



**MODEL W1839/W1840**  
**6"/8" VARIABLE-SPEED GRINDER**



**OWNER'S MANUAL**  
*(FOR MODELS MANUFACTURED SINCE 3/16)*

Phone: (360) 734-3482 • Online Technical Support: [techsupport@woodstockint.com](mailto:techsupport@woodstockint.com)

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THE WRITTEN APPROVAL OF WOODSTOCK INTERNATIONAL, INC.

#18150JH Printed in China



## **WARNING!**

This manual provides critical safety instructions on the proper setup, operation, maintenance, and service of this machine/tool. Save this document, refer to it often, and use it to instruct other operators.

Failure to read, understand and follow the instructions in this manual may result in fire or serious personal injury—including amputation, electrocution, or death.

The owner of this machine/tool is solely responsible for its safe use. This responsibility includes but is not limited to proper installation in a safe environment, personnel training and usage authorization, proper inspection and maintenance, manual availability and comprehension, application of safety devices, cutting/sanding/grinding tool integrity, and the usage of personal protective equipment.

The manufacturer will not be held liable for injury or property damage from negligence, improper training, machine modifications or misuse.



## **WARNING!**

Some dust created by power sanding, sawing, grinding, drilling, and other construction activities contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:

- Lead from lead-based paints.
- Crystalline silica from bricks, cement and other masonry products.
- Arsenic and chromium from chemically-treated lumber.

Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals: Work in a well ventilated area, and work with approved safety equipment, such as those dust masks that are specially designed to filter out microscopic particles.

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# INTRODUCTION

## Contact Info

We are committed to customer satisfaction. If you have any questions or need help, use the information below to contact us.

**IMPORTANT: Before contacting, please get the original purchase receipt, serial number, and manufacture date of your machine. This information is required for all Technical Support calls and it will help us help you faster.**

Woodstock International Technical Support  
 Phone: (360) 734-3482  
 Email: techsupport@woodstockint.com

We want your feedback on this manual. What did you like about it? Where could it be improved? Please take a few minutes to give us feedback.

Technical Documentation Manager  
 P.O. Box 2309  
 Bellingham, WA 98227  
 Email: manuals@woodstockint.com

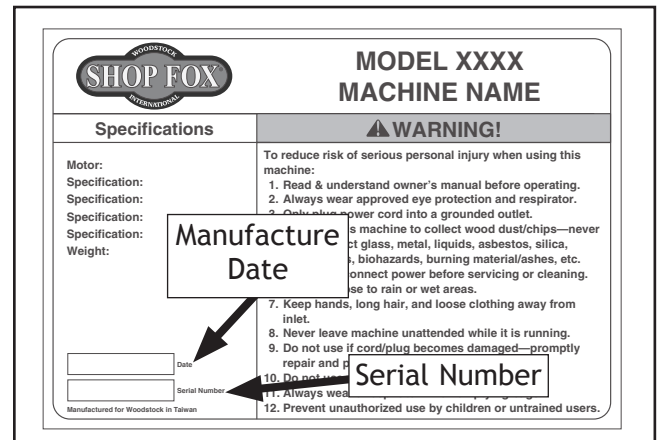
## Manual Accuracy

We are proud to provide a high-quality owner's manual with your new machine!

We made every effort to be exact with the instructions, specifications, drawings, and photographs contained inside. Sometimes we make mistakes, but our policy of continuous improvement also means that **sometimes the machine you receive will be slightly different than what is shown in the manual.**

If you find this to be the case, and the difference between the manual and machine leaves you confused about a procedure, check our website for an updated version. We post current manuals and manual updates for free on our website at [www.woodstockint.com](http://www.woodstockint.com).

Alternatively, you can call our Technical Support for help. Before calling, make sure you write down the **Manufacture Date** and **Serial Number** from the machine ID label (see below). Also, if available, have a copy of your **original purchase receipt** on hand. This information is required for all Tech Support calls.





# MACHINE SPECIFICATIONS



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## MODEL W1839 6" VARIABLE-SPEED GRINDER WITH WORK LIGHT

### Product Dimensions

Weight..... 28 lbs.  
 Width (side-to-side) x Depth (front-to-back) x Height..... 15 x 12 x 17-1/2 in.  
 Footprint (Length x Width)..... 11-1/4 x 6-3/4 in.

### Shipping Dimensions

Type..... Cardboard  
 Content..... Machine  
 Weight..... 29 lbs.  
 Length x Width x Height..... 21 x 13 x 11 in.  
 Must Ship Upright..... Yes

### Electrical

Power Requirement..... 120V, Single-Phase, 60 Hz  
 Full-Load Current Rating..... 2.5A  
 Minimum Circuit Size..... 15A  
 Power Cord Included..... Yes  
 Power Cord Length..... 6 ft.  
 Power Cord Gauge..... 18 AWG  
 Plug Included..... Yes  
 Included Plug Type..... NEMA 5-15  
 Switch Type..... Toggle Safety Switch w/Removable Key

### Motors

#### Main

Horsepower..... 1/3 HP  
 Phase..... Single-Phase  
 Amps..... 2.5  
 Speed..... 2000 - 3400 RPM  
 Type..... Capacitor-Start Induction Motor  
 Power Transfer ..... Direct Drive

### Main Specifications

#### Operation Info

Grinder Type..... Variable-Speed  
 Wheel Type..... Aluminum Oxide  
 Right Wheel Diameter..... 6 in.  
 Left Wheel Diameter..... 6 in.  
 Right Wheel Grinding Face Width..... 3/4 in.  
 Left Wheel Grinding Face Width..... 3/4 in.  
 Wheel Bore..... 1/2 in.  
 Wheel Speed at Maximum Wheel Diameter..... 4450 RPM



**Construction**

Base..... Cast Iron  
 Work Rest..... Aluminum  
 Eye Shields..... Clear Plastic  
 Lamp..... LED

**Other**

Country of Origin ..... China  
 Warranty ..... 2 Years  
 Approximate Assembly & Setup Time ..... 15 Minutes  
 Serial Number Location ..... ID Label  
 ISO 9001 Factory ..... Yes  
 Certified by a Nationally Recognized Testing Laboratory (NRTL) ..... No

**Features**

- 1/3 HP Variable-Speed Induction Motor
- Dual 6" Aluminum-Oxide Grinding Wheels
- 1/2" Grinding Wheel Bore
- 4450 RPM Grinding Wheel Speed
- Dual Eye Safety Shields
- Dual Adjustable Aluminum Work Rests
- Base Mounting Holes 3/8" (2) x 9-7/8" OC



# MACHINE SPECIFICATIONS



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## MODEL W1840 8" VARIABLE-SPEED GRINDER WITH WORK LIGHT

### Product Dimensions

Weight..... 40 lbs.  
 Width (side-to-side) x Depth (front-to-back) x Height..... 15-1/2 x 12 x 19 in.  
 Footprint (Length x Width)..... 11-1/4 x 6-3/4 in.

### Shipping Dimensions

Type..... Cardboard Box  
 Content..... Machine  
 Weight..... 43 lbs.  
 Length x Width x Height..... 22 x 15 x 13 in.  
 Must Ship Upright..... Yes

### Electrical

Power Requirement..... 120V, Single-Phase, 60 Hz  
 Full-Load Current Rating..... 5A  
 Minimum Circuit Size..... 15A  
 Power Cord Included..... Yes  
 Power Cord Length..... 6 ft.  
 Power Cord Gauge..... 18 AWG  
 Plug Included..... Yes  
 Included Plug Type..... NEMA 5-15  
 Switch Type..... Toggle Safety Switch w/Removable Key

### Motors

#### Main

Horsepower..... 3/4 HP  
 Phase..... Single-Phase  
 Amps..... 5A  
 Speed..... 2000 - 3400 RPM  
 Type..... Capacitor-Start Induction Motor  
 Power Transfer ..... Direct Drive

### Main Specifications

#### Operation Info

Grinder Type..... Variable-Speed  
 Wheel Type..... Type 1  
 Right Wheel Diameter..... 8 in.  
 Left Wheel Diameter..... 8 in.  
 Right Wheel Grinding Face Width..... 1 in.  
 Left Wheel Grinding Face Width..... 1 in.  
 Wheel Bore..... 5/8 in.  
 Wheel Speed at Maximum Wheel Diameter..... 3600 RPM



**Construction**

Base..... Cast Iron  
 Work Rest..... Aluminum  
 Eye Shields..... Clear Plastic  
 Lamp..... LED

**Other**

Country of Origin ..... China  
 Warranty ..... 2 Years  
 Approximate Assembly & Setup Time ..... 15 Minutes  
 Serial Number Location ..... ID Label  
 ISO 9001 Factory ..... Yes  
 Certified by a Nationally Recognized Testing Laboratory (NRTL) ..... No

**Features**

- 3/4 HP Variable-Speed Induction Motor
- Dual 8" Aluminum-Oxide Grinding Wheels
- 5/8" Grinding Wheel Bore
- 3600 RPM Grinding Wheel Speed
- Dual Eye Safety Shields
- Dual Adjustable Aluminum Work Rests
- Base Mounting Holes 3/8" (2) x 9-7/8" OC



# Controls & Components

Become familiar with the names and locations of the controls and features shown below to better understand the instructions in this manual.

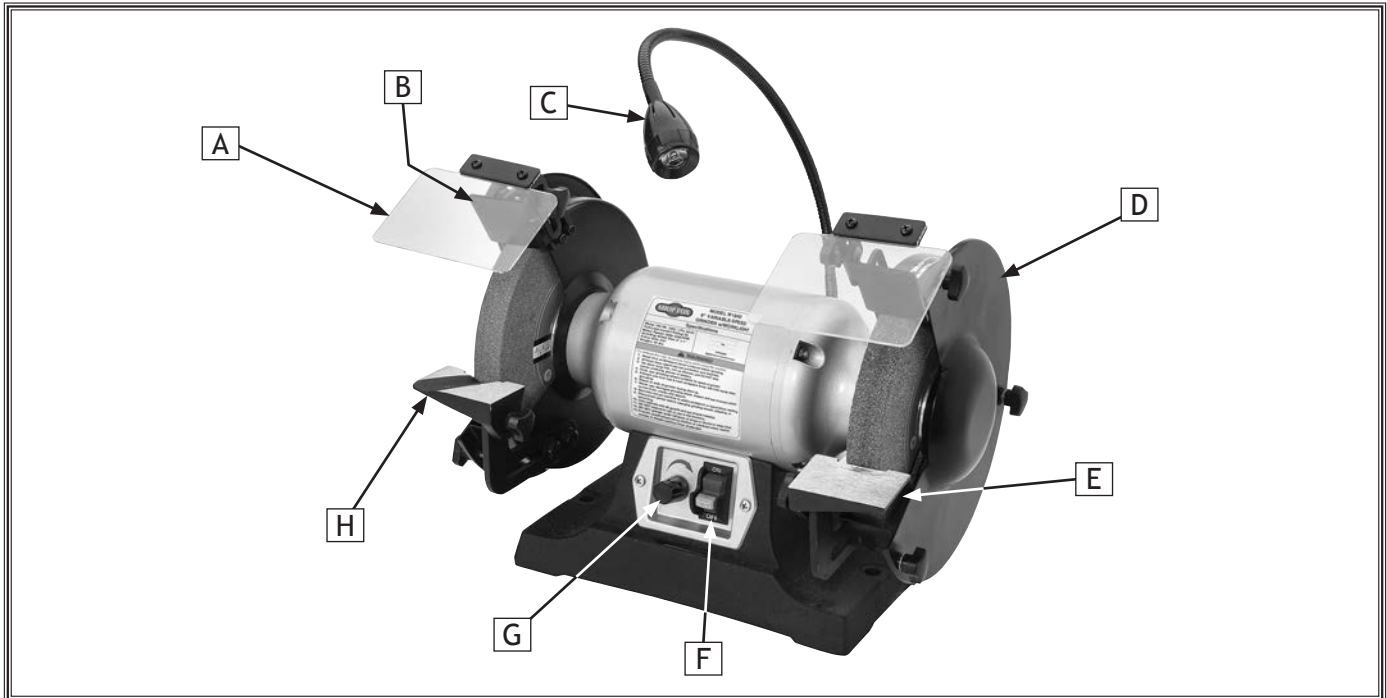


Figure 1. W1839 & W1840 controls and components.

