



15" & 20" HELICAL CUTTERHEAD FOR PLANERS

USER MANUAL



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Version 1.0

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CXHEL15/CXHEL20 MANUAL

These Indexable insert cutterheads are designed to upgrade and improve your old 15 Straight knife thickness planers performance. The CXHEL15 & CXHEL20 features four rows of replaceable carbide inserts effectively providing an incredibly smooth finish. They will fit the following Craftex Planers and also some other competitive brands as listed below.

MODEL	DESCRIPTION	CRAFTEX	GRIZZLY	KING
CXHEL15	15" Helical Cutterhead	CT090, CX15, CX15SC, CX15HC	G0453, G0453Z, W1742, W1742S, ST1007, ST1012	KC-385FX KC-390FX KC-382CFX
CXHEL20	20" Helical Cutterhead	CX20, CX20SC, CX20HC	G0454, G0454Z, W1754, W1754S, ST1014	KC-520C

WARNING!!!

DO NOT try and alter these cutterheads to fit any other makes or models of thickness planers for which they are not designed. These cutterheads are designed as a retro-fit for the thickness planers listed above.

The complete procedure of replacing the cutterhead and setup of the planer will take approximately three hours. Please read these instructions thoroughly before proceeding. We suggest that replacing the old cutterhead bearings at the time of installation.

SPECIFICATIONS

CXHEL15

Maximum Width of Cut15"
Cutterhead Diameter76mm
Number of Indexable Carbide Inserts.....75

CXHEL20

Maximum Width of Cut 20"
Cutterhead Diameter81mm
Number of Indexable Carbide Inserts.....100

RECOMMENDED TOOLS

Hex Wrench 5mm1
Wood Blocks 2 x 4 x 4"6
Pair of Heavy Gloves 1 Per Person
Steel Hammer1

Wood or Rubber mallet1
Hex Cap Screw M6-1 x 25.....1
Open End Wrench 12/14mm.....1
Shop Rags As Needed
Drain Pan1
Gear Case Oil ISO320As Needed
Oil Funnel1
Assistants 1-2
Sprocket/Pulley Puller.....As Needed
4" Length of 1" I.D. Pipe1
Open End Wrench to Fit Pulley Puller.....1
#2 Flat Head Screwdriver1
Heavy Card Board..... As Required
Heavy Tape..... As Required
Replacement Gaskets and Seals.....As Required

INVENTORY

- 1.Flat Head Torx Screws M6-1 x 153
- 2.Torx Bit T-202
- 3.L-Wrench Torx T-202
- 4.Cutterhead Inserts 15 x 15x 2.55
- 5.Helical Cutterhead1

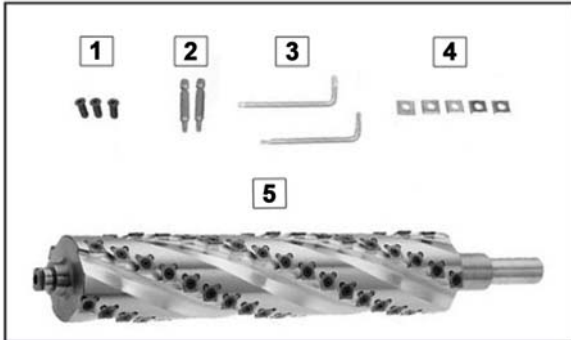


Figure A. Model CXHEL15 and CXHEL20

REMOVING EXISTING CUTTERHEAD

1. DISCONNECT THE MACHINE FROM POWER!
2. Remove the top cover and dust port exposing the cutterhead.
3. Remove the planer knives from the cutterhead.
4. Remove the belt cover and Drive-Belts from the machine.

Note:

You may need to loosen the drive belt tension in order to remove the belt from the pulley.

5. Refer to your Planer Manual for releasing the tension on the drive belts.
6. Remove the hex bolt that secures the cutterhead pulley in place.

