B1979C – MINI METAL LATHE, 7” X 8”
OWNER’S MANUAL

GENERAL SAFETY INSTRUCTION

EXTREME CAUTION SHOULD BE USED IN OPERATING ALL POWER TOOLS. KNOW YOUR POWER TOOL, BE FAMILIAR WITH ITS OPERATION. READ THE OWENER'S MANUAL AND PRACTICE SAFE USAGE PROCEDURES AT ALL TIMES.

☐**CONNECT** your machine **ONLY** to the matched and specified power source.

☐ **WEAR SAFETY GLASSES, RESPIRATORS, HEARING PROTECTION** and **SAFETY SHOES** when operating this machine.

☐**DO NOT** wear loose clothing or jewel when operating machinery.

☐**A Safe Environment is important**. Keep the area free of dust, dirt and other debris in the immediate vicinity of the machine.

☐**BE ALART!** Do Not Use prescription or other drugs that may affect your ability or judgment to safely use this machine.

☐**DISCONNECT** the power source when changing tool bits.

☐**NEVER** leave an operating tool unattended.

☐**NEVER** reach over the tool when it is in operation.

☐**ALWAYS** keep blades, knives or bits sharp and properly aligned.

☐**ALWAYS** keep all safety guards in place and ensure their proper function.

☐**ALWAYS** make sure that any tools used for adjustments are removed before operating the machine.

☐**ALWAYS** secure your work with the appropriate clamps or vises.

☐**ALWAYS** keep bystanders safely away while operating machinery.

☐**THINK SAFETY. WORK SAFELY**. Never attempt a procedure if it does not feel safe or comfortable.

INTRODUCTION

As part of the growing line of Craftex woodworking equipment, we are proud to offer the B1979C Mini Metal Lathe. The Craftex name guarantees Craft Excellence. By following the instructions and procedures laid out in this owner's manual, you will receive years of excellent service and satisfaction. The B1979C is a professional tool and like all power tools, proper care and safety procedures should be adhered to.

B1979C Mini Metal Lathe is a very practical machine which has been constructed in a simple and logical way. This machine is perfect for the home workshop, school workshops and for the instrument industry.
Installation and operation of the B1979C is very simple.
By changing gears, B1979C can cut metric threads.
The main spindle is powered by a 1/3 HP (250W) permanent magnet DC motor driven by a synchronous toothed belt. The variable speed mechanism allows free adjustment of speed to achieve specific results of the work at hand.
The Lathe has 2 gears, a top (high) gear and a bottom (low) gear. The range of speed with the high gear is 460-2500 RPM, while the low gear ranges from 200-1150 RPM, thus making this little machine quite the versatile tool.

Features

Precision cast iron construction
Auto longitudinal feed
Collars calibrated in inches
The idea tool for model engineers and metal working hobbyists
Complete with precision 3-jaw chuck, change gear set, wrenches and alley keys

Specifications

Swing over bed	7"
Swing over Cross Slide	$4^1/_2$"
Distance between Spindles	$8^1/_4$"
Spindle Taper	MT3
Bore	13/16"
Spindle Speed Range	200-2500 RPM
Threading Range	Inch --12-48 TPI / Metric--0.4-2.0 mm
Tailstock Taper	MT2
Tailstock spindle travel	1 7/8"
Motor	1/3HP, 110V, Variable Speed
Size of Machine	28"×11 3/8" ×$11^1/_4$ "
Approx. Shipping Weight	47kg
Carton Size	12" ×$13^1/_2$" ×27"

INSTALLATION AND TEST RUN

The inner packaging of B1979C is connected by a combination of upper and lower foam template (see Fig.2), and the outside packaging is strengthened by thick cardboard boxes (see Fig.3)
All the standard accessories are placed in the upper space of the inner packaging, when unpacking the case. Be sure to pay attention to proper placement in case of lost.

Fig. 2

Fig. 3

PACKING LIST

No.	Description	Specification	Quantity
1	Self-centering 3 Jaw Chuck	Dia. 80mm	1 Set
2	Reverse Chuck Jaw		3 Pcs.
3	Dead Center	MT. # 2	1 Set
4	Change Gear	Z30;35;40;40;42;50;54;60;63	9 Sets
5	Allen Wrench	3; 4; 5 and 6mm	4 Pcs.
6	Socket Head Screw	M6 x 20	4 Pcs.
7	Hand-wheel Block	Plastic	2 Pcs.
8	Fuse	4A	1 Pc.
9	Cushion	Rubber	4 PCs.

