

THE TOOL COMPANY

HORIZONTAL AND VERTICAL METAL CUTTING BANDSAW

■ STOCK No.30736

■ PART No.MBS46A

• INSTRUCTIONS •

IMPORTANT: PLEASE READ THESE INSTRUCTIONS CAREFULLY TO ENSURE THE SAFE AND EFFECTIVE USE OF THIS TOOL.



08/2001

GENERAL INFORMATION

This manual has been compiled by Draper Tools and is an integrated part of the power tool equipment, which should be kept with the machine.

This manual describes the purpose for which this tool has been designed and contains all the necessary information to ensure its correct and safe use. We recommend that this manual is read before any operation of the machine, before performing any kind of adjustment to the machine, and prior to any maintenance tasks. By following all the general safety instructions contained in this manual, it will ensure both machine and operator safety, together with longer life of the tool itself.

All photographs and drawings in this manual are supplied by Draper Tools to help illustrate the operation of the machine.

Whilst every effort has been made to ensure accuracy of information contained in this manual, the Draper Tool policy of continuous improvement determines the right to make modifications without prior warning.



THE TOOL COMPANY

HORIZONTAL VERTICAL CUTTING BANDSAW

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THE TOOL COMPANY

DECLARATION OF CONFORMITY

We

Draper Tools Ltd. Hursley Road, Chandler's Ford, Eastleigh, Hampshire.
SO53 1YF. England.

Declare under our sole responsibility that the product:

Stock No:- 30736.

Part No:- MBS46A.

Description:- Horizontal and vertical metal cutting bandsaw.

To which this declaration relates is in conformity with the following directive(s)
89/392 & 89/336 EEC.

With reference to: BS 3456 : Part 201 : 1990 (EN 60335 : 1988), IEC 1029 -2 -5 : 1993,
EN 50081-1 : 1992, EN 55014 : 1987 & EN 55104 : 1995.

JOHN DRAPER
Managing Director

01/08/96



SPECIFICATION

The Draper Tools policy of continuous improvement determines the right to change specification without notice.

Part No.	MBS46A
Stock No.	30736
Cutting capacity:	
Round	114mm (4 1/2")
Rectangular	(100 x 150mm) 4" x 6"
Motor size	230V/350W
Blade length	1638mm (64 1/2")
Vertical table size	254 x 254mm (10" x 10")
Height to bed	610mm (24")
Height to table	860mm (33 7/8")
Speeds	3 (20,29,50 mpm)
Nett/gross weight	60,61kg
Sound pressure level	<70dB(A)



GUARANTEE

Draper machine tools have been carefully tested and inspected before shipment and are guaranteed to be free from defective materials and workmanship for a period of 12 months from the date of purchase except where tools are hired out when the guarantee period is ninety days from the date of purchase.

Should the machine develop any fault, please return the complete tool to your nearest authorized warranty repair agent or contact Draper Tools Limited, Chandler's Ford, Eastleigh, Hampshire, S053 1YF. England. Telephone (023) 8026 6355.

If upon inspection it is found that the fault occurring is due to defective materials or workmanship, repairs will be carried out free of charge. This guarantee does not apply to normal wear and tear, nor does it cover any damage caused by misuse, careless or unsafe handling, alterations, accident, or repairs attempted or made by any personnel other than the authorised Draper warranty repair agent.

This guarantee applies in lieu of any other guarantee expressed or implied and variations of its terms are not authorized.

Your Draper guarantee is not effective unless you can produce upon request a dated receipt or invoice to verify your proof of purchase within the 12 month period.

Please note that this guarantee is an additional benefit and does not affect your statutory rights.

Draper Tools Limited.

POWER SUPPLY

CONNECTING YOUR MACHINE TO THE POWER SUPPLY: (230V)

To eliminate the possibility of an electric shock your machine has been fitted with a BS approved, non opposite moulded plug and cable which incorporates a fuse, the value of which is indicated on the pin face of the plug. Should the fuse need to be replaced an

ASTA approved BS1362 fuse must be used of the same rating, marked thus .

