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ClarkeTM METALWORKER



© 0700

6" Bench Grinder with Sanding Belt Model CBG6SB

Part Number 6500032

Operating & Maintenance Instructions

Clarke INTERNATIONAL

For spare parts and servicing, please contact your nearest dealer, or Clarke International on

020 - 8988 - 7400

e-mail: Parts@clarkeinternational.com e-mail: Service@clarkeinternational.com



Parts and Service

For Spare Parts and Servicing, please contact your local dealer, or
Clarke International on one of the following Numbers:

Parts and Service Tel: 0208 988 7400

Parts and Service Fax: 0208 558 3622

or email as follows:

Parts: Parts@clarkeinternational.com

Service: Service@clarkeinternational.com

**If you have any problems using or setting up your Grinder call
the Clarke Helpline on,**

0208 988 7400

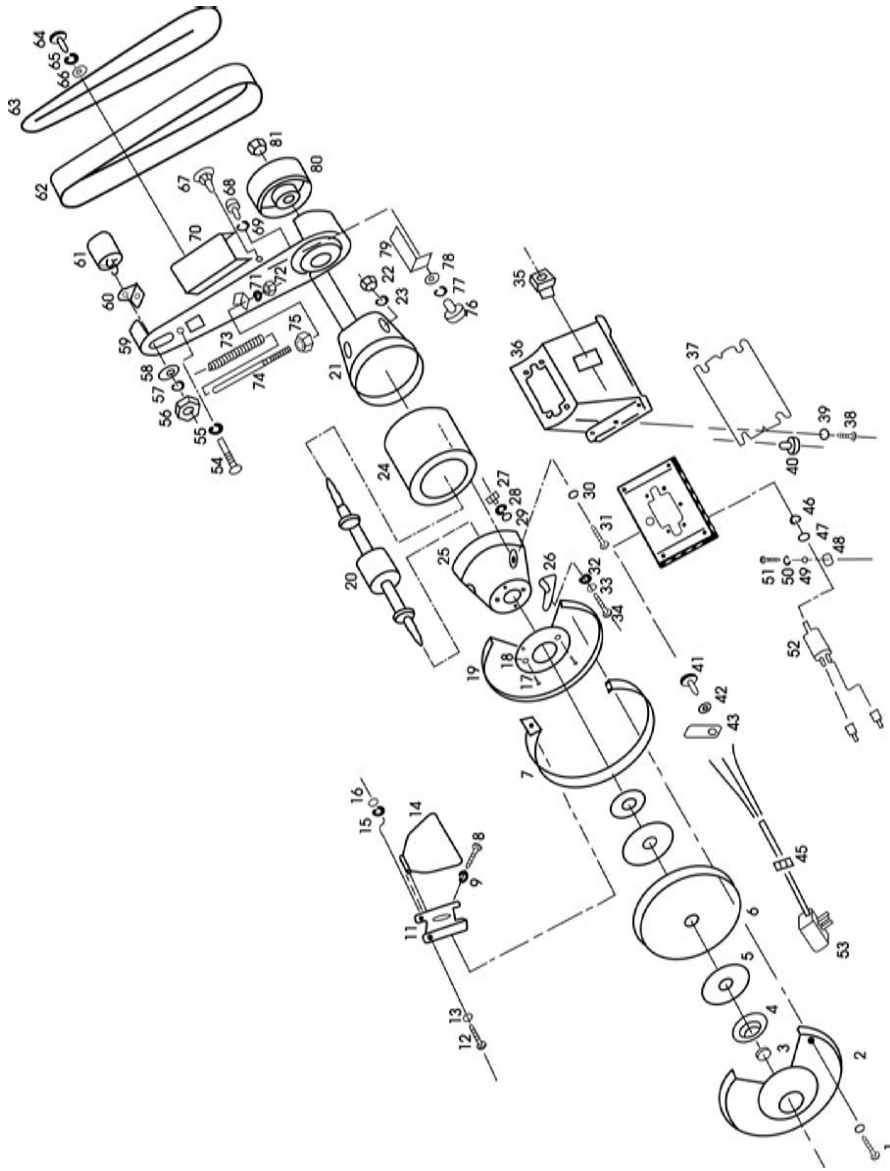
Press 1 for Parts : 2 for Technical Assistance

