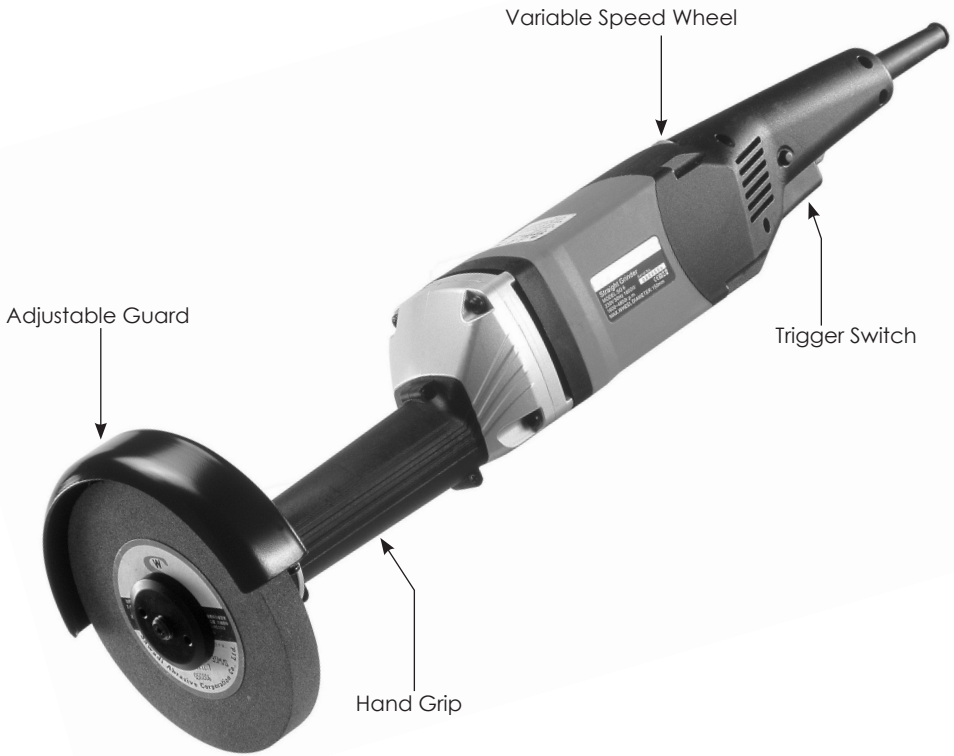


Power input	1600 W
Voltage	See machine nameplate
No Load r.p.m.	1600 ~ 4800
Spindle	12mm
Max. Wheel Diameter	150mm
Net Weight	3.4kgs (7.48Lbs)



## GENERAL SAFETY RULES

**WARNING! Read and understand all instructions.** Failure to follow all instructions listed below, may result in electric shock, fire and / or serious personal injury. The term “power tool” in all of the warnings listed below refers to your mains-operated (corded) power tool.

### SAVE THESE INSTRUCTIONS.

#### ■ Work area safety

**Keep your work area clean and well lit.** Cluttered worksites and dark areas invite accidents.

**Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquid, gases, or dust.** Power tools create sparks which may ignite the dust or fumes.

**Keep bystanders, children, and visitors away while operating a power tool.** Distractions can cause you to lose control.

#### ■ Electrical Safety

**Grounded tools must be plugged into an outlet properly installed and grounded in accordance with all codes and ordinances. Never remove the grounding prong or modify the plug in any way. Do not use any adaptor plugs. Check with a qualified electrician if you are in doubt as to whether the outlet is properly grounded.** If the tools should electrically malfunction or break down, grounding provides a low resistance path to carry electricity away from the user. **Avoid body contact with grounded surfaces such as pipes, radiators, ranges**

**and refrigerators.** There is an increased risk of electric shock if your body is grounded.

**Don't expose power tools to rain or wet conditions.** Water entering a power tool will increase the risk of electric shock.

**Don't abuse the cord. Never use the cord to carry the tools or pull the plug from an outlet. Keep cord away from heat, oil, sharp edges or moving parts. Replace damaged cords immediately.** Damaged cords increase the risk of electric shock.

**When operating a power tool outside, use an outdoor extension cord marked “W-A” or “W.”** These cords are rated for outdoor use and reduce the risk of electric shock.