2) Set the machine onto a solid table, or bench top (ideally where you will be using the machine) and make sure that the 4 rubber feet/cushions are firm and secure, holding your B1979C in place.

3) You will find that the machine is packed with a grease-protecting agent to aid and prevent damage /rust during shipping. Clean the surfaces of the machine (non-painted parts) with varsol to wipe the away the anti-rust agents. When complete make sure the machine is clean and dry.

4) With the purchase of any machine, you want to double-check all the components of the machine to make sure that everything is intact. Go ahead and do this now, also making yourself familiar with your new mini metal lathe.

5) Your B1979C is now ready to be turned on. Before doing so, please be sure that the power switch and the direction switch are in the "off" position, and the speed control adjustment knob is in the lowest position.

6) Plug in the machine to the appropriate 110V outlet, and turn the power switch to on. Press down on the direction switch, and then press the "start" button. The machine is now running. For the initial run, leave the machine on for no less than 2 minutes without interfering to ensure the machine is stable and running normally.

7) Now your machine is ready to be put to work. **Do Not Attempt** to change the direction at a high speed. This can result in damage to the machine, but in most cases the machine will just stop running, and only continue when the machine is turned to the lowest speed. (Speed control knob)

8) Be sure to turn the machine off before changing the gear. "L" position is low/bottom gear, and "H" position is high/top gear.

9) At any time during operation, if there is a power outage, or a blackout, turn the speed control knob to the lowest position. When electricity resumes, press the start switch and your lathe will continue to provide you with excellent service.

Additional Remarks

This machine has an overload protective switch, which limits the depth of feed. When the main spindle is turning at 1000r/min in the bottom gear, the depth of the feed must be within 4mm (0.16"). For the spindle turning at 1000r/min in top gear, the depth of the feed must be within 2mm (0.079"). If the depth of feed is beyond the limits mentioned above, then the overload protection device will cut off the electrical supply. To ensure your safety, please be sure to follow the guidelines and procedures laid out in this manual.

MAINTENANCE AND OPERATION

Your Craftex B1979C Mini Metal Lathe will provide you with years of excellent service and satisfaction. Like any other machine, maintenance is very important to the life of your lathe. There are a few certain things that one should do as regular as possible in order to keep the lathe in top condition. The following are easy and fast methods to maintaining you B1979C.

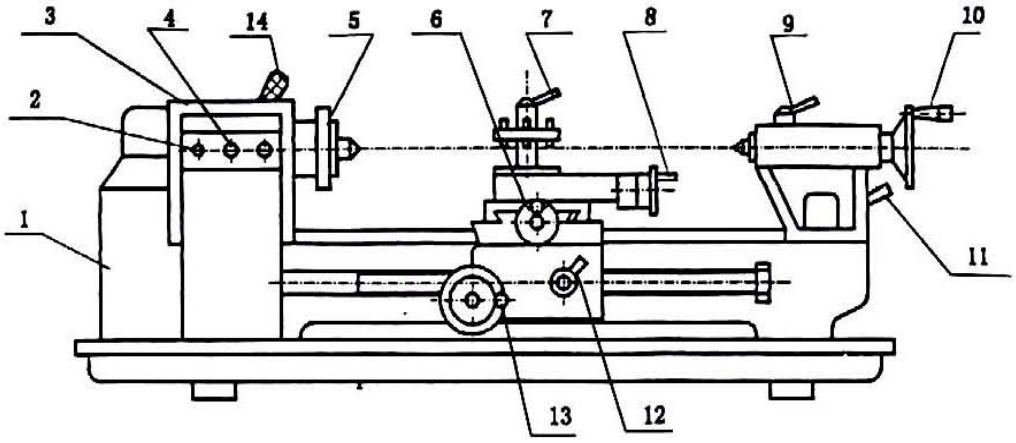


Fig. 5

1- Gear Box
2- Power Switch
3- Main Spindle Box
4- Speed Control Knob
5- Main Spindle
6- Traverse Feeding Hand Wheel
7- Tool Fixing Handle
8- Slide Plate Handle
9- Tailstock Sleeve Fixing Handle
10-Tailstock Sleeve Slide Hand Wheel
11-Tailstock Fixing Hand Wheel
12-Half Screw Adjusting Handle
13-Apron Longitude Moving Hand Wheel
14-Changing Speed Fork Handle

1) Everyday, or before starting, lightly coat the bed way, saddle way, feeding screw, lead screw and gears with #10 engine oil. The more is done the better.

