MODEL T32020/T32021
15" & 20" V-HELICAL CUTTERHEAD
INSTRUCTIONS

For questions or help with this product contact Tech Support at (570) 546-9663 or techsupport@grizzly.com

Introduction

The Model T32020 15" and T32021 20" V-Helical Cutterheads are designed to replace the straight-knife and spiral cutterheads in the following Grizzly and Shop Fox planers:

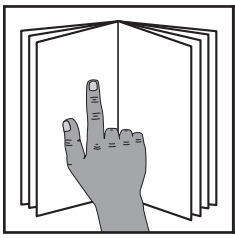
T32020
- Grizzly G0453 Series
- Grizzly G0550/G0551
- Grizzly G1021 Series (Mfd. Since 1995)
- Shop Fox W1692, W1723, W1724, W1742, W1742S

T32021
- Grizzly G0454 Series
- Grizzly G1033 Series
- Shop Fox W1683, W1718, W1747, W1754, W1754S

The Model T32020 & T32021 will also replace cutterheads in the following non-Grizzly machines, but are outside the scope of these instructions:

T32020
- Bridgewood BW15P
- Delta DC-380, 22-675, 22-780, 22-785, 22-790X, 22-790X5
- General 30-115, 30-125CE
- Jet JWP-15CS
- Powermatic 1791209-15, 1791210-15S
- Sunhill CT-38B, CT-382
- Woodtek 855266

T32021
- Bridgewood BW20P
- General 30-300
- Jet JWP-208, JWP-208-1
- Powermatic 209
- Sunhill CT-508
- Woodtek 924083



⚠WARNING

To reduce your risk of serious injury, read these entire instructions BEFORE operating machine.

The total installation/setup procedure takes approximately three hours. Read these instructions thoroughly before beginning.

Note: *Not all pictures in these instructions will exactly reflect your machine. Some photos are provided for representation purposes only to help you better understand the instructions given.*

Inventory (Figure 1)

	Description	Qty
A.	V-Helical Cutterhead Assembly	1
B.	Flat Head Torx Screws T20 M6-1 x 15	10
C.	Torx Bits T-20	5
D.	Indexable Inserts 15 x 15 x 2.5mm	5
E.	T-Handle Bit Driver ¼"	1

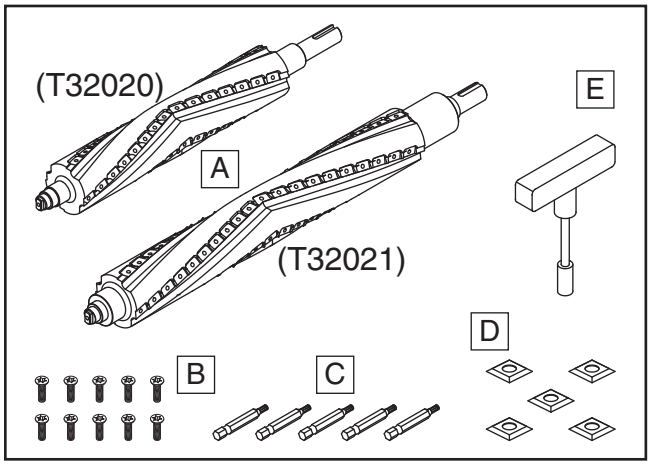


Figure 1. Model T32020/T32021 inventory.

(FOR MODELS MFD. SINCE 11/20) #KS21716 PRINTED IN TAIWAN V1.09.21

⚠WARNING

Wear safety glasses during the entire process!

⚠WARNING

Planer knives are extremely sharp. You must remove the planer knives, or mount the knives blade side down to avoid the risk of serious personal injury.

