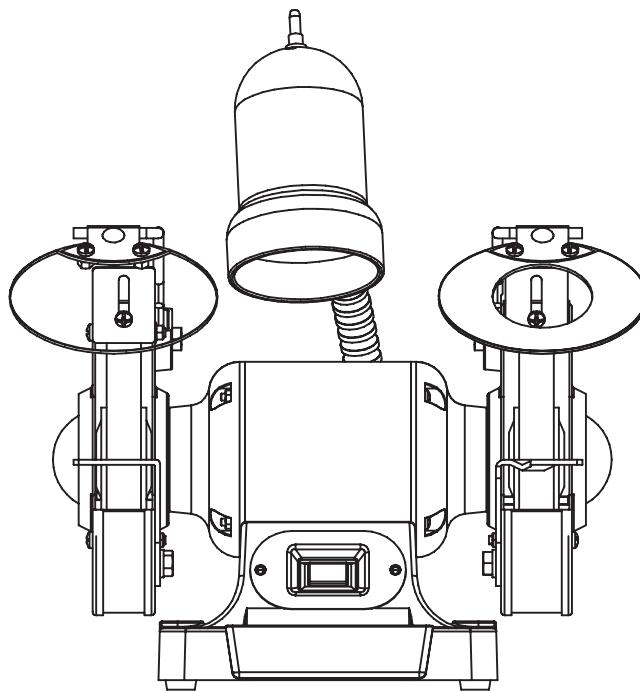


model no. 055-3500-2

**Mastercraft**<sup>®MD</sup>

## **BENCH GRINDER WITH FLEXIBLE WORK LIGHT**



### **IMPORTANT:**

For your own safety, read and follow all of the Safety Guidelines and Operating Instructions before operating this bench grinder.

### **INSTRUCTION MANUAL**

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**SPECIFICATIONS**

Model:	055-3500-2
Motor:	120 V AC, 60 Hz, 4.8A, 3/4 HP
Wheel Size:	8 x 1" (20.3 x 2.5 cm) with 5/8" (1.6 cm) arbour
Speed:	3450 RPM (no-load)
Wheels:	36- and 60-grit
Weight:	29 lb 2 oz (13.2 kg)

- Always wear safety glasses complying with OSHA/ANSI requirements Z87.1.
- Wear a mask or respirator when dust is generated.
- Keep bystanders out of the work area while operating the tool.
- **WARNING!** Always ensure that the work area is clear of any flammable materials, liquids or gasses, because the use of this tool may create sparks.
- Wheel guards and eye shields must be properly adjusted and tightened.
- During each start-up, stand to one side of the grinder and switch it on. Let the grinder operate at full speed for approximately one minute so that any undetected flaws or cracks will become apparent.
- Use only 40 W (max.) bulbs on the work light.
- Use only 8" wheels suitable for 3450 RPM or over.
- Keep guards in place and working properly.
- Keep hands clear of grinding wheels.
- Always make sure wheels are properly mounted.
- Secure the tool when working to prevent unexpected movement.
- Never reach behind or beneath the grinding wheels.
- Unplug from power supply before adjusting or servicing. The grinding wheels continue to rotate after the tool is switched off. Always allow wheels to stop before adjusting or servicing.
- To avoid electric shock, DO NOT use in damp conditions or expose to rain.
- When fitting a new grinding wheel, always check that the stated maximum RPM meets or exceeds that stated on the grinder. Also check the new wheel for damage, such as flaws or cracks. If the wheel appears satisfactory, fit it to the grinder.
- When a new grinding wheel has been fitted, stand to one side of the grinder and switch it on. Let the grinder operate at full speed for approximately one minute so that any undetected flaws or cracks will become apparent.
- Use only accessories that are recommended by the manufacturer for your model.
- DO NOT attempt to cut anything with the grinding wheel.
- Grounded tools must be plugged into an outlet that has been properly installed and grounded in accordance with all local codes and ordinances. Never remove the grounding prong from the plug or modify it in any way. Do not use adaptor plugs. If in doubt as to whether the outlet is properly grounded, consult a qualified electrician.
- Do not use the tool when tired or under the influence of drugs, alcohol or medication.
- Do not wear gloves, neckties, jewellery or loose clothing when using tool. Keep hair tied back.
- Ensure the power switch is off prior to plugging in the tool.
- **WARNING!** Replace cracked grinding wheels immediately.
- Do not overtighten spindle nuts.
- Spacing between tool rests and wheels should be set to 1/8" or less; hold workpiece firmly against tool rest.
- Service on these tools should only be performed by an authorized, qualified technician.
- Failure to comply with these warnings may result in serious personal injury
- There is a risk of injury due to accidental starting; do not use this tool in an area where children may be present.