2) After use, clean out the broken chips and workpieces and any grease or dirt on the bed way. Wipe the parts of the machine down and smear the bed way with oil again.

3) After heavy/long usage of your B1979C, apply a high lubricating grease to maintain the spindle bearing.

Daily Maintenance

1) Inspect each operating part of the machine to ensure the condition of lubrication
2) Examine each component to ensure that no parts have functional problems
3) Clean and remove any dirt, debris or obstacles in and around the machine in order to prevent machine damage
4) Lubricate all moving parts daily to prevent rust

Seasonal Maintenance

1) Use a cotton or soft gauze to clean each part of the machine
2) Confirm that the motion of the head and fixture are operating in a smooth and correct manner
3) Check the spindle and swing of machine
4) Check the tightness of each nut and bolt
5) Examine the overall circuit (contact point connectors, plugs, switches…)
6) If there are any repairs or abnormal maintenance required at the time of your check, please contact a licensed professional for aid.

Replacement of Chuck

When replacing the chuck, place a cloth or a piece of wood on the bed way at the bottom of the chuck. This is to avoid any damage to the bedway caused by carelessly dropping the chuck. Loosen the 3 set screws and replace the chuck. (see Fig. 6)

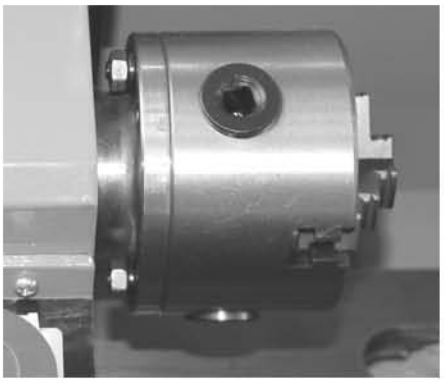


Fig. 6

Replacement of Jaws

The jaws are in two types—the internal jaws and the external jaws. Please pay notice that the number of jaws fit with the number inside the chucks groove. Do not mix them together. When you are going to mount them, please mount them in ascending order, and when taking them out, take them out in descending order (3-2-1) one by one. After you finish this procedure, rotate the jaws to the smallest diameter and make sure there fit is right.

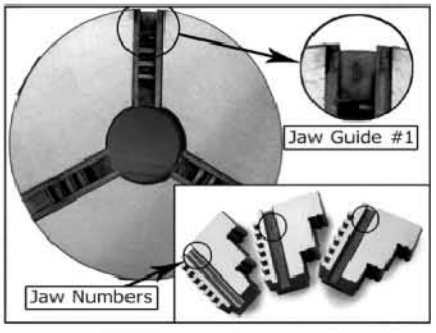


Fig. 7

Compound Rest Adjustment

Loosen the two screws as shown in the right figure. After you have obtained the angle you want, do not forget to tighten them again. (see A in Fig. 8)

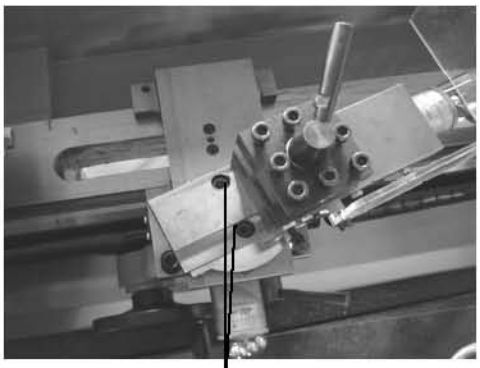


Fig. 8

Tailstock Rest Adjustment

When you are going change the position or replace the tailstock you need to loosen the nut.

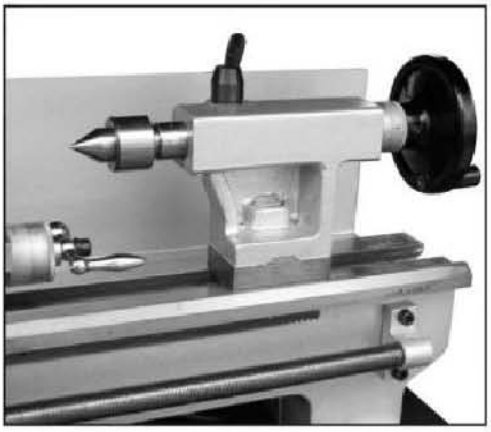


Fig. 9

Replacement of Carbon Brushes

Replace the carton brushes by removing the brush covers both on the motor cover and on the bottom right side of the speed control as shown in the figure below (10A & 10B)

Fig. 10-A

Fig. 10-B

Tool Post Adjustment

When you are going to adjust the tool post position, you only need to loosen the lever shown in Fig.11 (B). After you have finished, be sure to tighten. If you are going to replace work cutter, you need to loosen the screws show in Fig.11 (A).

