



# OPERATOR'S MANUAL

## 6" Bench Grinder

Model # 4256



### **⚠ IMPORTANT:**

Your new tool has been engineered and manufactured to WEN's® high standards for dependability, ease of operation, and operator safety. Properly cared for, it will give you years of rugged, trouble-free performance.

Pay close attention to the Rules for Safe Operation, Warnings, and Cautions. If you use your tool properly and only for what it is intended, you will enjoy years of safe, reliable service.



**It's not how, it's WEN the project get's done!**

Have product questions or need technical support? Please feel free to contact us!



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## **TECHNICAL DATA**

### 6" Bench Grinder

Model:	4256
Motor:	120 V, 60 Hz, 1.5 A
Speed:	3550rpm (no load)
Wheel size:	6"x5/8"
Arbor size:	1/2"
Lamp:	120V, 15W
Weight:	22 lb

### **Package contents:**

Bench grinder, 1-fine 60grit wheel (assembled), 1-coarse 36 grit wheel (assembled), 2-tool rests and 2-eye shields

## **GENERAL SAFETY RULES**

Safety is a combination of common sense, staying alert, and knowing how your drill press works.

**SAVE THESE SAFETY INSTRUCTIONS.**



**WARNING:** To avoid mistakes that could cause serious injury, do not plug in the drill press until the following steps have been read and understood.

1. **READ** and become familiar with this entire instruction manual. **LEARN** the tool's applications, limitations, and possible hazards.
2. **AVOID DANGEROUS CONDITIONS.** Do not use power tools in wet or damp areas or expose them to rain. Keep work areas well-lit.
3. **DO NOT** use power tools in the presence of flammable liquids or gases.
4. **ALWAYS** keep your work area clean, uncluttered, and well-lit. **DO NOT** work on floor surfaces that are slippery with sawdust or wax.
5. **KEEP BYSTANDERS AT A SAFE DISTANCE** from the work area, especially when the tool is operating. **NEVER** allow children or pets near the tool.
6. **DO NOT FORCE THE TOOL** to do a job for which it was not designed.
7. **DRESS FOR SAFETY.** Do not wear loose clothing, gloves, neckties, or jewelry (rings, watches, etc.) when operating the tool. Inappropriate clothing and items can get caught in moving parts and draw you in. **ALWAYS** wear non-slip footwear and tie back long hair.
8. **WEAR A FACE MASK OR DUST MASK** as the drilling operation produces dust.



**WARNING:** Dust generated from certain materials can be hazardous to your health. Always operate the drill press in a well-ventilated area and provide for proper dust removal. Use dust collection systems whenever possible.

9. **ALWAYS** remove the power cord plug from the electric outlet when making adjustments, changing parts, cleaning or working on the tool.
10. **KEEP GUARDS IN PLACE AND IN WORKING ORDER.**
11. **AVOID ACCIDENTAL START-UPS.** Make sure the power switch is in the OFF position before plugging in the power cord.
12. **REMOVE ADJUSTMENT TOOLS.** Always make sure all adjustment tools are removed from the drill press before turning it on.

13. **NEVER LEAVE A RUNNING TOOL UNATTENDED.** Turn the power switch to OFF. Do not leave the tool until it has come to a complete stop.
14. **NEVER STAND ON A TOOL.** Serious injury could result if the tool tips or is accidentally hit. **DO NOT** store anything above or near the tool.
15. **DO NOT OVERREACH.** Keep proper footing and balance at all times. Wear oil-resistant rubber-soled footwear. Keep the floor clear of oil, scrap, and other debris.
16. **MAINTAIN TOOLS PROPERLY.** **ALWAYS** keep tools clean and in good working order. Follow instructions for lubricating and changing accessories.
17. **CHECK FOR DAMAGED PARTS.** Check for alignment of moving parts, jamming, breakage, improper mounting, or any other conditions that may affect the tool's operation. Any part that is damaged should be properly repaired or replaced before use.
18. **MAKE THE WORKSHOP CHILDPROOF.** Use padlocks and master switches and **ALWAYS** remove starter keys.
19. **DO NOT** operate the tool if you are under the influence of drugs, alcohol, or medication that could affect your ability to use the tool properly.
20. **USE SAFETY GOGGLES AT ALL TIMES**—that comply with ANSI Z87.1. Normal safety glasses only have impact resistant lenses and are not designed for safety. Wear a face or dust mask when working in a dusty environment. Use ear protection, such as plugs or muffs, during extended periods of operation.



