



# MODEL CXHEL6/CXHEL8

## 6" & 8" HELICAL CUTTERHEAD FOR JOINTERS USER MANUAL



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Version 1.0

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# CXHEL6/CXHEL8 Manual

The CXHEL6 and CXHEL8 indexable helical cutterheads have been designed to replace the conventional straight knife cutterhead for the following jointer models:

MODEL	DESCRIPTION	CRAFTEX	GRIZZLY	KING
CXHEL8	8" Helical Cutterhead	CT088, CX08 CX08SC, CX08HC	G0490 G0490X W1741 W1741S ST1006 ST1011	KC-80FX KC-85FX
CXHEL6	6" Helical Cutterhead	CT086	G0452 G0452Z G0452P W1745 W1745S ST1010	KC-150C

**WARNING!!!**

DO NOT try and alter or modify these cutterheads to fit any other makes or models of jointers for which they are not designed. These cutterheads are designed as a retro fit for the jointers on the list above.

The overall setup process or procedure of replacing the cutterhead will take approximately 1 hour. Please make sure to read these instructions thoroughly and understand them before beginning.

### **CXHEL8**

Maximum Cut Width.....8”  
 Cutterhead Diameter.....85mm  
 Number of Carbide Inserts.....40  
 Carbide Insert Size.....15 x 15 x 2.5mm

**\*\*\*NOTE\*\*\***

During the cutterhead replacement process we would recommend that you replace the old cutterhead bearings.

### Specifications

#### **CXHEL6**

Maximum Cut Width.....6”  
 Cutterhead Diameter.....75mm  
 Number of Carbide Inserts.....30  
 Carbide Insert Size.....15 x 15 x 2.5mm

### Recommended Tools

Wrench/Sockets.....10,13,17, 19mm  
 Hex Wrench.....4mm and 6mm  
 Feeler Gauge Set.....1  
 Precision Straight Edge.....1  
 Pair of Work Gloves (Leather).....1  
 Safety Goggles or Glasses.....1  
 Heavy Duty Pulley Puller.....1  
 Rubber Mallet/Dead Blow Hammer.....1  
 Block of Wood 12” 4 x 4.....1  
 Block of Wood 8” 2 x 4.....2  
 Flat Piece of Scrap Wood.....1  
 Shop Towel/Rag.....1  
 Degreaser.....As Required



## Inventory

1. Torx Drivers T20.....2
2. Torx L Shaped Wrenches.....2
3. Flat Head Torx Screws T20 M6-1 x 15.....3
4. Carbide Inserts 15 x 15 x 2.5mm.....5
5. Helical Cutterhead.....1

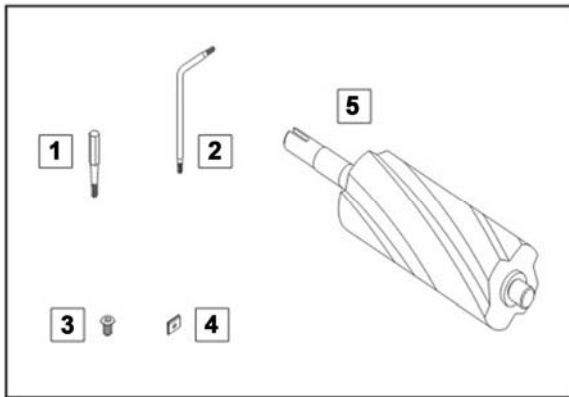


Figure A

## Removing The Existing Cutterhead

1. Make sure to disconnect the machine from its power source.
2. Remove the jointer fence assembly and safety guard over the existing cutterhead.
3. Now remove the rabbet extension table as well as the back cover and belt guard. Now you can remove the V belt from the pulleys.
4. Back off and loosen the infeed and outfeed table locks. Now loosen the jam nuts as well as the positive stops located at the back of the jointer.

### \*\*\*NOTE\*\*\*

Make sure that when you are lowering the infeed and outfeed table that the fence carriage support does not make contact with the cutterhead pulley.