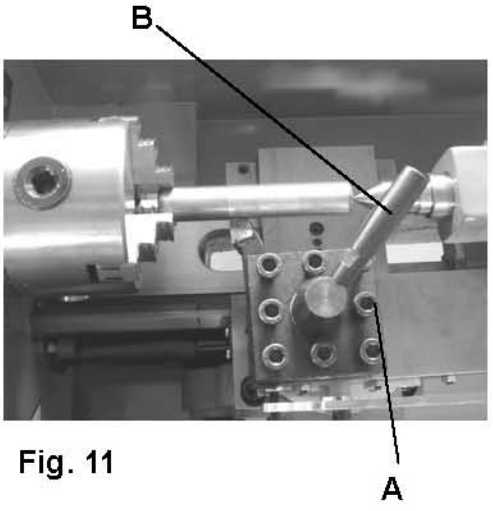


Fig. 11

Automatic Feeding

Adjust the feeding direction selector to the direction you desire. Then press down the handle (A) as shown in the figure below and continue with the automatic feeding procedure. When feeding, never try to change the feed direction.

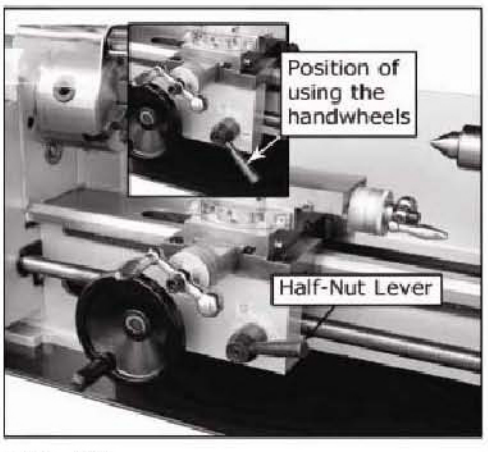


Fig. 12

Change Speed

The speed lever is behind at headstock, it is two positions, "**H**" position is high speed that be for 460-2500 rpm, "**L**" position is low speed and be for 250 – 1150 rpm.

Left & Right feeder Lever

The left and right feed lever is control longitudinal screw forward or reverse. Be use this lever which can relay the carriage move forward chuck or far away

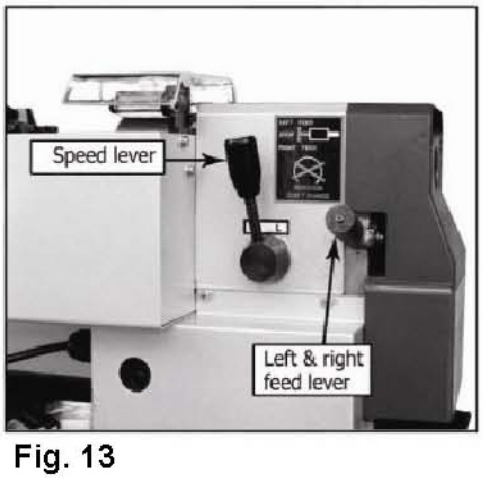


Fig. 13

Threading

Select the feeding direction selector to the thread direction you desire. Then press down on the handle (A) in the figure below by matching the right calibrations on the thread dial indicator and continue with the automatic threading procedure. When threading, never try to change the direction.

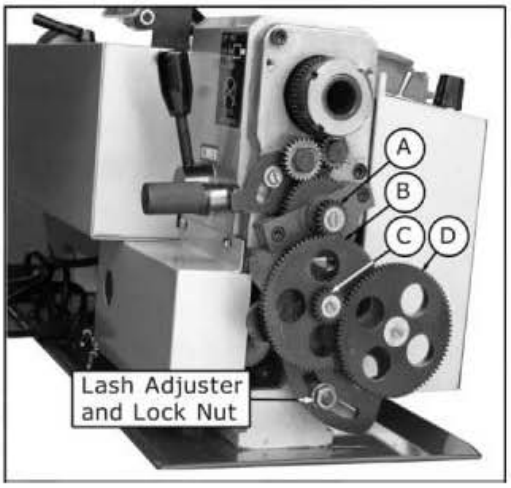
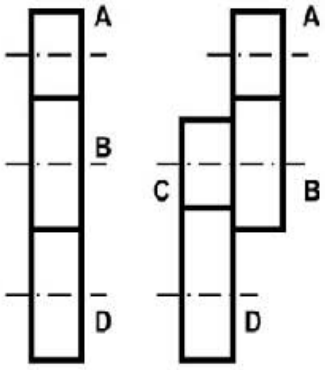