## **SPECIFIC SAFETY RULES FOR BENCH GRINDER**

1. Use grinding wheels suitable for the speeds of the grinder.
2. Stand beside the bench grinder during start-up, not facing directly in front.
3. Do not remove the wheel guard.
4. Do not use the grinding wheel to cut anything.
5. Do not use anything to stress the grinding wheel.
6. Use a grinding wheel dressing tool to shape or remove glaze from grinding wheels.
7. Adjust distance between wheel and tool rest to maintain 1/8 inch (3.2 mm) or less separation as the diameter of the wheel decreases with use.
8. Connect to a supply circuit protected by a circuit breaker or time-delay fuse.
9. Secure the bench grinder to its supporting surface to prevent the grinder from tipping over, sliding, or walking on its supporting surface.
  - Replace a cracked wheel immediately.
  - Always use the guards and eye shields.
  - Do not overtighten the wheel nut.
  - Use only flanges furnished with this grinder.
10. Always inspect grinding wheels prior to use for cracks, missing pieces, etc. Replace wheel immediately before use.
11. **USE ONLY GRINDING WHEELS** that comply with ANSI B7.1 and rated greater than 3550 RPM.
12. **GUARD AGAINST ELECTRICAL SHOCK** by preventing body contact with grounded surfaces. For example: pipes, radiators, ranges, refrigerator enclosures.
13. **DO NOT** use wheels with incorrect size holes. **NEVER** use wheel washers or wheel screws that are defective or incorrect, and **NEVER** touch a grinding wheel or other moving parts.
14. **NEVER** reach to pick up a workpiece, a piece of scrap, or anything else that is in or near the grinding path of the wheel.
15. **AVOID AWKWARD OPERATIONS AND HAND POSITIONS** where a sudden slip could cause your hand to move into the wheel. **ALWAYS** make sure you have good balance.
16. **NEVER** stand or have any part of your body in line with the path of the wheel.
17. **DO NOT USE TOOL IF SWITCH DOES NOT TURN IT ON AND OFF.** Have defective switches replaced by an authorized service center.

18. **DO NOT TURN THE MOTOR SWITCH ON AND OFF RAPIDLY.** This could cause the wheel to loosen and create a hazard. Should this ever occur, stand clear and allow the wheel to come to a complete stop. Disconnect your grinder from the power supply and retighten the wheel nut securely.
19. **RISK OF INJURY DUE TO ACCIDENTAL STARTING.** Do not use in an area where children may be present.
20. **NEVER START THE GRINDER** when the wheel is in contact with the workpiece.
21. **SECURE WORK.** Always hold the workpiece firmly against the work rest.
22. **DO NOT USE THE BENCH GRINDER** if the flange nut or clamp nut is missing or if the spindle shaft is bent.
23. **FREQUENTLY** clean grinding dust from beneath the grinder.
24. **DO NOT OPERATE THIS TOOL WHILE UNDER THE INFLUENCE OF DRUGS, ALCOHOL OR ANY MEDICATION.**
25. **ALWAYS STAY ALERT.** Do not allow familiarity (gained from frequent use of your grinder) to cause a careless mistake. **ALWAYS REMEMBER** that a careless fraction of a second is sufficient to inflict severe injury.
26. **STAY ALERT AND EXERCISE CONTROL.** Watch what you are doing and use common sense. Do not operate the tool when you are tired. Do not rush.
27. **SAVE THESE INSTRUCTIONS.** Refer to them frequently and use them to instruct other users. If you loan someone this tool, loan them these instructions also.
28. **ALWAYS EASE THE WORKPIECE AGAINST THE ABRASIVE WHEEL** when starting to grind. A harsh impact can break the wheel. Use light pressure when starting to grind. Too much pressure on a cold wheel can cause the wheel to crack.
29. **USE ONLY FLANGES** furnished with this bench grinder.
30. **IF ANY PART OF THIS GRINDER IS MISSING** or should break, bend, fail in any way, or should any electrical component fail to perform properly, shut off the power switch, remove the machine plug from the power source and have damaged, missing, or failed parts replaced before resuming operation.
31. **SAFETY SHIELD AND SPARK DEFLECTOR.** The safety shields and spark deflectors are adjustable for operator convenience. Operating the grinder without these features attached could result in serious injury. Do not grind with the safety shield raised. Always wear safety glasses for personal protection.
32. **WORK REST.** The work rests are independently adjustable to compensate for wheel wear. Before grinding, make certain the work rests are adjusted properly. Generally, the object being ground is done slightly above the center of the grinding wheel.
33. Lawn mower blades are usually sharpened on only one edge and dressed up slightly on the other. Perform this sharpening process on both cutting ends of the blade. After sharpening, balance the blade by removing additional material.

