

Clarke[®] **METALWORKER**



6" (152mm) BANDSAW

MODEL CBS45MD

OPERATING & MAINTENANCE INSTRUCTIONS



0707

Specifications

Part No 6460060
Motor 230V, 50Hz, 1Ph
Power Rating 0.5hp
Fuse Rating 13 Amps
Blade Size 1/2" X 0.025 X 64½" - 14TPI
Blade Speed 20, 29, 50M/min.
Cutting Capacity at 90° Round 100mm Dia.
Flat 100X150mm
Angle Cut 0 - 45 Degrees
Weight (unpacked) 64kg net
Noise Level (Sound Power Level) less than 78dB Whilst Cutting.
CLARKE CUTTING OIL Part No. **1 Litres 3051059**
5 Litres 3051061
Available from your Clarke dealer.

DECLARATION OF CONFORMITY

We declare that this product complies with the following standards/directives

98/37/EC

Product Description: Metal Cutting Bandsaw
Model No: CBS45MD
Serial/Batch No: See machines' Data Plate

signed:


Service manager



When disposing of the electrical components of this product, do not dispose of with general waste. They must be disposed of according to the laws governing Waste Electrical and Electronic equipment, at a recognised disposal facility.

Parts & Service contacts

Please contact your nearest dealer, or CLARKE International, as follows:

PARTS & SERVICE TEL: 020 8988 7400

PARTS & SERVICE FAX: 020 8558 3622

or e-mail as follows:

PARTS: Parts@clarkeinternational.com



Thank you for purchasing your new Clarke Metal Cutting Bandsaw, designed for light industrial use ONLY.

Before attempting to operate this bandsaw please read this instruction manual thoroughly and follow all directions carefully. This is for your own safety and that of others around you, and to ensure the machine will provide long and trouble free service.

Guarantee

This product is guaranteed against faults in manufacture for 12 months from purchase date. Keep your receipt as proof of purchase.

This guarantee is invalid if the product has been abused or tampered with in any way, or not used for the purpose for which it is intended.

The reason for return must be clearly stated. This guarantee does not affect your statutory rights.

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General Safety Precautions For Operating Machinery



WARNING!

As with all machinery, there are certain hazards involved with their operation and use. Exercising respect and caution will considerably lessen the risk of personal injury. However, if normal safety precautions are overlooked or ignored, personal injury to the operator or damage to machinery may result.

- ✓ **ALWAYS** read the manual carefully. Know your machine. Learn its applications and limitations, as well as the specific potential hazards peculiar to it.
- ✓ **ALWAYS** keep guards in place and in working order.
- ✓ **ALWAYS** earth your machine. The machine is equipped with three-pin plug, which should be plugged into a three-pin electrical socket. **NEVER** remove the earth pin.
- ✓ **ALWAYS** remove adjusting keys and wrenches. Form the habit of checking to ensure that keys, wrenches and tools, are removed from the machine.
- ✓ **ALWAYS** keep work area clean. Cluttered areas and benches invite accidents.
- ✓ **ALWAYS** check for damage. If any part of the machine, (eg. A cover or guard) is damaged, it should be carefully inspected to ensure that it can perform its intended function correctly. If in doubt, the part should be renewed. Damage to moving parts or major components should be inspected by a qualified technician before operating.
- ✓ **ALWAYS** make workshop childproof - with padlocks, master switches or by removing starter keys.
- ✓ **ALWAYS** keep children and visitors away. All children and visitors should be kept a safe distance from work area
- ✓ **ALWAYS** ensure that adequate lighting is available. A minimum intensity of 300 lux should be provided. Ensure that lighting is placed so that you will not be working in your own shadow.
- ✓ **ALWAYS** use the right tool. Don't force a tool or attachment to do a job for which it was not designed.
- ✓ **ALWAYS** wear proper apparel. Loose clothing, gloves, neckties, rings, bracelets, or other jewellery may get caught in moving parts. Nonslip footwear is recommended. Long hair should be contained.
- ✓ **ALWAYS** use safety glasses. Everyday eyeglasses only have impact resistant lenses, they are NOT safety glasses.
- ✓ **ALWAYS** avoid accidental starting. Switch Machine OFF before plugging in.
- ✓ **ALWAYS** maintain tools in top condition. Keep tools sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories.
- ✓ **ALWAYS** disconnect the machine before servicing or changing accessories.
- X **NEVER** overreach. Keep proper footing and balance at all times.
- X **NEVER** use in dangerous environment. Don't use machinery in damp or wet locations, or expose them to rain. Keep work area well lit.

- X NEVER** stand on the machine. Serious injury could occur if the machine is tipped over. Do not store materials above or near the machine such that it is necessary to stand on the machine to get to them.
- X NEVER** operate a machine when under the influence of alcohol, drugs or medication.
- X NEVER** force the machine. It will do the job better and safer, at the rate for which it was designed.

Additional Safety Rules For Bandsaws



WARNING!

This machine must not be modified or used for any purpose other than that for which it is designed.