The fuse cover is detachable, never use the plug with the cover omitted. If a replacement fuse cover is required, ensure it is of the same colour as that visible on the pin face of the plug (i.e. red). Fuse covers are available from your Draper Tools stockist.

If the fitted plug is not suitable, it should be cut off and destroyed. *The end of the cable should now be suitably prepared and the correct type of plug fitted. See below.

*WARNING:

A plug with bare flexible wires exposed is hazardous if engaged in a live power socket outlet.

WARNING THIS APPLIANCE MUST BE EARTHED.

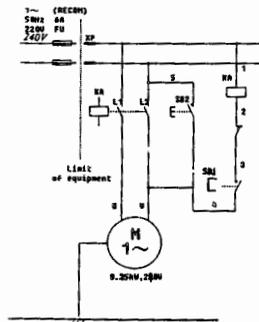
The mains lead is coloured Green and Yellow-Earth, Blue-Neutral & Brown-Live. as these colours may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows. The wire which is coloured green and yellow must be connected to the terminal in your plug marked with the letter 'E' or by the earth symbol \perp or coloured green or green and yellow. The wire which is coloured blue must be connected to the terminal which is marked with the letter 'N' or coloured black or blue. The wire which is coloured brown must be connected to the terminal which is marked with the letter 'L' or coloured red or brown.

EXTENSION LEAD CHART:

Extension lead sizes shown assure a voltage drop of not more than 5% at rated load of tool.

Ampere rating (on name plate)	3	6	10	13
Extension cable length	Wire Size mm ²			
7.5M	0.75	0.75	1.0	1.25
15M	0.75	0.75	1.0	1.5
22.5M	0.75	0.75	1.0	1.5
30M	0.75	0.75	1.25	1.5
40M	0.75	0.75	1.5	2.5

WIRING DIAGRAM



GENERAL SAFETY INSTRUCTIONS FOR POWER TOOLS

WARNING

Please read the following instructions carefully, failure to do so could lead to serious personal injury.

IMPORTANT

Draper Tools Limited recommends that this machine should not be modified or used for any application other than that for which it was designed. If you are unsure of its relative applications do not hesitate to contact us in writing and we will advise you.

1. KNOW YOUR POWER TOOL

Read and understand the owner's manual and labels affixed to the tool. Learn its application and limitations as well as the specific potential hazards peculiar to this tool.

2. KEEP WORK AREA CLEAN

Cluttered areas and benches invite accidents. Floors must not be slippery due to oil or sawdust.

3. AVOID DANGEROUS ENVIRONMENTS

Do not use power tools in damp or wet locations, or expose them to rain. Keep work area well lit. Provide adequate space surrounding the work area. Do not use in environments with a potentially explosive atmosphere.

4. KEEP CHILDREN AWAY

All visitors should be kept a safe distance from work area.

5. STORED TOOLS

When not being used, all tools should be stored in a dry, locked cupboard or out of the reach of children.

6. WEAR PROPER CLOTHING

Do not wear loose clothing, neckties or jewellery (rings, wristwatches) to catch in moving parts. NON-SLIP footwear is recommended. Wear protective hair covering to contain long hair. Roll long sleeves above the elbow.

7. USE SAFETY GOGGLES (Head Protection)

Wear CE approved safety goggles at all times. Normal spectacles only have impact resistant lenses, they are NOT safety glasses. Also, use face or dust mask if application is dusty and ear protectors (plugs or muffs) during extended periods of operation.

8. NOISE LEVELS

Some types of machines may have high noise levels when working. In such cases ear protection must be worn.

9. VIBRATION LEVELS

Hand held power tools produce different vibration levels. You should always refer to the specifications and relevant Health and Safety guide.

10. DUST EXTRACTION

If your tool is fitted with a dust extraction fitting, always ensure that it is connected and being used with a dust extractor. Vacuum cleaners can be used if suitable for the material being extracted.