Specifications

T32020

Maximum Width of Cut	15"
Cutterhead Diameter	3"
Number of Indexable Inserts	60
Indexable Insert Size	15 x 15 x 2.5mm

T32021

Maximum Width of Cut	20"
Cutterhead Diameter	3⅛"
Number of Indexable Inserts	80
Indexable Insert Size	15 x 15 x 2.5mm

Recommended Tools

Description	Qty
• Additional Person(s)	1–2
• Safety Glasses (per person)	1 Pair
• Heavy Leather Gloves	1 Pair
• Replacement Cutterhead Bearing	1
• Phillips Head Screwdriver #2	1
• Flat Head Screwdriver ¼"	1
• Hex Wrenches 4, 5, 6mm	1
• Adjustable Wrenches	2
• Wooden or Rubber Mallet	1
• Steel Hammer	1
• Screw or Bolt M6-1 x 25	1
• Wood Blocks 2" x 4" (4" Length)	6
• Copper Pipe 1" ID (4" Length)	6
• Sprocket/Pulley Puller	1
• Oil Funnel	1
• Drain Pan	1
• Clean Shop Rags	As Needed
• ISO 320 Gear Oil	As Needed
• Heavy Cardboard	As Needed
• Heavy Tape	As Needed
• Correction Fluid	As Needed

Removing Existing Cutterhead

These instructions make reference to many procedures detailed in your planer manual. Always consult your manual for these procedures.

Note: *Call Technical Support at (570) 546-9663 if you need help during the removal process.*

To remove existing cutterhead:

1. DISCONNECT MACHINE FROM POWER!

2. Remove top cover and dust port to expose cutterhead.

3. **Straight-Knife Cutterheads Only:** Put on heavy leather gloves and remove knives from existing cutterhead.

4. Remove belt cover, then remove V-belt(s) from pulleys.

   Note: *This may require loosening belt tension. This procedure is outlined in the **SERVICE** section of your planer manual.*

5. Remove hex bolt and flat washer holding cutterhead pulley in place.

6. Rotate cutterhead until cutterhead pulley key is at an upright position.

7. Remove pulley and key.

   Note: *If pulley is difficult to remove, use a pulley puller (see **Figure 2**).*

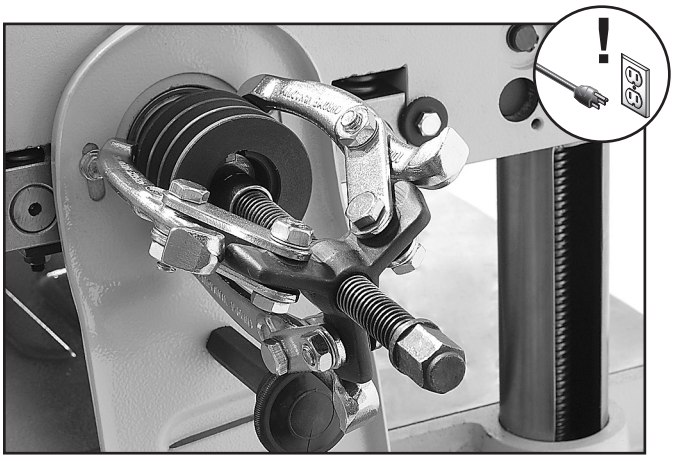


Figure 2. Example of using a pulley puller.

8. Remove table elevation handwheel and key.

9. Remove both rear guards from the gearbox cover (see **Figure 3**).

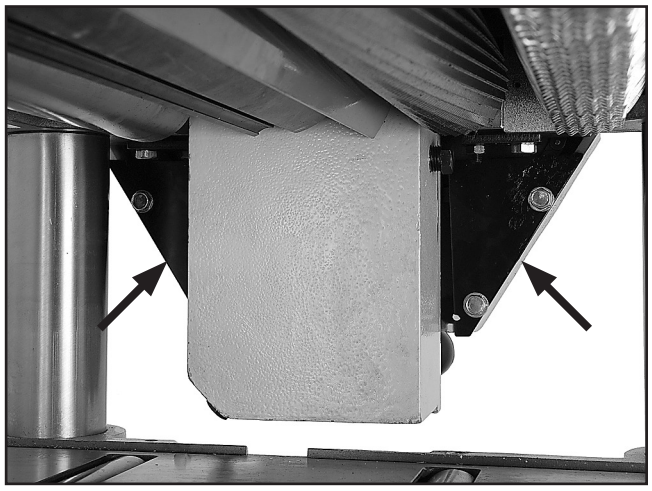


Figure 3. Gearbox cover rear guards.

