

DRAPER®

INSTRUCTIONS FOR Belt & Disc Sander

Stock No.50021

Part No.BDS368

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



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GENERAL INFORMATION

Read all these instructions before operating this product and save these instructions.

This manual has been compiled by Draper Tools and is an integrated part of the product with which it is enclosed and should be kept with it for future references.

This manual describes the purpose for which the product 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 or, before performing any kind of adjustment to the product and prior to any maintenance tasks. By following all the general safety instructions contained in this manual, it will ensure both product and operator safety, together with longer life of the product itself.

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

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



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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 Nos:- **50021.**
Part No:- **BDS368.**
Description:- **Belt & Disc Sander.**

To which this declaration relates is in conformity with the following directive(s)
73/23/EEC & 89/336/EEC

With reference to:
BS3456: PART 201:1990.

J.N. Draper
Chairman

25/07/1996



SPECIFICATION

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

Stock No.	50021
Part No.	BDS368
Rated Voltage	230V~50Hz
Rated Input	350W
Belt Size	915 x 100mm (36 x 4")
Belt Speed	480M/min.
Belt Table Size (tilt)	100 x 152mm (0 - 45°)
Disc Size Ø	200mm (8")
Disc Speed	2850min ⁻¹
Disc Table Size (tilt)	158 x 266mm (0 - 45°)
Sound Pressure Level (LpA)	79dB(A)
Sound Power Level (LwA)	91dB(A)
Vibration Level	<2.5m/s ²
Weight	20kg

ALWAYS WEAR AN APPROVED DUST MASK, SAFETY GOGGLES AND EAR DEFENDERS.



GUARANTEE

Draper 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, SO53 1YF. England. Telephone: (023) 8026 6355.

A proof of purchase must be provided with the tool.

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.

Note: If the tool is found not to be within the Terms of Warranty, repair and carriage charges will be quoted and made accordingly.

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

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 TO THE POWER SUPPLY:

To eliminate the possibility of an electric shock your machine has been fitted with a BS approved, non rewirable moulded plug and cable which incorporates a fuse, the value of which is indicated on the pin face of the plug. If the plug is marked with the  symbol and the fuse needs replacing, an  approved BS1362 fuse must be used of the same amp rating. If the plug is not  marked, a fuse with the  symbol,  BS Kitemark, or both  and  BS Kitemark, of the same amp rating should be used.

- The fuse cover is detachable, never use the plug with the cover omitted. If a replacement fuse cover is required, ensure it is 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 and 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 which is marked with the letter 'E' or by the earth symbol  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 (Metres)	Wire Size mm ²			
7.5	0.75	0.75	1.0	1.25
15	0.75	0.75	1.0	1.5
22.5	0.75	0.75	1.0	1.5
30	0.75	0.75	1.25	1.5
40	0.75	0.75	1.5	2.5

IMPORTANT:

On products exceeding 2000W it is recommended that the power cable and/or extension cable are fully unwound before a connection is made to the power supply. However, ensure the residual cable does not pose a trip hazard.

GENERAL SAFETY INSTRUCTIONS

WARNING: When using electric tools basic safety precautions should always be followed to reduce the risk of fire, electric shock and personal injury including the following.

Read all these instructions before attempting to operate this product and save these instructions.

SAFE OPERATION

1. KEEP WORK AREA CLEAR

- Cluttered areas and benches invites injuries.

2. CONSIDER WORK AREA ENVIRONMENT

- Do not expose tools to rain.
- Do not use tools in damp or wet locations.
- Keep work area well lit.
- Do not use tools in the presence of flammable liquids or gases.

3. GUARD AGAINST ELECTRIC SHOCK

- Avoid body contact with earthed or grounded surfaces (e.g. pipes, radiators, ranges, refrigerators).

4. KEEP OTHER PERSONS AWAY

- Do not let persons, especially children, not involved in the work touch the tool or the extension cord and keep them away from the work area.

5. STORE IDLE TOOLS

- When not in use, tool should be stored in a dry locked-up place, out of reach of children.

6. DO NOT FORCE THE TOOL

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

7. USE THE RIGHT TOOL

- Do not force tools to do the job of a heavy duty tool.
- Do not use tools for purposes not intended; for example do not use circular saws to cut tree limbs or logs.

