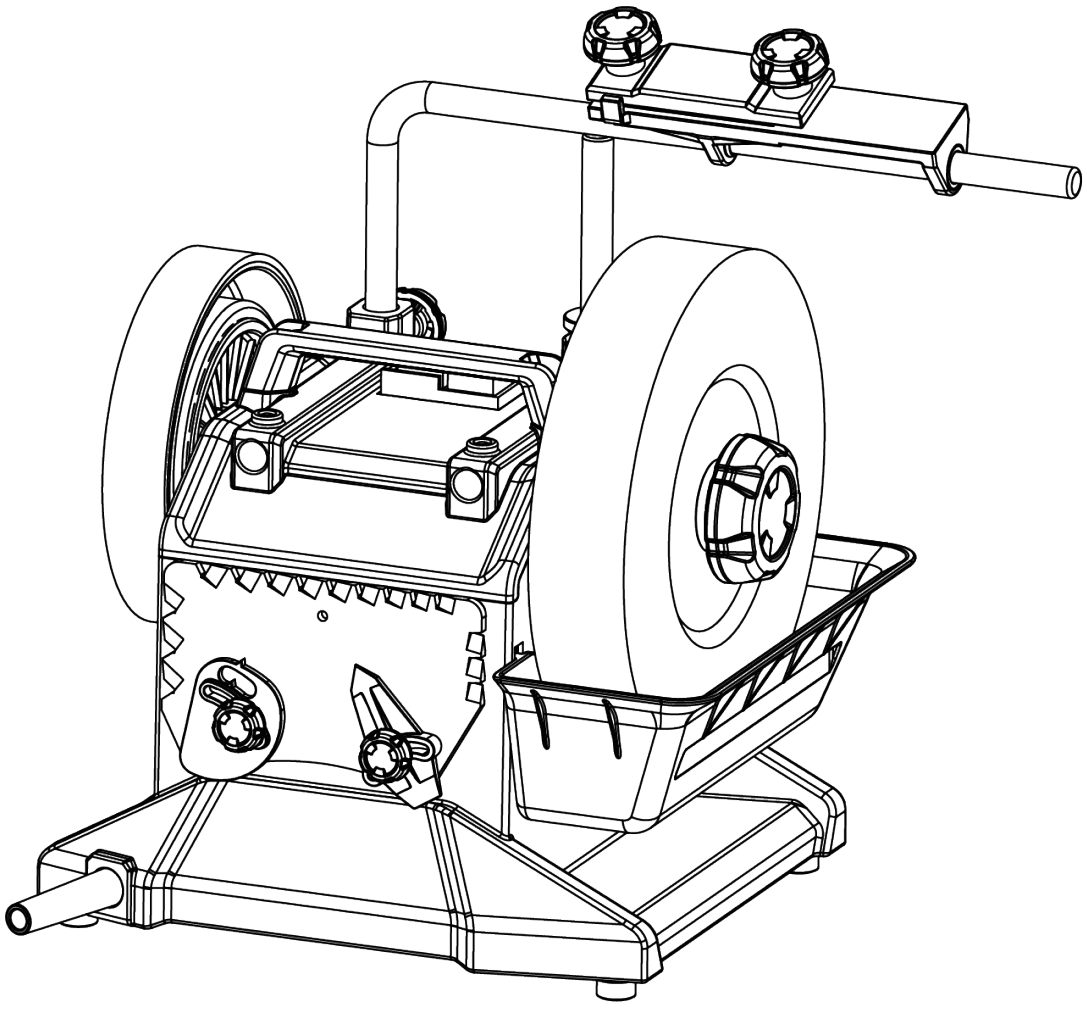
WET GRINDER/SHARPENER



TSWGS

www.thetoolshed.co.nz

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Thank You

For the purchase of this ToolShed product. We try our hardest to supply customers like you with the best quality products available, at the best price possible. We cant wait to continue working together in the future.

Please contact us for any servicing, replacement parts, or questions you might have about your ToolShed product by visiting our website, or calling: 0800 948 665.

PRODUCT DETAILS

Product Model	*ToolShed Wet Grinder/Sharpener*
Product Code	*TSWGS*

DISTRIBUTED BY:

Note:
This manual is for your reference only. Due to the continuous improvement of the ToolShed products, changes may be made at any time without obligation or notice.