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Spare Parts List

No.	Description	Part No.	No.	Description	Part No.
1	Bolt	HT6SB001	41	Screw	HT6SB041
2	Outer guard	HT6SB002	42	Spring washer	HT6SB042
3	Nut	HT6SB003	43	Cord clamp	HT6SB043
4	Flange	HT6SB004	45	Cord sleeve	HT6SB045
5	Paper Blotter	HT6SB005	46	Nut	HT6SB046
6	Wheel	HT6SB006	47	Tooth washer	HT6SB047
7	Ring guard	HT6SB007	48	Capacitor bracket	HT6SB048
8	Screw	HT6SB008	49	Washer	HT6SB049
9	Spring washer	HT6SB009	50	Spring washer	HT6SB050
10	Washer	HT6SB010	51	Screw	HT6SB051
11	Spark Arrester	HT6SB011	52	Capacitor	HT6SB052
12	Bolt	HT6SB012	53	Plug cord	HT6SB053
13	Washer	HT6SB013	54	Screw	HT6SB054
14	Eyeshield	HT6SB014	55	Nut	HT6SB055
15	Spring washer	HT6SB015	56	Knob	HT6SB056
16	Nut	HT6SB016	57	Spring washer	HT6SB057
17	Screw	HT6SB017	58	Washer	HT6SB058
18	Spring washer	HT6SB018	59	Belt cover	HT6SB059
19	Inner guard	HT6SB019	60	Bracket	HT6SB060
20	Rotor	HT6SB020	61	Top Roller	HT6SB061
21	Motor cover	HT6SB021	62	Belt (5 Pack)	HT6SB062
22	Nut	HT6SB022	63	Outer cover	HT6SB063
23	Spring washer	HT6SB023	64	Screw	HT6SB064
24	Stator	HT6SB024	65	Spring washer	HT6SB065
25	Motor cover	HT6SB025	66	Washer	HT6SB066
26	Tool rest	HT6SB026	67	Square neck screw	HT6SB067
27	Bolt	HT6SB027	68	Screw	HT6SB068
28	Spring washer	HT6SB028	69	Spring washer	HT6SB069
29	Washer	HT6SB029	70	Belt support bracket	HT6SB070
30	Spring washer	HT6SB030	71	Spring washer	HT6SB071
31	Bolt	HT6SB031	72	Nut	HT6SB072
32	Washer	HT6SB032	73	Spring	HT6SB073
33	Spring washer	HT6SB033	74	Spring pin	HT6SB074
34	Screw	HT6SB034	75	Nut	HT6SB075
35	Switch	HT6SB035	76	Knob	HT6SB076
36	Base	HT6SB036	77	Spring washer	HT6SB077
37	Base plate	HT6SB037	78	Washer	HT6SB078
36	Screw	HT6SB038	79	Tool rest	HT6SB079
39	Tooth washer	HT6SB039	80	Drive Roller	HT6SB080
40	Rubber feet	HT6SB040	81	Nut	HT6SB081

Spare Parts Diagram



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Thank you for purchasing this Clarke Bench Grinder. Before using please read these instructions. This is for your own safety and that of others around you, and to help you achieve long and trouble free service from the Grinder.

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.

Features and Use

This Bench grinder is intended for D.I.Y use only. The grinder features a 150mm grinding wheel and a 50mm wide sanding belt mounted on a base that allows fitting to any suitable work bench or Bench Grinder Stand (See Accessories).


Important: Do not exceed the Duty Cycle for the machine....See Specifications, p13.

General Safety Precautions : For Power Tools

 **WARNING!** Read these safety instructions before using the equipment.

 **Keep Children away when using Power Tools.**

 **Eye Protection manufactured to the current European Safety Standards should be worn when using Power Tools.**

 **Always** check for damage before using the tool. Any damaged part should be checked to ensure that it will operate properly and perform its intended function. Check for alignment of moving parts, breakage of parts, mountings and any other condition that may affect the tools' operation. Any damage should be properly repaired or the part replaced. If in doubt, Do Not use the tool. Consult your local dealer.