# **ELECTRICAL INFORMATION**

## **Grounding instructions**

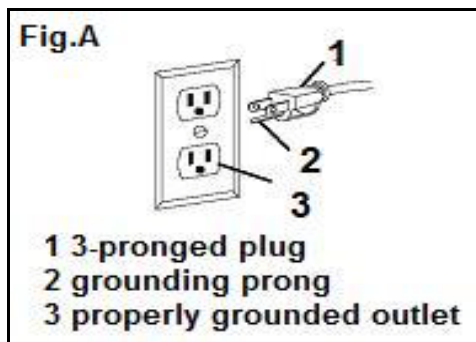
IN THE EVENT OF A MALFUNCTION OR BREAKDOWN, grounding provides the path of least resistance for electric current and reduces the risk of electric shock. This tool is equipped with an electric cord that has an equipment grounding conductor and a grounding plug. The plug **MUST** be plugged into a matching 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 a licensed electrician.

**IMPROPER CONNECTION** of the equipment grounding conductor can result in 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 licensed 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.

**USE ONLY THREE-WIRE EXTENSION CORDS** that have 3-pronged plugs and outlets that accept the tool's plug as shown in Fig. A. Repair or replace a damaged or worn cord immediately.



**CAUTION:** In all cases, make certain the outlet in question is properly grounded. If you are not sure if it is, have a licensed electrician check the outlet.



**WARNING:** This tool is for indoor use only. Do not expose to rain or use in damp locations.



## Guidelines for using extension cords

Make sure your extension cord is in good condition. 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 be used according to cord length and nameplate ampere rating. If in doubt, use the next heavier gauge. The smaller the gauge number, the heavier the cord.

**Minimum Gauge for Extension Cords (AWG)**  
(When using 120 V only)

Ampere Rating		Total Length of Cord in feet			
More Than	Not More Than	25	50	100	150
0	6	18	16	16	14
6	10	18	16	14	12
10	12	16	16	14	12
12	16	14	12	Not Recommended	

Make sure your extension cord is properly wired and in good condition. Always replace a damaged extension cord or have it repaired by a qualified person before using it.

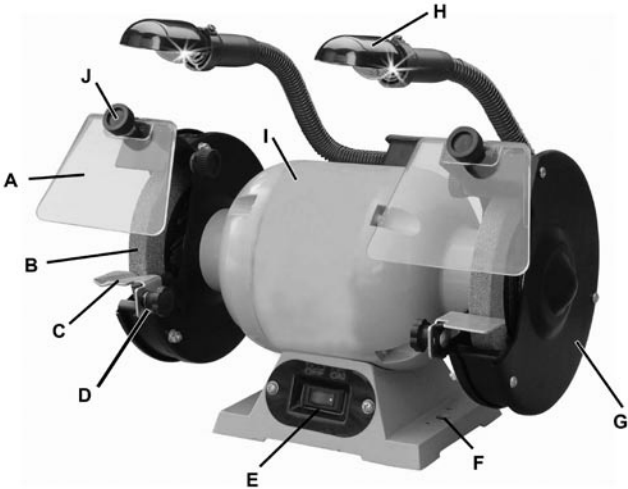
Protect your extension cords from sharp objects, excessive heat and damp or wet areas.

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



**WARNING:** This tool must be grounded while in use to protect the operator from electric shock.

**KNOW YOUR BENCH GRINDER**



- A Eye Shield
- B Grinding Wheel
- C Tool Rest
- D Tool Rest Adjustment Knob
- E ON/OFF Switch
- F Mounting Holes
- G Wheel Guard
- H Adjustable Lights
- I Bench Grinder
- J Eye Shield Adjustment Knob

## ASSEMBLY



**Warning:** To avoid injury from unexpected starting or electrical shock, do not plug the power cord into a source of power during unpacking and assembly. This cord must remain unplugged whenever you are adjusting/assembling the grinder.

If any part is missing or damaged, do not attempt to assemble the grinder, or plug in the power cord.

### **Attach the eye shield** (Fig. 1)

Attach eye shield bracket to the upper grinding wheel housing using hardware provided.