8. DRESS PROPERLY

- Do not wear loose clothing or jewellery, they can be caught in moving parts.
- Non-skid footwear is recommended when working outdoors.
- Wear protective hair covering to contain long hair.

9. USE PROTECTIVE EQUIPMENT

- Use safety glasses.
- Use face or dust mask if working operations create dust.

10. CONNECT DUST EXTRACTION EQUIPMENT

- If the tool is provided for the connection of dust extraction and collecting equipment, ensure these are connected and properly used.

11. DO NOT ABUSE THE CORD

- Never yank the cord to disconnect it from the socket. Keep the cord away from heat, oil and sharp edges.

12. SECURE WORK

- Where possible use clamps or a vice to hold the work. It is safer than using your hand.

13. DO NOT OVERREACH

- Keep proper footing and balance at all times.

14. MAINTAIN TOOLS WITH CARE

- Keep cutting tools sharp and clean for better and safer performance.
- Follow instruction for lubricating and changing accessories.
- Inspect tool cords periodically and if damaged have them repaired by an authorized service facility.
- Inspect extension cords periodically and replace if damaged.
- Keep handles dry, clean and free from oil and grease.

15. DISCONNECT TOOLS

- When not in use, before servicing and when changing accessories such as blades, bits and cutters, disconnect tools from the power supply.

16. REMOVE ADJUSTING KEYS AND WRENCHES

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

17. AVOID UNINTENTIONAL STARTING

- Ensure switch is in "off" position when plugging in.

18. USE OUTDOOR EXTENSION LEADS

- When the tool is used outdoors, use only extension cords intended for outdoor use and so marked.

19. STAY ALERT

- Watch what you are doing, use common sense and do not operate the tool when you are tired.

20. CHECK DAMAGED PARTS

- Before further use of tool, it should be carefully checked to determine that it will operate properly and perform its intended function.
- Check for alignment of moving parts, binding of moving parts, breakage of parts, mounting and any other conditions that may affect its operation.
- A guard or other part that is damaged should be properly repaired or replaced by an authorized service centre unless otherwise indicated in this instruction manual.
- Have defective switches replaced by an authorized service centre.
- Do not use the tool if the switch does not turn it on and off.

21. WARNING

- The use of any accessory or attachment other than one recommended in this instruction manual may present a risk of personal injury.

22. HAVE YOUR TOOL REPAIRED BY A QUALIFIED PERSON

- This electric tool complies with the relevant safety rules. Repairs should only be carried out by qualified persons using original spare parts, otherwise this may result in considerable danger to the user.



ADDITIONAL SAFETY INSTRUCTIONS

SAFETY

Safety is a combination of operator common sense and alertness at all times when the sander is being used.

WARNING

For your own safety, do not attempt to operate the belt and disc sander until it is completely assembled and installed according to the instructions and until you have read and understand the following.

1. STABILITY OF MACHINE:

There may be a tendency for the machine to tip over or move during certain operations, due to this, the sander must be bolted down.

2. LOCATION:

The machine should be positioned so the operator or a casual observer are not forced to stand in line with the sanding belt or disc. This machine is intended for indoor use only.

3. KICKBACK:

When sanding on the disc, always apply the workpiece left of centre of the disc. Applying the workpiece to the right side could cause it to fly up (kickback) which could be dangerous.

4. PROTECTION:

Eyes, hands, face, ears and body:

- (a) Always wear safety goggles (not glasses) that comply to a recognised standard. Wear a face mask if the operation is dusty. Wear ear plugs or muffs during extended periods of operation. Do not wear gloves, jewellery or watches. Roll long sleeves above the elbow. Tie back long hair.
- (b) Do not sand pieces of material too small to hold comfortably by hand.
- (c) Avoid awkward hand positions, where a sudden slip could cause a hand to move into the sanding disc or belt.
- (d) Never stand on the machine.
- (e) Never turn your sander "ON" before clearing the belt table and worktable of all objects.
- (f) Make sure the sanding belt runs in the right direction (directional arrow on inside of belt). Always have it adjusted correctly so that the belt does not run off the rollers.