- ✓ **ALWAYS** wear suitable eye protection, manufactured to the latest European Safety Standards, when using the bandsaw.
- ✓ **ALWAYS** Ensure the proper electrical regulations are followed, and that the machine is properly earthed.
- ✓ **ALWAYS** ensure all spanners, wrenches etc., are removed from the machine before use.
- ✓ **ALWAYS** ensure the workpiece is properly secured using the vice...NEVER hold by hand when cutting, unless using the vertical cutting table.
- ✓ **ALWAYS** make adjustments with the power OFF.
- ✓ **ALWAYS** cut at correct speed for the type of material being cut.
- ✓ **ALWAYS** keep your hands and fingers clear of the blade when sawing.
- ✓ **ALWAYS** set the blade guide/guard assembly as close as possible to the workpiece.
- ✓ **ALWAYS** switch off the saw, and make sure the blade has come to a complete stop before examining or removing the workpiece.
- ✓ **ALWAYS** keep the saw properly adjusted, paying particular attention to the blade tension and the blade guides.
- ✓ **ALWAYS** disconnect the saw from the mains supply before removing the blade cover.
- ✓ **ALWAYS** check the coolant DAILY. Ensure it is clean and of the correct mix.
- ✓ **ALWAYS** Wipe the machine surfaces dry at the end of the day.
- ✓ **ALWAYS** disconnect from the power supply before carrying out any maintenance tasks.
- X NEVER** operate this machine unless you are thoroughly familiar with it. If there is any doubt whatsoever, you should consult a qualified person.
- X NEVER** operate the machine until it is completely assembled, and this entire manual, has been read and understood.
- X NEVER** leave the Bandsaw unattended whilst it is running. Turn power OFF and Don't leave until it comes to a complete stop.
- X NEVER** allow suds to enter the electrical system when using coolant
- X NEVER** use soluble oil to cut Magnesium. See your industrial coolant supplier for specific recommendations.

Electrical Connections

Connect the mains lead to a standard 230V (50Hz) electrical supply through an approved 13Amp BS1363 plug, or a suitably fused isolator switch.



WARNING! This Appliance must be Earthed!

IMPORTANT: The wires in the mains lead are coloured in accordance with the following code:

Green & Yellow - Earth
Blue - Neutral
Brown - Live

As the colours of the flexible cord of this appliance may not correspond with the coloured markings identifying terminals in your plug proceed as follows:

- Connect **GREEN & YELLOW** coloured cord to plug terminal marked with a letter E or Earth symbol "⏏" or coloured GREEN or GREEN & YELLOW.
- Connect **BROWN** coloured cord to plug terminal marked with a letter L or coloured RED
- Connect **BLUE** coloured cord to plug terminal marked with a letter N or coloured BLACK

IMPORTANT: If this appliance is fitted with a plug which is moulded on to the electric cable (i.e. non-re-wireable) please note:

1. The plug must be thrown away if it is cut from the electric cable. There is a danger of electric shock if it is subsequently inserted into a socket outlet.
2. Never use the plug without the fuse cover fitted.
3. Should you wish to replace a detachable fuse carrier, ensure that the correct replacement is used (as indicated by marking or colour code).
4. Replacement fuse covers can be obtained from your local dealer or most electrical stockists.

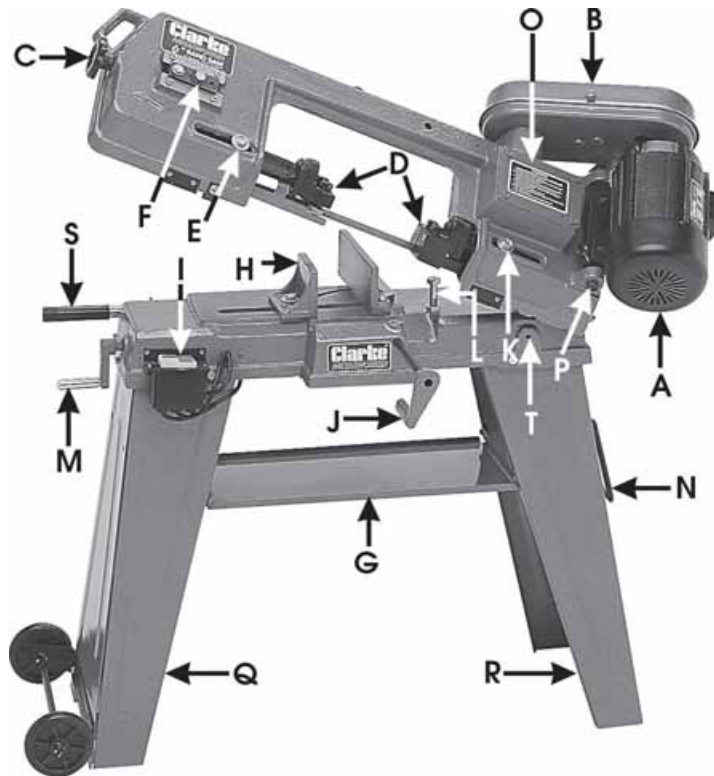
Fuse Rating

The fuse in the plug must be replaced with one of the same rating (**13 amps**) and this replacement must be ASTA approved to BS1362.