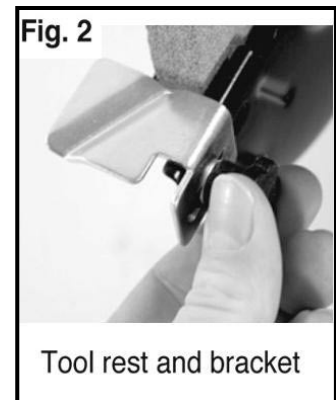
**Caution:** Eye shields do provide total protection for the eyes; for maximum safety, always wear safety goggles when using this bench grinder.



### **Attach the tool rest** (Fig. 2)

Tool rests help hold your workpiece close to the grinding wheel and give the operator much more control when the workpiece comes into contact with the wheel.

Attach the tool rests as shown to the lower portion of the wheel housing.



## **OPERATION**



**Caution:** Keep all bystanders a safe distance away from the tool and not in direct line, front or back of the grinder.

1. Your bench grinder has a medium wheel (60 grit) for medium material removal and general purpose grinding, and a coarse wheel (36 grit) for fast material removal.
2. To operate the bench grinder, always wear safety glasses and turn the tool on while standing at the side and not in front of the grinder. Allow it to reach full speed before grinding.
3. Hold the work piece firmly against the tool rest. Hold very small pieces with pliers or other suitable clamps.
4. Feed the work piece smoothly and evenly into the grinding wheel.
5. Move the work piece slowly and avoid jamming the work piece against the wheel. If the wheel tends to slow down from excessive force, you should occasionally release the pressure to let the wheel return to full speed.
6. Grind only on the face of the grinding wheel and never the side of it.



**Caution:** Prolonged grinding will cause most materials to become hot. Use care when handling such materials.

## **SCISSORS**

If possible, take the scissors apart to make the sharpening operation easier and safer. Remove material only from the outside surface and work from the heavy end of the blade toward the tip.

## **KNIVES**

Remove metal from both faces of most knives, working from the heavy end of the blade toward the tip.

## **SCREWDRIVERS**

The end of a properly sharpened screwdriver will be a perfect rectangle, absolutely flat and perpendicular to the center line of the shank. The two sides and two faces will taper outward from the edge of the shoulder or shank. They should be flat with intersecting faces perpendicular. Hold each face of the screwdriver against the wheel to true it up, and then ease the end straight into the stone to grind it true.

## **TWIST DRILL BITS**

Drill bits are best sharpened on a sharpening jig, available at most hardware stores, but can be “dressed up” on your grinder. Begin on one side of the point at the existing angle, then twist the bit while maintaining a constant angle with grinding surface. Sharpen only the tip. This technique requires considerable practice, so take your time and make a few “dry runs” first with the grinder off. Be sure to maintain the original cutting edge angle as this is important to the efficiency of your bits. One tool rest has a V-groove that is correctly angled for most drill bits.

## **LAWN MOWER BLADES**

Lawn mower blades are usually sharpened on only one side and dressed up slightly on the other. After sharpening, be sure to balance the blade by removing additional material from the heavy end. There are a number of inexpensive cone balancers on the market for this purpose. Unbalanced blades can cause serious crank shaft damage to your lawn mower. Always remove spark plug wires from the mower before servicing the blades to prevent accidental starting.

## **Maintenance**



**Warning:** For your own safety, turn switch “OFF” and remove plug from power source outlet before adjusting and maintaining your bench grinder. If power cord is worn, cut or damaged in any way, have it replaced immediately.