(g) Hold the work firmly when sanding on the belt and against the worktable when sanding on the disc.

(h) Always adjust the worktable to within a maximum of 2mm off the sanding disc or belt.

(i) When sanding a large piece of material, provide additional support at table height.

(j) Never leave when the machine is on, wait until the machine has come to a complete stop.

(k) Do not perform assembly or adjustment work on the table while the sander is operating.

(l) Turn sander "OFF" and remove plug from power supply before removing any accessories.

5. If any part of this belt and disc sander breaks, bends, or fails in any way, or any electrical component fails to perform properly, or if any part is missing, turn off power switch, remove plug from the power supply and replace damaged, missing and/or failed parts before resuming operation.

6. Do not sand with the workpiece unsupported. Support it with the backstop or worktable. The only exception is curved work performed on the outer end of the belt (idler roller).

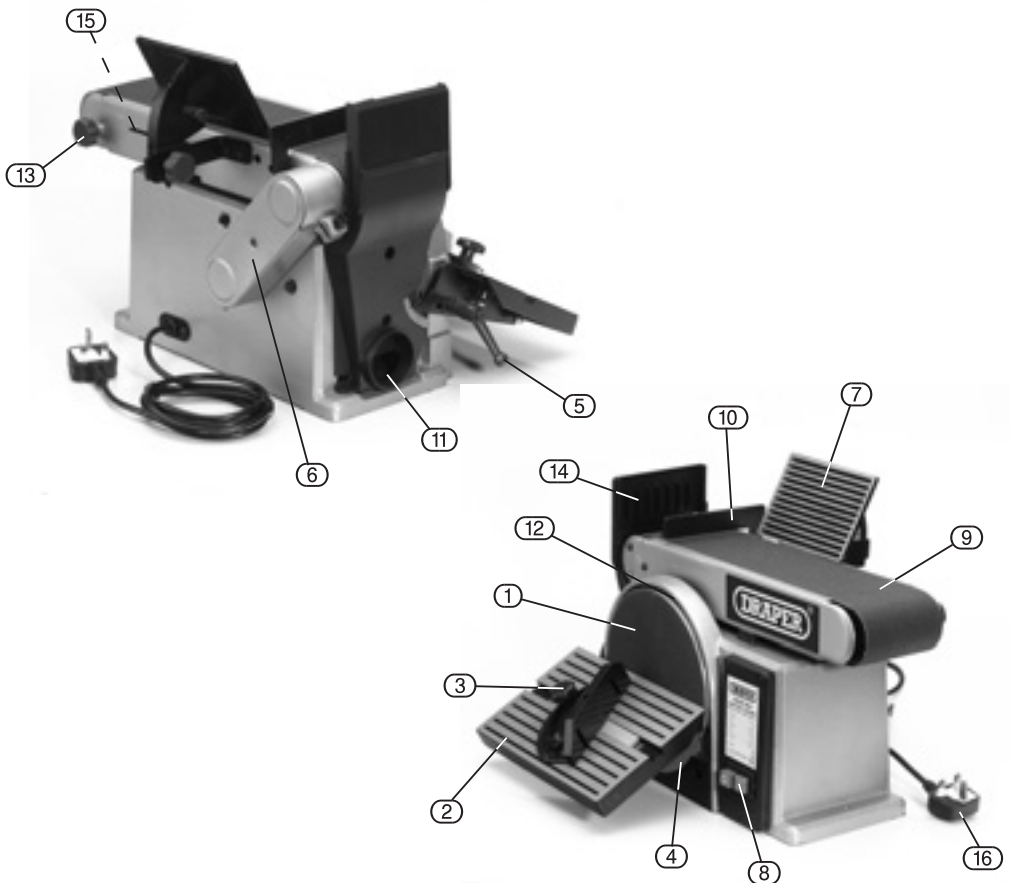
7. THINK SAFETY:

Safety is a combination of operator common sense and alertness at all times when the sander is in operation.

CAUTION:

This Belt and Disc Sander is designed solely for wood and nonferrous metals only. Any other materials will cause damage to the product or risk of fire.