## CAUTION

**For Your Own Safety Read Instruction Manual Before Operating Grinder**

- a) Replace cracked wheel immediately.
- b) Always use guards and eye shields.
- c) Do not overtighten wheel nut.
- d) Only use flanges furnished with grinder.
- e) Adjust work rest to maintain  $\frac{1}{16}$ " -  $\frac{1}{8}$ " distance from wheel as diameter of wheels will decrease with use. **DO NOT** allow more than  $\frac{1}{8}$ " gap between work rest and wheel.
- f) Frequently clean grinding dust from beneath grinder.

- A. **Safety Shield:** Helps protect operator from sparks during grinding. Shield is *not* a substitute for proper personal protective equipment.
- B. **Spark Deflector:** Helps contain sparks inside wheel guard to reduce operator exposure.

- C. **LED Work Lamp:** Work lamp turns ON/OFF when machine is turned ON/OFF.
- D. **Wheel Guard:** Prevents accidental contact with grinding wheel, and contains sparks during grinding.
- E. **Tool Rest (Right):** Provides flat surface to rest workpiece during operation. Tilt angle is adjustable.
- F. **ON/OFF Switch w/Disabling Key:** Turns motor ON when flipped up; turns motor OFF when pressed down. Key prevents motor from starting when removed.
- G. **Variable-Speed Dial:** Controls grinding wheel speed. Turn clockwise to increase speed; turn counterclockwise to decrease speed.
- H. **Tool Rest (Left):** Provides a 60° "V" shaped groove for sharpening drill bits. Also includes a flat surface for general grinding. Tilt angle is adjustable.

# SAFETY

## For Your Own Safety, Read Manual Before Operating Machine

The purpose of safety symbols is to attract your attention to possible hazardous conditions. This manual uses a series of symbols and signal words intended to convey the level of importance of the safety messages. The progression of symbols is described below. Remember that safety messages by themselves do not eliminate danger and are not a substitute for proper accident prevention measures—this responsibility is ultimately up to the operator!



Indicates an imminently hazardous situation which, if not avoided, **WILL** result in death or serious injury.



Indicates a potentially hazardous situation which, if not avoided, **COULD** result in death or serious injury.



Indicates a potentially hazardous situation which, if not avoided, **MAY** result in minor or moderate injury.

### **NOTICE**

This symbol is used to alert the user to useful information about proper operation of the equipment or a situation that may cause damage to the machinery.

## Standard Machinery Safety Instructions

**OWNER'S MANUAL.** Read and understand this owner's manual **BEFORE** using machine.

**TRAINED OPERATORS ONLY.** Untrained operators have a higher risk of being hurt or killed. Only allow trained/supervised people to use this machine. When machine is not being used, disconnect power, remove switch keys, or lock-out machine to prevent unauthorized use—especially around children. Make workshop kid proof!

**DANGEROUS ENVIRONMENTS.** Do not use machinery in areas that are wet, cluttered, or have poor lighting. Operating machinery in these areas greatly increases the risk of accidents and injury.

**MENTAL ALERTNESS REQUIRED.** Full mental alertness is required for safe operation of machinery. Never operate under the influence of drugs or alcohol, when tired, or when distracted.

**ELECTRICAL EQUIPMENT INJURY RISKS.** You can be shocked, burned, or killed by touching live electrical components or improperly grounded machinery. To reduce this risk, only allow an electrician or qualified service personnel to do electrical installation or repair work, and always disconnect power before accessing or exposing electrical equipment.

**DISCONNECT POWER FIRST.** Always disconnect machine from power supply **BEFORE** making adjustments, changing tooling, or servicing machine. This eliminates the risk of injury from unintended startup or contact with live electrical components.

**EYE PROTECTION.** Always wear ANSI-approved safety glasses or a face shield when operating or observing machinery to reduce the risk of eye injury or blindness from flying particles. Everyday eyeglasses are not approved safety glasses.

**WEARING PROPER APPAREL.** Do not wear clothing, apparel, or jewelry that can become entangled in moving parts. Always tie back or cover long hair. Wear non-slip footwear to avoid accidental slips, which could cause loss of workpiece control.

**HAZARDOUS DUST.** Dust created while using machinery may cause cancer, birth defects, or long-term respiratory damage. Be aware of dust hazards associated with each workpiece material, and always wear a NIOSH-approved respirator to reduce your risk.

**HEARING PROTECTION.** Always wear hearing protection when operating or observing loud machinery. Extended exposure to this noise without hearing protection can cause permanent hearing loss.

**REMOVE ADJUSTING TOOLS.** Tools left on machinery can become dangerous projectiles upon startup. Never leave chuck keys, wrenches, or any other tools on machine. Always verify removal before starting!

**INTENDED USAGE.** Only use machine for its intended purpose—never make modifications without prior approval from Woodstock International. Modifying machine or using it differently than intended will void the warranty and may result in malfunction or mechanical failure that leads to serious personal injury or death!

**AWKWARD POSITIONS.** Keep proper footing and balance at all times when operating machine. Do not overreach! Avoid awkward hand positions that make workpiece control difficult or increase the risk of accidental injury.

**CHILDREN & BYSTANDERS.** Keep children and bystanders at a safe distance from the work area. Stop using machine if they become a distraction.

**GUARDS & COVERS.** Guards and covers reduce accidental contact with moving parts or flying debris—make sure they are properly installed, undamaged, and working correctly.

**FORCING MACHINERY.** Do not force machine. It will do the job safer and better at the rate for which it was designed.

**NEVER STAND ON MACHINE.** Serious injury may occur if machine is tipped or if the cutting tool is unintentionally contacted.

**STABLE MACHINE.** Unexpected movement during operation greatly increases risk of injury or loss of control. Before starting, verify machine is stable and mobile base (if used) is locked.

**USE RECOMMENDED ACCESSORIES.** Consult this owner's manual or the manufacturer for recommended accessories. Using improper accessories will increase risk of serious injury.

**UNATTENDED OPERATION.** To reduce the risk of accidental injury, turn machine **OFF** and ensure all moving parts completely stop before walking away. Never leave machine running while unattended.

**MAINTAIN WITH CARE.** Follow all maintenance instructions and lubrication schedules to keep machine in good working condition. A machine that is improperly maintained could malfunction, leading to serious personal injury or death.

**CHECK DAMAGED PARTS.** Regularly inspect machine for any condition that may affect safe operation. Immediately repair or replace damaged or mis-adjusted parts before operating machine.

**MAINTAIN POWER CORDS.** When disconnecting cord-connected machines from power, grab and pull the plug—NOT the cord. Pulling the cord may damage the wires inside, resulting in a short. Do not handle cord/plug with wet hands. Avoid cord damage by keeping it away from heated surfaces, high traffic areas, harsh chemicals, and wet/damp locations.

**EXPERIENCING DIFFICULTIES.** If at any time you experience difficulties performing the intended operation, stop using the machine! Contact Technical Support at (360) 734-3482.

# Additional Safety for Benchtop Grinders

SAFETY

Serious injury or death can occur from impact injuries if a grinding wheel breaks apart during operation. Rotating grinding wheels can easily remove skin or cause entanglement injuries if clothing or apparel is caught in moving parts. Fingers can be pinched/cut by in-running pinch points. Flying sparks can ignite explosive or flammable materials. To minimize risk of injury or death, anyone operating machine **MUST** completely heed hazards and warnings below.

**SAFE MOUNTING & WORK AREA.** An unsecured grinder may become dangerously out of control during operation. Before use, verify grinder is **FIRMLY** secured in a location free of explosive or flammable materials.

**STARTING GRINDER.** If a wheel is damaged, it will usually fly apart shortly after start-up. To protect yourself, always stand to side of grinder when turning it ON and allow it to run for at least one minute before standing in front of it.

**VISUAL INSPECTION.** Verify that grinding wheels are free of cracks, chips, or dents in wheel surface before installing. Do not use wheel if it has any of these problems or it could break apart during operation.

**WHEEL SPEED RATING.** Before mounting a new wheel, be sure wheel RPM rating is equal to or higher than speed of grinder. Never use unmarked wheels or wheels rated for lower RPM than grinder.

**VIBRATING WHEEL.** Never use a wheel that vibrates excessively. Replace wheel or shaft bearings immediately.

**SPARK DEFLECTOR GAP.** Never allow gap between end of spark deflector and grinding wheel to exceed  $\frac{1}{4}$ ". If the gap is larger, additional sparks and abrasives will be expelled toward the operator, which will increase the risk of injury.

**TOOL REST POSITION.** A large distance (gap) between tool rest and wheel increases risk of workpiece being pinched between wheel and tool rest causing wheel breakage, loss of control, and possible injury. Never allow gap between tool rest and wheel to exceed  $\frac{1}{8}$ ". Replace grinding wheel when tool rest gap becomes wider than  $\frac{1}{8}$ " and no additional adjustment can be made to tool rest.

**SIDE & TOP GRINDING.** Grinding on side of wheels can cause them to crack and burst—unless wheel is rated for side grinding. Grinding on top of wheels greatly increases risk of workpiece kickback. Always grind on downward part of wheel.

**SPINDLE NUT.** Only tighten wheel spindle nut enough to drive wheel and prevent slippage.

**EYE SHIELDS.** Place eye shields close to grinding wheel and re-adjust as wheel wears down.

**HAND & WHEEL CONTACT.** Keep a firm grip on workpiece and position your hands a safe distance away when grinding. Anticipate when workpiece will heat up, and cool it before it becomes too hot to hold, or use an appropriate clamp. Avoid wearing gloves as they may get caught in grinding wheel and cause even more serious entanglement injuries.

**WHEEL FLANGES.** Only use flanges included with or designed for this grinder when mounting wheels. Other flanges may not properly secure wheel and cause an accident. Do not use warped or damaged flanges, and always use paper discs (blotters) between wheels and flanges to reduce risk of flanges cracking wheel when tightening.

**EYE, FACE, & LUNG PROTECTION.** Grinding ejects small particles at a high rate of speed. These particles can cause blindness, skin injuries or respiratory damage. **ALWAYS** wear approved clothing, safety goggles, face shield, and a respirator for type of grinding to be done.

**RING TEST.** Perform a "ring test" on grinding wheels before installation to ensure they are safe to use. A wheel that does **NOT** pass ring test may break or fly apart during operation.

# ELECTRICAL

## Circuit Requirements

This machine must be connected to the correct size and type of power supply circuit, or fire or electrical damage may occur. Read through this section to determine if an adequate power supply circuit is available. If a correct circuit is not available, a qualified electrician **MUST** install one before you can connect the machine to power.

A power supply circuit includes all electrical equipment between the breaker box or fuse panel in the building and the machine. The power supply circuit used for this machine must be sized to safely handle the full-load current drawn from the machine for an extended period of time. (If this machine is connected to a circuit protected by fuses, use a time delay fuse marked D.)

### Full-Load Current Rating

The full-load current rating is the amperage a machine draws at 100% of the rated output power. On machines with multiple motors, this is the amperage drawn by the largest motor or sum of all motors and electrical devices that might operate at one time during normal operations.