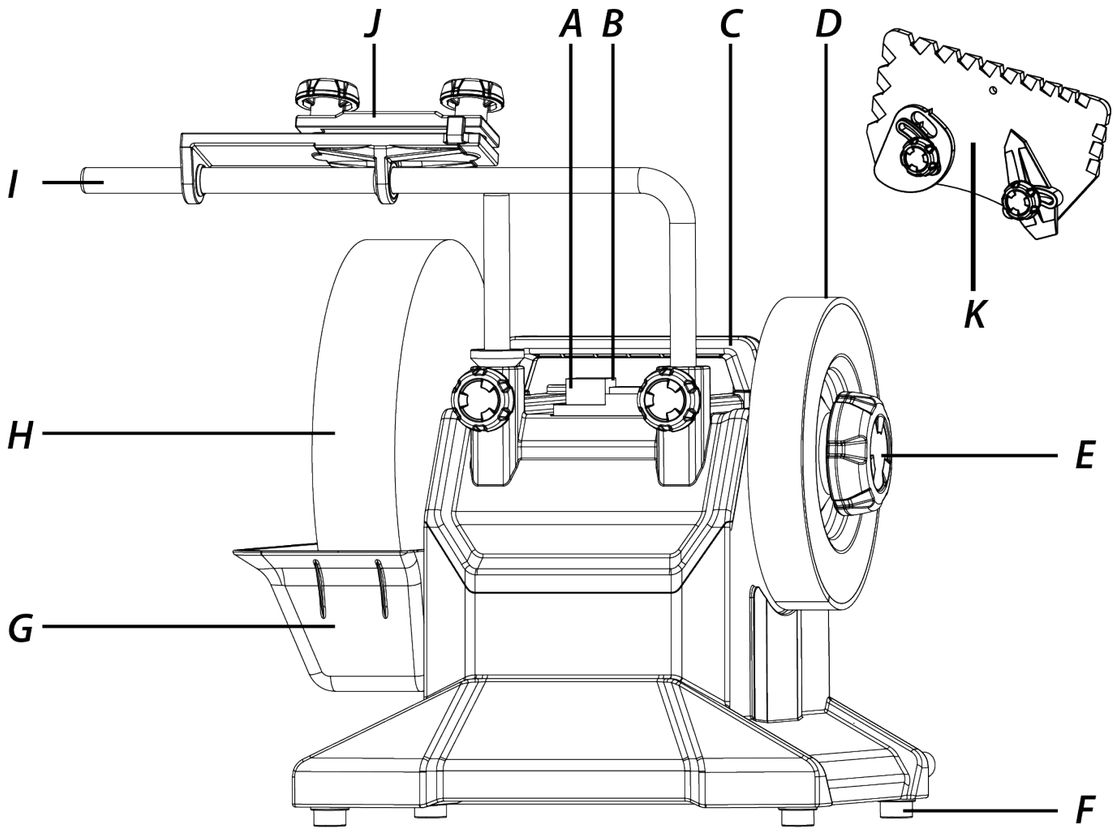
Warranty:

This product may be covered under The ToolShed warranty. For more information, see our Terms & Conditions at www.thetoolshed.co.nz

SPECIFICATIONS

Motor Power	230 Volts | 120 Watts
Motor Speed (No Load)	1450 RPM
Wheel Speed (No Load)	115 RPM
Motor Arbor	12 mm
Wet Wheel Size	200mm Ø x 39.6mm Wide
Wet Wheel	Vitrified Aluminium Oxide, 220 Grit
Strop Wheel Size	146mm Ø x 26mm Wide
Net Weight	8.7 kg

PRODUCT IDENTIFICATION



A ON/OFF Switch
B Horizontal Mounts with Knobs
C Carrying Handle
D Leather Stropping Wheel
E Wheel Lock Knob
F Rubber Foot
G Water Reservoir
H 220mm Wet Grinding Wheel, 220 Grit
I Universal 'F' Support Tool Rest
J Tool Holder Jig
K Angle Guide

SAFETY GUIDELINES

WARNING

READ ALL SAFETY WARNINGS & INSTRUCTIONS. Failure to follow instructions and warnings could lead to serious injury, electric shock, or fire.

Work Area Safety

- **Ensure that your work area is kept clean and well lit.** Lack of visibility and clutter greatly increase the risk of accident when using tools.
- **Keep bystanders, pets, and children clear when operating this power tool or machine.** They can cause distraction or risk injury to themselves.
- **Ensure you are not operating the power tool or machinery in the presence of dust, liquids, flammable gases, or anything that can create an explosive atmosphere.** Power tools and machinery can create sparks which can lead to ignition and fire hazards in working environments.

Personal Safety

- **Always wear personal protective equipment (PPE).** Eye protection, ear protection, dust masks, and other protective equipment will help to reduce the risk of personal injury or long-term illnesses.
- **Dress appropriately. DO NOT wear loose clothing that can get caught in moving parts.** Keep hair, loose clothing, jewellery, and anything else that could be of risk, away from moving parts in the machine, or they could become caught therein.
- **Always remain alert and DO NOT operate power tools or machinery under the influence of any substances such as alcohol or drugs, including prescription medications.** Lack of focus could lead to injury or accidents while operating these power tools and machinery.
- **Always ensure proper footing and balance.** Overreaching can lead to slipping and falling which can result in injury or accident.
- **Ensure the power switch is in the OFF position before connecting any battery, or power source to the power tool or machinery.** This can cause injury as tools and machinery can suddenly fire incidentally when live, causing accidents.
- **Use all provided dust collection and extraction attachments, if included.** This equipment, along with the use of PPE dust masks, can help keep you safe from dust, and keep your work site clear from hazards.
- **Ensure loose parts such as wrenches or adjusting keys are removed before starting the power tool or machinery.**