GETTING TO KNOW YOUR BELT & DISC SANDER



- | | | |
|----------------------------|---------------------------|----------------------------------|
| ① Sanding Disc. | ⑦ Work Support Table. | ⑬ Belt Tracking Knob. |
| ② Work Table. | ⑧ No-volt On/Off Switch. | ⑭ Dust Deflector. |
| ③ Mitre Gauge. | ⑨ Sanding Belt. | ⑮ Sanding Belt Tensioning Lever. |
| ④ Disc Guard. | ⑩ Backstop. | ⑯ BS Moulded Plug and Cable. |
| ⑤ Table Tilt Locking Bolt. | ⑪ Dust Extraction Outlet. | |
| ⑥ Drive Belt Cover. | ⑫ Sanding Plate. | |

- **UNPACKING:** After removing the packing material, make sure the product is in perfect condition and that there are no visible damaged parts. If in doubt, do not use the product and contact the dealer from whom it was purchased.

The packaging materials (plastic bags, polystyrene, etc.), must be disposed of in an appropriate refuse collection container. These materials must not be left within the reach of children as they are potential sources of danger.

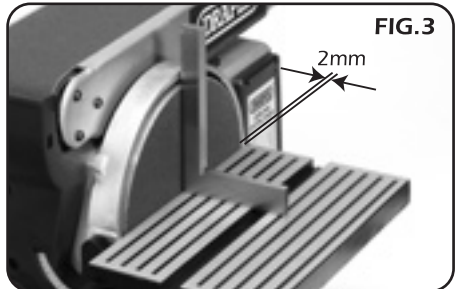
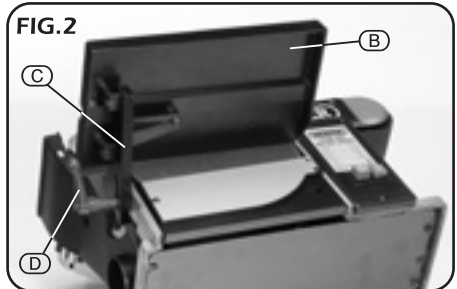
- MOUNTING THE SANDER TO A WORKBENCH (FIG.1):

The sander should be fastened securely to a firm supporting surface such as a workbench. If mounting to a workbench, place the sander in a suitable position and mark the surface through the holes in the base (A). Remove the sander and drill the holes, align and insert the bolts and nut securely (fixings not supplied).



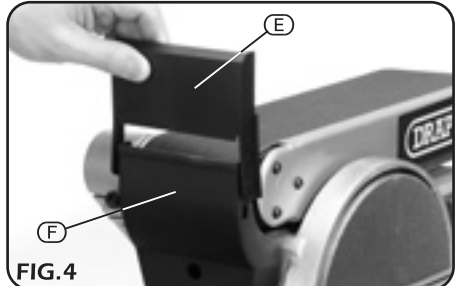
- INSTALLING THE SANDING DISC TABLE (FIGS.2&3):

Locate the table (B), bracket (C) and securing handle (D). Remove the bolts from the underside of the table and fit the bracket. Now offer up the assembly to the sander. Insert the locating lug into the hole in the housing and secure it in place with the locking handle (D). Using an engineers square (for example Draper Stock No.34065), adjust the table so it is square with the sander and running parallel across the disc face (approx. 2mm gap), then tighten the bolts holding the bracket to the table.



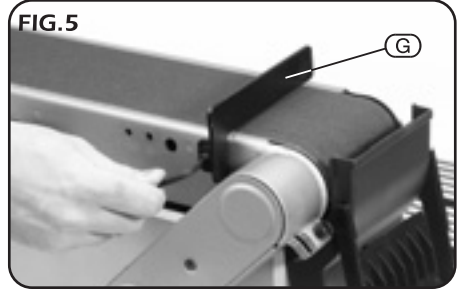
- INSTALLING THE DUST DEFLECTOR (FIG.4):

Locate the pegs on each side of the dust deflector (E) into the slots on the dust collection cover (F).