IMPORTANT: If in any doubt, do not attempt any electrical repair yourself. Consult a qualified technician

Know your Bandsaw

Fig. 1



- | | |
|---------------------------------|---------------------------------|
| Ⓐ Motor | Ⓚ Blade Guide Carrier Lock Bolt |
| Ⓑ Pulley Cover | Ⓛ Work Stop |
| Ⓒ Blade Tensioner | Ⓜ Vise Jaw Adjuster |
| Ⓓ Blade Guides | Ⓝ Manouvering Handle |
| Ⓔ Blade Guide Carrier Lock Bolt | Ⓞ Gearbox |
| Ⓕ Band Saw Tracking Adjuster | Ⓟ Drive Belt Adjuster Bolt |
| Ⓖ Vise Jaw | Ⓠ Left leg |
| Ⓗ Adjustable Vise Jaw | Ⓡ Right leg |
| Ⓘ ON/OFF Switch Box | Ⓢ Arm Weight Adjuster |
| Ⓣ Work Stop Assembly | Ⓤ Arm Vertical Lock |

Assembly

IMPORTANT!

This machine cannot be handled without the use of lifting tools. Take all necessary precautions when manoeuvring.

For ease of packing and transportation, the bandsaw comes partly assembled. It is therefore necessary to complete the assembly as follows.

Unpack and lay out all the items and identify each one by referring to the Parts List and **Fig. 1**.

Should there be any deficiency, you should immediately contact the dealer from whom the equipment was purchased.



If there is any uncertainty regarding electrical connections, you should consult a qualified electrician.

PLEASE NOTE THAT ALL REFERENCES TO ITEM NUMBERS IN THIS MANUAL REFER TO THE PARTS LIST ITEM NUMBER. ALL ALPHA ITEM REFERENCES REFER TO FIGURE 1.

1. Legs and Tray Assembly

The legs (items Q & R) are a three sided section, one side of which is hinged.

Lay the legs on their sides, with the open ends facing each other and approx. 18" apart. Locate the tray (item G) and attach between the legs, ensuring it is the right way round, (i.e. tray uppermost), using the four nuts bolts and washers supplied. Leave the nuts finger tight at this stage.

Important: Ensure the special "D" shaped washer is inside the leg, next to the nut.

Stand the assembly upright which will form a rough "A" frame, and with assistance, gently lower the main body on to the legs. Firmly secure the main body to the legs, using the three nuts and bolts at the top of each leg, ensuring there is no distortion and that the assembly is completely stable.

Note that the legs may fit either way round.

Finally tighten the tray nuts and bolts, again checking for distortion and stability.

2. The Pulley Guard and associated components.

The pulley guard (item B) sits over two shafts, one from the motor, (item A), the other from the gearbox (item O), which drives the blade. The gearbox shaft extends through a circular plate (Parts list item no. 18) secured by three screws. It is necessary to remove the uppermost of these screws

before mounting the pulley cover. Having done so, lower the Pulley Cover over the shafts, ensuring the elongated hole is over the motor shaft.

Replace the screw removed earlier through the pulley cover, into its hole in the circular plate. (This screw now locates and secures the pulley cover at the gearbox shaft).

The only other mounting is beneath the pulley cover. Fit the mounting bolt supplied.

For safety purposes, a micro switch is provided which will automatically cut off the electrical supply, thereby preventing the machine from operating when the pulley cover lid is opened. The micro switch is mounted on the inside of the pulley cover, between the two pulleys. Electrical connection now needs to be made. To do this, it is first of all necessary to remove the micro switch from its mounting by unscrewing the two mounting screws.

A cable, from which extends two wires fitted with push on connectors, is clipped to the main body beneath the pulley cover (on The motor side). The wires should be threaded through the hole and grommet provided in the pulley cover, beneath the micro switch mounting (item 4).

The micro switch carries three terminals (See Fig 2). One of the wires should be connected to the terminal marked "COM" or "C", whilst the other should be connected to the terminal marked "NO". Once the terminals are connected, the micro switch can be remounted using the two mounting screws provided.

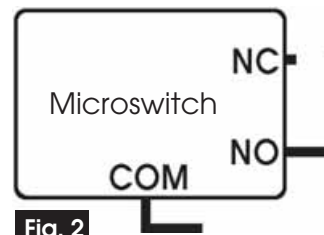


Fig. 2

Check to ensure the micro switch plunger operates correctly, and do not over tighten the mounting screws.

The micro switch plunger is operated by an actuating tab, attached to the pulley cover lid, so that when the lid is closed the plunger is forced IN thereby closing the circuit and allowing the machine to operate.

It is **IMPORTANT** to ensure that the actuating tab meets the plunger cleanly. Raise and lower the lid and make certain you can hear the microswitch operate. It may necessary to bend the actuating tab slightly to ensure correct operation.

The pulleys may now be fitted. Note that they are not interchangeable. The motor shaft pulley is located with a key and grub screw, and a keyway is therefore provided in the bore, whilst the gearbox pulley has no keyway, and is located with a grub screw, on a flat milled on the shaft.