10. Remove gearbox cover cap screw and gearbox cover.

11. Remove (3) hex bolts and washers from (3) sprockets (see **Figure 4**) to access sprocket keys.

12. Unhook idler spring (see **Figure 4**) and move idler up out of the way.

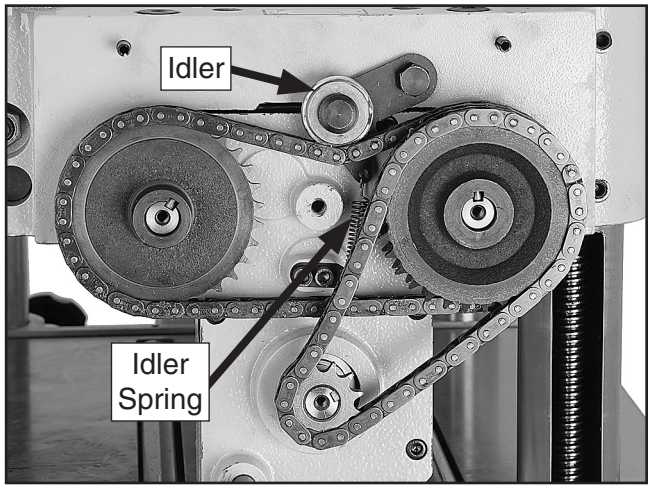


Figure 4. Location of sprocket and chain components (hex bolts and washers removed).

13. Rotate cutterhead so that sprocket keys are in a generally upright position.

Note: *Mark outside of sprockets with correction fluid as a way of remembering which side of each sprocket faces outwards.*

14. Remove sprockets, keys, and chains together, taking care to keep chains unbroken.

15. Thoroughly drain planer gearbox into drain pan by removing drain plug (see **Figure 5**).

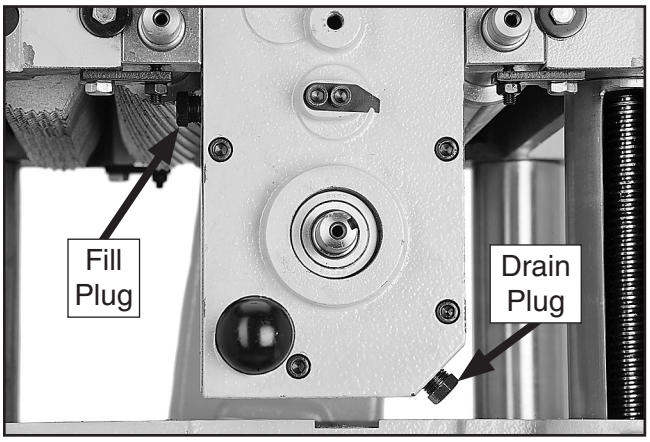


Figure 5. Location of drain and fill plug.

16. Insert (6) 2" x 4" wood blocks (4" length) directly beneath cutterhead (see **Figure 6**).

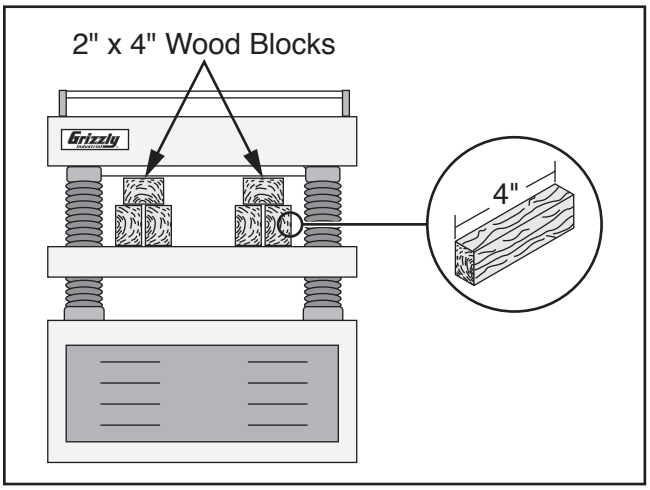


Figure 6. Location of support blocks.