**DANGER!**

Failure to observe any of the following instructions could result in severe personal injury to tool user and bystanders or cause damage to tool and property!

**WARNING!**

Read, understand and observe all instructions in this manual before using or operating the tool for which it is written and supplied. Ensure that anyone who is to use the tool has read and understood the instructions provided.

**PACKAGE CONTENTS**

Description	Qty
Left work rest	1
Right work rest	1
Plain eye shield assembly	1
Magnify eye shield	1
Left eye shield support	1
Right eye shield support	1
Bracket	2
Flat washer D6	2
Hex bolt M6X14	2
Spark deflector	2
Star-head screw+flat washer M5X10	2
Flat washer D8	4
Hex bolt M8X8	4

**Before You Start — Safety**

- Always wear eye protection that complies with a recognized standard (CSA or ANSI); for example: ANSI Z87.1)
- Wear a mask or respirator when dust is generated.
- Keep bystanders out of the work area while operating the tool.
- **WARNING!** Always ensure that the work area is clear of any flammable materials, liquids or gases, because the use of this tool may create sparks.
- Do not wear loose clothing or jewellery. Keep hair tied back.
- **WARNING!** Replace cracked grinding wheels immediately.
- Do not overtighten spindle nuts.
- Adjust tool rests whenever necessary to maintain a distance of 1/8" (3.2 mm) from the grinding wheel.
- NEVER grind on the side of the wheel. Grind on the face of the wheel only.
- NEVER apply pressure to the workpiece when the grinding wheel is cold. Allow the wheel to warm up by applying the workpiece gradually.
- NEVER use the grinder without the wheel guards. Keep thumbs and fingers away from the wheel.

**Before You Start — Electrical**

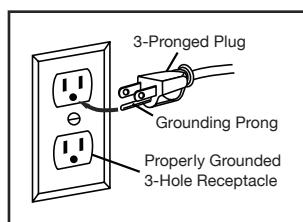
In the event of a malfunction or short circuit, grounding provides the path of least resistance for electrical current, and reduces the risk of electric shock for the operator. This tool is equipped with an electric cord that has an equipment grounding conductor and a grounding plug. The plug must be plugged into a matching outlet that is properly installed and grounded in accordance with all local codes and ordinances.

**DO NOT MODIFY THE PLUG PROVIDED.** If it will not fit the outlet, have the proper outlet installed by an electrician.

**IMPROPER CONNECTION** of the equipment grounding conductor can result in increased risk of electric shock. The conductor with the green insulation (with or without yellow stripes) is the equipment grounding conductor. If repair or replacement of the electric cord or plug is necessary, **DO NOT** connect the equipment grounding conductor to a live terminal.

**CHECK** with a qualified electrician or service personnel if you do not completely understand the grounding instructions, or if you are not sure if the tool is properly grounded.

This tool is intended for use on a circuit that has a three-prong outlet that looks like the one illustrated. The original tool has a grounding plug that looks like the plug illustrated.



**Use of Extension Cords**

USE ONLY THREE-WIRED EXTENSION CORDS that have 3-pronged plugs and 3-holed outlets that accept the tool's plug. Repair or replace damaged or worn cords immediately.

Be sure your extension cord is properly wired and in good condition. Do not use damaged extension cords. Always replace a damaged extension cord.

When using an extension cord, be sure to use one heavy enough to carry the current your product will draw. An undersized cord will cause a drop in line voltage, resulting in loss of power and overheating.

The table below shows the correct size to use according to the cord length and the amperage draw of the tool (specified on the nameplate). When in doubt, use the next heavier gauge. The smaller the gauge number, the heavier the cord. (AWG = American Wire Gauge).