#### ■ Personal Safety

**Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use tool while tired or under the influence of drugs, alcohol, or medication.** A moment of inattention while operating power tools may result in serious personal injury.

**Use safety equipment. Always wear eye protection.** Safety equipment such as dust mask, non-skid safety shoes, hard hat, or hearing protection used for appropriate conditions will reduce personal injuries.

**Avoid accidental starting. Be sure switch is off before plugging in.** Plugging in tools that have the switch on invites accidents.

**Remove adjusting keys or switches before turning the tool on.** A wrench or a key that is left attached to a rotating part of the tool may result in personal injury.

**Do not overreach. Keep a proper footing and balance at all times.** Proper footing and balance enables better control of the tool in unexpected situations.

**Dress properly. Do not wear loose clothing or jewelry. Keep your hair, clothing and gloves away from moving parts.** Loose clothes, jewelry or long hair can be caught in moving parts.

#### ■ Tool use and care

**Do not force tool. Use the correct tool for your application.** The correct tool will do the job better and safer at the rate for which it is designed.

**Do not use tool if switch does not turn it on or off.** Any tool that cannot be controlled with the switch is dangerous and must be repaired.

**Disconnect the plug from the power source before making any adjustments, changing accessories, or storing the tool.** Such preventive safety measures reduce the risk of starting the tool accidentally.

**Store idle tools out of reach of children and do not allow persons unfamiliar with the power tool or these instructions to operate the power tool.** Tools are dangerous in the hands of untrained users.

**Maintain tools with care.** Properly maintained tools are less likely to bind and are easier to control.

**Check for misalignment or binding of moving parts, breakage of parts, and any other condition that may affect the tools operation. If damaged, have the tool serviced before using.** Many accidents are caused by poorly maintained tools.

**Use the power tool, accessories and blades etc., in accordance with these instructions and in the manner intended for the particular type of power tool, taking into account the working conditions and the work to be performed.** Use of the power

tool for operations different from those intended could result in a hazardous situation.

#### ■ Service

**Have your tool serviced by a qualified repair person using only identical replacement parts.** This will ensure that the safety of the power tool is maintained.

**-WARNING- To reduce the risk of injury, user must read instruction manual.**

#### Symbols used in this manual

V.....volts

A.....amperes

Hz.....hertz

W.....watt

~.....alternating current

N<sub>0</sub>.....no load speed

/min... .revolutions or reciprocation  
per minute

... .class II tool

#### SPECIFIC SAFETY RULES

- 1. Keep hands away from rotating wheelarea at all times!**
- 2. Prolonged breathing of airborne dust from grinding operations may effect respiratory function:**  
Always use a vacuum cleaner with a bag approved for fine dust installed.  
Always wear a respirator approved for dust and mist.
- 3. Grinding LEAD-BASED paint is extremely toxic and should not be attempted.**  
Only allow professionals with special

training and equipment perform this task.

4. **Maintain proper footing and balance at all times.** Do not overreach.
5. **Always wear appropriate safety equipment when operating.**
6. **Important: After completing operation,** switch off the switch and wait for the coasting wheel to stop completely before putting the tool down.
7. **Never operate** the tool in an area with flammable solids, liquids, or gases. Sparks from the commutator/carbon brushes could cause a fire or explosion.
8. **There are certain applications for which this tool was designed.** The manufacturer strongly recommends that this tool NOT be modified and/or used for any application other than for which it was designed. If you have any questions relative to its application DO NOT use the tool until you have written the manufacturer and have been advised.
9. **Use the machine with both hands at all times.** Loss of control can cause personal injury.
10. **Keep power supply cord clear from the working range of the machine.** Always lead the cable away behind you.
11. **Immediately switch off the machine if unusual vibrations or if other malfunctions occur.** Check the machine in order to find out the cause.
12. **The dust that arises when working with this tool can be harmful to health.** Use a dust absorption system and wear a suitable dust protection mask and remove deposited dust with a vacuum cleaner.

## ■ FUNCTIONAL DESCRIPTION

This Straight Grinder is designed for grinding with an abrasive wheel and may also be used for buffing and polishing when fitted with the appropriate accessories.