17. Re-install handwheel and key, then carefully raise table so cutterhead just touches top of support blocks.

18. Remove (4) cap screws on top of planer gearbox (see **Figure 7**).

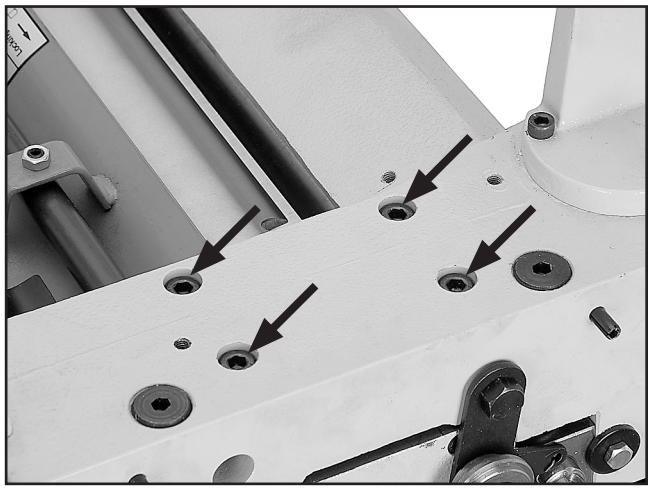


Figure 7. Location of gearbox cap screws.

19. Have an additional person hold the gearbox steady while you use a rubber or wooden mallet to unseat cutterhead from headstock (see **Figure 8**).

Figure 8. Unseating cutterhead from headstock.

20. Rest gearbox-cutterhead assembly on a flat, stable surface for the following step.

21. Remove (5) cap screws and (1) ball knob from front of gearbox cover.

22. Separate gearbox cover by gently tapping near the gasket using a mallet and flat head screwdriver.

23. Remove cap screw from inside of helical gear, and remove helical gear (see **Figure 9**).

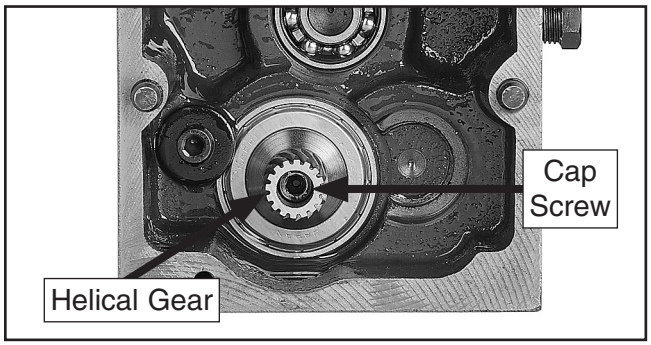


Figure 9. Gearbox helical gear and cap screw.

24. Insert spare M6-1 screw or bolt into exposed hole in gearbox end of cutterhead, as shown in **Figure 10**.

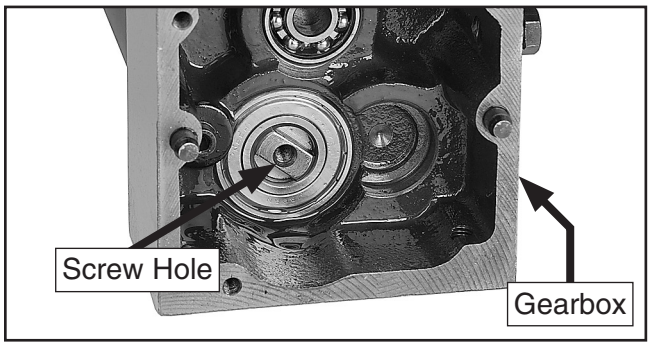


Figure 10. Location of cutterhead screw hole.

25. While supporting gearbox, remove cutterhead by tapping on screw or bolt with a hammer, (see **Figure 11**).

Note: *It may be necessary to tap on the back of gearbox with a rubber or wooden mallet.*

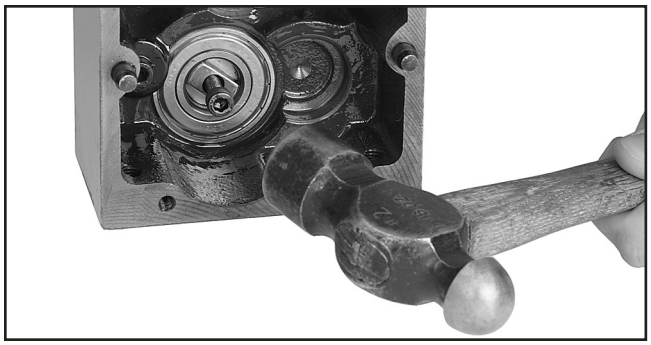
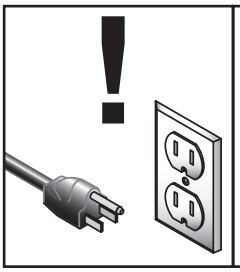


Figure 11. Removing cutterhead with hammer.