7. Rotate the cutterhead pulley key is in the upright position.

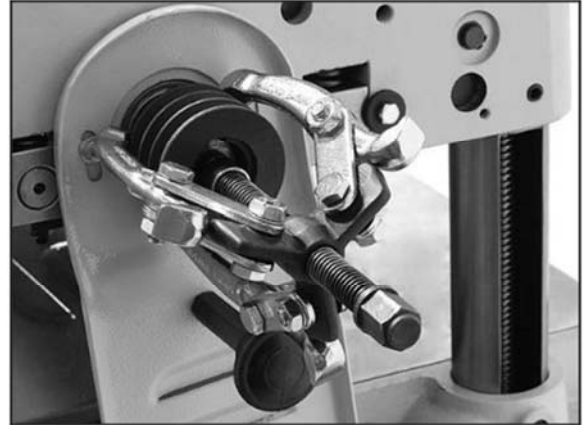


Figure B. Pulley puller installed on cutterhead

8. Remove the pulley and key. If the pulley is difficult to remove, use a pulley puller, as shown above in Fig.B
9. Remove the table elevation hand wheel and key.
10. Remove both rear sprocket guards as shown in Fig.C

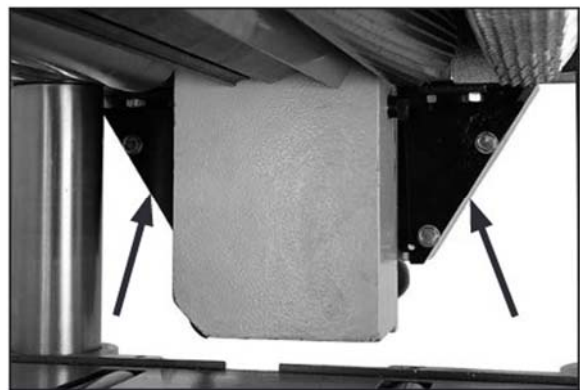


Figure C. Sprocket cover rear guards.

11. Remove the sprocket cover cap screws and cover.
12. Remove the cap screws and washers from the three sprockets, shown in **Fig.D** exposing the sprocket keys.
13. Unhook the idler spring (**Fig.D**) and move the idler up and out of the way.
14. Rotate the cutterhead so the sprocket keys are in the upright position. (**Fig.D**) (This will prevent the keys from falling out.)

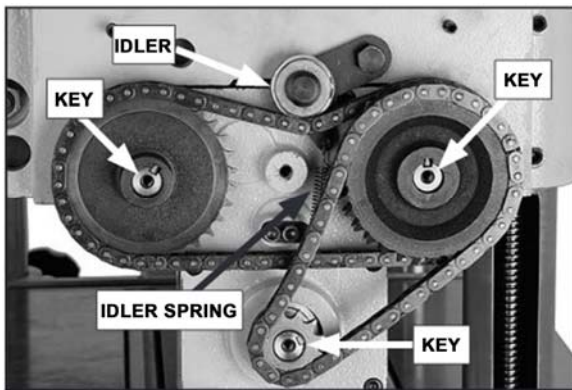


Figure D. Example of sprockets & chains.

15. Mark the outside of the sprockets as a way of remembering which side of each sprocket faces outward.
16. Remove the sprockets, keys and chains all at once, taking care to keep the chains intact.
17. Thoroughly drain the planer gearbox into a drain pan by removing the drain plug shown in **Fig.E**

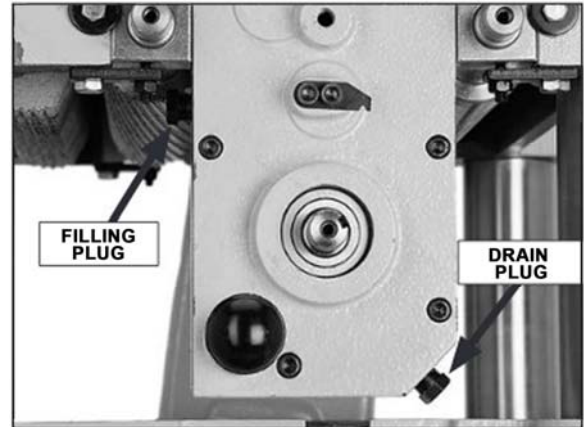


Figure E. Drain and fill plug locations.

