end.
- Clean threads of new casing and apply Loctite® #242 Threadlocker.
- Thread drive end assembly on to the new casing and tighten with a wrench while holding casing in hand.

Caution: DO NOT hold the NEW casing in a vise or use pliers as damage will occur. It is not necessary to over-tighten this joint.

Remove the Drive-end assembly



Quantum Drive Shaft Tool
Part #101252



Place the Drive Shaft Tool over the square-end of the driver shaft fits into the square hole of the tool. This is a left-hand thread, so turn clockwise to loosen.



The Driver can now be replaced.

Whizard Trimmer Maintenance Log

Preventative maintenance program and forms online @ www.bettcher.com/sign-in

Part	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
Blade												
Blade Housing												
Pinion												
Bearing												
Driveline												

▲ Place a mark in the proper box to indicate when a part was changed
Forms online @ www.bettcher.com/sign-in

All trimmers should be disassembled, cleaned, and lubricated after every 8 hour shift. When these procedures are followed, the estimated parts life, based upon single shift use is indicated below:

Part	Weeks	Part	Weeks
Blade	4 - 6	Pinion Gear	8 - 10
Small Blade Housing	8 - 10	Bearing	10 - 12
Large Blade Housing	20 - 24	Driveline	up to 20

Proper Motor Mounting Height for a Flat Surface