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 wear safety goggles manufactured to the latest European Safety Standards, everyday eyeglasses do not have impact resistant lenses, they are NOT safety glasses.

Always use a face or dust mask if operation is particularly dusty.

Always disconnect the tool from the power supply before servicing and when changing accessories.

Always use in a suitable environment. Don't use power tools in damp or wet locations or expose them to rain. Keep your work area well illuminated. Do Not use in explosive atmosphere (around paint, flammable liquids etc.).

Always keep work area clean and clear. Cluttered areas and benches invite accidents.

Always wear proper apparel. Loose clothing or jewellery may get caught in moving parts. Wear protective hair covering to contain long hair.

Always handle equipment with care. Do Not carry the tool by its' electric cable, or yank the cable to disconnect it from the power supply.

Always ensure the switch is OFF before plugging in to mains. This will ensure the equipment does not start accidentally.

Always follow the maintenance instructions. Keep tools clean and maintained for the best and safest performance.

 **Never** force the tool. It will do a better and safer job at the rate for which it was designed.

Never operate equipment whilst under the influence of drugs, alcohol or any medication.

Specifications

Model No CBG 6SB
 Part No 6500032
 Overall Dimensions 340(H) x 340(W) x 300(D)

Gross Weight 9,8 Kg
 Net Weight 8,9kg
 Motor 230 Volts AC 50Hz 1Phase
 Power Rating 240 Watts
 Duty Cycle 2min ON, 2min OFF

Grinder

No Load Wheel Speed 2800 RPM
 Wheel Diameter 150mm
 Wheel Width 20mm
 Bore 13 mm

Sanding Belt

No Load Belt speed 15.5 M/s
 Belt Length 686 mm
 Belt Width 50mm

Accessories

Description	Part No.
Grinding Wheel - Fine	6501135
Grinding Wheel - Medium	6501089
Grinding Wheel - Course	6501088
Grinding Wheel Dressing Tool - Model No. GWD 1.	6501120
Sanding Belts1 - Fine (Pack of 5)	6502115
Sanding Belts1 - Medium (Pack of 5)	6502120
Sanding Belts1 - Course (Pack of 5)	6502125
Bench Grinder Stand	6501140

Troubleshooting :

Problem	Possible Cause	Remedy
The Motor does not start when switched on.	<ol style="list-style-type: none"> 1. The power supply is not properly connected. 2. The Fuse has blown. 3. The motor is burnt out. 	<ol style="list-style-type: none"> 1. Check and rectify 2. Renew Fuse 3. Contact Clarke Service
Unusual vibration when the machine is switched on.	<ol style="list-style-type: none"> 1. The grinding wheel is not properly fitted 2. The grinding wheel is damaged. 3. The Sanding belt tracking and/or tension is incorrectly set. 4. The Unit is not mounted correctly 	<ol style="list-style-type: none"> 1. Refit the grinding wheel (as described in Maintenance) 2. Replace the grinding wheel immediately (as described in Maintenance) 3. Reset the sanding belt tracking and (or) tension (as described in Maintenance) 4. Ensure the Unit is mounted correctly to a stable surface
Excessive noise when the machine is switched on.	<ol style="list-style-type: none"> 1. The Covers are not fitted securely to the machine 2. A tool rest touching the grinding wheel or sanding belt 3. The Motor bearings are worn or damaged 	<ol style="list-style-type: none"> 1. Ensure all cover fasteners are secure. 2. Ensure the tool rests and spark arrester is set correctly (as described in Maintenance) 3. Contact Clarke Servicing
Excessive noise	<ol style="list-style-type: none"> 1. Excessive force is being applied to the grinder / sander 2. The grinding wheel is damaged. 3. The Sanding belt tracking is incorrectly set. 4. The sanding belt tension is set too high 	<ol style="list-style-type: none"> 1. Apply less force when using the machine. 2. Replace the grinding wheel immediately (as described in Maintenance) 3. Reset the sanding belt tracking (as described in Maintenance) 4. Set the sanding belt tension (as described in Maintenance)

Safety Precautions : For Bench Grinders



Eye Protection manufactured to the current European Safety Standards should be worn when operating grinding equipment.