**W1839 Full-Load Current Rating at 120V ..... 2.5 Amps**

**W1840 Full-Load Current Rating at 120V ..... 5 Amps**

### Circuit Requirements for 120V

This machine is prewired to operate on a power supply circuit that has a verified ground and meets the following requirements:

**Circuit Type ..... 110V/120V, 60 Hz, Single-Phase**


**Circuit Size ..... 15 Amps**

**Plug/Receptacle ..... NEMA 5-15**

**⚠ WARNING**

The machine must be properly set up before it is safe to operate. **DO NOT** connect this machine to the power source until instructed to do so later in this manual.

**⚠ WARNING**



Incorrectly wiring or grounding this machine can cause electrocution, fire, or machine damage. To reduce this risk, only an electrician or qualified service personnel should do any required electrical work on this machine.

**NOTICE**

The circuit requirements listed in this manual apply to a dedicated circuit—where only one machine will be running at a time. If this machine will be connected to a shared circuit where multiple machines will be running at the same time, consult with an electrician to ensure that the circuit is properly sized for safe operation.

ELECTRICAL

# Grounding Requirements

This machine **MUST** be grounded. In the event of certain types of malfunctions or breakdowns, grounding provides a path of least resistance for electric current to travel—in order to reduce the risk of electric shock.

Improper connection of the equipment-grounding wire will increase the risk of electric shock. The wire with green insulation (with/without yellow stripes) is the equipment-grounding wire. If repair or replacement of the power cord or plug is necessary, do not connect the equipment-grounding wire to a live (current carrying) terminal.

Check with a qualified electrician or service personnel if you do not understand these grounding requirements, or if you are in doubt about whether the tool is properly grounded. If you ever notice that a cord or plug is damaged or worn, disconnect it from power, and immediately replace it with a new one.

## For 120V Connection

This machine is equipped with a power cord that has an equipment-grounding wire and NEMA 5-15 grounding plug. The plug must only be inserted into a matching receptacle (see **Figure**) that is properly installed and grounded in accordance with local codes and ordinances.

## Extension Cords

We do not recommend using an extension cord with this machine. Extension cords cause voltage drop, which may damage electrical components and shorten motor life. Voltage drop increases with longer extension cords and smaller gauge sizes (higher gauge numbers indicate smaller sizes).

Any extension cord used with this machine must contain a ground wire, match the required plug and receptacle, and meet the following requirements:

- Minimum Gauge Size at 120V ..... 16 AWG**
- Maximum Length (Shorter is Better) ..... 50 ft.**

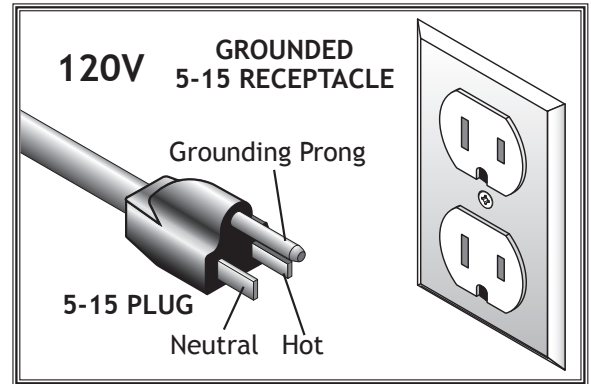
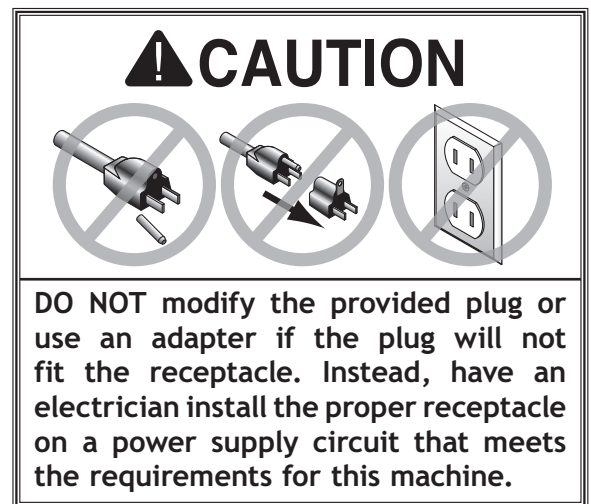


Figure 2. NEMA 5-15 plug & receptacle.



ELECTRICAL

# SETUP


## Unpacking

This machine has been carefully packaged for safe transportation. If you notice the machine has been damaged during shipping, please contact your authorized Shop Fox dealer immediately.

## Items Needed for Setup

The following items are needed, but not included, to set up your machine.

| Description                               | Qty       |
|---|-----------|
| • Safety Glasses for Each Person .....    | 1         |
| • Degreaser or Solvent for Cleaning ..... | As Needed |
| • Disposable Rags for Cleaning .....      | As Needed |
| • Mounting Hardware (Page 15).....        | As Needed |
| • Phillips Screwdriver #2 .....           | 1         |
| • Open-End Wrench 13mm .....              | 1         |



**!WARNING**

This machine presents serious injury hazards to untrained users. Read through this entire manual to become familiar with the controls and operations before starting the machine!



**!WARNING**

Wear safety glasses during entire setup process!



**!WARNING**

**SUFFOCATION HAZARD!**  
Immediately discard all plastic bags and packing materials to eliminate choking/suffocation hazards for children and animals.

SETUP

# Inventory

The following is a list of items shipped with your machine. Before beginning setup, lay these items out and inventory them.

**Note:** *If you cannot find an item on this list, carefully check around/inside the machine and packaging materials. Often, these items get lost in packaging materials while unpacking or they are pre-installed at the factory.*



**! WARNING**  
**SUFFOCATION HAZARD!**  
 Immediately discard all plastic bags and packing materials to eliminate choking/suffocation hazards for children and animals.

| Box Contents (Figure 3):                | Qty |
|---|-----|
| A. Grinder (not shown).....             | 1   |
| B. Tool Rest Bracket (Right).....       | 1   |
| C. Tool Rest Bracket (Left) .....       | 1   |
| D. Tool Rest (Left) .....               | 1   |
| E. Tool Rest (Right) .....              | 1   |
| F. Spark Deflector (Right) .....        | 1   |
| G. Spark Deflector (Left) .....         | 1   |
| H. Safety Shield Mounting Brackets..... | 2   |
| I. Safety Shield Mounting Plates.....   | 2   |
| J. Spark Deflectors .....               | 2   |

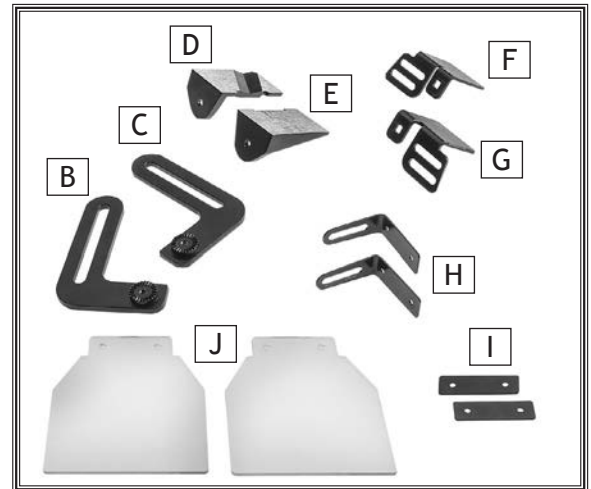


Figure 3. Tool rest and safety shield parts.

| Hardware (Figure 4):                     | Qty |
|--|-----|
| K. Flat Washers 8mm .....                | 2   |
| L. Flat Washers 6mm .....                | 4   |
| M. Flat Washers 5mm .....                | 4   |
| N. Lock Washers 6mm .....                | 4   |
| O. Lock Washers 5mm .....                | 4   |
| P. Hex Bolts M8-1.25 x 12 .....          | 4   |
| Q. Phillips Head Screws M4-.7 x 12 ..... | 4   |
| R. Carriage Bolts M6-1 x 12 .....        | 2   |
| S. Phillips Head Screws M5-.8 x 10 ..... | 4   |
| T. Flange Nuts M4-.7 .....               | 4   |
| U. Knobs M6-1 .....                      | 2   |
| V. Knob Bolts M6-1 x 18.....             | 2   |

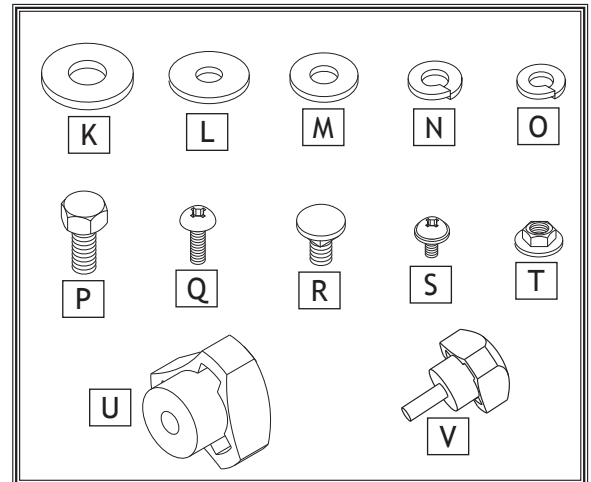


Figure 4. Fastener inventory.

SETUP



# Machine Placement

## Workbench Load

Refer to the **Machine Specifications** for the weight and footprint specifications of your machine. Some workbenches may require additional reinforcement to support the weight of the machine and workpiece materials.

## Placement Location

Consider anticipated workpiece sizes and additional space needed for auxiliary stands, work tables, or other machinery when establishing a location for this machine in the shop. Below is the minimum amount of space needed for the machine.

Mount the grinder to a workbench to avoid accidental tipping. For portable bench grinding, mount it to a heavy plywood base (at least 1" thick) that is wide enough to prevent tipping or rocking during use.

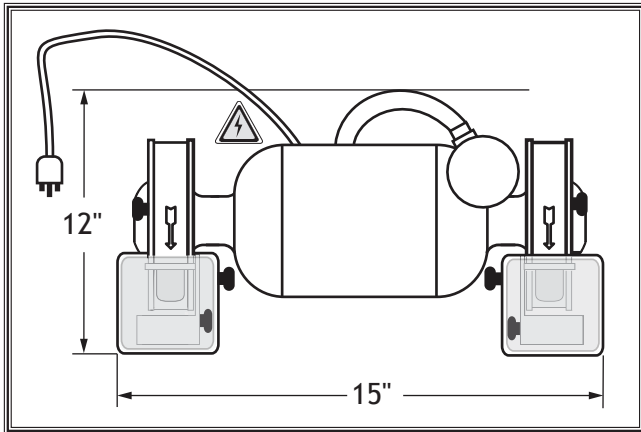


Figure 5. W1839 minimum working clearances.

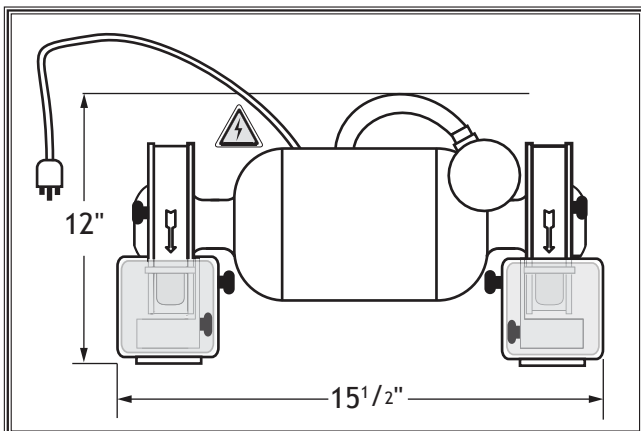


Figure 6. W1840 minimum working clearances.