11. PROTECT YOURSELF FROM ELECTRIC SHOCK

When working with power tools, avoid contact with any earthed items (e.g. pipes, radiators, hobs and refrigerators, etc.). If you are using a power tool in extreme conditions (e.g. high humidity or generating metal dust), always use an RCD (residual current device) at the power socket.

12. STAY ALERT

Always watch what you are doing and use common sense. Do not operate a power tool when you are tired or under the influence of alcohol or drugs.

13. WHEN WORKING OUT OF DOORS

Only use extension leads designed for that purpose.

14. ACCESS TO MAINS SOCKET

If a stationary machine is fitted with a moulded plug and cable, the machine should not be positioned so that access to the mains socket is restricted.

15. DISCONNECT POWER TO THE TOOL

When not in use, before servicing and when changing accessories such as cutters, etc.

16. AVOID ACCIDENTAL STARTING

Make sure the switch is in the OFF position before plugging the machine into the power supply.

17. NEVER LEAVE MACHINE RUNNING UNATTENDED

Turn power off. Do not leave machine until it comes to a complete stop.

18. DO NOT ABUSE THE CORD

Never carry the tool by the power cable or pull it from the socket. Keep the power cable away from heat, oil and sharp edges.

19. NEVER STAND ON TOOL

Serious injury could occur if the tool is tipped or if the cutting tool is accidentally contacted. Do not store materials above or near the tool, so that it is necessary to stand on the tool to reach them.

20. CHECK DAMAGED PARTS

Check for damage to parts, breakage of parts, mountings and any other conditions that may affect its operation. A guard or other part that is damaged should be properly repaired or replaced.

21. KEEP GUARDS IN PLACE

And in working order.

22. MAINTAIN TOOLS WITH CARE

Keep tools sharp and clean for the best and safest performance. Follow instructions for lubricating and changing accessories. All extension cables must be checked at regular intervals and replaced if damaged. Always keep the hand grips on the tool clean, dry and free of oil and grease.

23. USE RECOMMENDED ACCESSORIES

Consult the owners manual for recommended accessories. Follow the instructions that accompany the accessories. The use of improper accessories may cause hazards.

24. REMOVE ADJUSTING KEYS AND WRENCHES

Form a habit of checking to see that keys and adjusting wrenches are removed from the tool before turning it on.

25. SECURE WORK

Use clamps or a vice to hold work. This frees both hands to operate the tool.

26. DO NOT OVERREACH

Keep proper footing and balance at all times.

27. USE RIGHT TOOL

Do not force the tool or attachment to do a job for which it was not designed.

28. DO NOT FORCE TOOL

It will do the job better and safer at the rate for which it was designed.

29. DIRECTION OF FEED

Feed work into a blade or cutter against the direction of rotation of the blade or cutter only.

30. WHEN DRILLING OR SCREWING INTO WALLS

Always make sure there is no danger of hitting any hidden power cables, water or gas pipes in the wall.

IMPORTANT NOTE

Residual Risk. Although the safety instructions and operating manuals for our tools contain extensive instructions on safe working with power tools, every power tool involves a certain residual risk which can not be completely excluded by safety mechanisms. Power tools must therefore always be operated with caution !

ADDITIONAL SAFETY RULES FOR BANDSAWS

1. Ensure the blade tension and blade tracking are properly adjusted.
2. Always keep hands and fingers away from the saw blade.
3. Stop the machine before removing scrap pieces from the saw.
4. Ensure the correct blade size and type is used. (See optional accessories, page 12).
5. Make all adjustments and set ups with the power off, such as adjusting the blade tracking, tension or guards.
5. All guards must be in their correct position and securely fastened when performing any operation.
7. Securely lock all adjustable parts. This will prevent distraction during operation.