### ■ Electrical connection

The network voltage must conform to the voltage indicated on the tool name plate. Under no circumstances should the tool be used when the power supply cable is damaged.

A damaged cable must be replaced immediately by an authorized Customer Service Center. Do not try to repair the damaged cable yourself. The use of damaged power cables can lead to an electric shock.

### ■ Extension cable

If an extension cable is required, it must have a sufficient cross-section so as to prevent an excessive drop in voltage or overheating. An excessive drop in voltage reduces the output and can lead to failure of the motor. The following table shows you the correct cable diameter as a function of the cable length for this machine. Use only approved extension cables. Never use two extension cables together. Instead, use one long one.

Total Extension Cord Length (feet)	Cord Size (AWG)
25	16
50	12
100	10
150	8
200	6

## ■ UNPACKING

Carefully remove the tool and all loose items from the shipping container.

Retain all packing materials until after you have inspected and satisfactorily operated the machine.

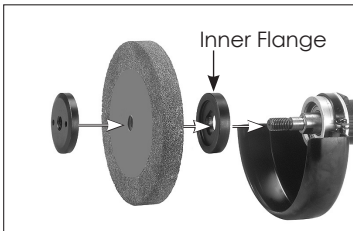
## ■ CARTON CONTENTS

1. Straight Grinder machine
2. Instruction manual
3. Face spanner wrench

**DO NOT OPERATE THIS TOOL UNTIL YOU READ AND UNDERSTAND THE ENTIRE INSTRUCTION MANUAL**

### ■ To install a wheel:

1. Unplug the machine.
2. Place the Inner Flange, the wheel and then the Flange Nut on the arbor.
3. Using Face Spanner Wrench, tighten the Flange Nut.
4. Removal is the opposite of assembly.

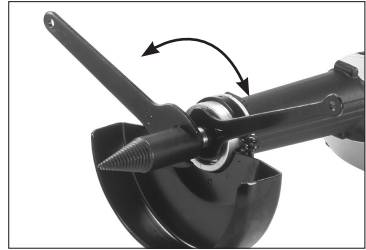


### To install the Mandrel Arbor

1. Unplug the machine.
2. Thread the Mandrel Arbor onto the spindle.
3. Using the two open end wrenches,

tighten the Mandrel.

4. Install the desired accessory onto the Mandrel.



## ■ STARTING AND STOPPING TOOL

Make sure that the power circuit voltage is the same as that shown on the specification plate of the machine and that switch is "OFF" before connecting the tool to the power circuit.

### ■ Switching the machine on and off

#### To switch on:

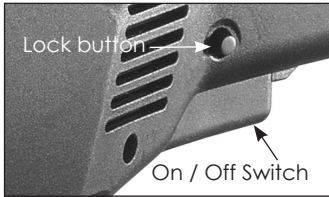
While holding with the left hand on the front grip and the right hand on the main handle, squeeze the trigger switch to the "on" position. Anticipate and be ready for the start up torque when the machine first starts.

This is a lock-on type switch, so for continued operation, the locking pin may be pressed. To shut off, first re-squeeze and then release the trigger switch to release the lock.

#### To switch off:

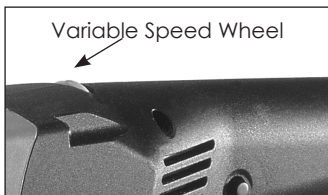
Release the trigger switch. If the switch has been locked on, first re-squeeze and then release the trigger switch to release the lock. After the machine has been switched

off, the grinding wheel will still rotate for a time. Take care that parts of your body do not come into contact with the wheel and do not set the machine down while it is still rotating!



### ■ Adjusting the rotation speed:

The speed of the machine is variable to suit different tasks. It can be adjusted from 1600/min up to 4800/min by using the thumb wheel. Turn in the rightward direction to increase the speed and in the leftward direction to decrease the speed.



### ■ HOW TO USE THE TOOL

Effective control of this machine requires **two-handed** operation for maximum safety and control.

The proper hold is to keep one hand on the main handle and the other hand on the grip. It is vitally important to keep stable footing at all times,

### ■ GRINDING OPERATIONS

Once the machine is set up and all safety measures and equipment are in place, begin by turning on the machine.