Fig. 14

Change Gear Chart

CHANGE GEARS	S mm	CHANGE GEAR METRIC SIZE				S 1 / n"	CHANGE GEAR INCH SIZE			
	S	A	B	C	D	S	A	B	C	D
	0.4	20	50	40	60	48	30	54	40	63
	0.5	20	50		60	40	40	63	40	60
	0.6	40	50	30	60	32	50	30	20	63
	0.7	40	50	35	60	28	40	42	40	63
	0.8	40	50	40	60	24	40	42	40	54
	1.0	20	60		30	20	40	30	40	63
	1.25	50	40		60	18	40	63	80	54
	1.5	40	50		40	16	50	30	40	63
	1.75	35	60		30	14	50	63	80	42
	2.0	40	60		30	12	40	54	80	42

Operation

Use the chuck to hold the workpiece firmly. Then use the rolling center to fix the other end. If you change the rolling center to the drilling chuck you can start your drilling immediately. See Fig. 15

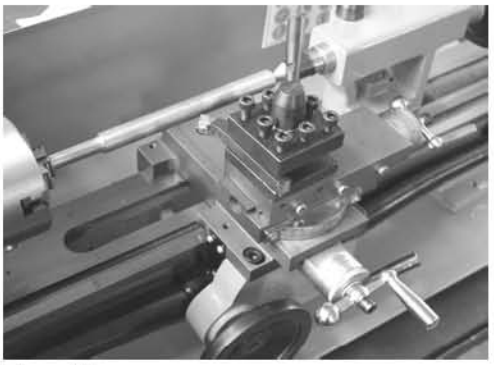


Fig. 15

Use the chuck to hold the workpiece firmly and the cutter to start the lathes face cutting as shown in the figure below. The edge of the cutter must be at the same height as the center.

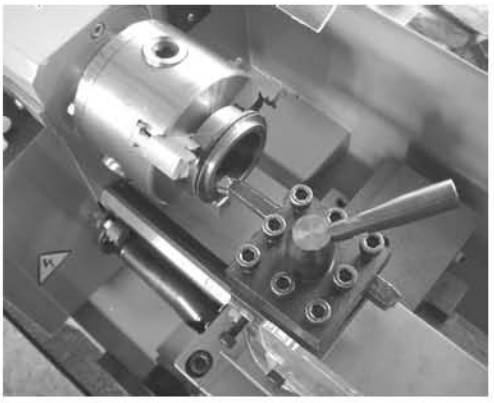


Fig. 16

By changing the tool post angle and adjusting the compound rest, you can do internal cutting as shown in Fig. 17