- INSTALLING THE BACK STOP (FIG.5):

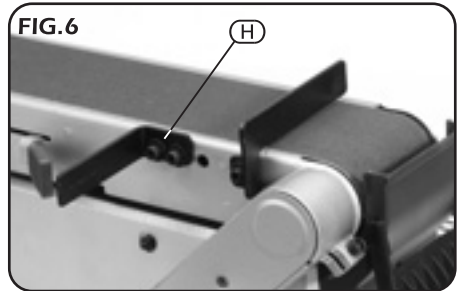
Fix the back stop (G) in place on the back of the sanding belt assembly and adjust it with 1.5mm gap to allow sawdust to flow under.



- INSTALLING THE WORK SUPPORT TABLE (FIGS.6&7):

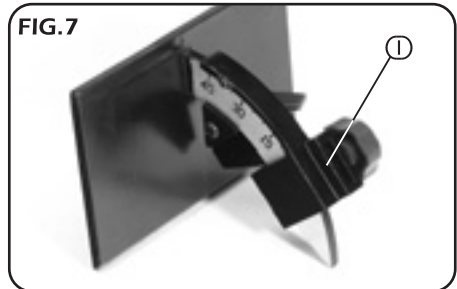
Bolt the support bracket (H) to the sanding belt assembly. Assemble the table to the locking bracket (I).

Slide the assembled guide onto the support bracket and lock into place with the locking knob. Use the engineers square to adjust the guide so it is square with the sanding belt. When in place lock off with the securing screw.



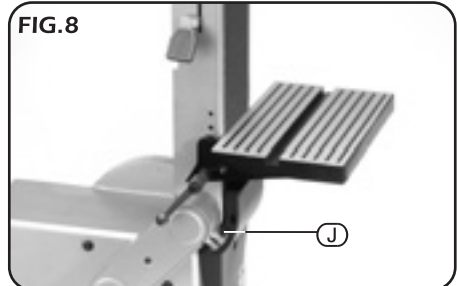
- NOTE:

The angle adjustment is only to be used as a guide.



- VERTICAL SANDING (FIG.8):

For the sanding belt to be used in the vertical position, the back stop, support table and bracket must all be removed. Loosen the locking bolt (J) and put the belt in the upright position and then retighten the bolt. Next the sanding disc table must be removed and fitted in the same way, but using the fixture holes in the side of the sanding belt assembly.



- **SAW DUST EXTRACTION (FIG.9):**
It is recommended that the sander is connected to a vacuum cleaner (for example Draper Stock No.64674) during operation, which will provide fast and efficient removal of saw dust.
- **NOTE:**
Due to the large size outlet for the dust extraction, Stock No.29786 hose and 29791 adaptor are recommended.

FIG.9



- **IMPORTANT:**

Make sure that the mains voltage matches the voltage stated on the machines rating plate.

- **NO-VOLT ON/OFF SWITCH (FIG.10):**

- **NOTE:** The BDS368 is fitted with a no-volt on/off switch.

In the event of a power failure the machine will have to be manually restarted.

To switch the machine on, push the button marked ①.

To switch the machine off, push the button marked ②.

To switch the machine off in an emergency strike the ③ button.

- **CAUTION:** This Belt and Disc Sander is designed solely for wood and nonferrous metals only. Any other materials will cause damage to the product or risk of fire.

- **STRAIGHT SANDING (FIG.11):**

Hold the work firmly with both hands, keeping fingers away from the belt.

Straight pieces shorter than the belt table are sanded by holding the workpiece lightly against the belt. Move it back and forth across the belt, keeping the end butted against the stop fence. This fence prevents the workpieces from slipping off the table. USE EXTRA CAUTION WHEN SANDING THIN PIECES. When finishing long pieces, remove the stop fence. Start the work at one end and gradually push it to the other end. Feed it slowly across the width, at the same time, apply only enough pressure to allow the belt to remove material. If the belt stalls and belt pulleys slip while applying moderate pressure, the belt requires more tension.

- **END SANDING ON THE SANDING BELT (FIG.12):**

It is more convenient to sand the ends of long workpieces with the sanding belt in a vertical position. Move the work evenly across the sanding belt.



FIG.10



FIG.11



FIG.12

- **NOTE:**

Remove the plug from the socket before carrying out adjustment, servicing or maintenance.

- **CONTOUR SANDING (FIG.13):**

Inside contours: Inside curves can be sanded on the drums at either end of the machine. Hold the work firmly, press the contour lightly against the drum on one side and move the work slowly across the drum while moving up the contour against the drum.