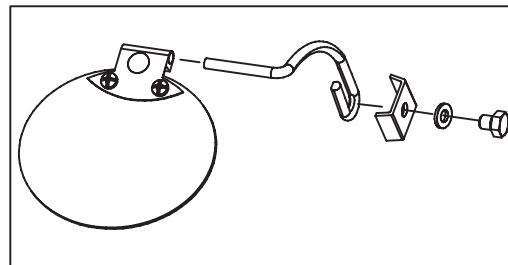
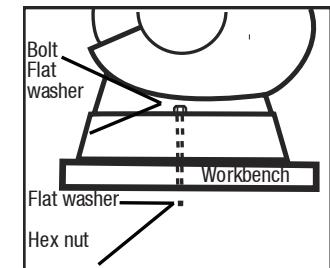
Minimum Gauge for Extension Cords (AWG)  
(when using 120 volts only)

Ampere Rating		Total Length of Cord in Feet (meters)			
More Than	Not More Than	25' (7.6m)	50' (15m)	100' (30.4m)	150' (45.7m)
0	6	18	16	16	14
6	10	18	16	14	12
10	12	16	16	14	12
12	16	14	12	Not Recommended	

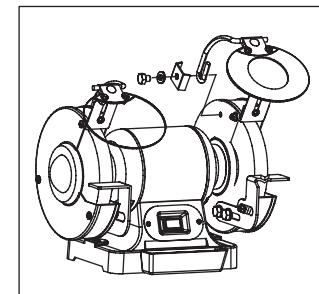
Use a separate electrical circuit for your tools. This circuit should not be less than a #12 gauge wire, and should be protected with a 15 A time-lag fuse. Before connecting the motor to the power line, ensure the switch is in the OFF position and the electric current is rated the same as the current stamped on the motor's nameplate. Running at a lower voltage will damage the motor and is not covered by warranty.

Before attempting to use this grinder, it must be properly mounted to a workbench or grinding stand.

- Using two long bolts, washers, lock-washers and nuts, as shown (not supplied), secure the grinder to the workbench.



- Fit the eye shield to the mount rod. Mount the left and right shield rods to the inside of the wheel guards using hex bolts.



- Attach the left eye shield mounting rod to the bench grinder using the bracket, flat washer and bolt supplied.

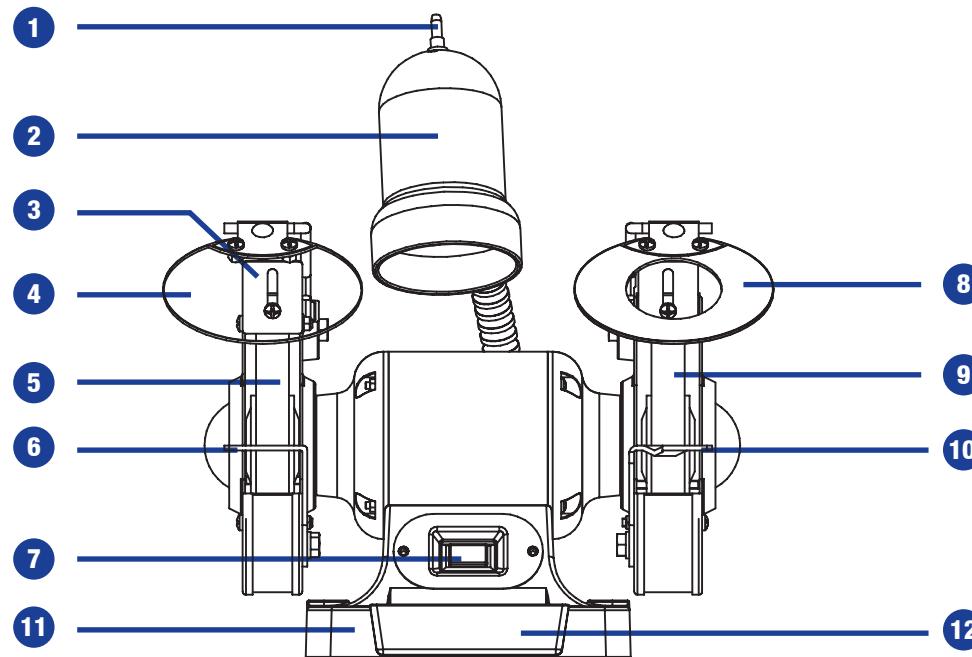
**CAUTION!**

Bench grinders vibrate. Grinder movement during high-speed rotation may cause injury or damage to the workpiece or operator. Mount the grinder securely to a sturdy workbench or grinding stand.