18. Insert (6) 4" 2x4 blocks directly beneath the cutterhead, as shown in **Fig.F**

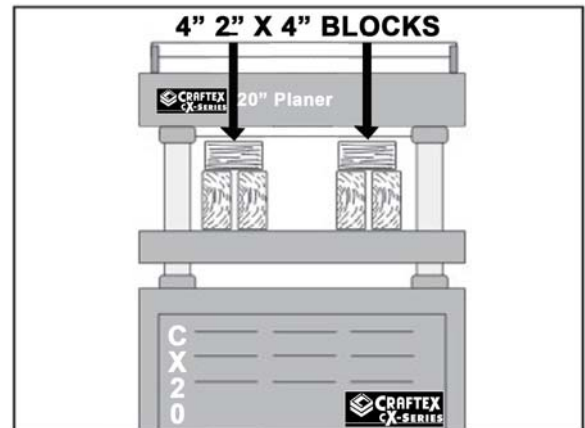


Figure F. Support block locations.

19. Re-install the handwheel and key, then carefully raise the table so the cutterhead just touches the blocks.
20. Remove the 4 cap screws at the top of the gearbox, shown in **Fig.G**

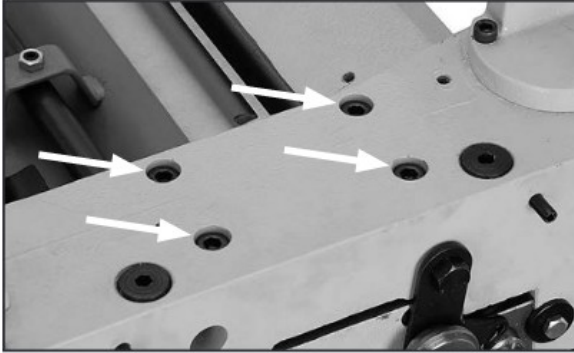


Figure G. Gearbox cap screw locations.

- 21.** Have an assistant hold the gearbox steady while you use a rubber or wood mallet to unseat the cutterhead from the headstock, as shown in **Fig.H**



Figure H. Unseating cutterhead from tailstock.

- 22.** Pull the cutterhead gearbox assembly off of the planer and place on the workbench.
- 23.** Remove the five cap screws from the front of the gearbox cover.
- 24.** Separate the gearbox cutter by gently tapping near the gasket using a mallet and flat head screwdriver.
- 25.** Remove the cap screw from inside of the helical gear, shown in **Fig.I**, and then remove the gear.

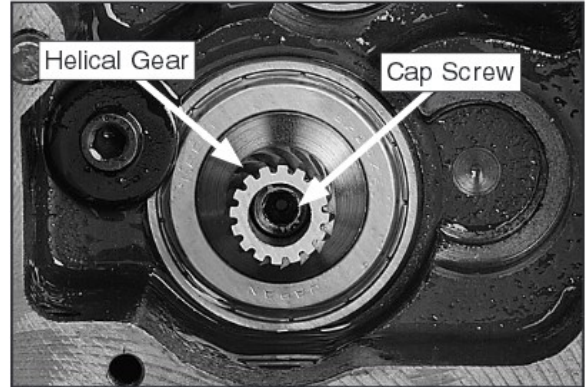


Figure I. Helical gear and cap screw.

- 26.** Insert a spare M6-1 set screw or bolt into the hole at the gearbox end of the cutterhead shown in **Fig.J**.

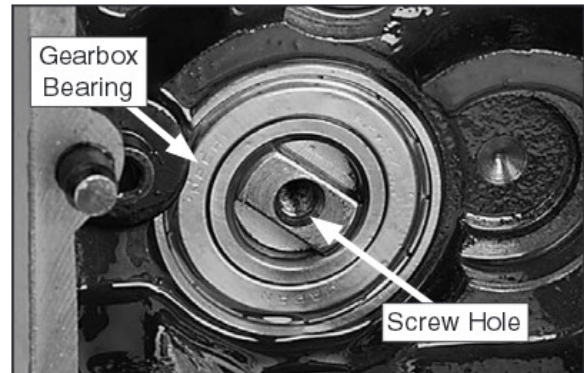


Figure J. Location of the screw hole in cutterhead removal.