GETTING TO KNOW YOUR BANDSAW

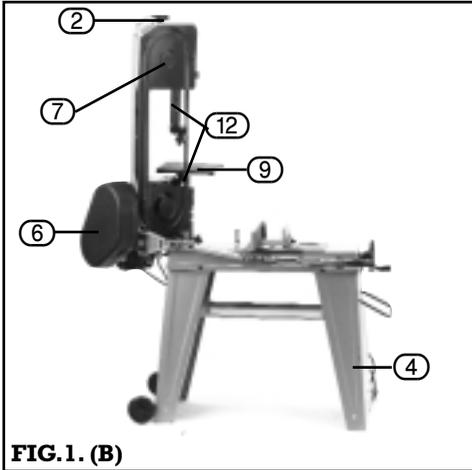
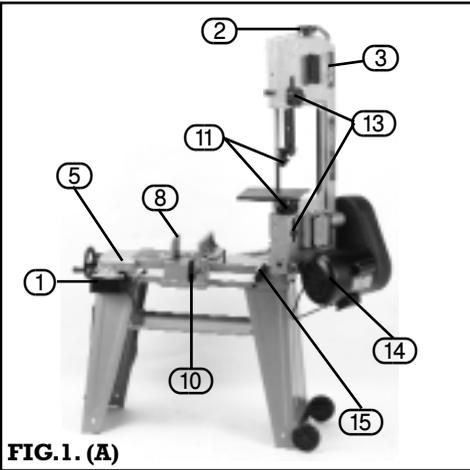


FIG. 1.

1. No-volt on/off switch.
2. Blade tensioning knob.
3. Head.
5. Bed.
6. Pulley cover.
7. Blade guard.
8. Vice.

9. Table (vertical use only).
10. Length stop.
11. Blade guides.
12. Blade guards.
13. Blade guide height adjustment.
14. Motor.
15. 2 position head rest.

ASSEMBLY INSTRUCTIONS

1. ASSEMBLING THE STAND (FIG.2)

Remove the legs (A) & (B) from the packaging and open up. Attach shelf (C) as shown using the fixing supplied. There are a choice of holes but only the 2nd hole up can be used to fix the shelf. Slide handle (D) through the holes provided and secure in place from the back with the pins supplied. Finally attach the wheels (E) on the bottom of the other leg by bolting the axle with the fixings supplied. The saw can now be lifted onto the stand (seek assistance) and bolted securely using the fixings supplied.

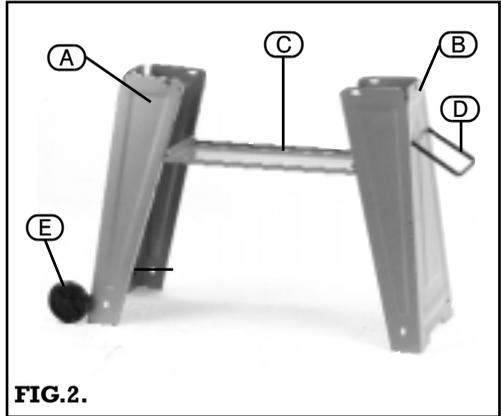


FIG.2.

2. PULLEY COVER & BELT (Fig.3.)

The pulley cover (F) can be slide into position behind the pulleys and secured in place using screws (G). The belt (H) can now be fitted and adjusted (see page 7). When complete close the pulley cover and fix with the screw provided.

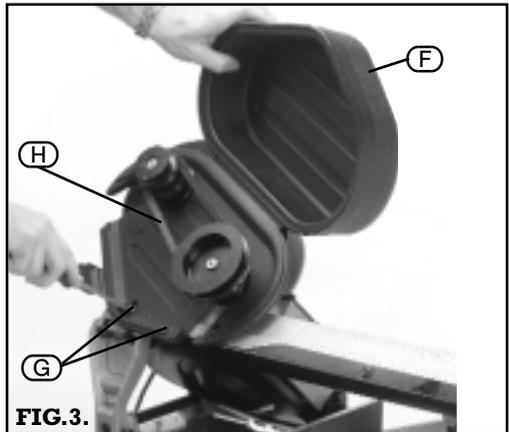


FIG.3.