**NOTE:**

The eye shield should move freely when being adjusted, but stay in place when the screw is tightened.

No.	Description	Qty.	No.	Description	Qty.
1	Lamp on/off switch	1	7	Switch	1
2	Lamp	1	8	Magnify eye shield	1
3	Spark deflector	2	9	Grinding wheel 60#	1
4	Plain eye shield	1	10	Right work rest	1
5	Grinding wheel 36#	1	11	Base	1
6	Left work rest	1	12	Water tray	1



This Mastercraft™ Bench Grinder is ideal for use in sharpening chisels, axes and other woodcutting tools. It is also useful for repairing tips on screwdrivers and drill bits or for removing excess metal burrs from pieces of cut metal.

With the proper accessories, this tool can be used for cleaning metal surfaces using a wire brush or for buffing and polishing using a cloth wheel.

The rocker I/O power switch is located on the front of the grinder.

#### Start-up

Press the side marked "I" to turn the grinder on.

#### Shut-down

Press the side marked "O" to turn the grinder off.

Maintenance Required	Frequency
Check power cord	Before each use
Check wheels for cracks	Before each use
Check moving parts for alignment and binding issues	Before each use
Dress grinding wheels	As needed
Replace grinding wheels	As needed
Clean and vacuum dust	As needed
Replace work-light bulb	As needed

### Installing or Changing the Wheel

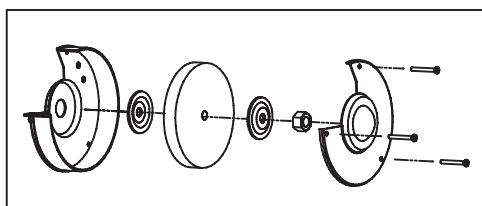
When grinding, metal objects become heated quickly. It is important to keep moving the object back and forth across the face of the grinding wheel and to cool the object frequently using the coolant tray.

### Work-light Bulb Replacement

When the light bulb is worn out and will no longer work, purchase a replacement bulb. To replace, gently push the light bulb into the socket and turn clockwise. Uses Max 40 W anti-vibration light bulb.

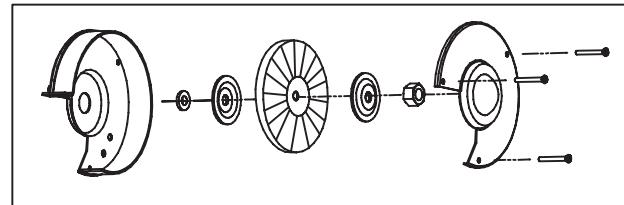
### Installing or Changing the Wheel

1. Use a screwdriver to loosen the wheel cover screws and push counter-clockwise to remove the wheel cover.
2. Fit an appropriately sized wrench on the spindle hex nut.
3. Loosen the wheel nut in a clockwise direction for the left side and a counter-clockwise direction for the right side.
4. Remove the outer flange and grinding wheel. To remove the hex nut, turn the wrench and nut until the wrench is resting on the workbench behind the tool.
5. Inspect the new wheel carefully to ensure there are no cracks, chips or other damage.
6. Wipe the flange surfaces clean, and install the new wheel, flange and the spindle hex nut.
7. To install a new grinding wheel, reverse the above procedure.
8. Be sure the grinding wheel and outer flange are properly seated on the spindle shaft.
9. Replace the wheel cover and reposition the tool rest.



### Installing or Changing the Wire Wheel

To change the wheel to a wire wheel, first assemble the spacer, then follow the steps above to change the wheel.



### Note:

- Always keep the workpiece moving across the face of the grinding wheel. Grinding continuously on the same spot on the wheel will cause grooves to be worn into the wheel. The wheel may crack or become damaged more easily, and grinding of other objects will be difficult.
- If the workpiece becomes hot, dip it into water or oil to cool it.
- Always grind on the face of the wheel (around the diameter), NEVER on the sides. Side pressure on grinding wheels can cause cracking and damage.
- If the face of the grinding wheel is worn unevenly, becomes grooved, or is no longer smooth and flat, the wheel should be reshaped with a dressing tool (not supplied).
- If the diameter of the grinding wheel is no longer round, the wheel should be reshaped with a dressing tool or replaced.
- If the surface of the wheel becomes loaded and dull with workpiece material, the wheel should be cleaned with a dressing tool.
- After reshaping, always readjust the tool rests and spark arrestors.