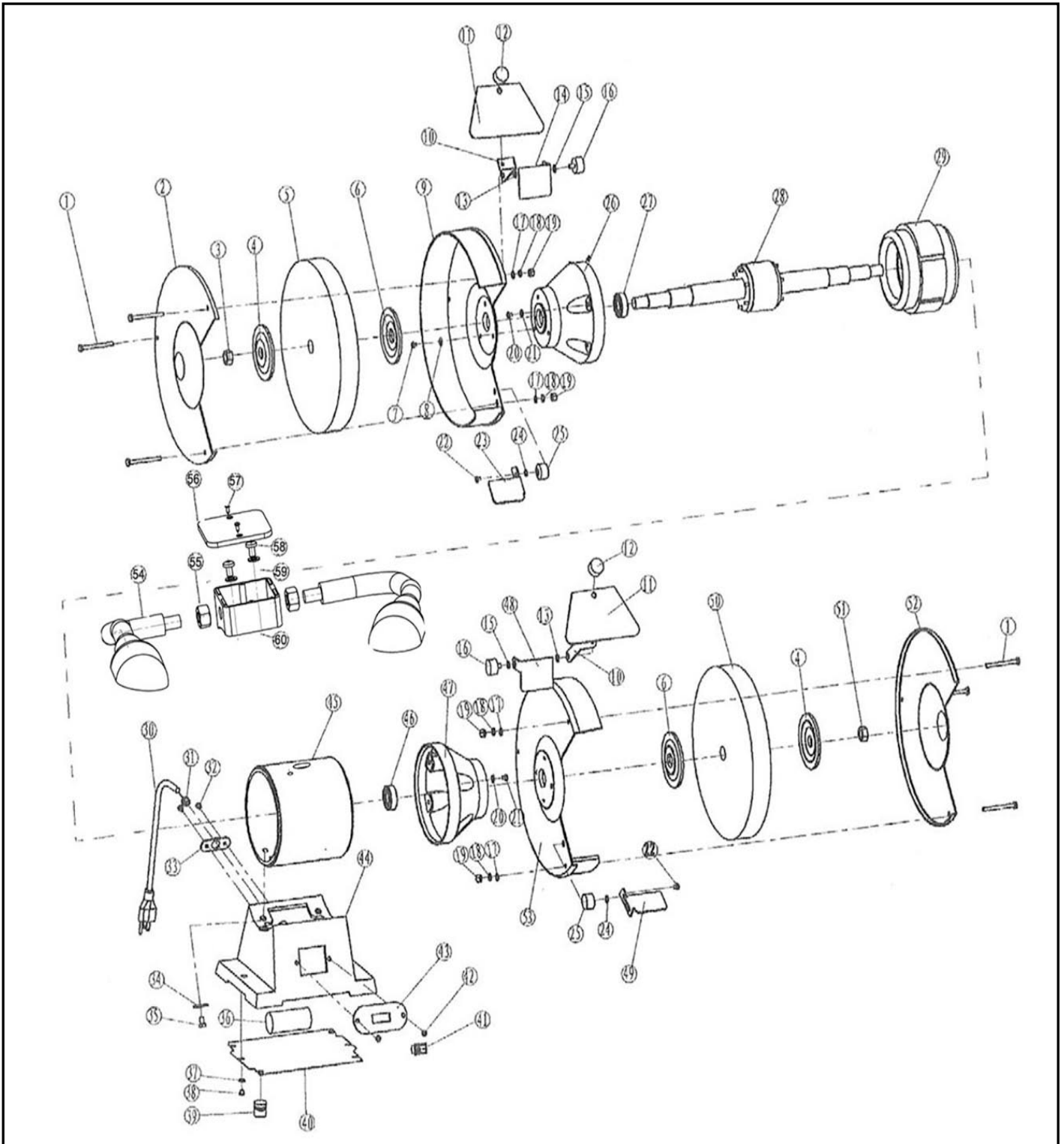
1. Regularly check the tool and use a soft brush to remove accumulated dust. Wear safety goggles to protect your eyes while cleaning.
2. If the body of the grinder needs cleaning, wipe it down with a soft, damp cloth. A mild detergent can be used. Do not use alcohol, petrol or other similar cleaning agents. Do not make contact with the grinding wheels with any damp cloth.
3. Always make sure the eye shields are transparent and not blocking the view of the grinding wheel.
4. In normal use, grinding wheels may become cracked, grooved, rounded at the edges, chipped, out of true or loaded with foreign material. Cracked wheels should be replaced IMMEDIATELY. While any of the other conditions can be remedied with a dressing tool (included), new wheels sometimes require dressing to make them round.
5. If you must replace a wheel be sure to obtain one with a safe rated speed at least as high as the “NO LOAD” RPM marked on your grinder’s nameplate. Replacement wheels must have a 1/2 in. (12.7 mm) center hole, 6 in. (150 mm) diameter and should be a maximum of 5/8 in. (20 mm) wide. Test new wheels for cracks and maintain the existing sequence of retaining hardware. Be sure the tool is unplugged before attempting repairs.