Begin grinding. It is not necessary to use excessive down force. Allow the machine to work at the pace it was intended.

**WARNING: Whenever grinding small workpieces always take measures to clamp the workpieces down. Otherwise they will be flung with great force by the grinding wheel, causing a hazard.**

### ■ MAINTENANCE

#### ■ KEEP TOOL CLEAN

Periodically blow out all air passages with dry compressed air. All plastic parts should be cleaned with a soft damp cloth. NEVER use solvents to clean plastic parts. They could possibly dissolve or otherwise damage the material.

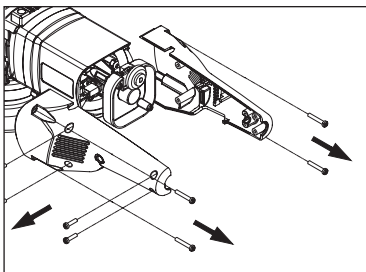
Wear safety glasses while using compressed air.

#### ■ THE CARBON BRUSHES

The carbon brushes are a normal wearing part and must be replaced when they reach their wear limit.

**NOTE: Checking and replacing the carbon brushes should be entrusted to a qualified service center.**

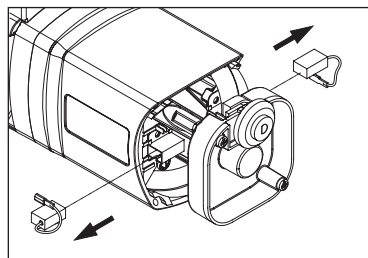
The carbon brushes furnished will last approximately 50 hours of running time or 10,000 on/off cycles. Replace both carbon brushes when either has less than 1/4" length of carbon remaining. To inspect or replace brushes, first unplug the machine and lay it on its side. To inspect or replace brushes, first unplug the machine. Carefully remove the 4 screws to separate the rear handle halves and then remove the 4 screws which connect the handle to the motor housing. Lift away the left-hand handle half first. There will still be wires connected to the rear handle, so take care that these are not stressed. Simply hold the rear handle off to one side. Next remove the two screws holding on the Electronics Unit to allow access to the Brush screws. Hold the Electronics Unit off to one side and avoid stressing the wires. Rotate the spiral spring to relieve the tension on the brush and slide it out of the holder. Unscrew the two screws which hold the brush leads and remove the Carbon Brushes.



**NOTE: When putting the Carbon Brushes back into the Carbon Brush Holders it is essential that both flanges go back inside the holder.**