### WARNING!

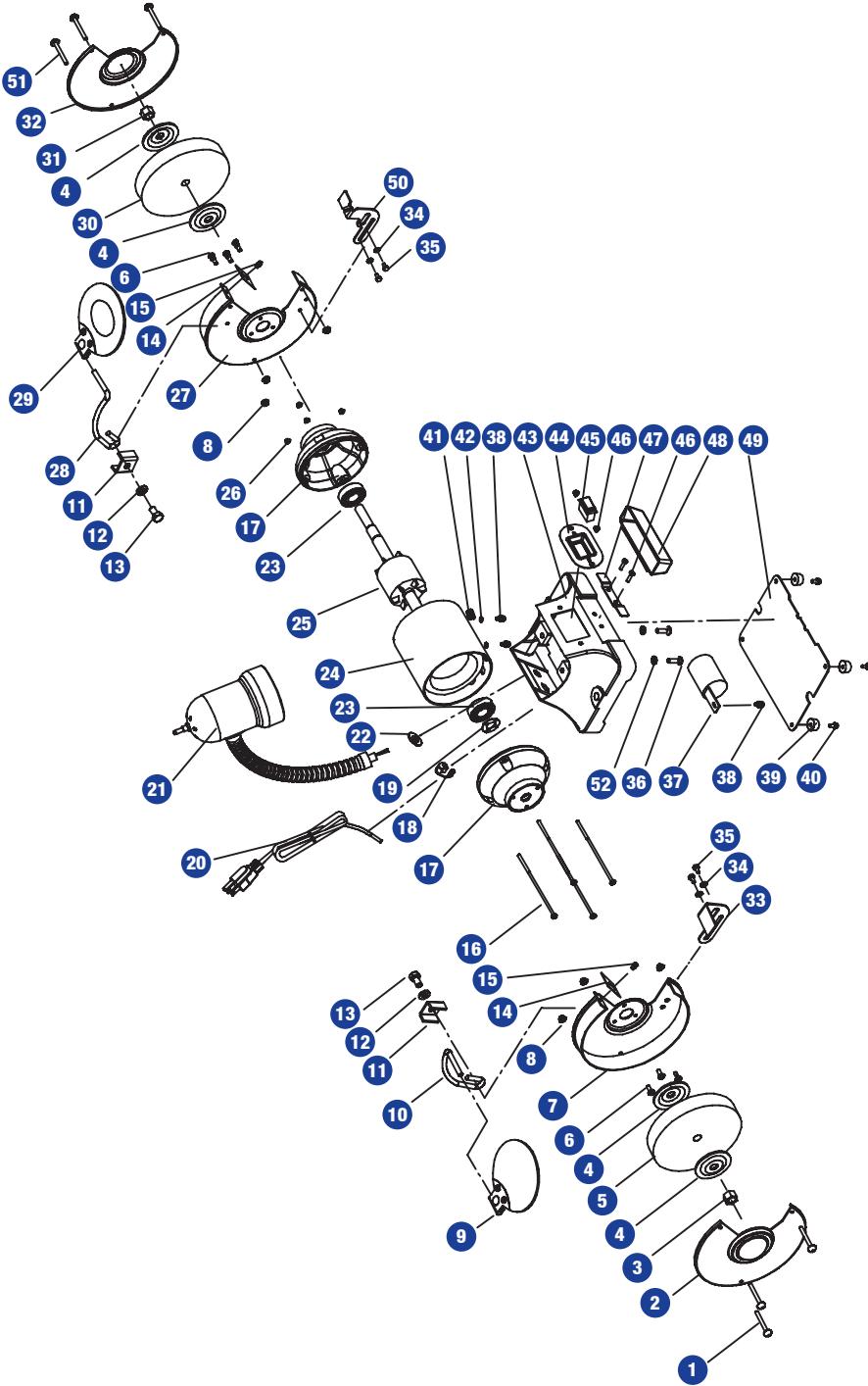
Turn the power off and remove the plug from the outlet before changing the grinding wheels. When turning the grinder on with a newly installed wheel, DO NOT STAND IN FRONT OF THE GRINDER. Stand to the side and allow the grinder to run for at least one minute before proceeding to use it.