- 27.** While supporting the gearbox, remove the cutterhead by tapping on the screw or bolt with a hammer, as shown in **Fig.K**. It may also be necessary to tap on the back of the gearbox with a rubber or wood mallet.

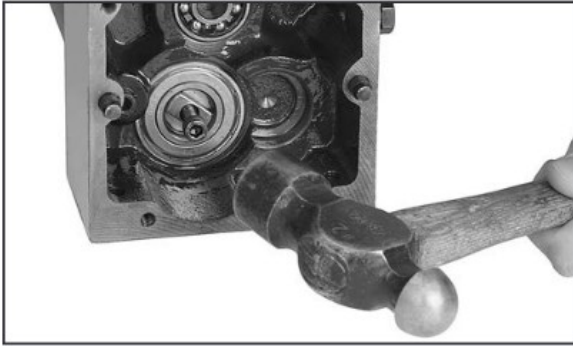


Figure K. Cutterhead removal.

28. Visually inspect all bearing bores, on both the headstock and in the gearbox, and remove any burrs or rough spots that are present.

INSTALLING THE HELICAL CUTTERHEAD

NOTICE

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

To install the helical cutterhead:

1. Wrap the new cutterhead in cardboard and secure it with heavy tape.
2. Install a new bearing on the cutterhead by gently tapping it with a mallet and a 4" length of 1" I.D. pipe, as shown in **Fig.L**.

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.

Important:

The pipe should contact the inside race of the bearing only, as shown in **Fig.L**. Force on any other portion of the bearing WILL ruin the bearing.

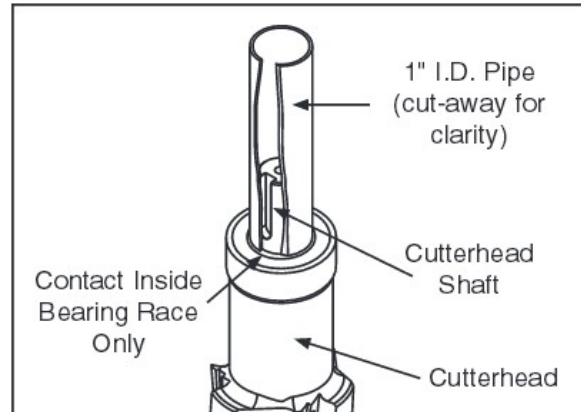


Figure L. Close up of bearing installation.

3. Install the cutterhead in the gearbox by fitting it into place, and seat it by tapping on the pulley end with a wood or rubber mallet. Ensure the cutterhead end is flush with the inside face of the gearbox bearing, as previously shown in **Fig.J** on **Page 4**.
4. Re-install the helical gear and cap screw, ensuring the helical gear and cutterhead are engaged.
5. Ensure that the gasket surfaces are clean and free of oil, grit and contaminants. If these are damaged, replace them.
6. Re-assemble the gearbox taking care to seat the rubber gasket in alignment with the gearbox covers.
7. Install the cutterhead-gearbox assembly into the planer. Seat the cutterhead shaft bearing by tapping on the gearbox with a wood or rubber mallet, as shown in **Fig.M**

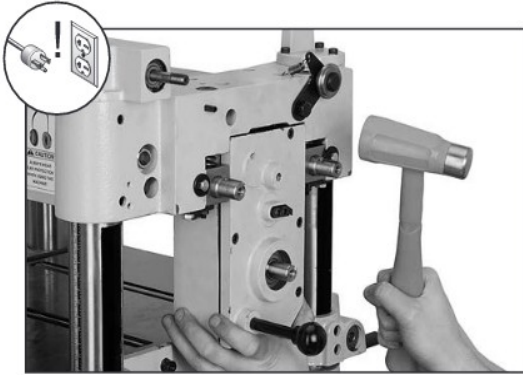


Figure M. Example of seating the cutterhead-gearbox assembly.