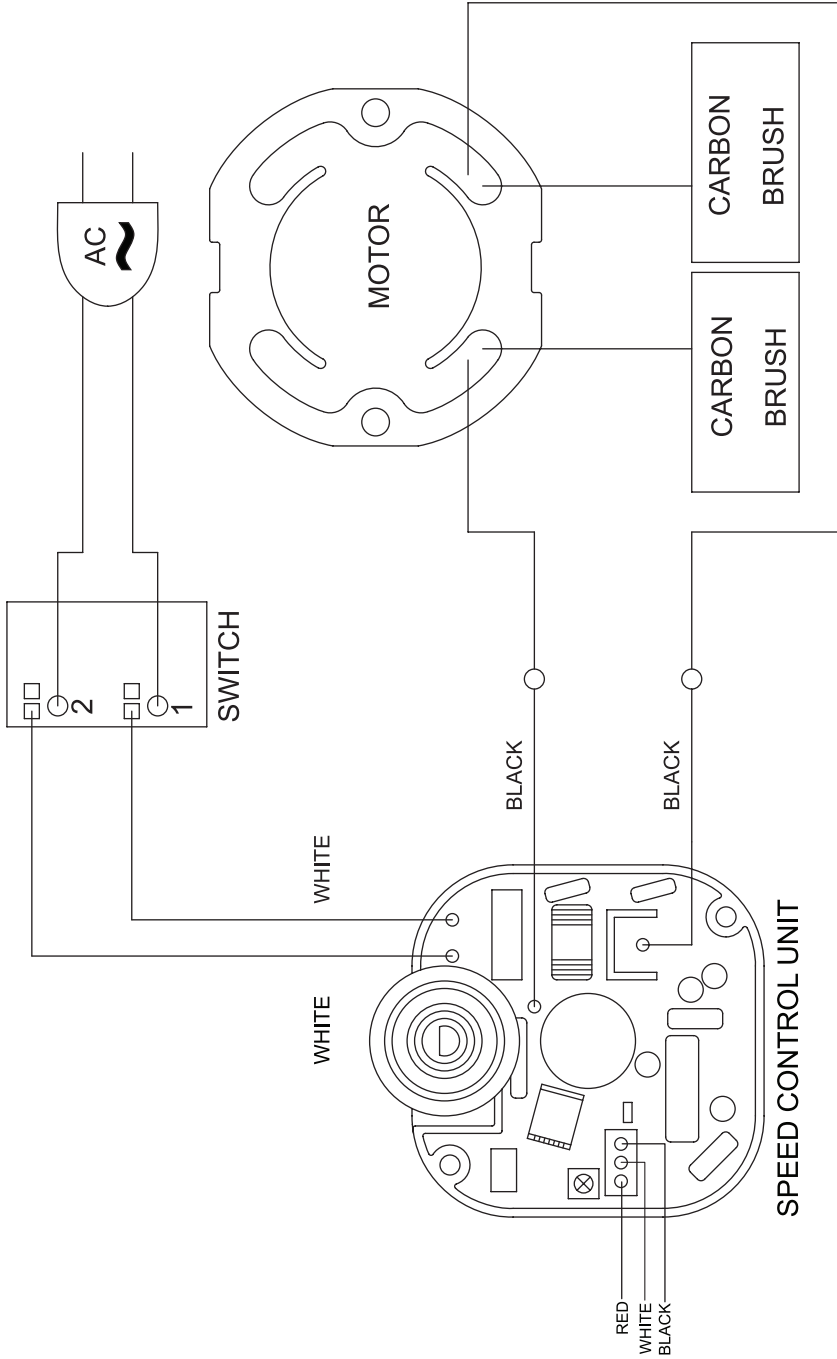
**NOTE: To reinstall the same brushes, first make sure the brushes go back in the way they came out. Otherwise a break-in period will occur that will reduce motor performance and increase brush wear.**

Replacing is the reverse of removal. When Replacing all covers, take great care that all wires are in place and not in a position to be pinched when they are retightened. It is recommended that, at least once a year, you take the tool to an Authorized Service Center for a thorough cleaning and lubrication.