3. VERTICAL TABLE (Fig.4.)

Lift the head into the upright position, remove the 2 countersunk screws (I). Swap the small plate for the larger table (J) and resecure the screws.

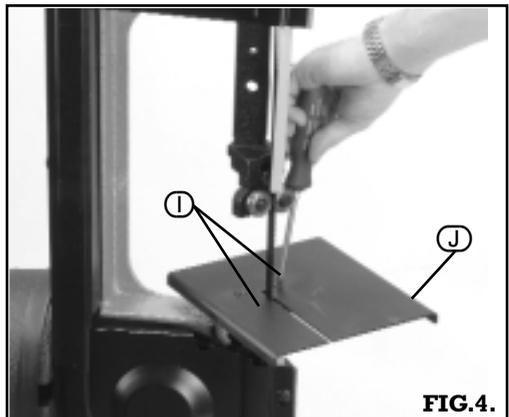


FIG.4.

OPERATION & USE

4. BELT ADJUSTMENT (Fig.5)

Before any operation involving the belts can be carried out make sure the power supply is disconnected. The bolt (K) must be turned anti-clockwise to give enough movement on the motor so that the belt can be fitted/adjusted.

* Note: The gearbox oil should be checked annually. Remove the 4 screws and plate to gain access to the gearbox. If it requires topping up use GP80 gearbox oil.

5. BLADE SPEEDS (Fig.6.)

Refer to the material cutting chart (on page 8) to decide the speed relevant to the material to be cut. Select the belt/pulley combination. When set, tighten the motor tension using bolt (K).

6. NO-VOLT ON/OFF SWITCH (Fig.7)

The saw is fitted with a no volt type on/off switch. The head is fitted with a safety catch (L) that when properly adjusted will automatically switch the machine off after each cut.

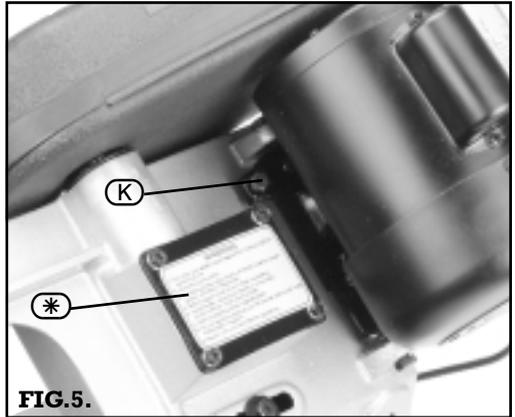


FIG.5.



FIG.6.

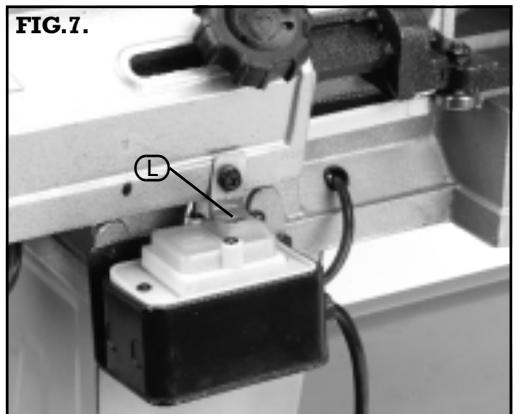


FIG.7.

OPERATION AND USE

MATERIAL CUTTING CHART

Material	Speed	Belt Groove Used	
	50Hz	Motor pulley	Saw pulley
Tool steel, stainless steel, alloy steel and bearing bronze	0.33m/s	Small	Large
Mild steel, hard brass bronzes	0.48m/s	Medium	Medium
Soft brass, non-ferrous metals and other soft materials	0.84m/S	Large	Small

Blade Replacement and Tension

Disconnect from power supply. With the head in the vertical position remove the three screws holding on the blade cover. Turn the blade tension knob (M) in an anti-clockwise direction to loosen the blade. Remove the two smaller blade guards (N) and then remove the blade from the machine. To fit the new blade feed it between the upper and lower blade guide bearings. Refit the blade guards then fit over the two wheels. Now retighten the blade tension until no blade slide occurs. Refit blade cover.