26. Visually inspect all bearing bores in headstock and gearbox, and remove any burrs or rough spots.



⚠WARNING

To reduce risk of shock or accidental startup, always disconnect machine from power before adjustments, maintenance, or service.

⚠WARNING

Cutterhead inserts are extremely sharp. Wear heavy leather gloves to avoid the risk of serious personal injury.

Installing V-Helical Cutterhead

These instructions make reference to many procedures detailed in your planer manual. Always consult your manual for these procedures.

Note: *Call Technical Support at (570) 546-9663 if you need help during the installation process.*

⚠WARNING

DO NOT modify or alter this cutterhead to make it fit other makes or models of planers for which it is not designed. Doing so could result in property damage or serious personal injury.

We recommend that all gearbox seals and gaskets are replaced *before* cutterhead installation, even if the seals or gaskets appear to be in good condition.

NOTICE

Before removing any seals, note their orientation and how far they are driven into the bore (typically the lip of a seal will face inward towards the oil reservoir or body of liquid). This will aid in the replacement process. Failure to comply may lead to fluid leakage and gearbox failure.

To install V-helical cutterhead:

1. Put on heavy leather gloves and wrap new cutterhead in cardboard, then securely fasten it with heavy tape.

   Tip: *Place the wrapped cutterhead in a freezer overnight before installing a new bearing. This will cause the cutterhead metal to contract, making the bearing easier to install.*

2. Install a new bearing on the cutterhead by gently tapping it using a mallet and 4" length of 1" inside diameter copper pipe, as shown in **Figure 12**.

   IMPORTANT: Copper pipe should ONLY contact the inside race of the bearing! Failure to comply will result in damage to bearing.

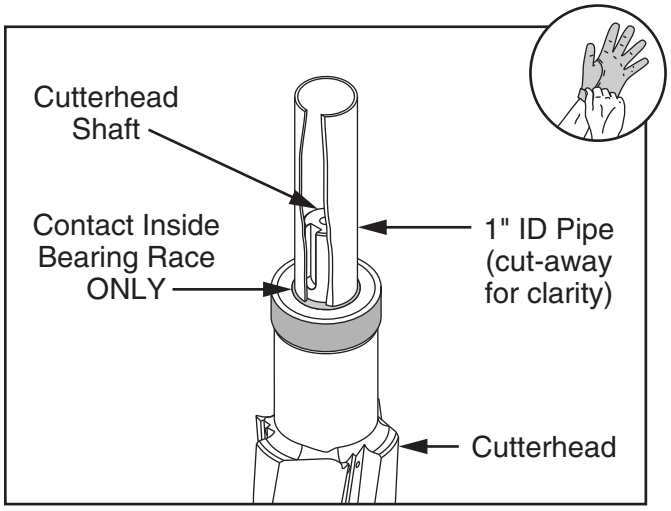


Figure 12. Cutterhead bearing installation.

3. Install cutterhead in gearbox by fitting it into place, and seat it by tapping on the pulley end with a wooden or rubber mallet. Verify cutterhead end is flush with inside face of gearbox bearing (see **Figure 10** on **Page 4**).

4. Re-install helical gear and cap screw, ensuring helical gear and cutterhead are engaged.

5. Verify gasket surfaces are clean and free of oil, grit, or contaminants.

6. Re-assemble gearbox, taking care to align rubber gasket with gearbox covers.

7. Re-fill gearbox with new ISO 320 gear oil via fill plug shown in **Figure 5** on **Page 3**.

8. Install cutterhead and gearbox assemblies into planer. Seat cutterhead shaft bearing by tapping on gearbox with a rubber or wooden mallet (see **Figure 13**). Verify face of new cutterhead bearing is flush with headstock casting.