# Bench Mounting

Number of Mounting Slots..... 2  
 Diameter of Mounting Hardware Needed .. 3/8"

The base of this machine has mounting holes that allow it to be fastened to a workbench or other mounting surface to prevent it from moving during operation and causing accidental injury or damage.

The strongest mounting option is a "Through Mount" (see example) where holes are drilled all the way through the workbench—and hex bolts, washers, and hex nuts are used to secure the machine in place.

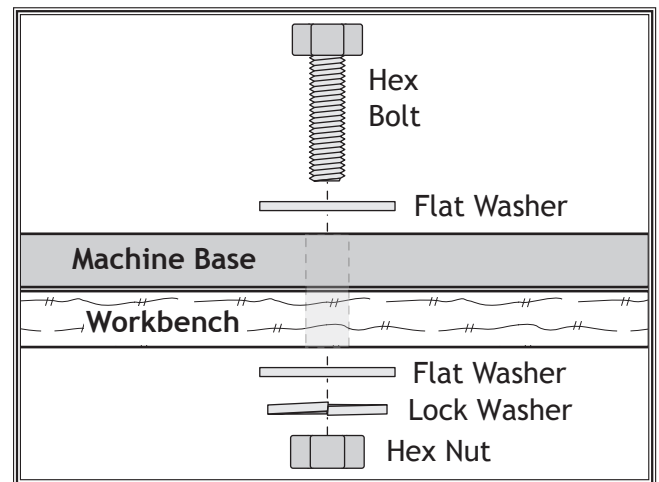


Figure 7. Typical "Through Mount" setup.

Another option is a "Direct Mount" (see example) where the machine is secured directly to the workbench with lag screws and washers.

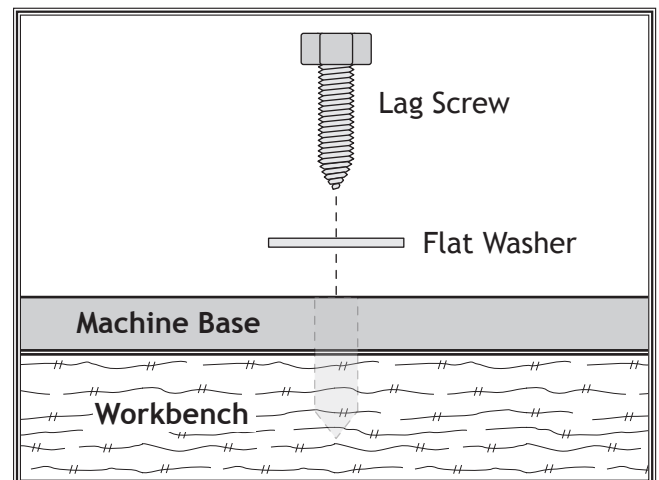


Figure 8. Typical "Direct Mount" setup.

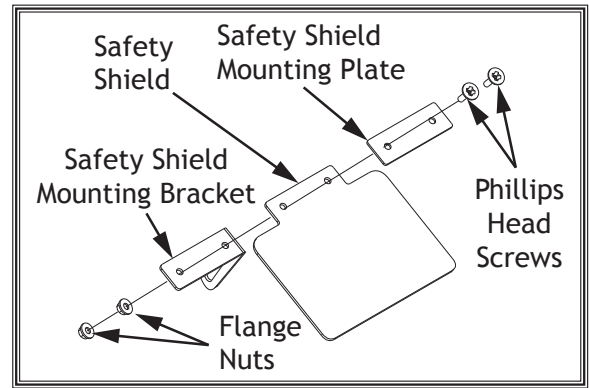
SETUP

# Assembly

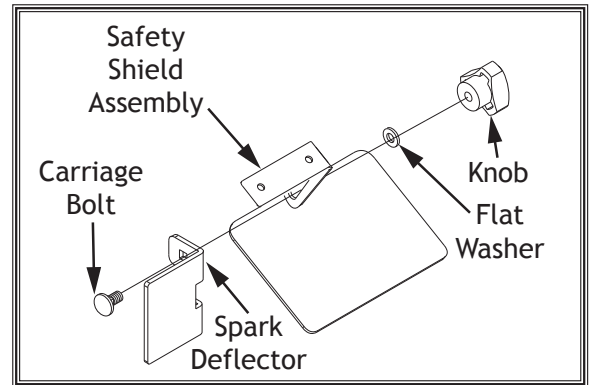
Before beginning the assembly process, refer to **Items Needed for Setup** and gather everything you need. Ensure all parts have been properly cleaned of any heavy-duty rust-preventative applied at the factory (if applicable). Be sure to complete all steps in the assembly procedure prior to performing the **Test Run**.

To assemble machine, do these steps:

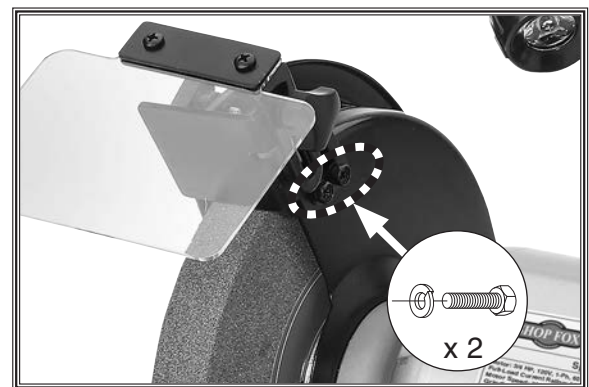
1. Assemble safety shields (see **Figure 9**) using (4) M4-.7 x 12 Phillips head screws, (4) M4-.7 flange nuts, (2) safety shield mounting plates, (2) safety shields, and (2) safety shield mounting brackets.
2. Attach safety shield assemblies to spark deflectors (see **Figure 10**) using (2) M6-1 x 12 carriage bolts, (2) 6mm flat washers, and (2) M6-1 knobs.
3. Attach each spark deflector/safety shield assembly to grinder with (4) M5-.8 x 10 Phillips head screws, (4) 5mm flat washers, and (4) 5mm lock washers (see **Figure 11**).
4. Assemble left tool rest using (1) left tool rest bracket, (1) left tool rest, (1) 6mm flat washer, (1) 6mm lock washer, and (1) M6-1 x 18 knob bolt (see **Figure 12**).
5. Assemble right tool rest using (1) right tool rest bracket, (1) right tool rest, (1) 6mm flat washer, (1) 6mm lock washer, and (1) M6-1 x 18 knob bolt.



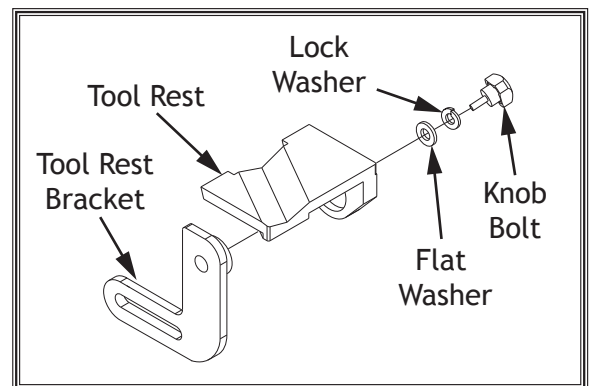
**Figure 9.** Safety shield components.



**Figure 10.** Safety shield attached to spark deflectors (1 or 2).



**Figure 11.** Spark deflector attached.



**Figure 12.** Tool rest assembly.

SETUP

- Attach each tool rest assembly to grinder using (4) M8-1.25 x 12 hex bolts and (4) 8mm flat washers (see Figure 13).

**⚠ CAUTION**

Some grinding wheels must be replaced before spark deflector or tool rest reach their final adjustment. As diameter of a grinding wheel is reduced, so is surface speed. Grinding under these conditions can lead to faster abrasive loss and poor grinding results. Always follow wheel manufacturer's directions.



Figure 13. Tool rest assembly attached to grinder.

### Tool Rest Adjustment

The toll rest can be adjusted closer/farther from grinding wheel or tilted and secured every 15° from 0°–75°.

The tool rest stabilizes the workpiece when grinding. It must always be positioned correctly when using the grinder to help prevent the operator's hands from being pulled into grinding wheel.

Each tool rest features detents that allow it to lock at a specific angle. To adjust a tool rest, loosen the knob bolt (see Figure 13) several turns, pivot the tool rest to the appropriate angle, position it  $\frac{1}{16}$ " away from the grinding wheel, and then tighten knob bolt to secure setting.

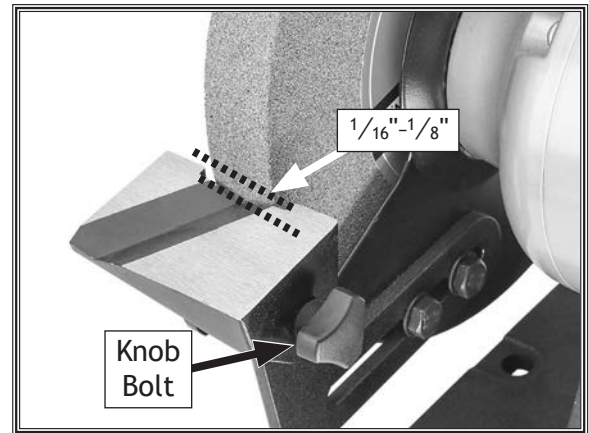


Figure 14. Tool rest gap.

As grinding wheel wears, shift tool rest closer to grinding wheel to maintain a gap of  $\frac{1}{16}$ "– $\frac{1}{8}$ " (see Figure 14).

**IMPORTANT:** *If the gap reaches  $\frac{1}{8}$ " and the tool rest cannot be adjusted any closer to the wheel, the grinding wheel MUST be replaced before you can resume safely operating grinder.*

### Spark Deflector Adjustment

The spark deflector prevents sparks from showering the top of the workpiece and the operator's hands. As the wheel wears, adjust the spark deflector closer to the grinding wheel to maintain a gap of  $\frac{1}{8}$ "– $\frac{1}{4}$ " (see Figure 15). If the gap reaches  $\frac{1}{4}$ " and no additional adjustments can be made, replace the grinding wheel.

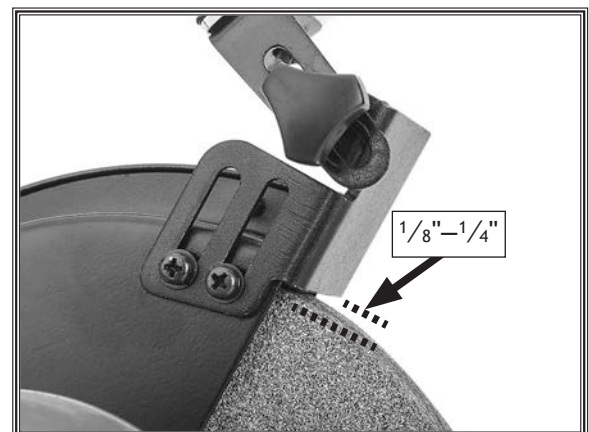


Figure 15. Spark deflector gap.

**⚠ WARNING**

Never grind *WITHOUT* tool rest in place and properly positioned. "Free hand" grinding or too large of a gap between wheel and tool rest increases risk of pinching, which may result in wheel breakage or operator injury.

SETUP

# Test Run

Once assembly is complete, test run the machine to ensure it is properly connected to power and safety components are functioning properly.

If you find an unusual problem during the test run, immediately stop the machine, disconnect it from power, and fix the problem BEFORE operating the machine again. The **Troubleshooting** table in the **SERVICE** section of this manual can help.