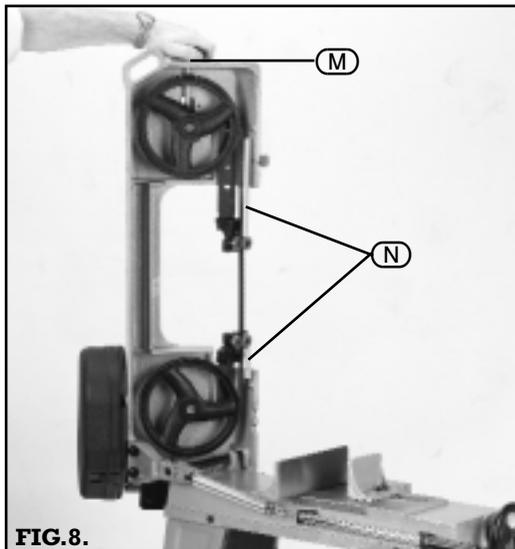


FIG.8.

OPERATION & USE

8. BLADE GUIDE ADJUSTMENT

It is impossible to get satisfactory work from the saw if the blade guides are not properly adjusted. The gap between the blade and the guide should be .00.1" clearance, anything larger will allow the blade to flex. Both upper and lower guides are adjusted in the same way and both the inner guides are fixed. The outer guides are in eccentric bushes. Loosen nut (O), adjust the bearing on the front nut (P). When correctly set retighten the rear nut (O). To set the blade square with the bed, use an engineers square (Draper Stock No.34065) as shown in (Fig.9). To alter the blade loosen bolt (Q) (Fig.10) which when loose allows movement in the guides. When set resecure the bolt. To allow for different size pieces of material the guides are adjustable. Loosening knob (R) (Fig. 11) allows the upper guide to slide. When set retighten. Should the lower guide require adjustment, loosen screw (S) to move the lower guide into position, when set secure.

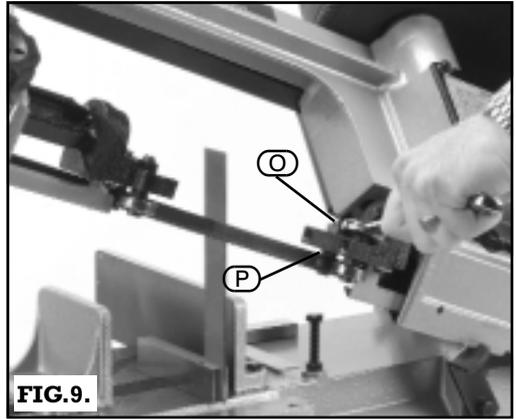


FIG. 9.

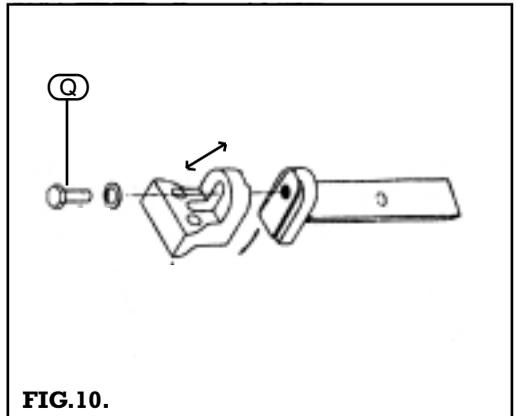


FIG. 10.