Ear Protection manufactured to the current European Safety Standards should be worn when operating grinding equipment.

✓ **Always** replace a cracked wheel immediately.

Always use guards and eyeshield.

Always adjust distance between wheel and tool rest to maintain 1/16" (1.6mm) separation as the diameter of the wheel will decrease with use.

Always use a grinding wheel suitable for the speed of grinder. (See Specifications).

Always stand slightly to one side of the bench grinder during operation, not directly in front.

Always allow one minute of free rotation for a new grinding wheel: Should the new grinding wheel be faulty it will shatter within the first minute of running.



Never use the side of the grinding wheel. Use only the front face.

Never leave a grinding wheel unattended. TURN POWER OFF. Do not leave until it comes to a complete stop.

Do not remove the wheel guard except when changing a worn wheel.

Do not use the grinding wheel for any kind of cutting.

Do not over stress the grinding wheel.

USE ONLY APPROVED REPLACEMENT GRINDING WHEELS. Contact your local dealer or Clarke International for approved replacement grinding wheels and accessories. The use of inferior accessories could result in personal injury or damage to property.

Electrical Connections

WARNING! This Appliance must be Earthed

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

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:

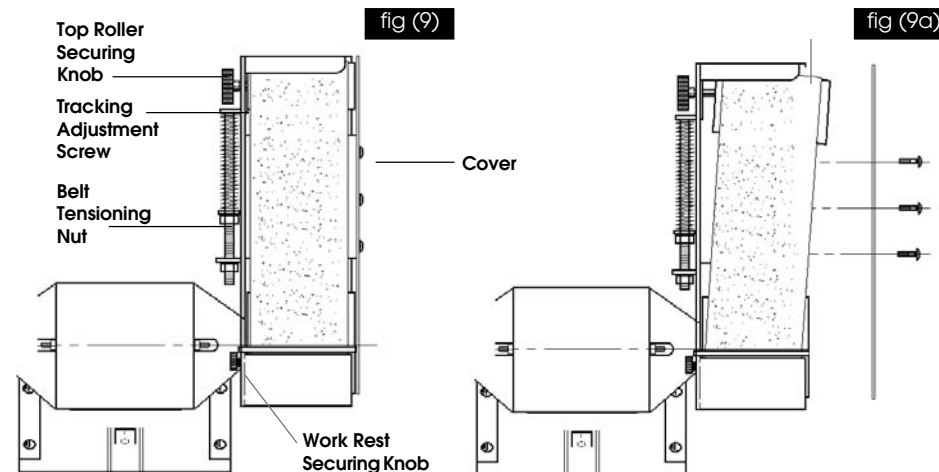
1. The plug must be thrown away if it is cut from the electric cable. There is a danger of electric shock if it is subsequently inserted into a socket outlet.
2. Never use the plug without the fuse cover fitted.
3. Should you wish to replace a detachable fuse carrier, ensure that the correct replacement 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

(f) Changing the Sanding Belt

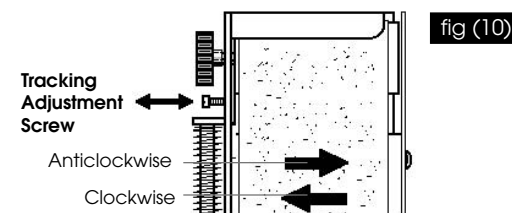


To renew or change the Sanding Belt, proceed as follows:

1. Switch off and unplug from mains power supply. Remove the sander cover by unscrewing the three securing screws.
2. Slacken the sander work rest securing knob, and pull the work rest away from belt.
3. Slacken the belt tensioning nut until the belt feels loose on the rollers.
4. Slacken the top roller securing knob, allowing the top pulley to move slightly off its axis (as shown in (fig (9a))).
5. Slide the belt off and replace with a new one, ensuring it lies centrally on the top and bottom rollers
6. Retighten the top roller securing knob until it becomes firm...but NOT too tight.
7. Tighten the belt tension adjuster nut until it also becomes firm. DO NOT overtighten. The belt should now be fairly taught, and positioned centrally on the rollers.