5. Lower both the infeed table and outfeed table to allow for enough room for the cutterhead to be removed as shown in figure B.

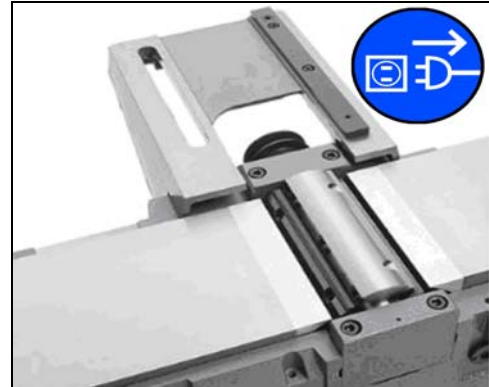


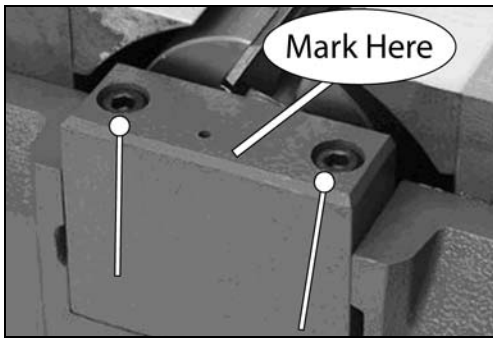
Figure B

6. Before removing the existing cutterhead remove the blade or reverse their mounting direction so that the sharp edge faces towards the cutterhead.
7. Remove the pulley by removing the cap screw and flat washer securing the pulley in place. Then remove the key from the cutterhead.

### \*\*\*NOTE\*\*\*

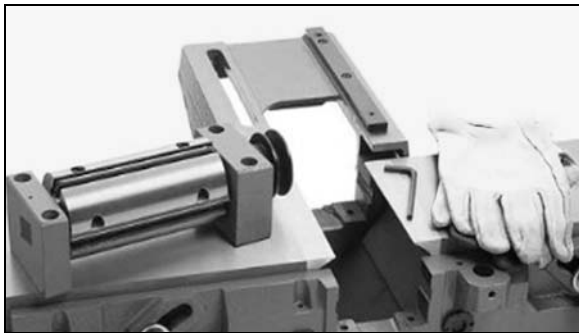
If the pulley seems difficult to remove then use a heavy duty pulley puller for easier removal.

8. Now to remove the bearing blocks remove the cap screws and lock washers as shown in **Figure C**.
9. Take a black felt pen and some masking tape to mark the bearing blocks drive side (side the pulley is located) and operator side (side the machine operator would stand when using the machine.) This will make it easier when reinstalling the bearing blocks later.



**Figure C**

10. Carefully remove the bearing blocks and cutterhead from machine casting. See **Figure D**



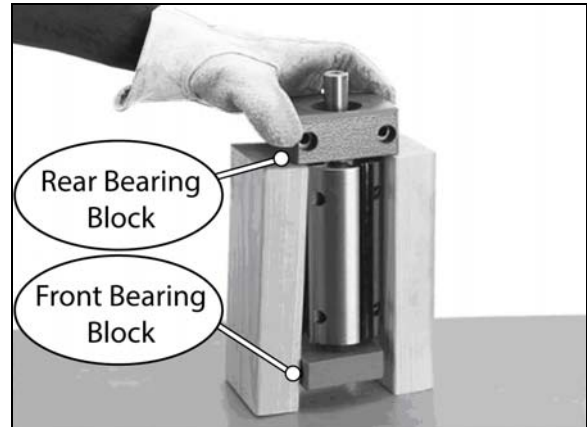
**Figure D**

**\*\*\*NOTE\*\*\***

Your existing cutterhead may have shims made of metal attached to the bearing block or the part of the casting where the bearing block would rest. These are put in place at the factory to calibrate your cutterhead to ensure that its level with your outfeed table. If you do come across these shims carefully remove them and set them aside for future use or keep them with the old cutterhead so that in the event you reinstall it later you will have it. It is also important to mark the cutterhead indicating the side that the shim was used on so your future installation goes smoothly. You may not require the shims with your new cutterhead.