Outside contours: Outside curves can be sanded on the belt table of the unsupported side of the belt with the table in the vertical position.

Hold the work firmly. Begin the curve lightly against one side and feed it across the belt towards the other side while moving up the contour of the workpiece.

Outside contours on the end of a workpiece can be sanded with the sanding disc. Feed the work lightly against the disc and move it back and forth from the centre of the disc to the outside edge.

- **DISC SANDING (FIG.14):**

Disc sanding should be done on the outer edge of the disc which revolves downward. Applying the workpiece to the "UPSIDE" of the disc may cause it to fly up, which could be dangerous to the operator.

The mitre gauge (J) is very useful as a guide when chamfering and finishing angle sanding.

FIG.13



FIG.14

- **REPLACING THE SANDING BELT AND TRACKING (FIGS.15&16):**
- **WARNING:** TO AVOID INJURY FROM ACCIDENTAL STARTING, TURN THE POWER SWITCH "OFF" AND REMOVE THE PLUG FROM THE POWER SUPPLY BEFORE REMOVING OR INSTALLING SANDING BELTS.

On the inside of the sanding belt you will find "direction arrows". The sanding belt must run in the direction of these arrows so that the splice does not come apart.

1. Loosen the bed locking screw (K) and lift the bed to approx. 45°, Fig.15.
2. Slide the tension lever (L) to the left to release the belt tension.
3. Place the sanding belt over the pulleys with the directional arrows pointing in an anticlockwise direction when looking at the sander from the disc side. Make sure the belt is centred on both pulleys.
4. Tension the sanding belt by sliding the tension lever back.
5. Re-connect to the power supply. Turn switch "ON" and immediately "OFF", noting if the belt tends to slide off the idler pulley or drive pulley. If the belt did not try to slide off, it is tracking correctly.
6. If the belt moves towards the disc, turn the tracking knob (M) anticlockwise ¼ of a turn, Fig.16.
7. If the sanding belt moves away from the disc, turn the tracking knob (M) clockwise ¼ of a turn.
8. Turn the switch "ON" and immediately "OFF" again, noting any belt movement. Re-adjust the tracking knob if necessary.

- **REPLACING THE SANDING DISC (FIG.17):**
With the table removed, dismantle the sanding disc guard (N) by removing the screws. Pull off the used disc and stick the new adhesive backed disc centrally on the disc.

- **CHANGING THE DRIVE BELT (FIG.18):**
Remove the single screw and take off covering plate (O). Loosen the three bolts (P) and push the housing so the drive belt becomes slack. Remove and replace the belt, re-tension the housing so the belt is sufficiently tight and secure housing bolts. Refit cover (O).

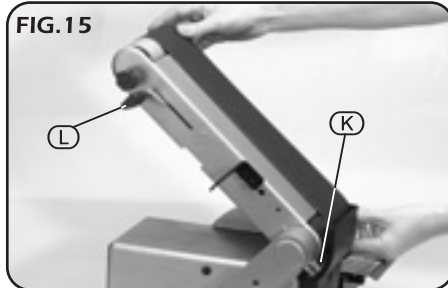
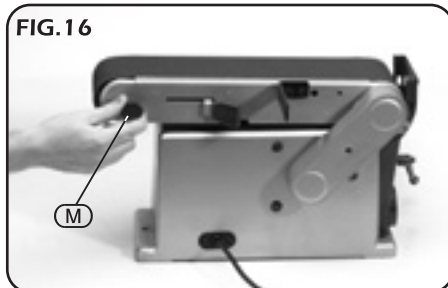
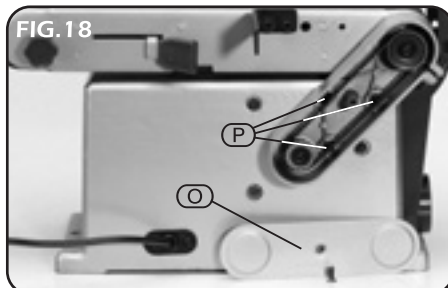
FIG.15

FIG.16

FIG.17

FIG.18


MAINTENANCE & PARTS REPLACEMENT

Regular inspection and cleaning reduces the necessity for maintenance operations and will keep your tool in good working condition.