IMPORTANT. When fitting, ensure that the smallest diameter motor or drive pulley is driving the largest diameter gearbox or blade pulley, i.e. they are mounted in reverse to each other. It is normal to assemble the drive pulley

with the smallest diameter inwards, and the gearbox pulley with the smallest diameter outwards (as illustrated in the Parts Diagram).

Locate the gearbox pulley on to its shaft, ensuring the grub screw lines up with the flat on the shaft. Tighten the grub screw fully. Fit the motor pulley to its shaft so that it lines up with the gearbox pulley. This may be done with a straight edge across the top of the pulleys to ensure the grooves are in line. When correctly aligned, tighten the grub screw provided.

Note that the motor pivots about its mountings. To fit the drive belt, lift the motor and slip the belt over the pulleys. Belt tension is effected by means of a bolt through the motor mounting plate. Screw the bolt "in" until the belt can be depressed by approx. $\frac{1}{2}$ " at the centre of its run. Lock the adjusting bolt using the locknut provided.

IMPORTANT. Do not overtighten the adjusting bolt as this will distort the motor mounting plate.

3. Main ON/OFF Switch Assembly. (Item I)

On the left end of the machine (looking at the motor side), is the main ON/OFF switch assembly, which is hanging freely at this stage. Two wires extend from the back of the assembly, both of which should be earthed securely to the main body, using the screw and star washer provided, which is located directly behind the switch assembly (when it is mounted). Once the wires are securely earthed, the assembly can be mounted using the two screws provided.

4. Work Stop Assembly. (Item J)

A work stop is provided, which is used to allow stock pieces of equal length to be cut without having to measure each piece individually. It comprises two parts, the work stop, and the mounting rod.

Push the rod into the hole in the edge of the vise, and secure with the grubscrew provided.

Mount the Work Stop on to the rod, with the flat face towards the saw blade, and temporarily secure with the grubscrew supplied, ensuring it is not pushed on too far, as it may interfere with the saw blade when it is lowered.

5. Miscellaneous

A handle (item N) is provided at the right end of the machine, connected to the right leg (item R). When the machine is lifted using this handle, it will automatically pivot on to the wheels, mounted on the bottom of the left leg, allowing the machine to be manouvered easily and quickly around a workshop. The handle and wheel assemblies are attached as follows.

Thread the ends of the handle through the corresponding holes in the right leg, and locate on the inside of the leg using the split pins provided.

The wheel assembly comprises a bracket, axle and wheels.

Attach the bracket to the base of the left leg using the nuts and bolts supplied. Thread the axle through the holes at the ends of the bracket, and insert the split pins in the holes provided in the axle, which will prevent any lateral movement. Mount the wheels at each end of the axle, and locate by inserting the split pins provided in the holes at the ends of the axle.

Finally, carry out a thorough check to ensure that all parts are completely secure and properly assembled.

Maintenance And Adjustments

1. BLADE GUIDE BEARING ADJUSTMENT

This is the most important adjustment on your saw. It is impossible to get satisfactory work from your saw if the blade guides are not properly adjusted. The blade guide bearings for your Metal culling Bandsaw are adjusted and power tested with several test cuts before leaving the factory to ensure proper setting.

The need for adjustment should rarely occur when the saw is used properly. If the guides do get out of adjustment, it is extremely important to readjust immediately. If proper adjustment is not maintained, the blade will not cut straight and if the situation is not corrected, it will cause blade damage.

Because guide adjustment is a critical factor in the performance of your saw, it is always best to try a new blade to see if this will correct poor cutting before beginning to adjust the bearings.

If a blade becomes dull on one side rather than the other for example, it will begin cutting crooked. A simple blade change should correct this problem - the more difficult guide adjustment will not.

If a new blade does not correct the problem, check the blade guides for proper spacing. There should be 0.001" clearance between the 0.025" thickness blade and guide bearings.

To obtain this clearance adjust as follows:

1. The inner guide bearing is fixed and cannot be adjusted.
2. The outer guide bearing is mounted to an eccentric bolt and can be adjusted.
3. Loosen the nut whilst holding the bolt head with a spanner.
4. Position the eccentric by turning the bolt to the desired position of clearance.
5. Tighten the nut.
6. Adjust the second blade guide bearing in the same manner.
7. The back edge of the blade should just touch the lip of the Blade Guide bearing.

2. BLADE GUIDE ASSEMBLY ADJUSTMENT

The Metal Cutting Bandsaw is equipped with two adjustable blade guide assemblies, so that the blade guides may be individually adjusted to accommodate various widths of workpieces.

To effect the most accurate cut and prolong the life of the blade, the blade guide assemblies should be adjusted to just clear the piece to be cut without impeding the lowering arm. This is carried out as follows:

1. Place the workpiece in the vice of Bandsaw and clamp tightly.
2. Adjust blade guide assembly to the desired position by loosening the securing bolts (Items K and E) and positioning the guides as required (see note above).
3. Tighten the securing bolts.

3. ADJUSTING BLADE TENSION

Turn the Blade Tension Adjusting Knob, (Item C), clockwise to increase tension, anticlockwise to decrease.