11. Cut a 2 x 4 into two 8" pieces.

12. Now place the old cutterhead assembly on your work bench or flat surface with the pulley end of the cutterhead facing up. Then use the two pieces of 8" 2 x 4 to place under the rear bearing block for support as shown in **Figure E**



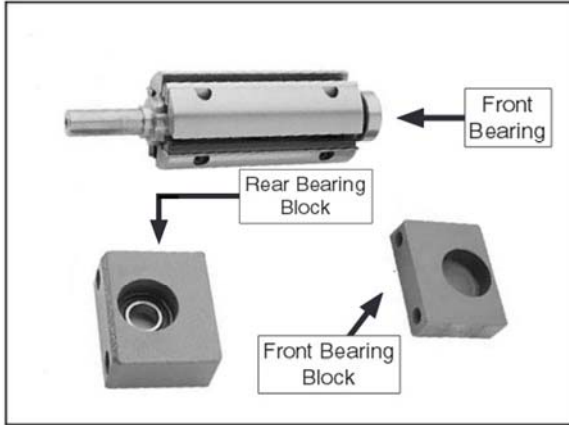
**Figure E**

**\*\*\*NOTE\*\*\***

You can try wrapping tape around the blocks to help hold them together for the next step.

13. Firmly tap the cutterhead shaft with a rubber mallet or deadblow hammer. Have the 4 x 4 block resting on the shaft so that you do not make contact with the shaft directly. This should effectively separate the cutterhead from the rear bearing block.

14. Now remove the remaining front bearing block and bearing from the old cutterhead. (if it has not already dropped off at this point.) **Figure F** shows the components after being disassembled.



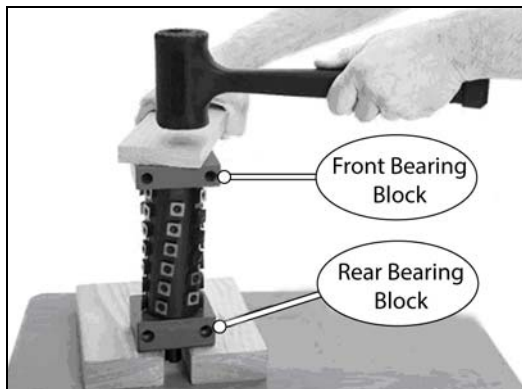
**Figure F**

**WARNING!!!**

The helical indexable carbide insert are extremely sharp. When handling inserts leather gloves should be worn while carrying out the next steps to prevent the risk of serious personal injury.

**15.** Install the bearing removed in **Step 14** (or replace with a new bearing) onto the end of the shaft (the short shaft not the pulley side) on your new helical cutterhead. After the bearing is in place press it into the front bearing block.

**16.** Now stand the helical cutterhead upright between the two 8" 2 x 4 blocks and use a scrap piece of wood and rubber mallet or rubber dead blow hammer to seat the cutterhead bearings properly into the bearing blocks as shown in **Figure G**.



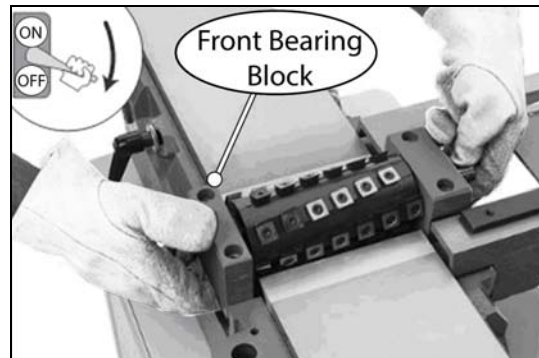
**Figure G**

**17.** Use a rag to clean out the casting where the bearing blocks will be seated making sure there is no sawdust or debris as it would throw out the calibration.