The motor must be correctly ventilated during tool operation. For this reason avoid blocking the air inlets. After use disconnect the tool from the power supply and vacuum the ventilation slots. If the replacement of the supply cord is necessary, this has to be done by the manufacturer or his agent in order to avoid a safety hazard.

A coat of wax polish applied to the worktable will make it easier to feed the work while finishing. Do not apply wax to the abrasive belt table because the belt could pick up the wax and deposit it on the pulleys, causing the belt to slip.

TROUBLE SHOOTING

WARNING: FOR YOUR OWN SAFETY ALWAYS TURN THE MAIN SWITCH ON THE MACHINE "OFF" AND REMOVE THE PLUG FROM THE POWER SUPPLY BEFORE CARRYING OUT ANY MAINTENANCE OR TROUBLE SHOOTING.

TROUBLE	PROBABLE CAUSE	REMEDY
Motor will not run.	1. Defective ON/OFF switch. 2. Burned out motor.	1. Replace defective parts before using belt and disc sander again. 2. Any attempt to repair this motor may create a HAZARD unless repair is done by a qualified service technician.
Machine slows down when sanding	1. Drive belt too tight. 2. Applying too much pressure to workpiece	1. Decrease belt tension. 2. Ease up on pressure.
Sanding belt runs off pulleys.	1. Not tracking properly.	1. Adjust tracking, see Operation & Use Section "Replacing the Sanding Belt - Tensioning and Tracking" on page 12.
Wood burns while sanding.	1. Sanding disc or belt is glazed with sap.	1. Replace disc or belt.



OPTIONAL ACCESSORIES

The following accessories are available from your local Draper stockist:

SANDING DISCS:

STOCK No.	PART No.	GRIT GRADE	PACK QUANTITY
51005	SD8	60	5 discs
51006	SD8	80	5 discs
51007	SD8	100	5 discs
51008	SD8	120	5 discs
51009	SD8	Assorted	5 discs

HOOK & LOOP SANDING DISCS:

STOCK No.	PART No.	GRIT GRADE	PACK QUANTITY
52607	SD8V	60	5 discs
52608	SD8V	80	5 discs
52609	SD8V	100	5 discs
52610	SD8V	120	5 discs
52611	SD8V	Assorted	5 discs

SELF ADHESIVE/HOOK & LOOP PAD 8":

STOCK No.	PART No.	GRIT GRADE	PACK QUANTITY
52612	SD8VP	-	1

SANDING BELTS:

STOCK No.	PART No.	GRIT GRADE	PACK QUANTITY
25958	SB436	60	3
25959	SB436	80	3
25960	SB436	100	3
25962	SB436	120	3
25963	SB436	Assorted	3

DISPOSAL OF POWER TOOLS

- At the end of the machine's working life, or when it can no longer be repaired, ensure that it is disposed of according to national regulations.
- Contact your local authority for details of collection schemes in your area.

In all circumstances:

- Do not dispose of power tools with domestic waste.
- Do not incinerate.
- Do not abandon in the environment.
- Do not dispose of WEEE* as unsorted municipal waste.



* Waste Electrical & Electronic Equipment.

EXPLANATION OF SYMBOLS/PICTOGRAMS



Wear safety goggles.



Wear an approved dust mask.



Do not dispose of WEEE* as unsorted municipal waste.

* Waste Electrical & Electronic Equipment.



NOTES



NOTES



NOTES

- **DRAPER TOOLS LIMITED,**
Hursley Road, Chandler's Ford,
Eastleigh, Hampshire. SO53 1YF. U.K.
- **Helpline:** (023) 8049 4344
- **Sales Desk:** (023) 8049 4333
- **General Enquiries:** (023) 8026 6355
- **Fax:** (023) 8026 0784
- **Internet:** www.draper.co.uk
- **E-mail:** sales@drapertools.com
- **Service/Warranty Repair Agent**
For aftersales servicing or warranty repairs, please
contact the Draper Tools Helpline for details of an
agent in your local area.

YOUR DRAPER STOCKIST

OAJH020107