IMPORTANT ! : The belt needs just enough tension to ensure that it does not slip on the pulleys whilst under load, however too much tension will shorten the working life of the belt and the machine.

8. Replace the sanding belt cover, then adjust and tighten the work rest.
9. Rotate the belt by hand whilst screwing the Tracking Adjustment Screw in or out to ensure the belt runs centrally about the rollers. Turn the screw anticlockwise to move the belt outwards (towards the outer cover), or clockwise to move inwards (as shown in fig(10)).
10. When reasonably satisfied, and taking ALL precautions, plug the machine in to the mains and switch ON. Make fine adjustments with the Tracking Adjustment screw if necessary.



(d) Changing the Grinding Wheel

To renew or change the grinding wheel, follow the steps given below.

1. Switch off and unplug from mains power supply. Remove the grinding wheel covers by unscrewing the nuts securing the three retaining screws, and the sanding belt cover by unscrewing its three retaining screws.
2. Remove the spark arrester bracket and eye shield by unscrewing the single mounting screw. Slacken the tool rest mounting bolts, and pull the bracket away from the wheel.
3. Hold the sanding belt roller firmly to stop the shaft rotating and remove the nut and flange holding the grinding wheel, remembering that the nut has a LEFT HAND THREAD.
4. Remove the used wheel and replace with a new one, ensuring . . .
(a) The paper blotters and flanges are in place either side of the wheel.
(b) You do not overtighten the wheel nut.
5. Readjust the tool rest and spark arrester brackets as described in Maintenance (Page 9).
6. Switch ON the machine and allow it to rotate freely for at least one minute.

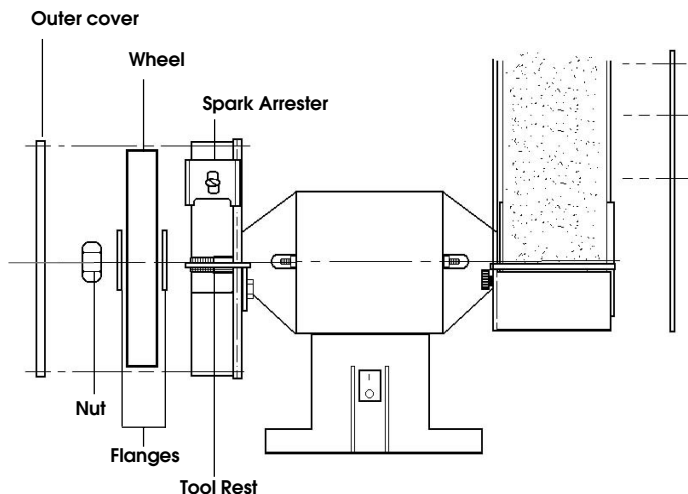
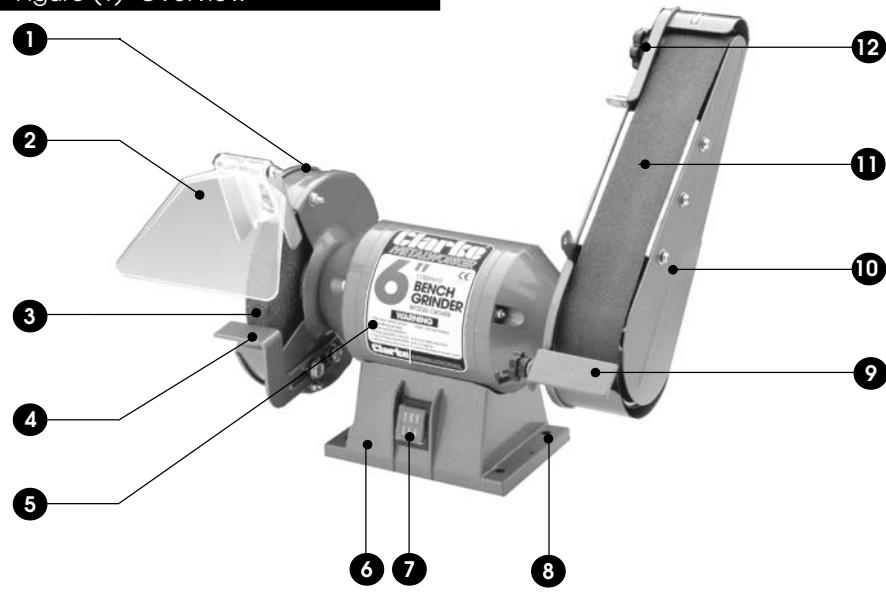


fig (8)