### IMPORTANT!

Do not overtighten the spindle hex nut, because this may cause the wheel to crack.

### CAUTION!

DO NOT INSTALL OR USE A DAMAGED GRINDING WHEEL. The force of rotation may cause a damaged wheel to fly apart, and could injure operators or bystanders.



No.	Description	Qty.	No.	Description	Qty.
1	Star-head screw M5X48	3	27	Right wheel guard plate	1
2	Left wheel guard cover	1	28	Right eye shield support	1
3	Hex nut, I type M16 left	1	29	Magnify eye shield assy.	1
4	Wheel flange	4	30	Grinding wheel 60#	1
5	Grinding wheel 36#	1	31	Hex nut, I type M16	1
6	Star-head screw+spring washer M5X10	6	32	Right wheel guard cover	1
7	Left wheel guard plate	1	33	Left work rest	1
8	Hex flange nut M5	6	34	Flat washer D8	4
9	Plain eye shield assy.	1	35	Hex bolt M8X8	4
10	Left eye shield support	1	36	Hex bolt M8X20	2
11	Bracket	2	37	Capacitor	1
12	Flat washer D6	2	38	Star-head screw+flat washer+spring washer M4X8	3
13	Hex bolt M6X14	2	39	Rubber washer	4
14	Spark deflector	2	40	Star-head screw+ big flat washer M5X16	4
15	Star-head screw+flat washer M5X10	2	41	Cord bushing	1
16	Star-head screw+flat washer M5X155	4	42	Toothed lock washer D4	2
17	End cap	2	43	Base	1
18	Strain relief 6P4	1	44	Switch plate	1
19	Wave spring retainer D40	2	45	Switch	1
20	Cord & plug	1	46	Star-head screw M4X8	4
21	Lamp assy	1	47	Coolant tray clip	1
22	Flat washer D12	1	48	Coolant tray	1
23	Bearing	2	49	Base cover	1
24	Stator	1	50	Right work rest	1
25	Rotor	1	51	Star-head screw M5X51	3
26	Hex flange nut M5	4	52	Spring washer D8	2

**Service on these tools should only be performed by an authorized, qualified technician.**

SYMPTOM	PROBABLE CAUSE	CORRECTIVE ACTION
Motor will not start.	1. Low voltage. 2. Open circuit in motor or loose connections.  3. Blown fuse or breaker.	1. Check power source for proper voltage. 2. Inspect all lead connections on motor for loose or open connections. (Send for servicing)  3. Change fuse or reset breaker. (send for servicing)
Motor will not start-fuses or circuit breakers tripping or blowing.	1. Short circuit in line, cord or plug. 2. Short circuit in motor or loose connections. 3. Incorrect fuses or circuit breakers in power line.	1. Inspect cord or plug for damaged insulation and shorted wires.  2. Inspect all connections on motor for loose or shorted terminals and/or worn insulation.  3. Install correct fuses or circuit breakers or switch tool to an appropriately sized circuit.
Motor overheats.	1. Motor overloaded. 2. Extension cord too long and of insufficient gauge (weight).	1. Reduce load on motor.  2. Utilize an extension cord of appropriate gauge and length or plug tool directly into outlet.
Motor stalls (resulting in blown fuses or tripped circuit).	1. Short circuit in motor or loose connections.  2. Low voltage.  3. Incorrect fuses or circuit breakers in power line.  4. Motor overload.	1. Inspect connections on motor for loose or shorted terminals or worn insulation. (Send for servicing)  2. Correct low voltage conditions (for example: improper extension cord length and/or gauge).  3. Install correct fuses or circuit breakers or plug tool into an appropriate circuit, matched to an appropriate fuse or breaker.  4. Reduce the load on the motor.
Machine slows when operating.	1. Feed rate too great.	1. Reduce the rate at which the workpiece is fed into the working area of the tool (grinding wheel).
Wavy condition on surface of workpiece.	1. Machine vibrating. 2. Workpiece not being held firmly. 3. Wheel face uneven. 4. Wheel is too hard.	1. Ensure machine is securely mounted on a solid surface.  2. Use a holding device to firmly retain the workpiece.  3. Dress the grinding wheel.  4. Use softer wheel, or reduce the feed rate.