8. Secure the gearbox in place with the capscrews removed in **Step 19** of **Cutterhead Removal** instructions.
9. Refill the gearbox with ISO 320 gear oil via the fill plug shown in **Fig.E** on **Page 3**.
10. Rotate all sprockets so that the keyways are in a generally upright position. This prevents the keys from falling out during installation of the sprockets.
11. Re-install the sprockets, chains and idler. Fasten the sprockets using the washers and cap screws removed in **Step 11** on **Page 3**.
12. Re-install the sprocket cover, including both rearguards, on the sprocket cover.
13. With the cutterhead shaft keyway in the upright position, install the cutterhead pulley key into the keyway.
14. Slide the cutterhead pulley onto the shaft, and secure with the hex bolt removed in **Step 5** on **Cutterhead Removal** instructions.
15. Remove the protective cardboard and tape from the cutterhead.
16. Re-install all belts and the belt cover. Re-adjust the V-Belt tension if it was loosened in **Step 4** of **Cutterhead Removal** instructions.

17. Re-install all remaining covers and guards.
18. Follow the procedures outlined in your manual for adjustment and calibration of your thickness planer.

ROTATING/CHANGING CARBIDE INSERTS

Tools Needed:

T -Handle Torx Driver T20	1
L- Handle Torx Driver T20	1

Number of Inserts

Model CXHEL15	75
Model CXHEL20	100

Each insert can be rotated to reveal any one of its four cutting edges. Therefore, if one cutting edge becomes dull or damaged, simply rotate it 90 deg. To reveal a fresh cutting edge (see **Fig.N**).

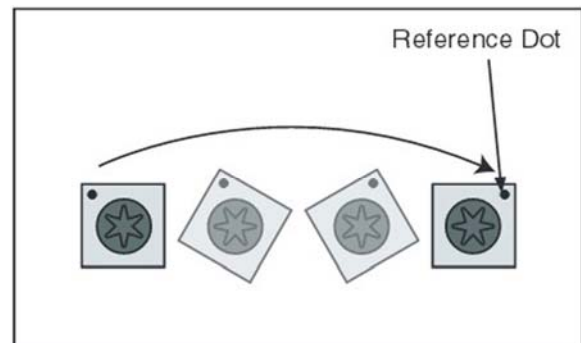


Figure N. Carbide insert rotation sequence.

In addition each insert has reference dot on one corner. As the insert is rotated, the reference dot can be used as an indicator of which edges are used and which edges are new. When the reference dot revolves back around to its starting position, it should be replaced.

To rotate or change a carbide insert:

1. DISCONNECT THE MACHINE FROM POWER.
2. Remove any sawdust from the head of the carbide insert Torx screw.
3. Remove the Torx screw and insert.
4. Clean all dust and dirt off of the insert and cutterhead pocket from which the insert was removed, and replace the insert so that a fresh, sharp edge is facing outward.

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

5. Lubricate the Torx screw threads with light machine oils, wipe off the excess oil, and torque the Torx screw to 48-50 inch/pounds.

Accessories

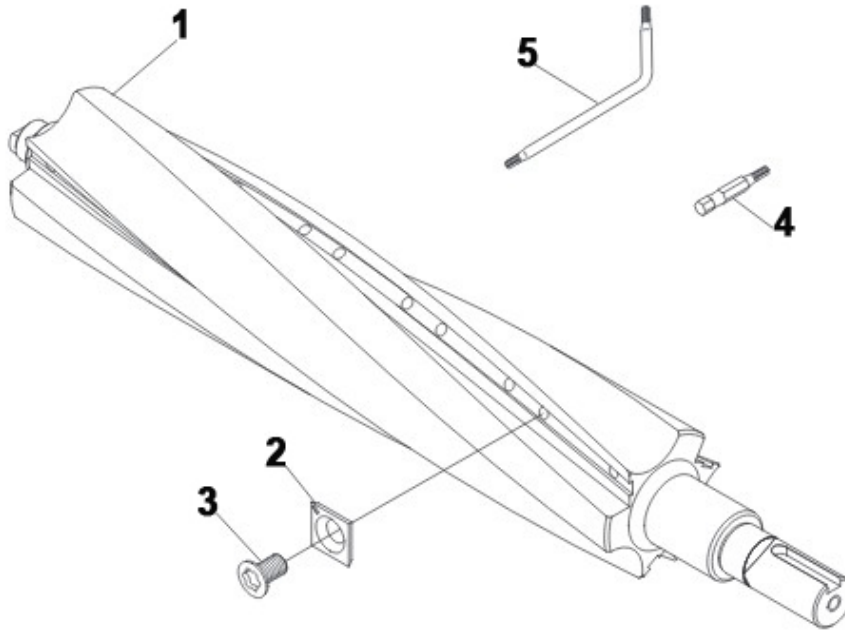
CXHCINS - 10 Pack of indexable carbide inserts. Replacement carbide inserts for CXHEL15 and CXHEL20 cutterheads.