SAFETY GUIDELINES

Electrical Safety

- **DO NOT use the power tool or machinery in rainy conditions or wet areas where the power tool or machinery could get wet.** Water in this power tool or machinery can lead to electric shock.
- **Only use the power tool or machinery when the plug correctly matches the power outlet.** Modifying plugs greatly increases the risk of electric shock.
- **Keep the power cord away from anything that could damage it such as sharp edges, moving parts or heat.** A damaged power cord increases the risk of electric shock.
- **Only operate outdoors with the use of an outdoor extension lead.** Not all extension leads are suited to outdoor use and using one which is not can greatly increase the risk of electric shock.
- **Avoid body contact with grounded or earthed surfaces.** Surfaces such as radiators, ranges, pipes, and refrigerators can increase the risk of electric shock due to your body being earthed or grounded.
- **Never carry the power tool by the cord, or yank the cable from the power outlet.** This can damage the internal wiring and may become a hazard.

WARNING

Electric shock can cause serious injury or, in some cases be fatal.

Power Tool & Machinery Use & Care

- **Use the correct tool for the job.** Forcing a tool to do a job it was not designed for increases the risk of accident or injury.
- **Disconnect tools and machinery from power, or remove batteries before doing any maintenance or adjustments, or before storing the tools and machinery.** This reduces or removes the risk of a power connection that causes the tool or machinery to accidentally fire, which can help prevent injury or accident.
- **Check the general condition of the power tool for damage or any problems that could affect the way the tool or machine works.** An unrepaired tool or machine can lead to accident and injury. Only have your tool or machine repaired with genuine parts from The ToolShed.
- **Only use the power tool and machinery with genuine parts or accessories that are designed to be used with this power tool and machinery.** Failure to do so could result in accident or injury, or damage your tool or machinery.
- **Store your tool or machinery out of reach of children, and away from untrained personnel when not in use.** Use by somebody untrained, or a child, could lead to accident or serious injury.

SAFETY GUIDELINES

Service

- **Have your tools and machinery serviced at The ToolShed with ToolShed replacement parts.** This will ensure that the safety of the power tool or machine is maintained.

WARNING

The warnings and precautions discussed in this manual cannot cover all possible conditions and situations that may occur. It must be understood by the operator that common sense and caution are factors which cannot be built into this product, but must be supplied by the operator.

Always Use Common Sense

- It is not possible to cover every conceivable situation you can face. Always exercise care and use your common sense. If you get into a situation where you feel unsafe, stop and seek expert advise. Contact your dealer, service agent, or an experienced user. Do not attempt any task you feel unsure of!
- **Do not let familiarity gained from the frequent use of tools allow you to become complacent and ignore tool safety principles.** A careless action can cause severe injury within a fraction of a second.

Wet Grinder Specific Safety

- The operation of any sharpener can result in debris being thrown into your eyes, which can result in severe and permanent eye damage. ALWAYS WEAR EYE PROTECTION.
- DO NOT operate this machine until it is completely assembled and installed according to instructions. A machine incorrectly assembled can cause serious injury.
- Secure the bench grinder to a stand or workbench to prevent sliding or tipping during start up or use.
- Inspect wheels for cracks or fragments before starting the machine. Replace damaged wheels immediately.
- Replace a cracked or damaged grinding wheel immediately. A damaged wheel can discharge debris at a high velocity towards the operator. Carefully handle the grinding wheels since they are abrasive.
- DO NOT remove the label or blotter on both sides of the grinding wheel.
- Tighten the spindle nut just enough to hold the grinding wheel firmly to the grinder. DO NOT over-tighten the nut. Excessive clamping force can damage the grinding wheel. Only use the wheel flanges provided with the grinder.
- Use only properly sized wheels (diameter, width, and bore) and verify that the grinding wheel has a higher RPM rating than the maximum RPM of the machine.
- DO NOT use a wheel that vibrates. Dress the grinding wheel, replace it, or replace the bearings of the shaft. Unsuitable grinding wheels can come apart, throwing fragments that may cause injury to you or the machine.