To test run machine, do these steps:

1. Clear all setup tools away from machine.
2. Connect machine to power supply.
3. Rotate variable-speed dial all the way left and turn machine **ON**, verify motor operation, and slowly rotate variable-speed dial to the right, then turn machine **OFF**.

The motor should run smoothly and without unusual noises.

4. Remove key from toggle switch (see **Figure 16**).
5. Try to start machine with switch.

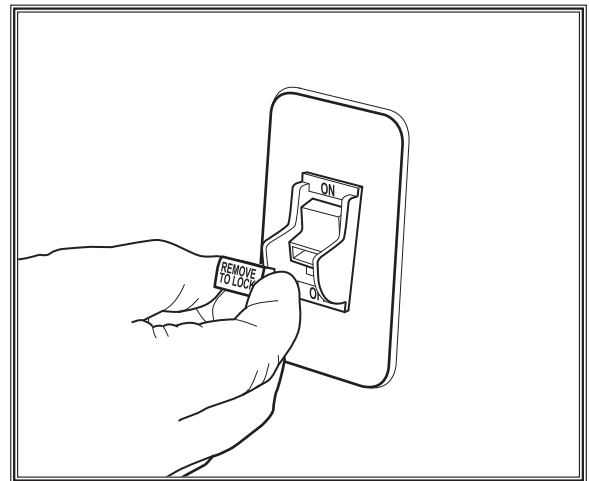
Machine should NOT start. If it *does* start, the switch disabling feature is not functioning properly and the switch must be replaced.

**⚠ WARNING**

Serious injury or death can result from using this machine **BEFORE** understanding its controls and related safety information. **DO NOT** operate, or allow others to operate, machine until the information is understood.

**⚠ WARNING**

**DO NOT** start machine until all preceding setup instructions have been performed. Operating an improperly set up machine may result in malfunction or unexpected results that can lead to serious injury, death, or machine/property damage.



**Figure 16.** Removing switch key from toggle switch.

SETUP

# OPERATIONS

## Operation Overview

This machine will perform many types of operations that are beyond the scope of this manual. Many of these operations can be dangerous or deadly if performed incorrectly.

The instructions in this section are written with the understanding that the operator has the necessary knowledge and skills to operate this machine. If at any time you are experiencing difficulties performing any operation, stop using the machine!

The overview below provides the novice machine operator with a basic understanding of how the machine is used during operation, so the machine controls/components discussed later in this manual are easier to understand. Due to its generic nature, this overview is **NOT** intended to be an instructional guide.

To complete a typical operation, the operator does the following:

1. Ensures workpiece is suitable for grinding.
2. Selects correct grinding wheel for operation, inspects wheel, performs a "ring test," and installs wheel.
3. Verifies/adjusts tool rest position so gap is perpendicular and  $\frac{1}{16}$ "– $\frac{1}{8}$ " from grinding wheel, and verifies/adjusts spark deflector and wheel gap is between  $\frac{1}{8}$ "– $\frac{1}{4}$ ".
4. Positions safety shield for safe grinding.
5. Ensures that ON/OFF switch is in OFF position and variable-speed dial is turned all the way left, then connects grinder to power.
6. Puts on personal protective equipment.
7. Stands aside, starts grinder, and allows it to reach full speed and operate for at least one minute to ensure grinding wheel does not fly apart from the centrifugal force of rotation.
8. Positions workpiece on tool rest for grinding.

**⚠ WARNING**

To reduce your risk of serious injury or damage to the machine, read this entire manual **BEFORE** using machine.

**⚠ WARNING**

To reduce the risk of eye injury and long-term respiratory damage, always wear safety glasses and a respirator while operating this machine.

**NOTICE**

If you are an inexperienced operator, we strongly recommend that you read books or trade articles, or seek training from an experienced operator of this type of machinery before performing unfamiliar operations. Above all, safety must come first!

9. Operator gradually feeds workpiece into grinding wheel and moves workpiece left and right to prevent grooves in wheel.
10. Quenches workpiece as required to prevent surface hardening or temper loss.
11. Stops bench grinder.

**OPERATIONS**

# Workpiece Inspection

Some workpieces are not suitable for grinding on a bench grinder. Before grinding, inspect all workpieces for the following:

- **Hard Workpiece:** Workpieces that are made of stone, carbide, stainless steel, ceramics, glass, or have hardened welds will wear out most general-grade grinding wheels quickly. If hard materials are to be ground, you must install the correct type of grinding wheel.
- **Soft Workpiece:** Workpieces that are made of aluminum, brass, lead, and other non-ferrous metals will load up in the grinding wheel and render the abrasive useless. Grinding wood, plastics, rubber, fiberglass, or other soft materials can also cause the same problem and lead to the wheel overheating and possibly bursting during use if ignored. To restore a loaded grinding wheel surface, redress with a dressing tool.
- **Flexible/Unstable Workpiece:** Grinding on the side or the ends of cable, chain, or round workpieces creates the hazard of workpiece twist or grab, leading to entanglement with the wheel or shaft. This hazard must be avoided.
- **Loose Parts:** Make sure that the workpiece is free of any parts like springs, pins, balls, or other components that may loosen or dislodge during grinding, and hit the operator.
- **Strength:** Make sure that the workpiece is strong enough to be ground. Should it break, the broken piece may dig into the wheel and cause kickback or severe injury.

## WARNING

Electrical system is not waterproof. DO NOT use grinder with liquid cooling system for wet grinding. Ignoring warning can lead to electrocution or machine damage.

# Wheel Selection

The Model W1839 only accepts Type-1 wheels with a 1/2" bore. The W1840 only accepts Type-1 wheels with a 5/8" bore.

Aluminum oxide and silicon carbide wheels are marked in a somewhat uniform manner by all the major manufacturers. Understanding these markings will help you understand the capabilities of various wheels. Always refer to the manufacturer's grinding recommendations when selecting a wheel for your project.

The basic format for wheel numbering is:

| Prefix | Abrasive Type | Grit Size | Grade | Bond Type |
|--------|---------------|-----------|-------|-----------|
| 1      | A             | 60        | L     | V         |

The **Prefix** is the manufacturer's designation for a particular wheel type (e.g. Type-1 wheels).

The most common **Abrasive Types** used are A for Aluminum Oxide, C for Silicon Carbide, and occasionally SG for Seeded Gel.

The **Grit Size** is a number that refers to the size of the abrasive grain in the wheel. The lower the number, the coarser the wheel. Ten is a very coarse wheel for roughing, and 220 is usually the upper range for fine finish work.

**Grade** is an indication of the hardness of the wheel—"A" being the softest and "Z" being the hardest.

**Bond Type** refers to the type of bonding material used to hold the abrasive material. Most general purpose wheels will have a "V" indicating Vitrified Clay is used. Vitrified Clay provides high strength and good porosity. The other common bond type is "B" for resin where synthetic resins are used. These are used to grind cemented carbide and ceramic materials.

**Note:** There may be other numbers inserted that have meaning for a particular type of wheel. Refer to the manufacturer's technical data for a complete explanation.

# Wheel Inspection

Before mounting a new grinding wheel, it must be inspected. Do not assume that a wheel is in sound condition just because it is new—often, damage can occur in shipping, with age, or with exposure to moisture.

First, do a **Visual Inspection**. Look for any cracks, chips, nicks, or dents in the surface of the wheel. If you see any of these, **DO NOT** use the wheel.

Second, do a **Ring Test**. This test will give you an indication of any internal damage that may not be obvious during a visual inspection.

To perform ring test, do these steps:

1. Make sure grinding wheel is clean and dry; otherwise, you may get false results.
2. Hang wheel in air with a piece of cord or string looped through mounting hole in center.
3. At spots shown in **Figure 17**, gently tap grinding wheel with a light non-metallic device such as handle of a screwdriver or a wooden mallet.

**Note:** Finding exact spot to tap may take several attempts.

4. An undamaged grinding wheel will emit a clear metallic ring or “ping” sound in each of these spots. A damaged grinding wheel will respond with a dull thud that has no clear tone.
  - If you determine from the ring test that a grinding wheel is damaged, **DO NOT** use it!

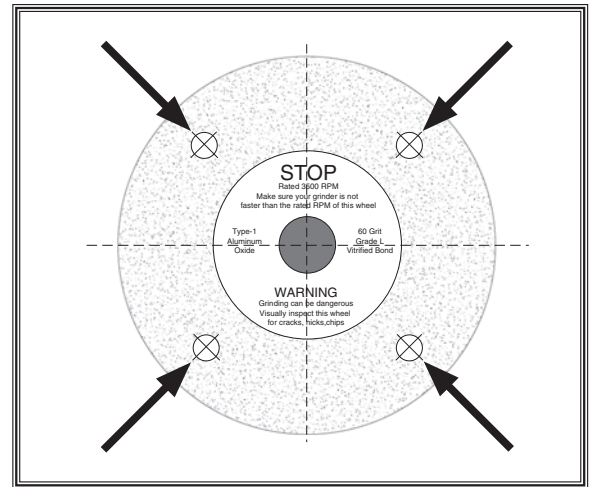


Figure 17. Tapping locations when performing a ring test.

**! CAUTION**

Warped wheel flanges can increase risk of grinding wheel breaking and flying apart. Never use warped wheel flanges. Always check flanges for flatness before installing grinding wheel.

## Wheel Care

When grinding, your safety depends, to a large degree, on the condition of the wheel. A wheel in poor condition could break apart during rotation and injure the operator and others in the area.

Here are some tips to help you avoid breaking the wheel:

- Always transport, store and handle wheels with care. Wheels may be damaged if they are dropped or if heavy objects are stacked on them.
- Select the right grinding wheel for the job. **DO NOT** grind material inappropriate for the wheel type.
- Only use wheels that are rated for the RPM of the grinder.
- Mount the wheel properly (see **Wheel Removal & Installation on Page 24**).
- Do not push the workpiece into the grinding wheel with such force that it causes the grinder to bog down. And do not apply pressure to stop the wheel after turning the grinder **OFF**.
- Dress the wheel when necessary. Do not allow it to become glazed (see **Wheel Dressing on Page 23**).
- Do not store wheels in damp or wet locations.
- Do not overtighten the nut when mounting the wheel.



# Wheel Dressing

Depending on the type of grinding you do, the grinding wheel may require periodic dressing.

There are several different types of wheel dressing devices available on the market (see **Accessories** on **Page 25** for examples). Dressing restores the abrasive quality of the wheel surface and brings the wheel edge back to square.

Refer to the instructions that accompany your dressing accessory for complete details on how to properly dress the wheel.

To dress grinder wheel, do these steps:

1. Turn grinder **ON**.
2. Place wheel dresser on tool rest with dressing wheels facing toward grinding wheel.
3. Slowly move dressing wheel toward grinding wheel and maintain slight pressure until a clear, even grinding surface appears across face of wheel.
4. Turn grinder **OFF**.
5. Adjust spark deflector and tool rest as shown on **Page 17**.

**⚠ CAUTION**  
Always adjust the tool rest and spark deflector after dressing or replacing the grinding wheel. Failure to do so could lead to workpiece kickback and injury.

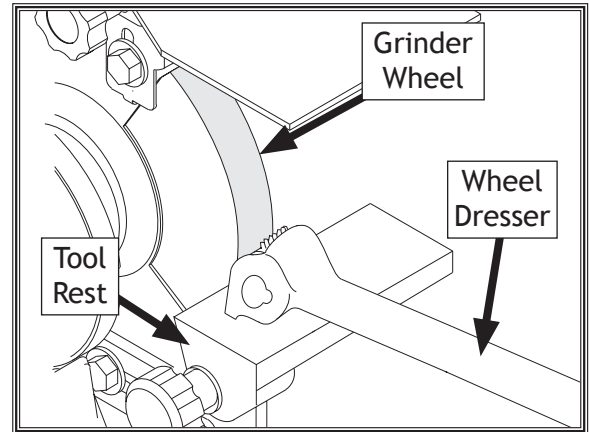


Figure 21. Example of dressing grinder wheel.