**Caution:** Never use caustic agents to clean the plastic parts of the tool.

**Caution:** Water must never come into contact with the grinder.

**Caution:** The use of any other accessories is not recommended and may result in serious injury.

# EXPLODED VIEW



# **PARTS LIST**

<b>Part#</b>	<b>Stock #</b>	<b>Description</b>	<b>Qty</b>
1	4256-001	Bolt	6
2	4256-002	Left Wheel Cover	1
3	4256-003	Left Lock Nut	1
4	4256-004	Outer Flange	1
5	4256-005	Wheel	1
6	4256-006	Inner Flange	1
7	4256-007	Screw	1
8	4256-008	Washer	1
9	4256-009	Left Wheel Guard	1
10	4256-010	Eye Shield Mount	2
11	4256-011	Eye Shield	2
12	4256-012	Knob	2
13	4256-013	Washer	2
14	4256-014	Left Spark Guard	1
15	4256-015	Washer	2
16	4256-016	Knob	2
17	4256-017	Flat Washer	4
18	4256-018	Spring Washer	4
19	4256-019	Nut	4
20	4256-020	Screw	2
21	4256-021	Washer	2
22	4256-022	Screw	2
23	4256-023	Left Tool Rest	1
24	4256-024	Washer	2
25	4256-025	Tool Rest Knob	2
26	4256-026	End Bell	1
27	4256-027	Bearing	1
28	4256-028	Rotor	1
29	4256-029	Stator	1
30	4256-030	Power Cord	1

<b>Part#</b>	<b>Stock #</b>	<b>Description</b>	<b>Qty</b>
31	4256-031	Cord Bushing	1
32	4256-032	Screw	2
33	4256-033	Cord Bushing Plate	1
34	4256-034	Washer	1
35	4256-035	Screw	1
36	4256-036	Capacitor	1
37	4256-037	Washer	2
38	4256-038	Screw	2
39	4256-039	Rubber Foot	4
40	4256-040	Base Plate	1
41	4256-041	ON/OFF Switch	1
42	4256-042	Screw	2
43	4256-043	Switch Plate	1
44	4256-044	Base	1
45	4256-045	Stator Housing	1
46	4256-046	Bearing	1
47	4256-047	End Bell	1
48	4256-048	Right Spark Guard	1
49	4256-049	Right Tool Rest	1
50	4256-050	Wheel	1
51	4256-051	Right Lock Nut	1
52	4256-052	Right Wheel Cover	1
53	4256-053	Right Wheel Guard	1
54	4256-054	Light	2
55	4256-055	Nut	2
56	4256-056	Light Fixing Box Cover	1
57	4256-057	Screw	2
58	4256-058	Screw	2
59	4256-059	Washer	2
60	4256-060	Light Fixing Box	1

# LIMITED ONE YEAR WARRANTY

WEN Products is committed to build tools that are dependable for years. Our warranties are consistent with this commitment and our dedication to quality.

## LIMITED WARRANTY OF WEN CONSUMER POWER TOOLS PRODUCTS FOR HOME USE

GREAT LAKES TECHNOLOGIES, LLC ("Seller") warrants to the original purchaser only, that all WEN consumer power tools will be free from defects in material or workmanship for a period of one (1) year from date of purchase. Ninety days for all WEN products, if the tool is used for professional use.

SELLER'S SOLE OBLIGATION AND YOUR EXCLUSIVE REMEDY under this Limited Warranty and, to the extent permitted by law, any warranty or condition implied by law, shall be the repair or replacement of parts, without charge, which are defective in material or workmanship and which have not been misused, carelessly handled, or misrepaired by persons other than Seller or Authorized Service Center. To make a claim under this Limited Warranty, please contact us at 1-800-232-1195 or write to us at WEN Products, 501 Davis Road, Elgin, IL 60123. To acquire service, you will have to provide proof of purchase and may be asked to ship the tool back to us freight prepaid.

THIS LIMITED WARRANTY DOES NOT APPLY TO ACCESSORY ITEMS SUCH AS CIRCULAR SAW BLADES, DRILL BITS, ROUTER BITS, JIGSAW BLADES, SANDING BELTS, GRINDING WHEELS AND OTHER RELATED ITEMS.

ANY IMPLIED WARRANTIES SHALL BE LIMITED IN DURATION TO ONE (1) YEAR FROM DATE OF PURCHASE. SOME STATES IN THE U.S., SOME CANADIAN PROVINCES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU.

IN NO EVENT SHALL SELLER BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES (INCLUDING BUT NOT LIMITED TO LIABILITY FOR LOSS OF PROFITS) ARISING FROM THE SALE OR USE OF THIS PRODUCT. SOME STATES IN THE U.S. AND SOME CANADIAN PROVINCES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.

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