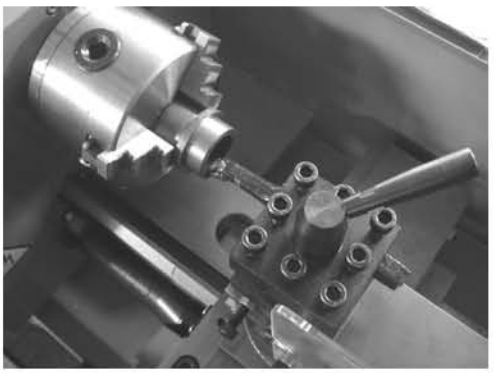


Fig. 17

SPARE PARTS LIST

No	Description	Qty.		No	Description	Qty.
1	Thimble Sleeve	1		44	Compound Rest	1
2	Center	1		45	Collar	1
3	Wheel	2		46	Flange	1
4	Screw M5x12	2		47	Cross Feeding Screw	1
5	Handle Rod	2		48	Screw M4x16	1
6	Knob	2		49	Screw M4x16	4
7	Screw M4x12	1		50	Wedge	1
8	Collar	1		51	Key	1
9	Collar	1		52	Compressed Spring	1
10	Tailstock Screw	1		53	Wedge	1
11	Collar	1		54	Screw M4x14	3
12	Screw M4x10	2		55	Nut M4	6
13	Eccentric Axle	1		56	Compressed Rest	1
14	Handle	1		57	Screw M6x16	2
15	Handle Head	1		58	Angle Center	1
16	Clamp	1		59	Screw M4x16	3
17	Handle	2		60	Screw M4x8	2
18	Stud	1		61	Screw	1
19	Tailstock	1		62	Feeding Nut	1
20	Screw M6x8	1		63	Compound Rest	1
21	Clamp	1		64	Screw M8x16	2
22	Tailstock Base	1		65	Saddle	1
23	Screw M6x20	10		66	Slide Plate	2
24	Tailstock Press Plate	1		67	Screw M4x8	4
25	Nut M10	1		68	Screw M6x12	6
26	Support	1		69	Flange	1
27	Rack	1		70	Screw	1
28	Screw M3x14	6		71	Wheel	1
29	Lead Screw	1		72	Feeding screw	1
30	Screw M8x25	3		73	Half Nut	1
31	Screw M6x20	2		74	Screw M4x10	6
32	Key 3x15	2		75	Slide Plate (Right)	1
33	Support (Right)	1		76	Slide Plate (Left)	1
34	Base Plate	1		77	Key	1
35	Washer	4		78	Feeding Gear	1
36	Washer	6		79	Feeding Gear	1
37	Handle Head	1		80	Apron	1
38	Screw M6x25	9		81	Little Handle	1
39	Washer	1		82	Handle Head	1
40	Tool Rest	1		83	Groove Cam	1
41	Handle Rod	2		84	Key 5n6x12	1
42	Handle Knob	2		85	Gear Support	1
43	Screw	1		86	Helical Gear	1

No	Description	Qty.		No	Description	Qty.
87	Gear Axle	1		131	Cover	1
88	Graduated Disc	1		132	Circuit Board	1
89	Screw M4x8	1		133	Cover	1
90	Shaft	1		134	Screw M5x6	3
91	Support Plate	1		135	Screw M4x6	2
92	Washer	4		136	Cover	1
93	Nut M8	2		137	Screw M3x4	2
94	Axle Sleeve	1		138	D.C. Motor	1
95	Gear	1		139	Pulley Motor	1
96	Washer	4		140	Screw M6x25	5
97	Screw M5x80	4		141	Nut M6	5
98	Shaft	1		142	Nut M27x1.5	2
99	Gear	1		143	Gear	1
100	Axle Sleeve	1		144	Washer 028x33.5	1
101	Gear			145	Washer028.5x12	1
102	Gear Table	1		146	Cover	2
103	Screw M6x40	2		147	Synchronous Belt	1
104	Cover	1		148	Ball Bearing 30x62x16	2
105	Little Gear	1		149	Washer	2
106	Screw M5x20	2		150	Pulley Spindle	1
107	Mount	1		151	Ball Bearing 12x28x8	2
108	Key 3x8	3		152	Headstock	1
109	Block Ring	2		153	Key 4x7	1
110	Shaft	1		154	Key 4x40	1
111	Pinion	1		155	Washer	3
112	Fixed Cover	1		156	Spindle	1
113	Support Screw	2		159	Chuck	1
114	Pinion	1		160	Key 4x45	1
115	Pinion	1		161	Slide Gear Shaft	1
116	Handle	1		162	Block Ring	1
117	Handle Mount	1		163	Fixed Gear	1
118	Support Plate	1		164	Slide Gear	1
119	Indicator	1		165	Fork	1
120	Spring 1.2x9.5x40	1		166	Screw M5x8	1
121	Connection Pipe	1		167	Fork Rest	1
122	Plug	1		168	Screw M5x8	1
123	Starting Switch	1		169	Block Ring	1
124	Fuse Pipe	1		171	Ball 05	1
125	Model Label	1		172	Spring 0.7x4.5x12	1
126	Switch On, Off	1		173	Handle Shaft	1
127	Switch change over	1		174	Handle Rod	1
128	Potential Implement	1		175	Block Sleeve	1
129	Switch Label	1		176	Block Ring	1
130	Screw M4x8	4		178	Screw M6x28	1

CRAFTEX 2 YEARS LIMITED WARRANTY

Craftex warrants everyday product to be free from defects in materials and agrees to correct such defects where applicable. This warranty covers **two 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.
Creftex 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 REPLACEMENT

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 handing 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 no 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 reserve 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 labor.
- Any unforeseen repair charges will be reported to you for acceptance prior to making the repairs.
- The Busy Bee Parts & Service Department 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.