OPERATION MANUAL

SAFETY GUIDELINES

- The diameter of the grinding wheels will decrease with use. Adjust the tool rests and any jigs to maintain a safe distance of 1/8" or less from the wheel.
- DO NOT stand in front of the bench grinder when starting it. Stand on one side of the grinder and turn it "ON". Wait at the side until the grinder comes up to full speed. There is always a possibility that debris from a damaged grinding wheel may be discharged towards the operator.
- Allow the grinding wheel to attain full speed before beginning work.
- Never start the machine with the workpiece against the grinding wheel. The workpiece can be drawn into the wheel, causing damage to the machine and/or serious injury.
- Never grind on a cold wheel. Run the sharpener for one full minute before applying the workpiece. A cold wheel has a tendency to chip. Those fragments could fly from the wheel at high speed.
- Grind a workpiece using the face of the grinding wheel only. DO NOT grind using the sides of the grinding wheels. Damage to the wheel and a loss of control of the workpiece can cause serious injury.
- Never grind near flammable gas or liquids. Sparks can create a fire or an explosion.
- Keep the tools rests firmly in place and tightened. Use them along with any tool-holding jigs to safely hold and position your material for grinding.
- Clean the machine thoroughly when processing different types or workpieces (steel, aluminium, etc.). Combining metal and wood dust can create an explosion or fire hazard. DO NOT grind or polish magnesium. Fire will result.
- Always use a tool rest or tool-holding jigs, and grasp the workpiece firmly with both hands when grinding. Loss of control of the workpiece can cause serious injury. Avoid awkward operations and hand positions. A sudden slip could cause a hand to move into the grinding wheel.
- Properly support long or wide workpieces. Loss of control of the workpiece can cause serious injury.
- Never grind small stock without it being properly supported on the tool rests, and held by pliers or clamps.
- DO NOT touch the ground portion of a workpiece until it has cooled sufficiently. Grinding creates heat and may burn you if touched.
- DO NOT force the tool to perform an operation for which it was not designed. It will do a safer and higher quality job by only performing operations for which the tool was intended.
- Never stop the grinder by forcing material into the wheel. Let it stop on its own.
- Dress the grinding wheel often. This will keep the wheel surface flat and free of nicks, residue, and glaze. Resurface only the face of the grinding wheel. Dressing the side of the wheel could cause it to become too thin for safe use.
- Turn the machine off and disconnect the power source. Empty the water from the tray so that the stone will not rest in the water for long periods which can weaken the bonding strength of the grinding wheel and cause it to fail.

ASSEMBLY

WARNING

Always be sure that the tool is switched off and unplugged before attempting to perform any assembly or maintenance.

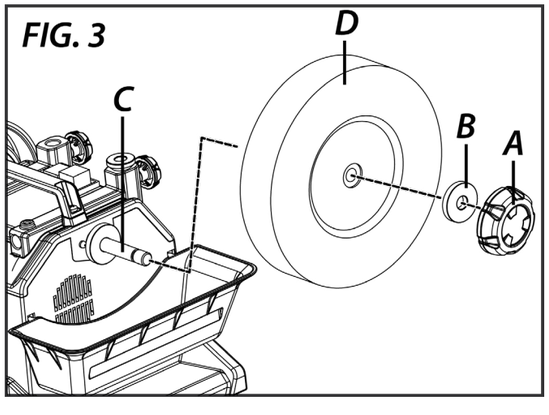
Placement & Preparation

- See Fig.3 for the minimum working clearance in the set-up shown. Remember that the sharpener has no specific front or back side and must be repositioned depending on the desired grinding/sharpening/honing action.

Mount the Grinding Wheel

- The sharpener is shipped with the wet stone off the machine. Make sure that the machine is not plugged in before assembling the stone onto the sharpener.
- Remove the wheel lock knob (A) and out flange (B) from the main shaft (C). Slide the wet grinding wheel (D) onto the shaft (C), and then reinstall the flange and nut to secure the stone in place.

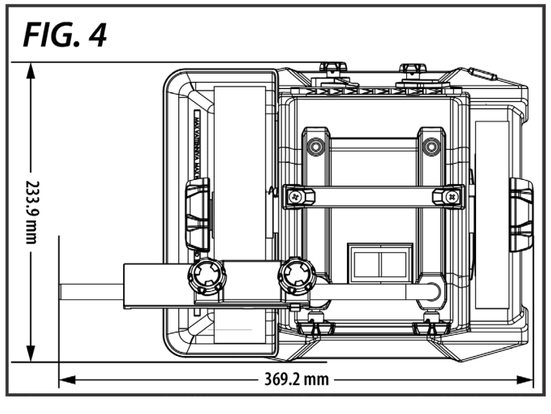
FIG. 3



Positioning the Universal Support

- The wet sharpener is equipped with a universal support that serves as a tool rest and as an attachment point for the sharpener jig. It can be attached in two positions - at the front of the machine in the vertical holders, or at the rear in the horizontal holders. These positions allow for grinding with or against the rotation direction of the grinding wheel.
- The tightening knobs on each attachment point allow the universal support to be adjusted and locked in position, depending on the specific task required.
- Working against the rotation removes large amounts of materials quickly, but does not yield precise results. Use this method for coarse tools such as axes.
- Working with the rotation yields much more precise results and removes less material. Use this method for finer tools, such as knives or carving tools.