The knob is provided with a spring lock to ensure it does not move during use or whilst the bandsaw is being moved.

The blade needs to be tight enough to give a straight cut without allowing it to wander or slip, but must not be too tight so that it is rigid, there must be a certain degree of flexibility.

The correct tension is 700-900kgs, as measured with a blade tension gauge.

To tension without a gauge, slacken off adjuster so that the blade sags, then screw in again (clockwise) until all sag has been eliminated. Finally, turn the adjuster a further two complete turns. See 'Maintenance' for blade installation and tensioning a new blade.

If the saw is not being used for some time, eg. at the end of a working day, we recommend that you relieve the tension on the blade.

4. BLADE SELECTION

1. Special Note: A 14 tooth per inch general use blade is supplied with The metal cutting Bandsaw (see Specifications). Additional blades in 14 and 24 tooth sizes are available from your local dealer.
2. The choice of blade pitch is governed by the thickness of the work to be cut - the thinner the workpiece. the more teeth are used.

A minimum of 3 teeth should be in the workpiece at all times for proper cutting.

3. If the teeth or the blade are so far apart that they straddle the work, severe damage to the workpiece and to the blade can result.

5. CHANGING SPEED

When using your Bandsaw always change the blade speed to best suit the material being cut. The material cutting chart is shown below.

1. With the power disconnected, loosen the Drive Belt Adjuster Bolt (item P) in order to slacken the drive belt, then open the pulley cover and change the position of the belt to gain the desired speed.
2. Re-tension the belt so that it may be depressed by 1/2" in the middle of its longest run. When satisfied, lock the motor firmly.
3. Close the pulley guard cover.

Material	Speed (M/min)	Belt Groove used	
		Motor Pulley	Driven Pulley
Stainless or AlloySteel Bearing Bronzes	20	Small	Large
Mild Steel, Hard Brass or Bronze	29	Medium	Medium
Soft Brass, Aluminium and other light materials	50	Large	Small

6. CHANGING THE BLADE

When the blade becomes worn or defective in any way it should be replaced immediately. The following process details how to change the blade, and should be carried out by a skilled technician only.

Once the blade has been replaced it is recommended that the blade is Run In for a short period.

1. Ensure the machine is disconnected from the mains supply then raise the Arm to its vertical position and lock in place using the lock provided (item T).
2. Undo the screws securing the blade guard cover (item 44) and hinge the cover back. Remove also the blade guard attached to the Blade Guide assembly.
3. Turn the Blade Adjuster Knob anticlockwise in order to remove all tension from the blade, allowing it to be pulled from the pulleys and from between the guide bearings, paying due care to the sharpness of the teeth,

4. Carefully feed the new blade between the blade guide bearings, ensuring the teeth are pointing DOWNWARDS, and then over the top pulley. Hold in position with one hand whilst stretching the blade downwards, and over the bottom pulley. Hold in place whilst applying slight tension by screwing the blade tension adjuster knob clockwise.
5. Ease the blade on to the pulleys as far as possible.
6. Tension the saw blade according to the instructions on page 10.
7. Place 2-3 drops of oil on the blade.
8. Replace the hinged blade cover ensuring it is secure.
9. Observing all precautions, plug into the mains and start the machine and allow to run for approx. 10 mins at low speed. This will assist in bedding in the saw blade.

NOTE:

If the pulleys have not been interfered with, the blade should run evenly, running just off the lip on the back of each pulley. If it wanders off the pulleys, or bears heavily on the lip at the back of the pulley, evidenced by a harsh scraping sound, then tracking adjustment will be necessary - see below.

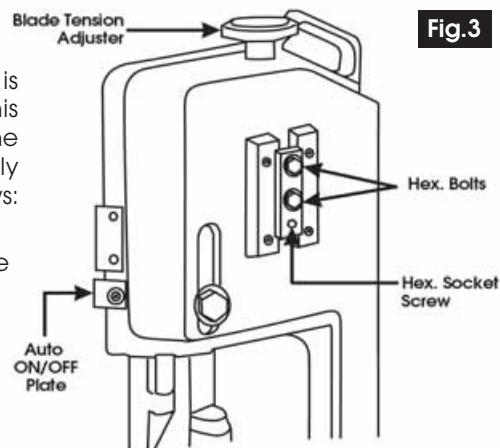
7. Blade Tracking Adjustment

This adjustment is carried out at the factory and it should not normally require readjustment. If the blade is thrown, first try a new blade as this should normally cure the problem. If the new blade does not track correctly however, adjust the tracking as follows:

1. Ensure the plug is disconnected, the Arm is in the vertical position, and the blade cover is removed, then adjust the blade so that only moderate tension is applied.
2. Slacken the two Hex socket head bolts, shown in Fig.3 by one turn.
3. Turn the blade by hand, ensuring you are wearing a suitable pair of industrial gloves, checking to ensure the blade runs neatly, just off the lip on the back edge of the pulley wheel.