**18.** While keeping the pressure on the bearing blocks pressed against the helical cutterhead take the cutterhead over to the jointer. Match up the bearing blocks to the sides marked from **step 9**. Install the helical cutterhead so that the front bearing block is positioned on the operator side of the machine. (See **Figure H**)

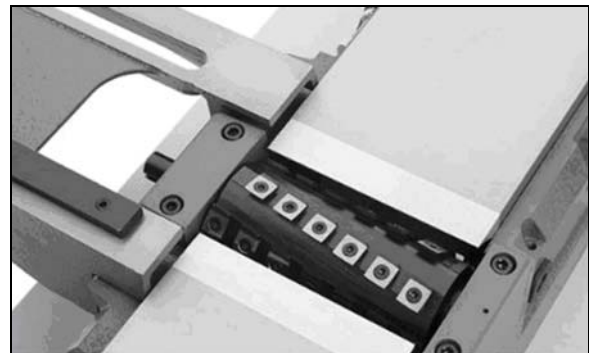
**\*\*\*Note\*\*\***

Be careful not to accidentally chip a carbide insert on the infeed or outfeed table of the jointer when installing



**Figure H**

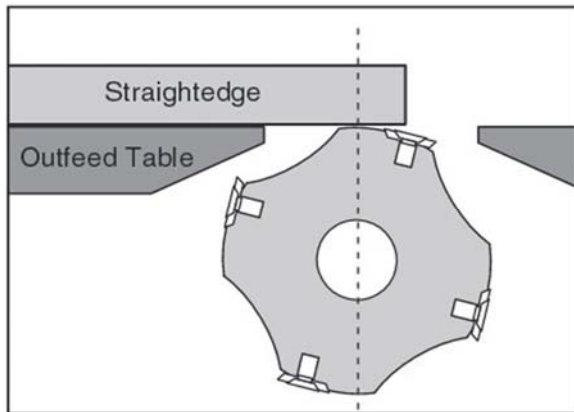
**19.** Fasten the bearing blocks into place using the cap screws and washers removed during step 8. (See **Figure I**)



**Figure I**

20. Now install the key into the key way located on the pulley side shaft of the helical cutterhead. Push the pulley onto the end of the shaft and secure it using the cap screw and flat washer removed in **Step 7**. Make sure that the pulley and set screw are firmly secured.

21. Now it's time to check the cutterhead parallelism with the outfeed table of the jointer using a precision straightedge and set of feeler gauges. (See **Figure J**) With the precision straightedge in position on outfeed table overhanging the cutterhead raise or lower the outfeed table until the straightedge makes contact with the cutterhead body (not insert).



**Figure J**

22. Check both side of the cutterhead for parallelism with the outfeed table to ensure that one side isn't higher or lower than the other. If one side is use the feeler gauges and place them between the precision straightedge and the cutterhead body to determine the height difference

- If the cutterhead is even or within 0.004" with the outfeedtable from one side to the other you may move onto **Step 25**.

- If the cutterhead is over 0.004" from side to side move onto **Step 23**.

23. Back off the cap screw securing the bearing block in place and lift the cutterhead slightly to place shims under the bearing block in need of adjustment.

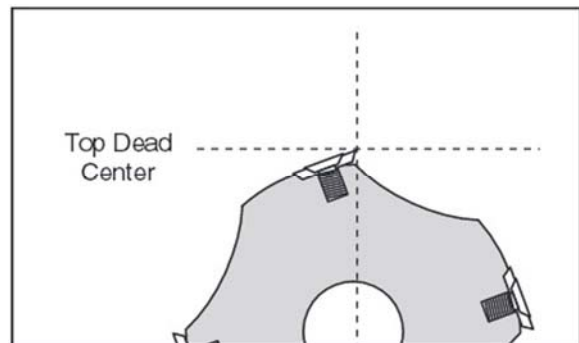
**\*\*\*NOTE\*\*\***

If you have the shims from the old cutterhead use them. If you do not have them you can use newspaper which is approximately 0.003" thick and can be used for shimming. **DO NOT** shim more than 0.004" on either side as this may negatively affect the bearing block seats in the casting.