FIG. 4



OPERATION

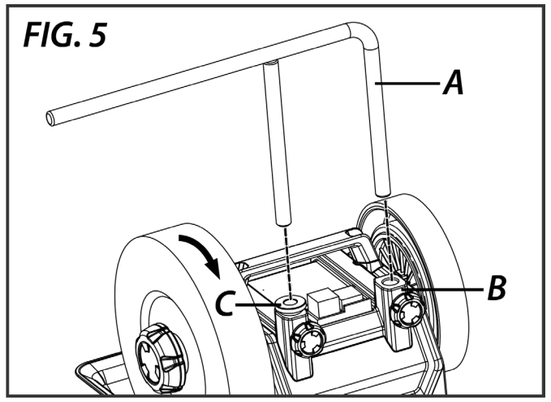
Grinding Tips

- Always be sure the grinding wheel is fully wet before grinding. Have the reservoir filled with lukewarm water and attached onto the machine under the stone.
- Wear the proper protective clothing. Safety glasses/face shield and a dust mask should be worn at all times.
- Grasp the workpiece firmly and properly support it on the universal support or grinding jig during operation. Maintain even pressure and control of the workpiece when grinding.
- Grind the workpiece using the face of the wheel only. DO NOT grind using the sides of the grinding wheels. Damage to the wheel and a loss of control of the workpiece can cause serious injury.
- Concentrate on the task at hand. STOP grinding if other people are distracting you or your mind is on something else.

Grinding Against Wheel Rotation

- Position the machine with the wet stone located on your left side.
- Attach the universal support (A) in the vertical mounts (B), as shown in Fig.5. Be sure it is securely positioned and will not move during the grinding process. And fine adjust the universal support using the adjustment ring (C).
- Rest your workpiece on the universal support with the sharpened edge pointing away from you. Grind your workpiece on the face of the wet wheel. Use the whole width of the stone so that the face remains flat and does not get worn in only one spot.

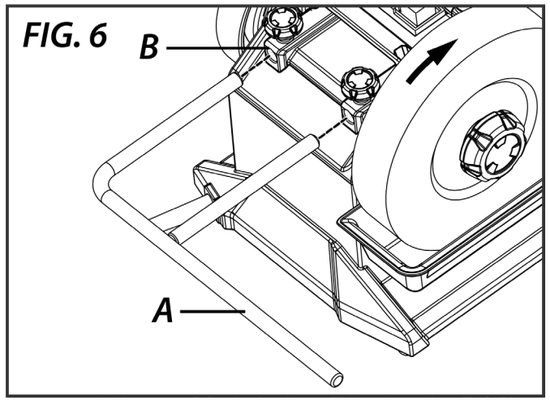
FIG. 5



Grinding With Wheel Rotation

- Position the machine with the wet stone located on your right side.
- Attach the universal support (A) in the horizontal mounts (B) as shown in the following Figure 6. Be sure it is securely positioned and will not move during use.
- Rest your workpiece on the universal support with the sharpened edge pointing away from you. Grind your workpiece in the indicated grinding area.
- The tightening knobs on each attachment point allow the universal support to be adjusted and locked in position, depending on the specific task required.
- Working against the rotation removes large amounts of materials quickly, but does not yield precise results. Use this method for coarse tools such as axes.

OPERATION

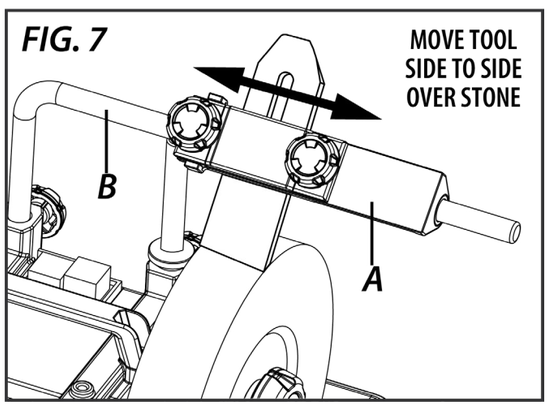


Grinding Jig

The grinding jig provided with the wet sharpener is used for securing a variety of tools, and can be positioned to grind with and against the wheel rotation.

- To mount the grinding jig:

1. Slide the grinding jig (A) onto the universal support (B), as illustrated in Figure 7.
2. Insert the tool into the jig clamp, then use the angle guide, as described on page 13, to set the grinding angle.
3. Once the grinding angle is set, tighten both lock knobs to secure the tool in place.



Water Reservoir

The wet sharpener is designed for wet grinding and should never be used without water. Before filling the water reservoir (A), identify the reservoir mounting slots (B) on the machine side, as shown in Figure 8. These slots allow the reservoir to be mounted during grinding. The mounting tabs on the reservoir serve as hooks to attach to the mounting slots.

- To fill and position the reservoir:

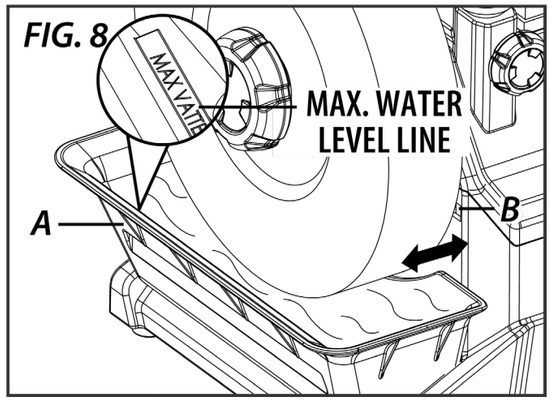
1. Remove the reservoir and fill it with water to just below the MAX. WATER LEVEL LINE.
2. Attach the reservoir to the sharpener.
3. If the sharpener is not going to be used immediately, remove the reservoir from the machine. This reduces the likelihood of damage to the wheel and potential hazards from the stone being stored in water.