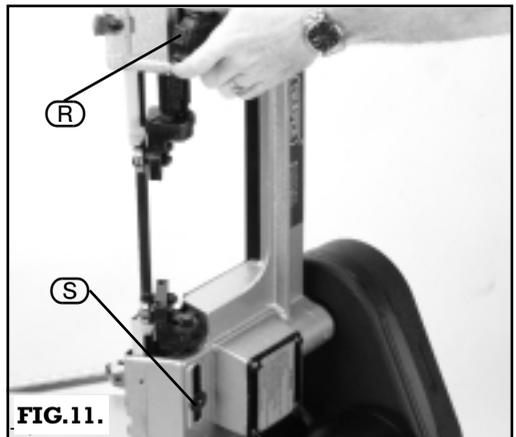
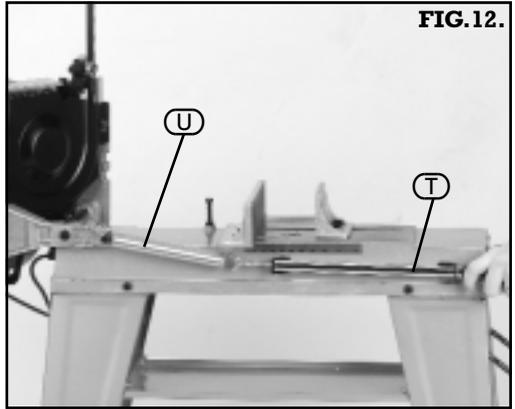


FIG. 11.

OPERATION & USE

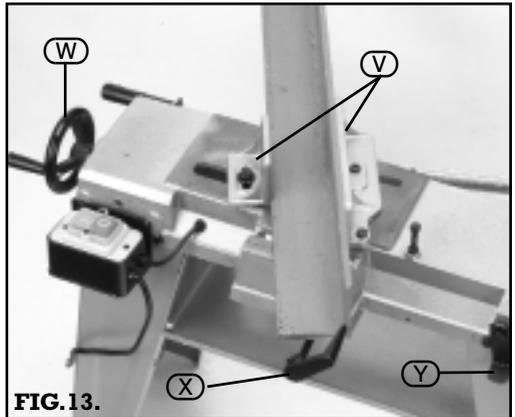
10. CUTTING FEED PRESSURE ADJUSTMENT (Fig.12)

Depending on the material being cut the cutting pressure needs to be adjusted. NOTE: The harder the materials, the slower the cutting speed should be. When viewed from the handle end, turning the handle (T) clockwise, tensions the spring (U) making the head lighter and producing a slower cut. Anticlockwise has the opposite effect. It should only be adjusted one turn at a time.



11. CUTTING OPERATIONS (Fig.13.)

To clamp work pieces with the vice (V). To clamp turn the handle wheel (W) clock-wise until tight. To carry out bevel cuts simply loosen the bolts holding the jaws and turn to the required angle, then retighten the bolts. To repeatedly cut the same length set up the end stop (W) to touch the end of the work piece. Adjustment is carried out with the hex key supplied.



12. HEAD REST (Fig.13)

To avoid continual raising of the head to its full up right position when making adjustments, the head rest (Y) slots into the cutouts in the head. To release, simply lift the head slightly and the rest will fall away.

Troubleshooting

NOTE: Repairs to this machine should only be carried out by a qualified person.