If the blade tends to climb the lip on the back edge of the pulley wheel, a harsh scraping sound will become apparent. Should this occur, the hex. socket screw shown in Fig.3 should be turned ANTICLOCKWISE, until the blade runs centrally on the pulley. Should the blade tend to run OFF the pulley, turn the hex. socket screw CLOCKWISE

4. Close the blade cover and switch ON the saw. Run for a period, monitoring the action of the blade, to ensure it runs neatly. If necessary, stop, disconnect from the mains then carry out the adjustment again until satisfied.



8. ADJUSTING BLADE ANGLE

When horizontal cutting, the blade must be at right angles (or vertical) to the bed. To achieve this:

1. Loosen the screw (A, Fig.4).
2. Adjust the blade guide (B, Fig.4) to make the blade vertical to the bed.
3. Place can engineers square on the bed to check the blade is vertical, If not, repeat the process. 1 to 3.
4. Tighten the screw (11)

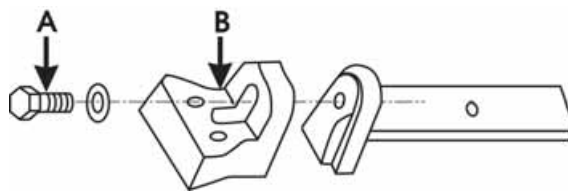


Fig.4

LUBRICATION

All bearings are lubricated for life. It is not necessary therefore to lubricate guide bearings etc.

A thin film of oil on all unpainted surfaces will protect your saw and prevent oxidation.

Lubricate all screw threads regularly, depending upon useage.

The drive gears run in an oil bath and will not require a lubricant change more often than once a year.

When needing a change, first lower the arm to a horizontal position, then remove the 4 screws securing the gearbox cover.

Open the cover (item 6).

Place a container under the right lower corner of the gear box, slowly raise the head until the oil flows into the container.

Lower the head then wipe up excess oil and foreign matter with a soft rag, then add lubricant into the box until it is full. Close the cover, and tighten the 4 screws.

Method Of Operation

HORIZONTAL CUTTING

Raise the arm to the vertical position.

Open the vice to accept the piece to be cut by rotating the wheel at the end of the base anticlockwise.

Place the workpiece on the saw bed. If the piece is long it should be supported.

Clamp the workpiece securely in the vice by turning the hand wheel clockwise.

Switch on the machine, allow the head to lower slowly on to the work. Do not drop or force.

Let the weight of the saw head provide the cutting force.

The weight of the head is regulated by turning the handle (item L). This effects spring tension which in turn acts to balance the weight of the head and therefore the cutting force.

The saw automatically shuts off at the end of the cut. The point at which this occurs is effected by moving the plate shown in Fig.3 so that it makes contact with the OFF switch sooner or later as required.

VERTICAL CUTTING

To use this saw in the vertical cutting position, the table must be fitted and the main saw body locked in the vertical position.

Locking the Saw In Vertical Position

1. Rotate the bracket (item T/74) to an upright position, locate in notch on saw arm and tighten. If you have difficulty in locating this bracket in the notch, adjust screw at bottom of saw until bracket locates, then tighten bracket.

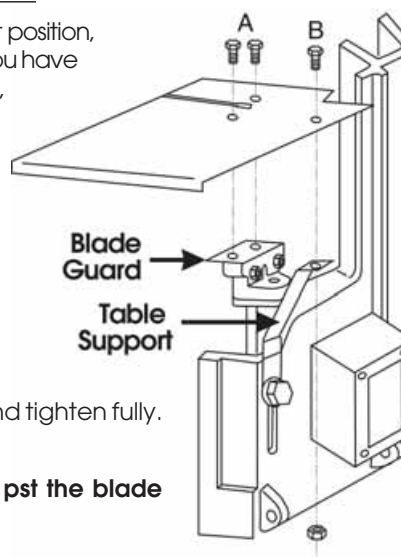
Fitting the table (see Fig 5):

1. Loosen the screws A from the blade guide, and remove the blade guard.
2. Locate the table support (item 40) and attach it to the bolt K, Fig. 1.
3. Place the table on top of the guide assembly and insert bolts A and B Fig. 5, and tighten fully.

CAUTION:

ALWAYS use a push stick to guide the work past the blade when cutting in vertical mode.