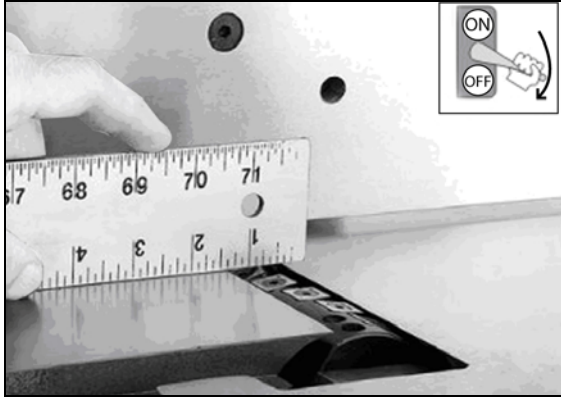
24. You may need to repeat **Steps through 21-23** and adjust as required. After adjusting retighten the cap screw on bearing blocks to firmly secure them in place.

25. Now re-install the V belt on the pulleys. (reference the manual for your model of jointer for details)

26. Place the precision straight edge on to outfeed table so that it over hangs the helical cutterhead, then rotate the the cutterhead pulley until one of the carbide inserts is at top dead centre (TDC) like **Figures K and L**.

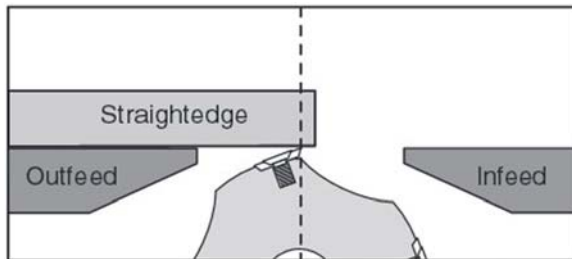


**Figure K**



**Figure L**

If properly set the carbide insert should just be touching the precision straightedge when the insert is at the highest point of rotation. (See **Figure M**)



**Figure M**

**\*\*\*NOTE\*\*\***

If the outfeed table has been correctly set, no adjustment will be required.

If the carbide inserts raise the precision straightedge adjust the outfeed table height so that the precision straightedge just touches the insert at top dead centre. (the highest point of rotation for the carbide insert.)

27. Secure and lock the outfeed table then proceed to re-install the jointer fence assembly.

28. Re-install the cutterhead safety guard over the cutterhead ensuring that the spring tension on the guard is properly set so the safety guard springs back over

the cutterhead when moved away and then released.

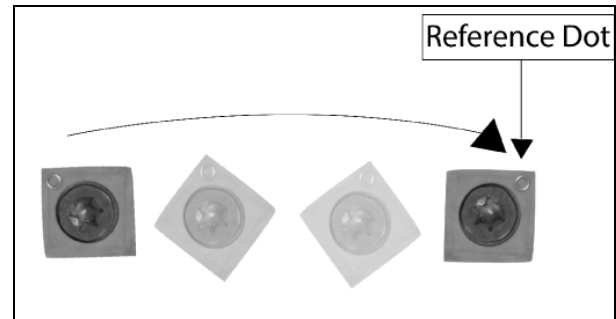
29. Re-adjust the infeed table

30. Re-install the rabbet extension table as well as the V Belt cover and rear cover.

31. Now reset your positive set bolts on both the infeed and outfeed tables.

## Rotating/Replacing Carbide Inserts

Every insert has 4 sharp edges and can be rotated 90° to reveal a new fresh edge should one side become damaged, chipped, or even dull from use. (See **Figure N**)



**Figure N**

Every insert has a dot in one corner for reference. As you rotate the insert the reference dot will let you know which edges of the insert have been used and which edges are new. Once the reference dot or mark has made it back to its home position it is time for it to be removed and replaced with a new insert.

**\*\*\*NOTE\*\*\***

Wear heavy leather work gloves to protect fingers and hands from razor sharp inserts and reduce the risk of serious injury.