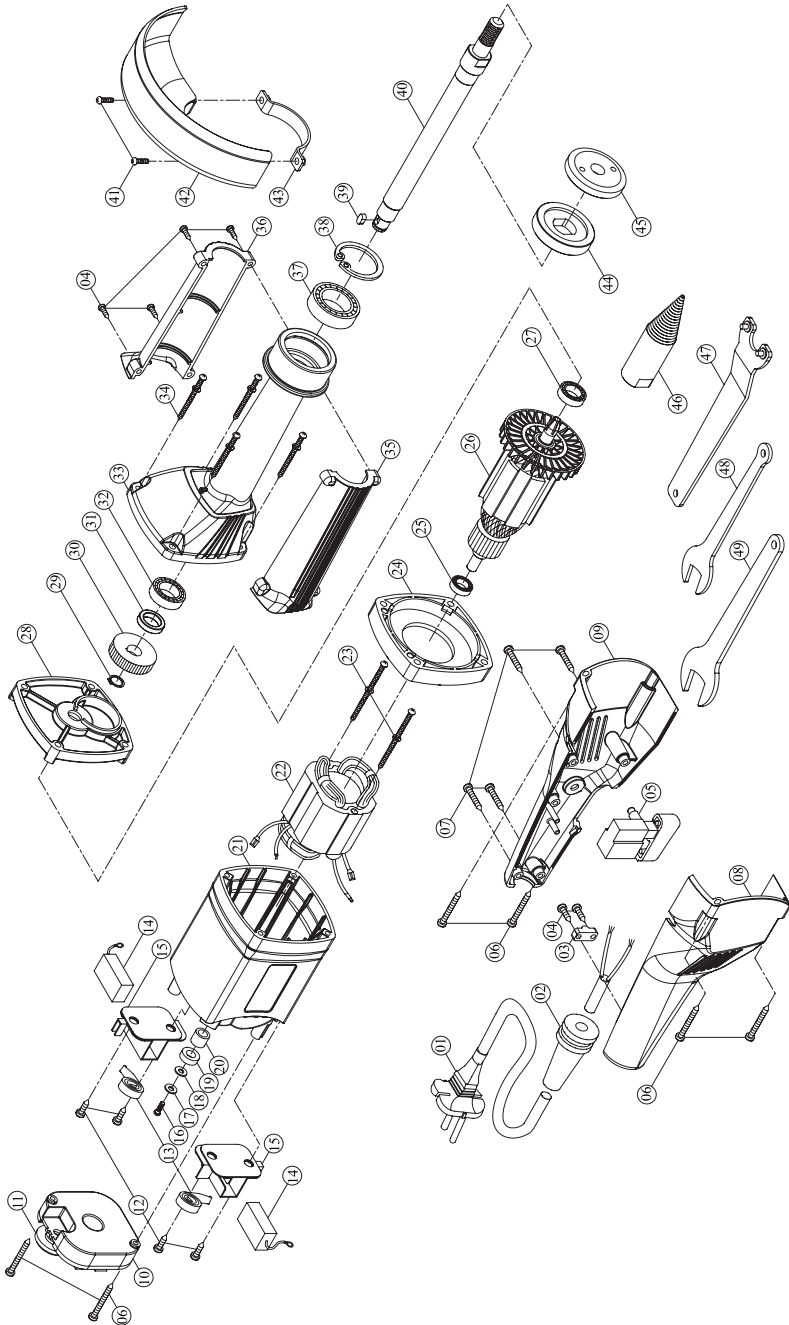
■ If the replacement of the power supply cord is necessary, this has to be done by the manufacturer or their agent in order to avoid a safety hazard.

# WIRING





# EXPLODED VIEW



## PARTS LIST

No.	Parts Name	Q'TY
1.	POWER SUPPLY CABLE	1
2.	CORD ARMOR	1
3.	CABLE CLIP	1
4.	SCREW	M4 x 14 6
5.	SWITCH	1
6.	SCREW	M4 x 30 6
7.	SCREW	M4 x 16 4
8.	RIGHT HANDLE COVER	1
9.	LEFT HANDLE COVER	1
10.	ELECTRONICS UNIT	1
11.	THUMB WHEEL	1
12.	SCREW	M4 x 10 4
13.	BRUSH SPRING	2
14.	CARBON BRUSH	7 x 11 2
15.	CARBON BRUSH HOLDER	7 x 11 2
16.	SCREW	M4 x 10 1
17.	FLAT WASHER	M4 1
18.	PLASTIC WASHER	ø4 x ø11 x 1 1
19.	PICKUP MAGNET	ø8 x ø15 x 5 1
20.	SPACER	ø8 x ø12 x 10.5 1
21.	MOTOR HOUSING	1
22.	STATOR	1
23.	SCREW	M5 x 60 2
24.	FAN SHROUD	1
25.	BALL BEARING	608 zz 1
26.	ARMATURE	M1.0 6T 1
27.	BALL BEARING	6000-2RS 1
28.	GEAR PLATE	1
29.	INTERNAL CIRCLIP	S-12 1
30.	SPINDLE GEAR	M1.0 33T 1
31.	SPACER	ø15.1 x ø22 x 5 1
32.	BALL BEARING	6002 zz 1
33.	GEAR CASE	1
34.	SCREW	M5 x 50 4
35.	FRONT GRIP-R	1
36.	FRONT GRIP-L	1
37.	BALL BEARING	6203 2RS 1
38.	INTERNAL CIRCLIP	R-40 1
39.	PARALLEL KEY	4 x 4 x 8 1
40.	SPINDLE	1
41.	SCREW	M5 x 12 2
42.	GUARD	1
43.	GUARD BRACKET	1
44.	INNER FLANGE	1
45.	FLANGE NUT	31.9 1
46.	MANDREL ARBOR	1
47.	FACE SPANNER WRENCH	1
48.	WRENCH	M17 1
49.	WRENCH	M22 1