Fig.5



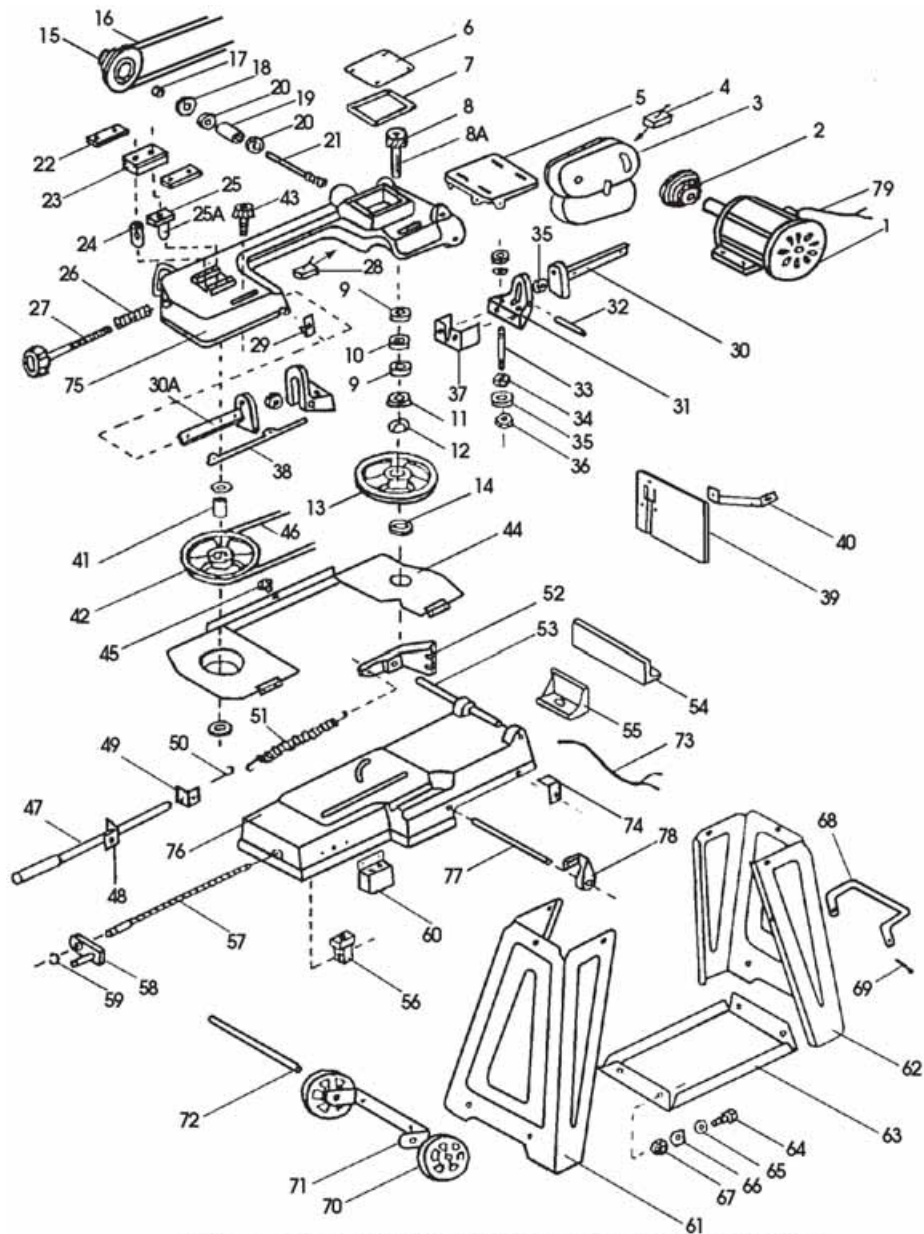
Trouble Shooting

Symptom	Possible Cause(s)	Corrective Action
Excessive Blade Breakage.	<ol style="list-style-type: none"> 1. Material loose in vice. 2. Incorrect speed or feed 3. Blade pitch too large. 4. Material too hard. 5. Incorrect blade tension. 6. Teeth in contact with mat'l before saw ls started. 7. Blade rubs on wheel flange. 8. Misaligned guide beatings. 	<ol style="list-style-type: none"> 1. Clamp work securely. 2. Adjust speed or feed. 3. Replace with finer tooth blade. 4. Select a slower speed and finer tooth blade. 5. Adjust blade tension 6. Place blade in contact with work after motor ls started 7. Adjust wheel alignment. 8. Adjust guide bearings.
Premature Blade Dulling.	<ol style="list-style-type: none"> 1. Teeth too coarse. 2. Speed too great. 3. Inadequate feed pressure. 4. Hard spots/scale on material 5. Work hardening or material. 6. Blade twist 	<ol style="list-style-type: none"> 1. Use finer tooth blade. 2. Reduce speed. 3. Decrease spring tension on side of saw 4. Reduce speed, Increase feed pressure. 5. Increase feed pressure by reducing spring tension. 6. Replace with a new blade. and adjust blade tension.
Unusual Wear on Side/Back at blade	<ol style="list-style-type: none"> 1. Blade guides worn. 2. Blade guide bearings not adjusted properly. 3. Blade guide brg bracket is loose. 	<ol style="list-style-type: none"> 1. Replace. 2. Adjust see page xxx 3. Tighten
Teeth Ripping from Blade.	<ol style="list-style-type: none"> 1. Teeth too coarse for work. 2. Too heavy - too slow speed 3. Vibrating workpiece. 4. Teeth clogging. 	<ol style="list-style-type: none"> 1. Use finer tooth blade. 2. Decrease pressure, increase speed 3. Clamp work piece securely. 4. Use coarser tooth blade or brush to remove chips
Motor running too hot.	<ol style="list-style-type: none"> 1. Blade tension too high. 2. Drive belt tension too high. 3. Gears need lubrication. 4. Blade is binding. 	<ol style="list-style-type: none"> 1. Reduce tension on blade. 2. Reduce tension on drive belt. 3. Check oil bath. 4. Decrease feed and speed,
Bad Cuts (cutting not square)	<ol style="list-style-type: none"> 1. Feed pressure too great. 2. Guide bearings not adjusted properly. 3. Inadequate blade tension. 4. Dull blade. 5. Speed incorrect. 6. Blade guides too far apart. 7. Blade guide assembly loose. 8. Blade tracks too far away from wheel flanges. 	<ol style="list-style-type: none"> 1. Reduce pressure by increasing Spring tension on side of saw. 2. Adj. guide bearing clearance not greater than 0.001" 3. Increase blade tension 4. Replace blade. 5. Adjust speed. 6. Adjust guides space. 7. Tighten. 8. Check and adjust Blade tracking see page xxx
Bad Cuts (Rough). Blade is twisting.	<ol style="list-style-type: none"> 1. Too great a speed or feed. 2. Blade is too coarse. 3. Blade tension loose. 1. Blade is binding. 2. Too much blade tension. 	<ol style="list-style-type: none"> 1. Decrease speed or feed. 2. Replace with finer blade. 3. Adjust blade tension. 1. Decrease feed pressure. 2. Decrease blade tension.