# Wheel Removal & Installation

To remove and install grinding wheel, do these steps:

1. DISCONNECT MACHINE FROM POWER!
2. Remove outer guard by removing (3) knob bolts, (3) 6mm lock washers, and (3) 6mm flat washers that secure outer guard (see Figure 18).
3. Remove M16-2 hex nut (see Figure 19).

**Tip:** Hold grinding wheel with free hand to stop it from turning while loosening the hex nut.

**Note:** Nut on left side of grinder has left-hand threads. Turn it clockwise to loosen.

4. Remove outer grinding wheel flange and paper disc.
5. Remove grinding wheel from spindle. Take note of paper or fiber disc between wheel flanges and wheel. These cushion the pressure of the wheel flanges and help distribute pressure more evenly. They also help reduce damage to the flanges.
6. Verify flatness of inner and outer flanges by placing them on a flat surface. If either flange is warped or damaged, replace it.
7. Mount new grinding wheel, as shown in Figure 20. Tighten M16-2 hex nut snugly but do not over-tighten. Over-tightening can stress and crack wheel.
8. Re-assemble outer wheel guard using hardware removed in Step 2.
9. While standing away from line of rotation, turn grinder **ON** and run new grinding wheel for at least 1-2 minutes before standing in front of it. This helps protect you if the wheel has internal damage that will cause it to fly apart from the centrifugal force of rotation.
  - If grinder runs smoothly, grinding wheel may now be used.
  - If wheel appears to wobble, grinder vibrates excessively, or any other unsafe condition appears with new wheel, stop grinder and refer to **Troubleshooting on Page 27**.

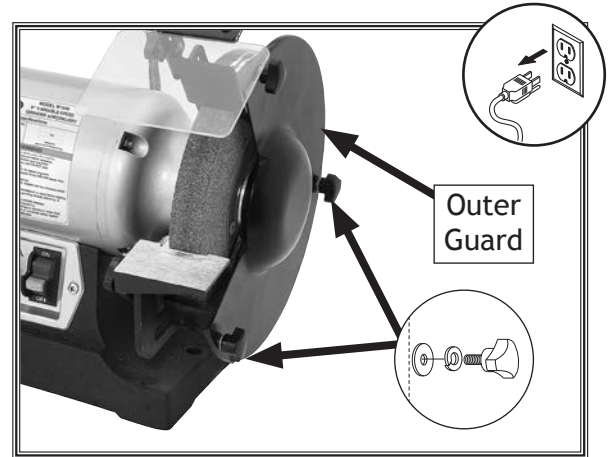


Figure 18. Location of outer guard hardware that must be removed when removing wheel.

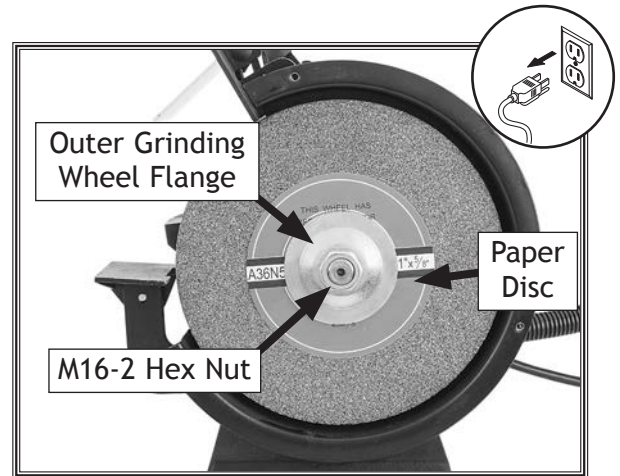


Figure 19. Outer wheel guard removed.

**⚠ CAUTION**

**NEVER** assemble grinding wheel on spindle without paper or fiber discs between wheel and flange. Not using discs can put stress on wheel, causing it to crack and possibly fly apart.

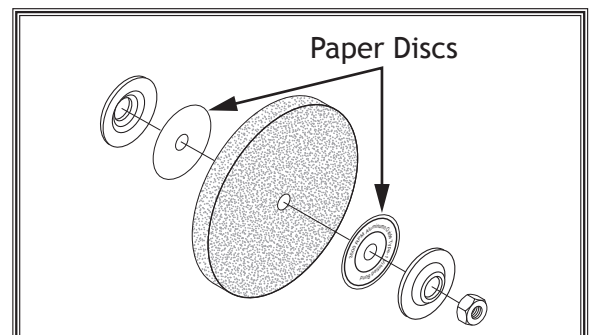


Figure 20. Assembly order for wheel installation.

# ACCESSORIES

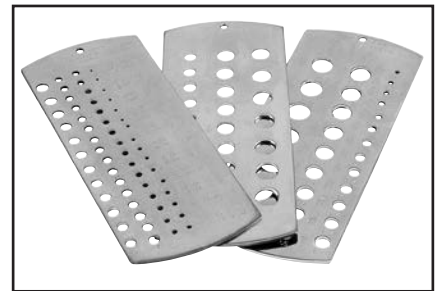
## Grinder Accessories

The following grinder accessories may be available through your local Woodstock International Inc. Dealer. If you do not have a dealer in your area, these products are also available through online dealers. Please call or e-mail Woodstock International Inc. Customer Service to get a current listing of dealers at: 1-800-840-8420 or at [sales@woodstockint.com](mailto:sales@woodstockint.com).

The **D4144 Shop Fox Drill Sharpener** mounts next to your bench grinder and can sharpen drill bits from  $\frac{1}{8}$ " to  $\frac{3}{4}$ " with speed and accuracy. Adjustable for various drill-point angles.



The **D4141 Drill Gauge Set** offers 3 steel plates with clear markings, precision stamped gauge holes and lists numbered (1 - 60), lettered (A - Z) and fractional ( $\frac{1}{16}$ " -  $\frac{1}{2}$ " by  $\frac{1}{64}$ ") sized drill bits. Stop guessing and check those drill sizes before you drill that hole! It even includes a tap drill/clearance drill reference chart.



The **D3744 STEELEX Diamond Dresser with Handle** features a 0.25 carat diamond tip for trueing abrasive grinding wheels fast and easy while exposing a fresh surface for efficient grinding operations. Simply guide the Diamond Dresser against the grinder's tool rest to restore the wheel back to its original condition. Overall length is  $8\frac{1}{2}$ " long with a  $3\frac{3}{4}$ " long handle. The industrial diamond measures 0.25 carat.



# MAINTENANCE

## Schedule

For optimum performance from your machine, follow this maintenance schedule and refer to any specific instructions given in this section.

### Daily Check

- Loose mounting bolts.
- Cracked or loose grinding wheel.
- Worn or damaged wires.
- Any other unsafe condition.

## Grinding Wheels

The grinding wheels should be inspected before every use. Use the ring test method noted in **Wheel Inspection** on **Page 21** to verify the structural integrity. Take care in storing grinding wheels to keep them free from potential damage by being dropped or having other items drop on them. Replace the wheel when the spark deflector or tool rest has no more adjustment and the gap has exceeded the safe limit.

## Cleaning & Protecting

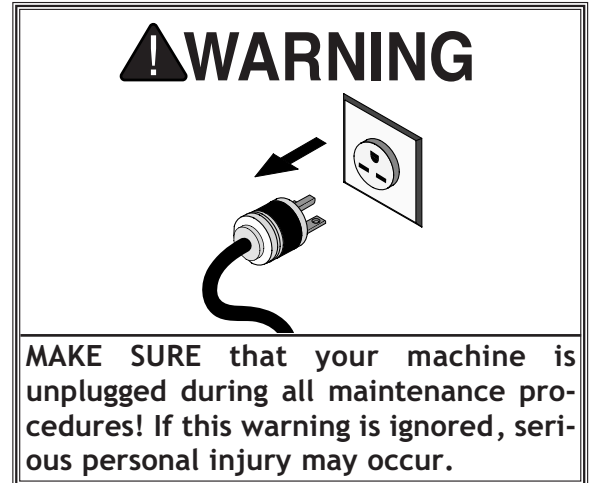
Cleaning the grinder is relatively easy. Vacuum excess debris, and wipe off the remaining dust with a dry cloth.

## Wheel Storage

Grinding wheels can be easily damaged, so it is important to store them properly. Follow all wheel manufacturer storage instructions. Always store grinding wheels in a location that is dry and protected from potential damage due to them being dropped or having other items dropped on them. Also, avoid storing grinding wheels where there is high humidity, extreme heat or cold, or solvents.

## Wheel Dressing

Depending on the type of grinding you do, the grinding wheel may require periodic dressing. Dressing restores the abrasive quality of the wheel surface and squares up the wheel edge. Refer to the instructions that accompany your dressing accessory for complete details on how to properly dress a wheel.



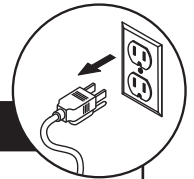
# SERVICE

## Troubleshooting

The following troubleshooting tables cover common problems that may occur with this machine. If you need replacement parts or additional troubleshooting help, contact our Technical Support.

**Note:** Before contacting Tech Support, find the machine serial number and manufacture date, and if available, your original purchase receipt. This information is required to properly assist you.

### Motor and Electrical



| PROBLEM                                    | POSSIBLE CAUSE   | CORRECTIVE ACTION  |
|--|--|--|
| Machine does not start or a breaker trips. | <ol style="list-style-type: none"> <li>1. Switch disabling key removed.</li> <li>2. Incorrect power supply voltage or circuit size.</li> <li>3. Power supply circuit breaker tripped or fuse blown.</li> <li>4. Motor wires connected incorrectly.</li> <li>5. Potentiometer/variable-speed dial controller at fault.</li> <li>6. Circuit board at fault.</li> <li>7. Motor at fault.</li> </ol> | <ol style="list-style-type: none"> <li>1. Install switch disabling key.</li> <li>2. Ensure correct power supply voltage and circuit size.</li> <li>3. Ensure circuit is sized correctly and free of shorts. Reset circuit breaker or replace fuse.</li> <li>4. Correct motor wiring connections.</li> <li>5. Test/replace.</li> <li>6. Inspect/replace.</li> <li>7. Test/repair/replace.</li> </ol>                  |
| Machine stalls or is underpowered.         | <ol style="list-style-type: none"> <li>1. Machine undersized for task.</li> <li>2. Motor wired incorrectly.</li> <li>3. Motor overheated.</li> <li>4. Run capacitor at fault.</li> <li>5. Motor bearings at fault.</li> </ol>  | <ol style="list-style-type: none"> <li>1. Use new grinding wheel; reduce feed rate/presure.</li> <li>2. Wire motor correctly.</li> <li>3. Clean motor, let cool, and reduce workload.</li> <li>4. Test/repair/replace.</li> <li>5. Test by rotating shaft; rotational grinding/loose shaft requires bearing replacement.</li> </ol>  |
| Machine has vibration or noisy operation.  | <ol style="list-style-type: none"> <li>1. Machine incorrectly mounted to workbench or floor.</li> <li>2. Motor or component loose.</li> <li>3. Grinding wheel at fault/arbor hole not round.</li> <li>4. Motor bearings at fault.</li> <li>5. Motor shaft bent.</li> </ol>   | <ol style="list-style-type: none"> <li>1. Adjust feet, shim, or tighten mounting hardware.</li> <li>2. Inspect/replace damaged bolts/nuts, and re-tighten with thread-locking fluid.</li> <li>3. Dress/replace grinding wheel (<b>Page 23</b>).</li> <li>4. Test by rotating shaft; rotational grinding/loose shaft requires bearing replacement.</li> <li>5. Test with dial indicator and replace motor.</li> </ol> |