(e) Dressing the Grinding Wheel

It will be necessary from time to time to dress the wheel to obtain a true working surface. This should be done ONLY with an approved Dressing Tool, which can be obtained from your CLARKE dealer, quoting **Model No. GWD -1. Part No. 6501120.**

Figure (1) Overview



- | | | | |
|---|-----------------------------|----|--------------------------|
| 1 | Grinding Wheel Cover | 7 | ON / OFF Switch |
| 2 | Eye Shield / Spark Arrester | 8 | Bench Mounting Holes |
| 3 | Grinding Wheel | 9 | Sander Work Rest |
| 4 | Tool Rest | 10 | Sanding Belt Cover |
| 5 | Motor Housing | 11 | Sanding Belt |
| 6 | Base | 12 | Top Roller Securing Knob |

Before Use

Except for the spark arrester and the eye shield the grinder comes fully assembled. Screw the spark arrester to the bracket on the wheel cover using the single screw provided ensuring a gap of 1.6mm is maintained between the wheel and the spark arrester, as shown in fig(5).

The following checks must be made before using the grinder or sander

1. Ensure there is no damage to the grinder and all parts are present and correctly fitted. If any damage is apparent, contact your Clarke dealer.
2. Ensure that the tool rest, spark arrester, and sander work rest are properly fitted and adjusted.(as detailed in Maintenance, page 9)
3. Ensure that the grinder is mounted securely to a suitable, stable work surface using the four bolt holes provided in their base

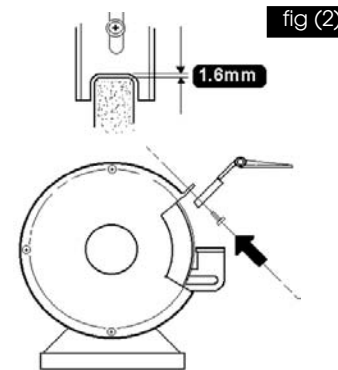


fig (2)

Using the Machine

(a) Using the Grinding Wheel

Note : Although the unit is supplied assembled there is a possibility that the guards may have moved during transit. Check the guards and make any adjustments necessary (see Maintenance) before starting the motor.

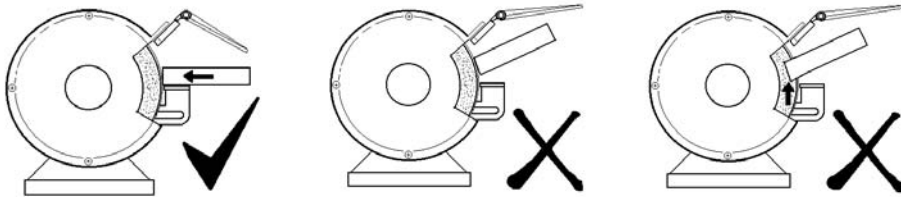
1. Turn the wheel by hand to ensure it is free, then switch ON by pushing the rocker switch so that the " 1 " is depressed. To switch OFF push the switch so that the " 0 " is depressed.
2. Allow the machine to reach full speed, then hold the tool firmly on the tool rest and apply slight pressure on to the grinding wheel, allowing the grinder to do the work.

Note : Never attempt to grind a piece of metal that is thinner than the gap between the tool rest and the wheel (1.6 mm)

⚠ WARNING ! Applying excessive force to the grinding wheel can be dangerous and could cause damage to the machine.