SYMPTOM	PROBABLE CAUSE	CORRECTIVE ACTION
Lines on surface of workpiece.	1. Impurity on surface of wheel. 2. Workpiece not being held tightly.	1. Dress the grinding wheel. 2. Use a holding device to more firmly retain the workpiece.
Burning spots or cracks in the workpiece.	1. Improper type of grinding wheel. 2. Improper feed rate. 3. Coolant required.	1. Try wheels with softer bond or coarser grit.  2. Slow down the rate at which the workpiece is fed into the wheel.  3. Introduce coolant.
Wheel dulls quickly, grit falls off.	1. Feed rate is too aggressive. 2. Wheel is soft.  3. Wheel diameter too small. 4. Bad wheel dressing. 5. Defective wheel bonding.	1. Decrease feed rate of workpiece into grinding wheel. 2. Select a grinding wheel with a harder bond of material. 3. Replace wheel. 4. Dress the wheel. 5. DO NOT USE – return wheel to point of purchase.
Wheel clogs and workpiece shows burn marks.	1. Wheel is too hard.  2. Feed rate is too slow.  3. Bad wheel dressing. 4. Coolant required.	1. Select a grinding wheel with a softer bond of material. 2. Increase the feed rate of the workpiece into the grinding wheel. 3. Dress the wheel. 4. Introduce coolant.

### 3-Year Limited Warranty

This Mastercraft product is guaranteed for a period of 3 years from the date of original retail purchase against defects in workmanship and materials, except for the following component:

Component A: Accessories, which are guaranteed for a period of 1-year from the date of original retail purchase against defects in workmanship and materials.

Subject to the conditions and limitations described below, this product, if returned to us with proof of purchase within the stated warranty period and if covered under this warranty, will be repaired or replaced (with the same model, or one of equal value or specification), at our option. We will bear the cost of any repair or replacement and any costs of labour relating thereto.

These warranties are subject to the following conditions and limitations:

- a) a bill of sale verifying the purchase and purchase date must be provided;
- b) this warranty will not apply to any product or part thereof which is worn or broken or which has become inoperative due to abuse, misuse, accidental damage, neglect or lack of proper installation, operation or maintenance (as outlined in the applicable owner's manual or operating instructions) or which is being used for industrial, professional, commercial or rental purposes;
- c) this warranty will not apply to normal wear and tear or to expendable parts or accessories that may be supplied with the product that are expected to become inoperative or unusable after a reasonable period of use;
- d) this warranty will not apply to routine maintenance and consumable items such as, but not limited to, fuel, lubricants, vacuum bags, blades, belts, sandpaper, bits, fluids, tune-ups or adjustments;
- e) this warranty will not apply where damage is caused by repairs made or attempted by others (i.e. persons not authorized by the manufacturer);
- f) this warranty will not apply to any product that was sold to the original purchaser as a reconditioned or refurbished product (unless otherwise specified in writing);
- g) this warranty will not apply to any product or part thereof if any part from another manufacturer is installed therein or any repairs or alterations have been made or attempted by unauthorized persons;
- h) this warranty will not apply to normal deterioration of the exterior finish, such as, but not limited to, scratches, dents, paint chips, or to any corrosion or discolouring by heat, abrasive and chemical cleaners;
- i) this warranty will not apply to component parts sold by and identified as the product of another company, which shall be covered under the product manufacturer's warranty, if any.

### Additional Limitations

This warranty applies only to the original purchaser and may not be transferred. Neither the retailer nor the manufacturer shall be liable for any other expense, loss or damage, including, without limitation, any indirect, incidental, consequential or exemplary damages arising in connection with the sale, use or inability to use this product.

### Notice to Consumer

This warranty gives you specific legal rights, and you may have other rights, which may vary from province to province. The provisions contained in this warranty are not intended to limit, modify, take away from, disclaim or exclude any statutory warranties set forth in any applicable provincial or federal legislation.