## Operation

| PROBLEM                                   | POSSIBLE CAUSE   | CORRECTIVE ACTION  |
|---|--|--|
| Machine slows when operating.             | <ol style="list-style-type: none"> <li>1. Operator applying too much pressure too quickly.</li> <li>2. RPM too low.</li> </ol>   | <ol style="list-style-type: none"> <li>1. Slow down rate of movement of workpiece into wheel; use less pressure.</li> <li>2. Adjust RPM.</li> </ol>  |
| Wavy condition on surface of workpiece.   | <ol style="list-style-type: none"> <li>1. Machine vibrating.</li> <li>2. Workpiece not being held firmly.</li> <li>3. Wheel face uneven.</li> <li>4. Wheel is too hard.</li> </ol>   | <ol style="list-style-type: none"> <li>1. Ensure machine is securely mounted to a solid surface (<b>Page 15</b>).</li> <li>2. Use a holding device to firmly retain workpiece.</li> <li>3. Dress grinding wheel (<b>Page 23</b>).</li> <li>4. Use softer wheel or reduce feed rate.</li> </ol>   |
| Lines on surface of workpiece.            | <ol style="list-style-type: none"> <li>1. Impurity on wheel surface.</li> <li>2. Workpiece not being held tightly.</li> </ol>  | <ol style="list-style-type: none"> <li>1. Dress grinding wheel (<b>Page 23</b>).</li> <li>2. Use a holding device to firmly retain workpiece.</li> </ol>   |
| Burning spots or cracks in the workpiece. | <ol style="list-style-type: none"> <li>1. Improper type of grinding wheel.</li> <li>2. Improper feed rate.</li> <li>3. Workpiece requires quenching.</li> </ol>  | <ol style="list-style-type: none"> <li>1. Try a wheel with softer style or a coarser grit.</li> <li>2. Slow down rate of movement of workpiece into wheel.</li> <li>3. Quench workpiece in water to cool.</li> </ol>   |
| Wheel dulls quickly, grit falls off.      | <ol style="list-style-type: none"> <li>1. Operator applying too much pressure too quickly.</li> <li>2. Wheel is too soft.</li> <li>3. Wheel diameter too small.</li> <li>4. Bad wheel dress.</li> <li>5. Defective wheel bonding.</li> </ol> | <ol style="list-style-type: none"> <li>1. Slow down rate of movement of workpiece into wheel; use less pressure.</li> <li>2. Wheel too soft for material being ground, select harder bond.</li> <li>3. Replace grinding wheel (<b>Page 24</b>).</li> <li>4. Re-dress grinding wheel (<b>Page 23</b>).</li> <li>5. Replace grinding wheel. Consult manufacturer of grinding wheel.</li> </ol> |

# Electrical Safety Instructions

These pages are current at the time of printing. However, in the spirit of improvement, we may make changes to the electrical systems of future machines. Compare the manufacture date of your machine to the one stated in this manual, and study this section carefully.

If there are differences between your machine and what is shown in this section, call Technical Support at (360) 734-3482 for assistance BEFORE making any changes to the wiring on your machine. An updated wiring diagram may be available. **Note:** Please gather the serial number and manufacture date of your machine before calling. This information can be found on the main machine label.

## WARNING

**SHOCK HAZARD.** Working on wiring that is connected to a power source is extremely dangerous. Touching electrified parts will result in personal injury including but not limited to severe burns, electrocution, or death. Disconnect the power from the machine before servicing electrical components!

**QUALIFIED ELECTRICIAN.** Due to the inherent hazards of electricity, only a qualified electrician should perform wiring tasks on this machine. If you are not a qualified electrician, get help from one before attempting any kind of wiring job.

**WIRE CONNECTIONS.** All connections must be tight to prevent wires from loosening during machine operation. Double-check all wires disconnected or connected during any wiring task to ensure tight connections.

**WIRE/COMPONENT DAMAGE.** Damaged wires or components increase the risk of serious personal injury, fire, or machine damage. If you notice that any wires or components are damaged while performing a wiring task, replace those wires or components before completing the task.

**MODIFICATIONS.** Using aftermarket parts or modifying the wiring beyond what is shown in the diagram may lead to unpredictable results, including serious injury or fire.

**MOTOR WIRING.** The motor wiring shown in these diagrams is current at the time of printing, but it may not match your machine. Always use the wiring diagram inside the motor junction box.

**CAPACITORS/INVERTERS.** Some capacitors and power inverters store an electrical charge for up to 10 minutes after being disconnected from the power source. To reduce the risk of being shocked, wait at least this long before working on capacitors.

**CIRCUIT REQUIREMENTS.** You MUST follow the requirements at the beginning of this manual when connecting your machine to a power source.

**EXPERIENCING DIFFICULTIES.** If you are experiencing difficulties understanding the information included in this section, contact our Technical Support at (360) 734-3482.

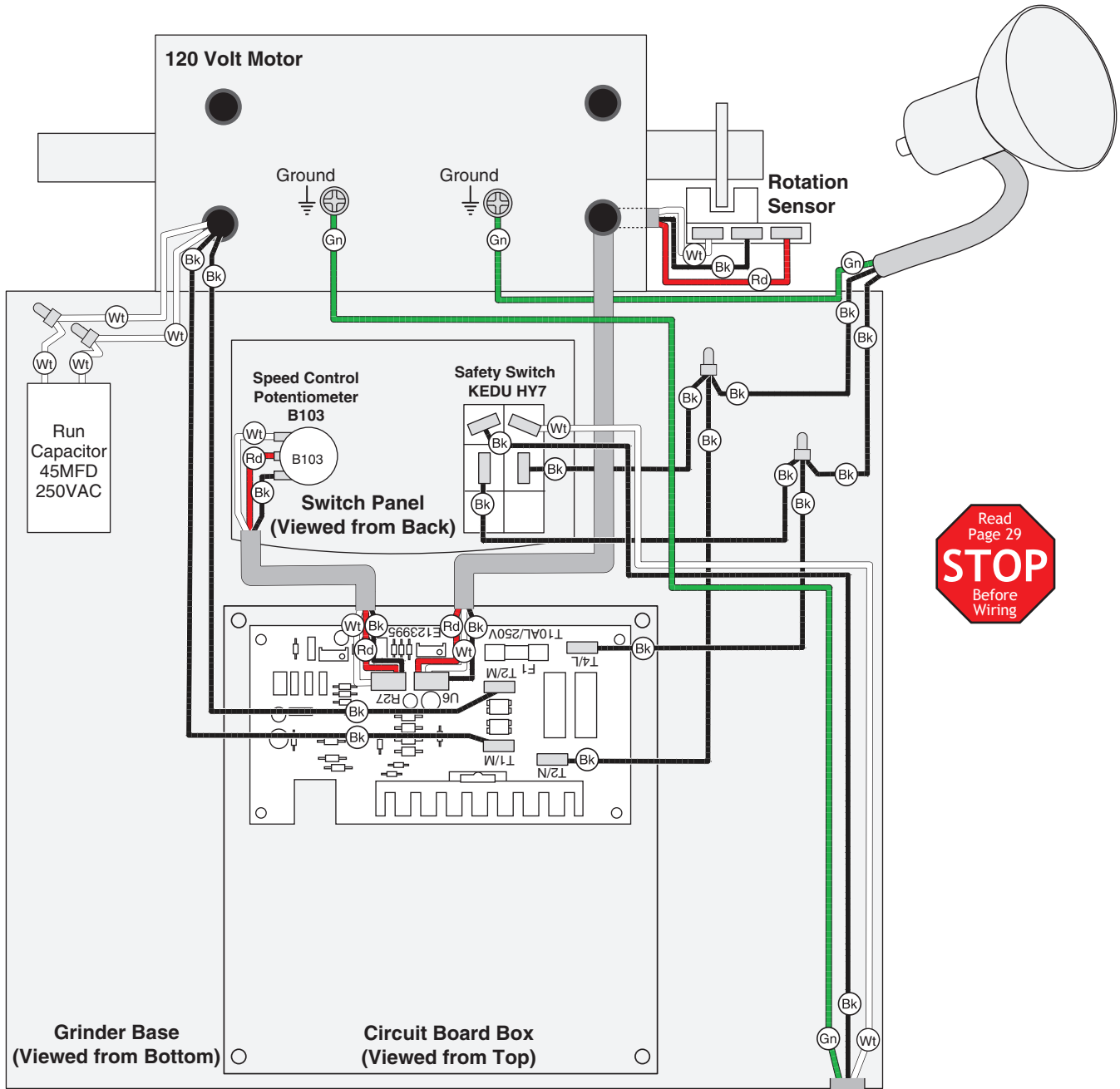
### NOTICE

The photos and diagrams included in this section are best viewed in color. You can view these pages in color at [www.shopfox.biz](http://www.shopfox.biz).

### WIRING DIAGRAM COLOR KEY

|       |        |              |            |
|-------|--------|--------------|------------|
| BLACK | BLUE   | YELLOW       | LIGHT BLUE |
| WHITE | BROWN  | YELLOW GREEN | BLUE WHITE |
| GREEN | GRAY   | PURPLE       | TURQUOISE  |
| RED   | ORANGE | PINK         |            |

# Wiring Diagram





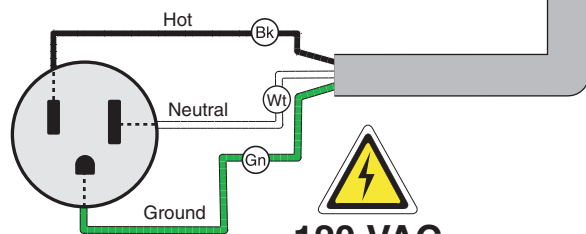
**⚠ WARNING!**

**SHOCK HAZARD!**  
Disconnect power before working on wiring.



**NOTICE**

The motor wiring shown here is current at the time of printing, but it may not match your machine. Always use the wiring diagram inside the motor junction box.