Trouble	Probable cause	Corrective Action
Excessive blade breakage	1. Material loose in vice.	1. Clamp work securely.
	2. Incorrect speed or feed.	2. Adjust speed or feed.
	3. Blade teeth spacing too large.	3. Replace with a finer pitched blade.
	4. Material too coarse.	4. Use a finer pitch blade at slower speed.
	5. Incorrect blade tension.	5. Adjust for no blade slip.
	6. Teeth in contact with material before saw is started.	6. Place blade in contact with work after motor is started.
	7. Misaligned guide bearings.	7. Adjust guide bearings.
Premature blade dulling	1. Teeth too coarse.	1. Use finer pitched blade.
	2. Too much speed.	2. Reduce speed.
	3. Inadequate feed pressure.	3. Decrease spring tension on side of saw.
	4. Hard spots or scale on material.	4. Reduce speed, increase feed pressure.
	5. Work hardening of material.	5. Increase feed pressure by reducing spring tension.
	6. Blade twist.	6. Replace with a new blade, and adjust blade tension.
	7. Insufficient blade tension.	7. Tighten blade tension adjusting knob.
	8. Blade slip.	8. Increase blade tension and reduce speed.
Unusual wear on side/back of blade	1. Blade guides worn.	1. Replace.
	2. Blade guide bearings not adjusted properly.	2. Adjust as per operation manual.
	3. Blade guide bearing bracket is loose.	3. Tighten.
Teeth ripping from blade	1. Teeth too coarse for work.	1. Use finer pitched blade.
	2. Too much pressure; speed too slow.	2. Decrease pressure, increase speed.
	3. Vibrating workpiece.	3. Clamp workpiece securely.
	4. Teeth clogging.	4. Use coarser pitched blade and brush to remove chips.



Troubleshooting Con't

Trouble	Probable cause	Corrective Action
Motor running too hot	1. Blade tension too high.	1. Reduce tension on blade.
	2. Drive belt tension too high.	2. Reduce tension on drive belt
	3. Incorrect pitched blade for work.	3. Use correct pitched blade.
	4. Gears need lubricating.	4. Check oil bath.
	5. Cut is binding blade.	5. Decrease feed and speed.
Bad cuts	1. Feed pressure too great.	1. Reduce pressure by increasing spring tension on side of saw.
	2. Guide bearings not adjusted properly.	2. Adjust guide bearing, the clearance should not be greater than .001".
	3. Inadequate blade tension.	3. Increase blade tension by adjusting blade tension knob.
	4. Dull blade.	4. Replace blade.
	5. Speed incorrect.	5. Adjust speed.
	6. Blade guide spaced incorrectly.	6. Place blade in contact with work after motor is started.
	7. Blade guide assembly loose.	7. Tighten.

DRAPER HELPLINE (023) 8049 4344



OPTIONAL ACCESSORIES

The following accessories are available from your local Draper stockist:

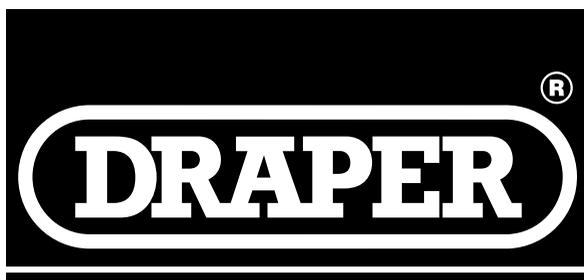
BANDSAW BLADES	PART No	STOCK No.	BLADE WIDTH	No.OF TEETH	APPLICATION
	BB1638	28109	1/2"	14	General purpose
	BB1638	28110	1/2"	18	Fine cutting
	BB1638	28112	1/2"	24	Nonferrous metals



<h1>NOTES</h1>



NOTES



THE TOOL COMPANY

DRAPER TOOLS LIMITED,

Hursley Road, Chandler's Ford, Eastleigh, Hants. SO53 1YF. U.K.

Helpline: (023) 8049 4344.

Sales Desk: (023) 8049 4333.

General Enquiries: (023) 8026 6355.

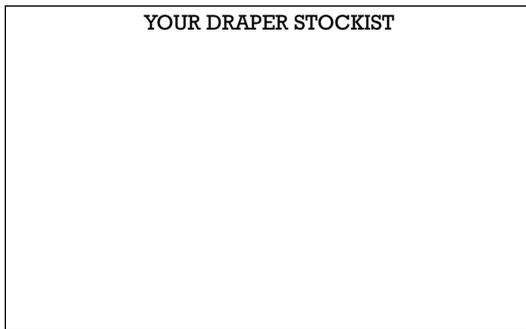
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YOUR DRAPER STOCKIST



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