Figure 16. CXHCINS Indexable Carbide Inserts

PARTS LIST FOR CXHEL15 And CXHEL20

Parts Breakdown & List



CXHEL15 Parts

REF	PART NUMBER	Description
1	CXHEL6001	Helical Cutterhead 15"
2	CXHEL6002	Indexable Insert 15x15x2.5mm
3	CXHEL6003	Flat Head Torx Screw T20 M6-1 x 15
4	CXHEL6004	L-Wrench Torx T20
5	CXHEL6005	Driver Bit Torx T20

CXHEL20 Parts

REF	PART NUMBER	Description
1	CXHEL6001	Helical Cutterhead 15"
2	CXHEL6002	Indexable Insert 15x15x2.5mm
3	CXHEL6003	Flat Head Torx Screw T20 M6-1 x 15
4	CXHEL6004	L-Wrench Torx T20
5	CXHEL6005	Driver Bit Torx T20



WARRANTY

CRAFTEX 3 YEARS LIMITED WARRANTY

Craftex warrants every product to be free from defects in materials and agrees to correct such defects where applicable. This warranty covers **three years** for parts and 90 days for labour (unless specified otherwise), to the original purchaser from the date of purchase but does not apply to malfunctions arising directly or indirectly from misuse, abuse, improper installation or assembly, negligence, accidents, repairs or alterations or lack of maintenance.

Proof of purchase is necessary.

All warranty claims are subject to inspection of such products or part thereof and Craftex reserves the right to inspect any returned item before a refund or replacement may be issued.

This warranty shall not apply to consumable products such as blades, bits, belts, cutters, chisels, punches etceteras. Craftex shall in no event be liable for injuries, accidental or otherwise, death to persons or damage to property or for incidental contingent, special or consequential damages arising from the use of our products.

RETURNS, REPAIRS AND REPLACEMENTS

To return, repair, or replace a Craftex product, you must visit the appropriate Busy Bee Tools showroom or call 1-800-461-BUSY. Craftex is a brand of equipment that is exclusive to Busy Bee Tools.

For replacement parts directly from Busy Bee Tools, for this machine, please call 1-800-461-BUSY (2879), and have your credit card and part number handy.

- All returned merchandise will be subject to a minimum charge of 15% for re-stocking and handling with the following qualifications.
- Returns must be pre-authorized by us in writing.
- We do not accept *collect* shipments.
- Items returned for warranty purposes must be insured and shipped pre-paid to the nearest warehouse
- Returns must be accompanied with a copy of your original invoice as proof of purchase. Returns must be in an un-used condition and shipped in their original packaging a letter explaining your reason for the return. Incurred shipping and handling charges are not refundable.
- Busy Bee will repair or replace the item at our discretion and subject to our inspection.
- Repaired or replaced items will be returned to you pre-paid by our choice of carriers.
- Busy Bee reserves the right to refuse reimbursement or repairs or replacement if a third party without our prior authorization has carried out repairs to the item.
- Repairs made by Busy Bee are warranted for 30 days on parts and labour.
- Any unforeseen repair charges will be reported to you for acceptance prior to making the repairs.
- The Busy Bee Parts & Service Departments are fully equipped to do repairs on all products purchased from us with the exception of some products that require the return to their authorized repair depots. A Busy Bee representative will provide you with the necessary information to have this done.