⚠ WARNING ! Do not attempt to use the side of the grinding wheel

fig (3)



(b) Using the Sanding Belt

1. Position the sander work rest as required (see fig. 4) and adjust as stated in Maintenance (page 9)
2. Switch the motor ON by pushing the rocker switch so that the " 1 " is depressed, and allow the machine to reach full speed. To switch the motor OFF push the switch so that the " 0 " is depressed.
3. Hold the workpiece firmly on the work rest and apply slight pressure to the sanding belt, allowing the machine to do the work. If the belt does not run centrally, refer to page 11.

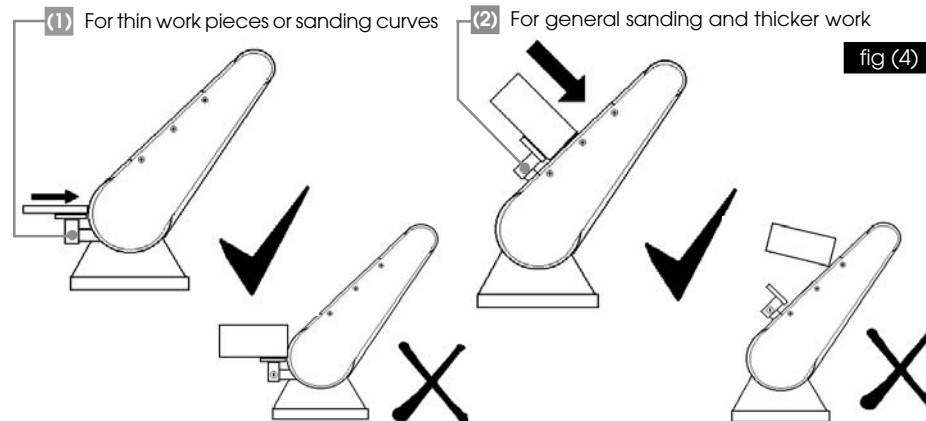


fig (4)

Maintenance

⚠ WARNING ! Ensure the grinder is disconnected from the mains before carrying out any maintenance.

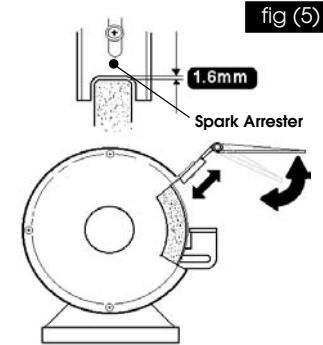
Due to the reduction in diameter of the grinding wheel caused by wear, it is necessary to check and adjust the clearance gap of the spark arrester and tool rest to maintain suitable clearance from the wheel. It is recommended that a gap of 1.6 mm is maintained.

(a) Setting the Spark Arrester / Shield

Slacken the spark arrester securing screw and position the arrester so that the recess is adjacent to the wheel with a clearance of approximately 1.6 mm, (as shown in fig (5)). Tighten the screw to secure in position.

Note: The Plastic Eye Shield, attached to the spark arrester should be tight enough so that it does not move under operational vibration, but loose enough so that it may easily be positioned by hand.

fig (5)

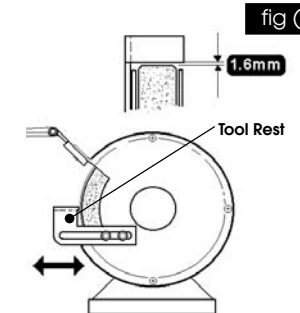


(b) Setting the Tool Rest

Slacken the two tool rest securing bolts and position the rest so that it is adjacent to the wheel with a clearance of approximately 1.6 mm, (as shown in fig (6)). Tighten the two bolts to secure in position.

Note: The clearance between the grinding wheel and tool rest should be maintained. If the clearance gap is greater than the thickness of the metal being ground there is a danger that the force of grinding will cause the work piece to be pulled into the gap with great force and is potentially very dangerous. An incorrect gap could also cause "chatter" which could result in damage to the wheel.

fig (6)



(c) Setting the Sander Tool Rest

Slacken the knob that secures the work rest in place and position the rest so that it is adjacent to the belt edge and at 90° to the belts surface with approximately 1.6 mm clearance (as shown in fig (7)). Tighten the knob to secure in position.

Note: It is recommended that a set square is used to gain the 90° angle. This will ensure an accurate square finish when the workpiece is placed on rest.

fig (7)