Parts List

No.	Description	Part No.	Qty	No.	Description	Part No.	Qty
1	Motor	SD45001	1	39	Vertical Cutting Plate	SD45039	1
2	Motor Pulley	SD45002	1	40	Vert Cutting Plate Supp't	SD45040	1
2A	Motor Pulley Grubscrew	SD45002A	1	41	Bush	SD45041	1
3	Motor Pulley Cover	SD45003	1	42	Blade Wheel Left	SD45042	1
4	Micro Switch	SD45004	1	43	Blade Brg Guide Lock	SD45043	2
5	Motor Mounting Plate	SD45005	1	44	Safety Cover Screw	SD45044	1
6	Gearbox Cover	SD45006	1	46	Safety Cover	SD45045	1
7	Gearbox Cover Gasket	SD45007	1	45	Saw Blade	SD45046	1
8	Gearwheel	SD45008	1	47	Adjusting Rod	SD45047	1
8A	Gearwheel Shaft	SD45008A	1	48	Adjusting Rod Support	SD45048	1
9	Ball Bearing	SD45009	2	49	Nut Plate	SD45049	1
10	Oil Seal	SD45010	2	50	Spring Adjuster Screw	SD45050	1
11	Bearing Bush	SD45011	1	51	Spring	SD45051	1
12	Wheel Brg Cover Plate	SD45012	1	52	Pivot	SD45052	1
13	Blade Wheel (G/Box)	SD45013	1	53	Pivot Rod	SD45053	1
14	Thrust Washer	SD45014	1	54	Mitering Vice Plate	SD45054	1
15	Gearbox Pulley	SD45015	1	55	Moveable Vice Plate	SD45055	1
15A	Gbox Pulley Grubscrew	SD45002A	1	56	Vice Nut	SD45056	1
16	Belt	SD45016	1	57	Lead Screw	SD45057	1
17	Washer	SD45017	1	58	Vice Adjuster Handle	SD45058	1
18	Wheel Brg Cover Plate	SD45018	1	59	Circlip	SD45059	1
19	Bearing Bush	SD45019	1	60	Switch Panel	SD45060	1
20	Ball Bearing	SD45020	2	61	Left Leg	SD45061	1
21	Worm Gear	SD45021	1	62	Right Leg	SD45062	1
22	Blade Tens. Slide Guide	SD45022	2	63	Tool Tray	SD45063	1
23	Blade Tension Slide Plate	SD45023	1	64	Bolt Hex	SD45064	4
24	Shaft Block	SD45024	1	65	Flat Washer	SD45065	4
25	Sliding Plate Draw Block	SD45025	1	66	"D" Washer	SD45066	4
25A	Blade Wheel Shaft	SD45025A	1	67	Nut Hex	SD45067	4
26	Spring	SD45026	1	68	Handle	SD45068	1
27	Blade Tension Adjuster	SD45027	1	69	Split Pin	SD45069	2
28	Micro Switch	SD45028	1	70	Wheel	SD45070	2
29	Switch Cut-Off	SD45029	1	71	Wheel Bracket	SD45071	1
30	Adjustable Bracket Right	SD45030	1	72	Axle	SD45072	1
30A	Adjustable Bracket Left	SD45030A	1	73	Cable	SD45073	1
31	Blade Adjustable Seat	SD45031	2	74	Body Frame Lock Plate	SD45074	1
32	Bearing Shaft Pin	SD45032	2	75	Body Frame	SD45075	1
33	Guide Pivot	SD45033	4	76	Bed	SD45076	1
34	Hex Nut	SD45034	4	77	Work Stop Rod	SD45077	1
35	Bearing	SD45035	6	78	Work Stop	SD45078	1
36	Hex Nut	SD45036	4	78A	Work Stop Grubscrew	SD45002A	1
37	Blade Guard Right	SD45037	1	79	Cable	SD45079	1
38	Blade Guard Left	SD45038	1				

Parts Diagram



For the purpose of clarity, mounting nuts, bolts and washers are not shown.