## How to Rotate or Replace Carbide Inserts:

1. Make sure to disconnect the machine from its power supply.
2. Clear and remove sawdust or debris from the head of carbide insert torx screw.
3. Remove carbide insert and torx screw
4. Make sure to clear the sawdust or debris from the pocket in the cutterhead body which the carbide insert was removed. Then rotate or replace carbide insert as needed.
5. Before securing insert apply some lubrication (light machine oil) to torx screw threads. Wipe away the excessive lubricant and torque the screw to 50 inch/pounds.

### **\*NOTE\***

If the excess lubricant is not removed from screw threads it may cause the insert to raise slightly causing it to be out of alignment.

## ACCESSORIES:

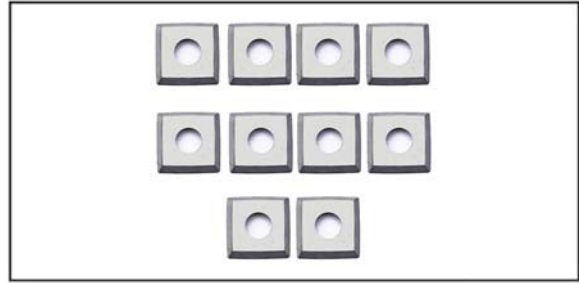
### **CXHCINS**

10pc / Pack Carbide Insert for Helical Cutterhead Machines - Craftex CX-Series

These high quality carbide inserts are used with our helical cutterhead machines giving a smoother and superior finish compared to the spiral version.

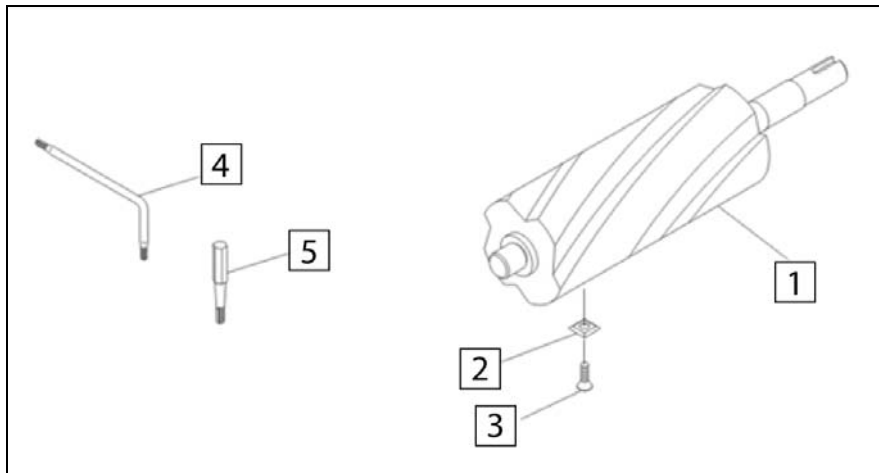
Quantity: 10 pcs / Pack

Available at all locations or online at [Busybeetools.com](http://Busybeetools.com)



**CXCHINS (Replacement inserts)**

## PARTS LIST AND BREAKDOWN



### CXHEL6 PARTS

REF	PART #	DESCRIPTION
1	CXHEL6001	HELICAL CUTTERHEAD 6"
2	CHHEL6002	INDEXABLE INSERT 15 X 15 X 2.5MM
3	CXHEL6003	FLAT HD TORX SCR T20 M6-1 X 15
4	CXHEL6004	L-WRENCH TORX T20
5	CXHEL6005	DRIVER BIT FOR TORX T20

### CXHEL8 PARTS

REF	PART #	DESCRIPTION
1	CXHEL6001	HELICAL CUTTERHEAD 8"
2	CHHEL6002	INDEXABLE INSERT 15 X 15 X 2.5MM
3	CXHEL6003	FLAT HD TORX SCR T20 M6-1 X 15
4	CXHEL6004	L-WRENCH TORX T20
5	CXHEL6005	DRIVER BIT FOR 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.

For faster service it is advisable to contact the nearest Busy Bee location for parts availability prior to bringing your product in for repairs.