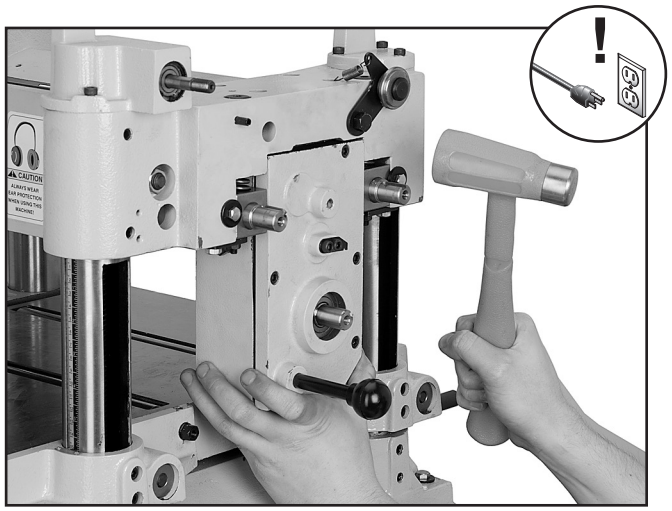


Figure 13. Seating cutterhead and gearbox assemblies.

9. Secure gearbox in place using (5) cap screws and (1) ball knob removed in **Step 21** of **Removing Existing Cutterhead** on **Page 4**.

10. Rotate all sprocket shafts so keyways are in a generally upwards position.

11. Re-install sprockets, keys, chains, and idler (see **Figure 14**). Fasten sprockets using washers and bolts removed in **Step 11** of **Removing Existing Cutterhead** on **Page 3**.

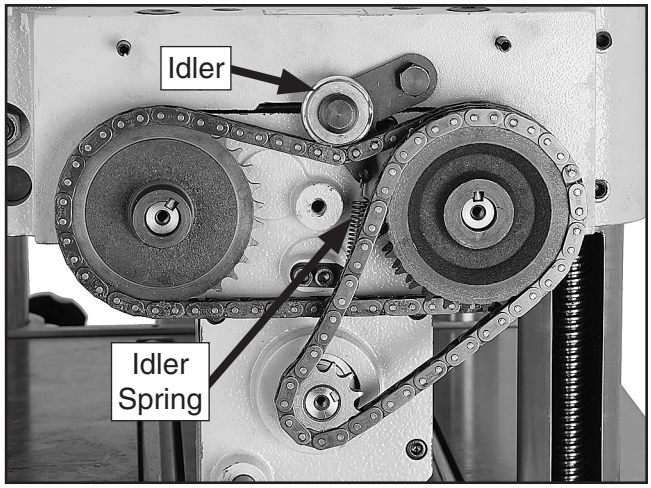


Figure 14. Location of sprocket and chain components **(**hex bolts and washers removed).

12. Re-install gearbox cover, including both rear guards.

13. With cutterhead shaft keyway in an upright position, install cutterhead pulley key into keyway.

14. Slide cutterhead pulley onto shaft and secure with hex bolt and flat washers removed in **Step 5** of **Removing Existing Cutterhead** on **Page 2**.

15. Remove protective cardboard and tape from cutterhead.

16. Re-install all belts and belt cover.

    IMPORTANT: Adjust belt tension if it was loosened in **Step 4** of **Removing Existing Cutterhead** on **Page 2**.

17. Re-install all remaining covers and guards.

18. Follow procedures outlined in your planer manual for adjustment and calibration of your planer before operating.

Accessories

T32014—Indexable Carbide Inserts (10 Pack)
Replacement 15 x 15 x 2.5mm indexable carbide inserts for the Model T32020 15" and T32021 20" V-Helical Cutterheads.

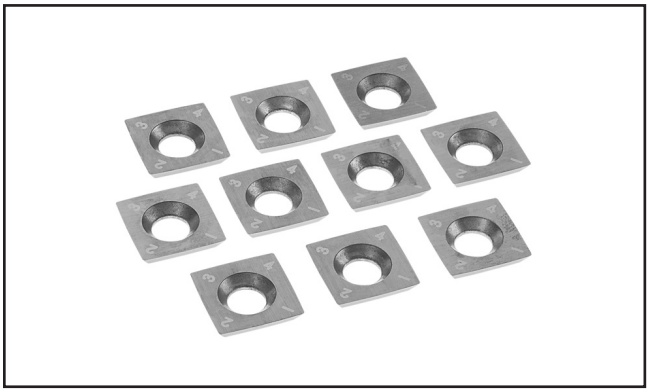


Figure 15. T32014 Indexable Carbide Inserts.