- Tips for using the sharpener water reservoir:

1. Check the water level before every use and be sure the wheel is wet before you begin grinding. DO NOT use the sharpener without water.
2. Leaving the grinding wheel stored in water will cause damage to the wheel and create potential hazards because the wheel will become unbalanced. Never leave the wheel in water or store it when wet if shop temperatures drop to where water freezes.
3. Once any grinding process is complete, Remove the reservoir to prevent prolonged water exposure to the wheel.
4. Empty, rinse, and refill the reservoir regularly. This prevents metal and stone debris from accumulating in the reservoir.

OPERATION

5. Place a magnet in the reservoir to catch and collect metal filings. This will help prevent excessive metal accumulation on the grinding wheel.



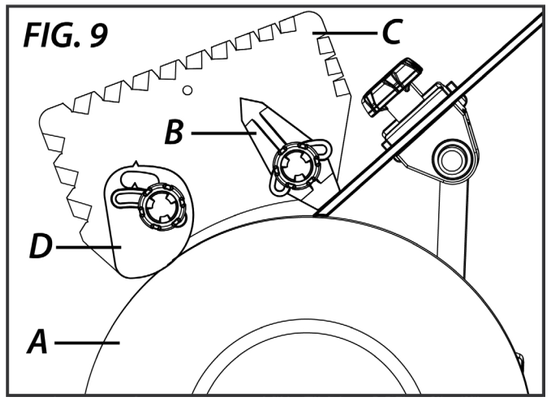
Angle Guide

The sharpener comes with an angle guide to help identify and maintain the cutting angle on a variety of tools.

- To use the angle guide:

1. The wet sharpener must not be running for the following steps!
2. Locate the fifteen measuring notches on the angle finder.
3. Find the angle notch that best fits the tool your wish to grind by placing the sharpened edge of the workpiece into each notch.
4. Adjust the positioning of the tool and the universal support height as necessary so that the sharpened edge of the tool is flat against both the grinding wheel (A) and the pointer A (B) edge on the angle guide (C) and other pointer B (D) is tangent to the grinding wheel (A). Figure 9.

- Once the tool rest is properly positioned, and the angle guide is removed from the wheel & tool, the wet sharpener can be started so that the grinding can begin.



Wheel Dressing

Depending on the type of grinding you do, the grinding wet wheel may require periodic dressing. A variety of dressing tools are available separately and can be used to restore the abrasive quality of the wheel. Dressing will remove buildup up of material on the grinding wheel, remove imperfections and make the corners of the grinding wheel square.

- Typical wheel dressing steps:

1. Adjust tool rest until it is in the flat, horizontal position and about 1/16" away from the grinding wheel.
2. Switch "ON" the machine and after the wheel has gotten to a steady speed, place the wheel dresser head flat on the tool rest.
3. Firmly hold onto the dresser so that it will not slip at any time during the dressing process.
4. Move the wheel dresser forward until it makes light contact with the wet wheel. After contact has been made, slide the wheel

OPERATION

dresser side to side across the tool rest to dress the grinding wheel until the edges of the grinding wheel are square and the surface is clean.

5. After the dressing the grinding wheel, switch "OFF" the machine and let the grinding wheel come to a complete stop. Inspect the grinding wheel for any irregularities that still need to be dressed, or for any damage. If there is damage to the wheel (cracks, major chips missing), replace the wheel immediately.
6. The grinding wheel may now be slightly smaller in diameter after dressing. Re-adjust the tool rest to maintain a 1/16" clearance to the grinding wheel, and re-dress the stone if necessary.

NOTE: When grinding, metal objects become heated quickly. It is important to keep moving the object back and forth across the face of the grinding wheel and to cool the object frequently using the coolant tray.

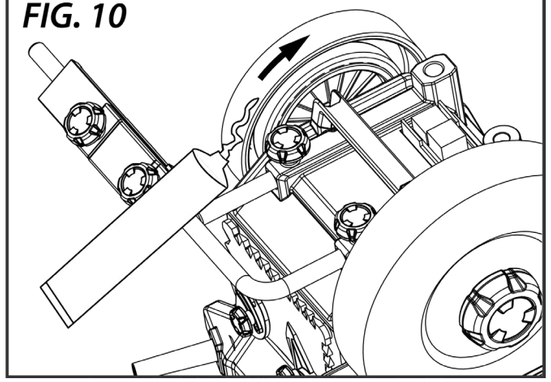
Sharpening

- The leather stropping wheel on the sharpener, used with the abrasive stropping paste (optional extra) can be used to obtain a razor sharp edge on many tools. Before use, the stropping wheel must be properly prepared. Figure 10.
- To prepare the stropping wheel:

1. Evenly apply a light machine oil to the leather wheel. Use enough oil to provide a thorough coating, but not so much as to saturate the leather and result in dripping.
2. Apply a thin coat of abrasive honing paste (not included) to the leather wheel using a wooden spreader or similar device. Distribute the paste evenly over the whole surface of the wheel.
3. Connect the machine to power, then turn the machine on and continue to distribute the paste, still using the wooden spreader. Move the spreader lightly in a circular motion across the wheel.
4. Once the paste is evenly distributed, begin sharpening.
5. These preparations will be sufficient for sharpening five to ten tools. If you notice a drop in sharpening performance or have sharpened more than ten tools, repeat the above steps.

NOTE: A slight wobble of the stropping wheel when it is rotating is normal and does not affect the performance.

FIG. 10



MAINTENANCE

WARNING

Always be sure that the tool is switched off and unplugged before attempting to perform any inspection or maintenance.

- Ventilation openings and switch levers must be kept clean. DO NOT attempt to clean by inserting pointed objects through openings.
- Do not use harsh chemicals or solvents when cleaning this tool.
- If you discover any damaged or broken parts, consult your nearest ToolShed for replacements and advise.

Environment & Disposal

- Packaging materials are raw materials and can be re-used. Separate the different packaging materials and take them to the appropriate waste disposal facility. More information can be obtained from your local authorities.
- Old machines do not belong in your household garbage! Dispose of old machines appropriately, we are all responsible for the environment.

Lubrication

- The Wet Sharpener has sealed lubricated bearings in the motor housing that do not require any additional lubrication from the operator.

Cleaning

- With the Wet Sharpener unplugged, rotate the abrasive wheel slowly and inspect for any damage or trapped debris. Periodically clean the areas in and around the grinder to keep the machine, water reservoir and work area clean.

Water Reservoir

- Be sure to periodically empty, rinse and refill the water reservoir with clean water depending on frequency of use. Failing to do so can lead to a build-up of sediment on the wheel itself, reducing grinding performance.

Grinding Wheel

- The grinding wheel should be inspected before every use. Take care in storing grinding wheels to keep them free from potential damage from moisture, freezing, from being dropped, or from having other items drop on them.
- REPLACE the abrasive wheel if there is any damage at all. FAILURE to replace a damaged wheel can cause serious injury to the operator. Periodically check all nuts and fasteners to make sure that they are secure.

Wheel Replacement

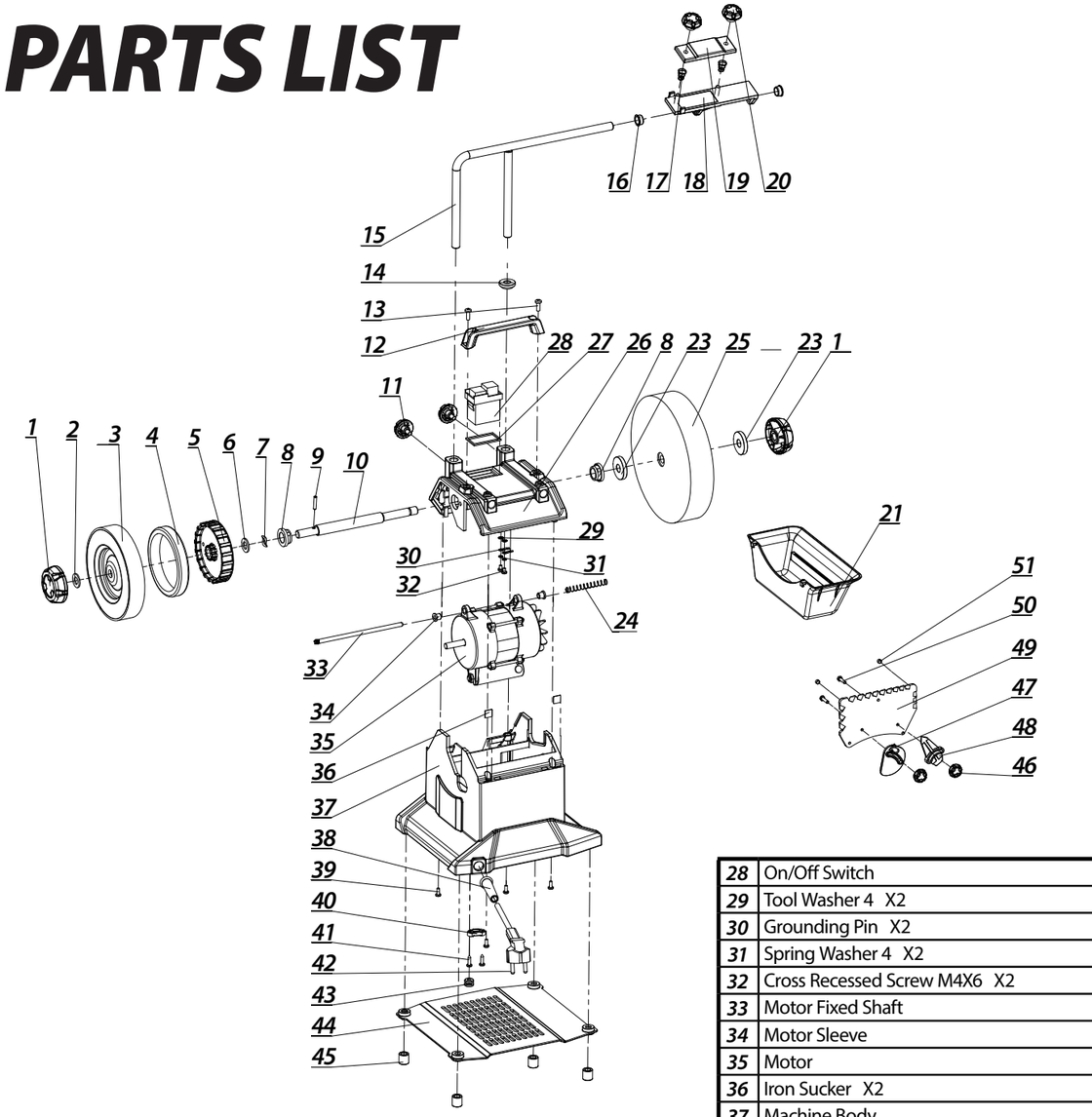
To replace the grinding or stropping wheel:

1. Hold the wheel to stop it from turning, and remove the arbor nut which holds the wheel on.
2. Remove the outer washer and wheel.
3. Install the new wheel, then replace the washer and nut.

TROUBLESHOOTING

FAULT	POSSIBLE CAUSE	SUGGESTED SOLUTION
Motor will not start	Low voltage	Check power source for proper voltage.
	Open circuit in motor or loose connections	Inspect motor for loose or open connections. Send motor for servicing if necessary.
	Blown fuse or breaker	Replace fuse or reset breaker.
Motor overheats	Motor overloaded	Reduce load on motor.
	Extension cord too long and/or of insufficient gauge (weight)	Use an extension cord of appropriate gauge and length or plug the sharpener directly into a correct wall outlet.
Motor stalls (resulting in blown fuses or tripped breakers)	Shot circuit in motor or loose connections	Inspect motor for loose or shorted terminals or worn insulation. Send motor for servicing if necessary.
	Low voltage	Correct low voltage condition (for example: improper extension cord length or gauge).
	Incorrect fuses or circuit breakers in power line	Install correct fuses or circuit breakers or plug sharpener into a circuit with correct fuses or breakers.
	Motor overload	Reduce load on motor.
Polishing wheel loses performance	Insufficient wheel preparations	Properly prepare wheel.
	Wheel is damaged	Replace wheel.
Wavy surface of workpiece	Sharpener vibrating	Make sure the sharpener is securely positioned on a level surface.
	Work piece is not held firmly	Check the knobs of the tool holder and tool support bar and tighten is necessary. If a knob is stripped, replace it.
	Wheel face is uneven	Dress the grinding wheel.
Machine runs with noises	Short of lubricating	Add lubricating grease on the gear.

TSWGS EXPLODED VIEW & PARTS LIST



1	Wheel Lock Knob X2	14	Tool Rest Adjustment Ring	28	On/Off Switch
2	Flat Washer 12	15	Universal 'F' Support Tool Rest	29	Tool Washer 4 X2
3	Leather Stropping Wheel	16	Tool Rest Sleeve X2	30	Grounding Pin X2
4	Rubber Wheel	17	Cone Spring X2	31	Spring Washer 4 X2
5	Passive Wheel	18	Long Assembly On The Tool Hold Jig	32	Cross Recessed Screw M4X6 X2
6	Big Flat Washer 12	19	Short Assembly On The Tool Hold Jig	33	Motor Fixed Shaft
7	Wave Spring Washers	20	Tool Hold Jig Lock Knob X2	34	Motor Sleeve
8	Wheel Sleeve X2	21	Water Reservoir	35	Motor
9	Elastic Cylindrical Pin	23	Flange X2	36	Iron Sucker X2
10	Wheel Shaft	24	Compressed Spring	37	Machine Body
11	Tool Rest Lock Knob X2	25	Wet Grinding Wheel	38	Anti-Bending Sheath
12	Carrying Handle	26	Machine Panel	39	Cross Recessed Screw M4X10 X4
13	Cross Recessed Pan Head Screw M5X14 X2	27	Seal Washer	40	Crimping Pin
				41	Cross Recessed Tapping Screw ST4.2×16 X2
				42	Plug Cable
				43	Guard Coil
				44	Bottom Panel
				45	Rubber Foot X4
				46	Pointer Knob X2
				47	Pointer B
				48	Pointer A
				49	Mitre Guide
				50	Hex Bolt M4X16 X2
				51	Magnet X2