Replacing/Rotating Indexable Inserts

The Model T32020 15" and T32021 20" V-Helical Cutterheads are equipped with 4-sided indexable inserts. Each insert can be removed, rotated, and re-installed to use any of its four cutting edges. If one cutting edge becomes dull or damaged, simply rotate it 90º (see **Figure 16**) to use a sharp cutting edge.

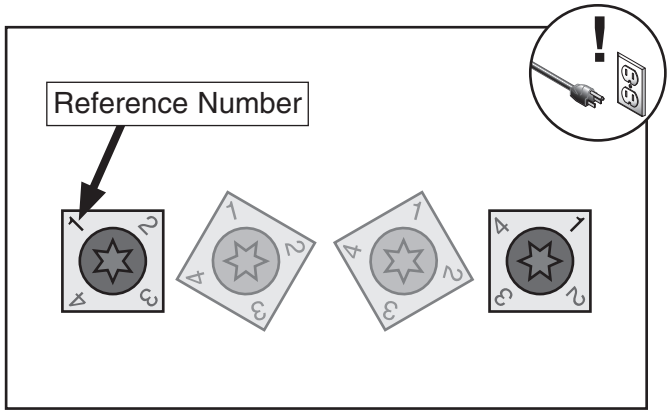


Figure 16. Rotating indexable inserts.

The inserts have a reference number on each corner. The position of the reference number on installed inserts can be used to track which edges are sharp/unused and which edges are dull or damaged. Replace inserts once reference number has been rotated back to its original position.

Items Needed **Qty**

- Safety Glasses (per person) ..... 1 Pair
- Heavy Leather Gloves ..... 1 Pair
- Flat Hd Torx Screws M6-1 x 15 .... As Needed
- Indexable Inserts (T32014) ..... As Needed
- Phillips Head Screwdriver #2 1
- Flat Head Screwdriver ¼" 1
- Hex Wrenches 4, 5, 6mm 1
- Torx Bit T-20 1
- T-Handle Bit Driver ¼" 1
- Torque Wrench 0–50 in.-lb 1
- Clean Shop Rags ..... As Needed
- Degreaser ..... As Needed
- Light Machine Oil ..... As Needed

⚠WARNING

Cutterhead inserts are extremely sharp. Wear heavy leather gloves to avoid the risk of serious personal injury.

To replace or rotate indexable inserts:

1. DISCONNECT MACHINE FROM POWER!
2. Put on heavy leather gloves to protect fingers and hands.
3. Remove top cover and dust port to expose cutterhead.
4. Remove belt cover to access V-helical cutterhead pulley.
5. Rotate pulley as needed to make inserts accessible for removal or rotation.
6. Remove any sawdust from head of indexable insert Torx screw.
7. Remove Torx screw and indexable insert.
8. Clean all dust and dirt off insert and cutterhead pocket from which insert was removed, and replace insert so a fresh, sharp edge is facing outward.

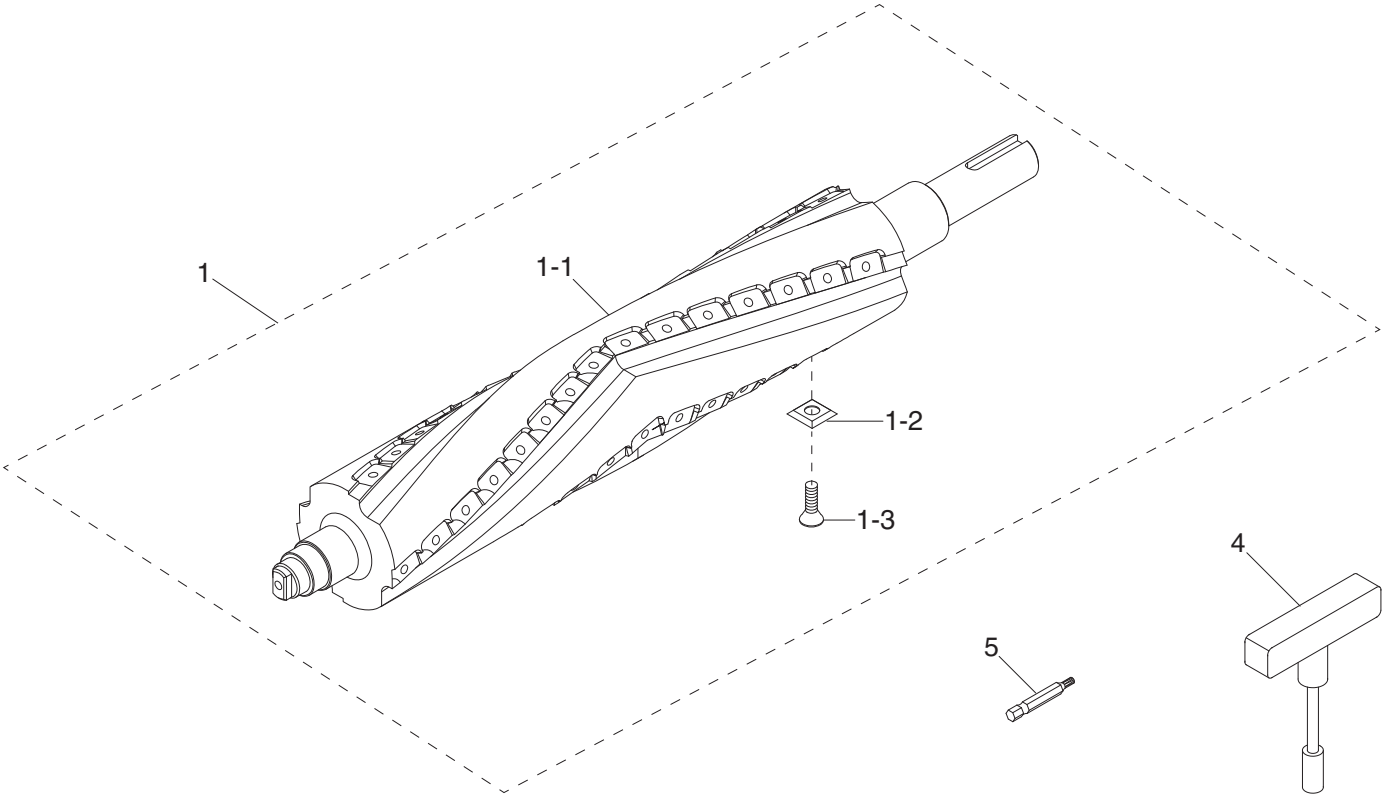
   Note: *Proper cleaning is critical to achieving a smooth finish. Dirt or dust trapped between insert and cutterhead will slightly raise insert, and make noticeable marks on your workpieces the next time you cut.*

9. Lubricate Torx screw threads with a light machine oil, wipe excess oil off threads, and torque Torx screw to 48-50 inch pounds.

   Note: *Excess oil may squeeze between insert and cutterhead or in screw hole, thereby lifting insert or screw slightly and affecting workpiece finishes.*

10. Re-install belt cover, dust port, and top cover.

Parts Breakdown & List



REF	PART #	DESCRIPTION
1	PT32020001	V-HELICAL CUTTERHEAD ASSEMBLY 15" (T32020)
1	PT32021001	V-HELICAL CUTTERHEAD ASSEMBLY 20" (T32021)
1-1	PT32020001-1	V-HELICAL CUTTERHEAD 15" (T32020)
1-1	PT32021001-1	V-HELICAL CUTTERHEAD 20" (T32021)

REF	PART #	DESCRIPTION
1-2	PT32020001-2	CARBIDE INSERTS 15 X 15 X 2.5MM 10-PK
1-3	PT32020001-3	FLAT HD TORX SCR T20 M6-1 X 15
4	PT32020004	T-HANDLE BIT DRIVER 1/4"
5	PT32020005	TORX BIT T-20

We do our best to stock replacement parts when possible, but we cannot guarantee that all parts shown are available for purchase. Call **(800) 523-4777** or visit **www.grizzly.com/parts** to check for availability.