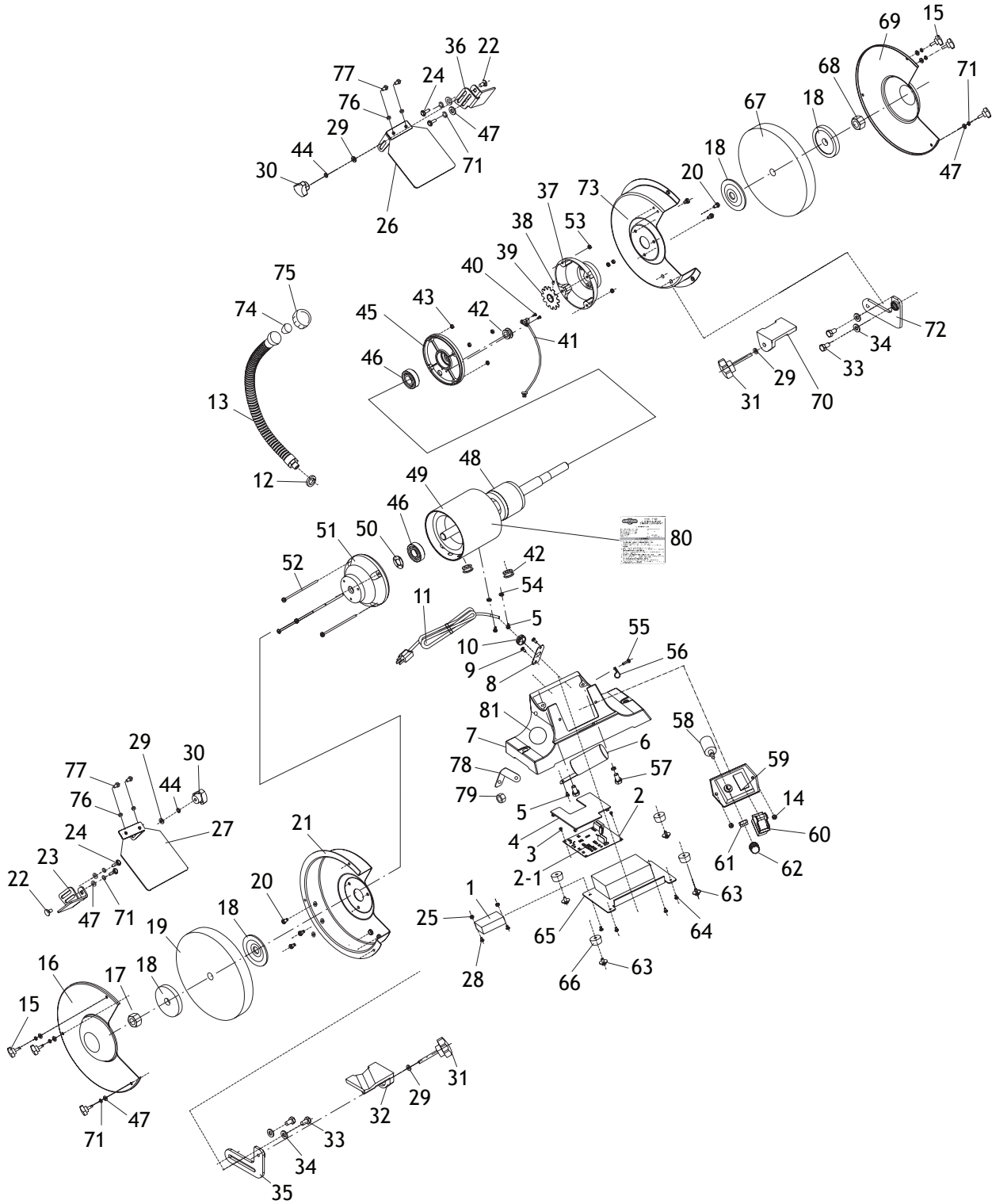
**120 VAC**  
**5-15 Plug**  
**(Pre-Wired)**

**SERVICE**



# PARTS

## W1839 Main Breakdown

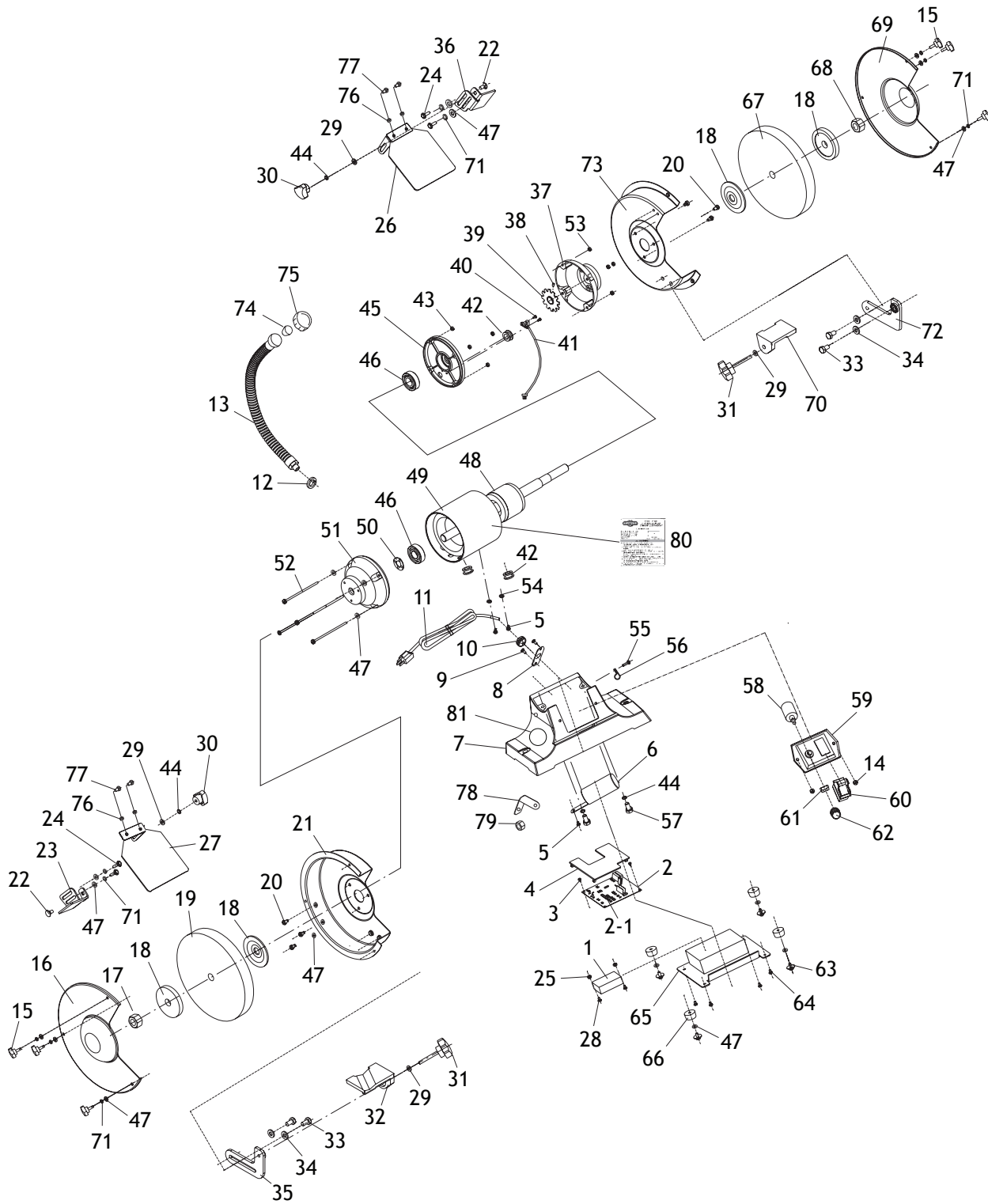


# W1839 Parts List

| REF | PART #     | DESCRIPTION                             |
|-----|------------|---|
| 1   | X1839001   | LAMP CIRCUIT BOARD                      |
| 2   | X1839002   | CIRCUIT BOARD E123995                   |
| 2-1 | X1839002-1 | FUSE 10A 250V 5 X 20MM GLASS            |
| 3   | X1839003   | TAP SCREW M3 X 5                        |
| 4   | X1839004   | CIRCUIT BOARD COVER                     |
| 5   | X1839005   | PHLP HD SCR M4-.7 X 8 W/CAPTIVE WASHER  |
| 6   | X1839006   | R CAPACITOR 30M 300V 1-3/8 X 3          |
| 7   | X1839007   | BASE                                    |
| 8   | X1839008   | STRAIN RELIEF MOUNTING PLATE            |
| 9   | X1839009   | PHLP HD SCR M5-.8 X 10                  |
| 10  | X1839010   | STRAIN RELIEF TYPE-1 10MM               |
| 11  | X1839011   | POWER CORD 14G 3W 72" 5-15P             |
| 12  | X1839012   | FLAT WASHER 12MM                        |
| 13  | X1839013   | LED LIGHT                               |
| 14  | X1839014   | PHLP HD SCR M5-.8 X 8                   |
| 15  | X1839015   | KNOB BOLT M5-.8 X 10 3-LOBE             |
| 16  | X1839016   | OUTER WHEEL COVER (L)                   |
| 17  | X1839017   | HEX NUT M12-1.75 LH                     |
| 18  | X1839018   | WHEEL FLANGE                            |
| 19  | X1839019   | GRINDING WHEEL 6 X 1/2 X 3/4 AO60       |
| 20  | X1839020   | PHLP HD SCR M5-.8 X 10 W/CAPTIVE WASHER |
| 21  | X1839021   | INNER WHEEL COVER (L)                   |
| 22  | X1839022   | CARRIAGE BOLT M6-1 X 12                 |
| 23  | X1839023   | SPARK DEFLECTOR (L)                     |
| 24  | X1839024   | PHLP HD SCR M5-.8 X 10 W/CAPTIVE WASHER |
| 25  | X1839025   | HEX NUT M4-.7                           |
| 26  | X1839026   | EYESHIELD (R)                           |
| 27  | X1839027   | EYESHIELD (L)                           |
| 28  | X1839028   | PHLP HD SCR M4-.7 X 8                   |
| 29  | X1839029   | FLAT WASHER 6MM                         |
| 30  | X1839030   | KNOB M6-1                               |
| 31  | X1839031   | KNOB BOLT M6-1 X 14 3-LOBE              |
| 32  | X1839032   | TOOL REST (L)                           |
| 33  | X1839033   | HEX BOLT M8-1.25 X 12                   |
| 34  | X1839034   | FLAT WASHER 8MM                         |
| 35  | X1839035   | SUPPORT BRACKET (L)                     |
| 36  | X1839036   | SPARK DEFLECTOR (R)                     |
| 37  | X1839037   | MOTOR COVER (R)                         |
| 38  | X1839038   | SET SCREW M5-.8 X 6                     |
| 39  | X1839039   | FEEDBACK WHEEL                          |
| 40  | X1839040   | PHLP HD SCR M2.5-.45 X 6                |

| REF | PART #   | DESCRIPTION                              |
|-----|----------|--|
| 41  | X1839041 | RPM SENSOR                               |
| 42  | X1839042 | GROMMET                                  |
| 43  | X1839043 | HEX NUT M4-.7                            |
| 44  | X1839044 | LOCK WASHER 6MM                          |
| 45  | X1839045 | INNER MOTOR COVER                        |
| 46  | X1839046 | BALL BEARING 6202ZZ                      |
| 47  | X1839047 | FLAT WASHER 5MM                          |
| 48  | X1839048 | ROTOR                                    |
| 49  | X1839049 | STATOR                                   |
| 50  | X1839050 | WAVY WASHER 12MM                         |
| 51  | X1839051 | MOTOR COVER (L)                          |
| 52  | X1839052 | PHLP HD SCR M4-.7 X 145 W/CAPTIVE WASHER |
| 53  | X1839053 | FLANGE NUT M4-.7                         |
| 54  | X1839054 | EXT TOOTH WASHER 4MM                     |
| 55  | X1839055 | PHLP HD SCR M4-.7 X 16                   |
| 56  | X1839056 | WIRE CLIP PLASTIC                        |
| 57  | X1839057 | PHLP HD SCR M6-1 X 18 W/CAPTIVE WASHER   |
| 58  | X1839058 | POTENTIOMETER B103                       |
| 59  | X1839059 | SWITCH MOUNTING PLATE                    |
| 60  | X1839060 | TOGGLE SWITCH KEDU HY7                   |
| 61  | X1839061 | SPEED KNOB SPACER                        |
| 62  | X1839062 | SPEED ADJ KNOB                           |
| 63  | X1839063 | PHLP HD SCR M5-.8 X 16 W/CAPTIVE WASHER  |
| 64  | X1839064 | PHLP HD SCR M4-.7 X 8 W/CAPTIVE WASHER   |
| 65  | X1839065 | BASE PLATE                               |
| 66  | X1839066 | RUBBER FOOT                              |
| 67  | X1839067 | GRINDING WHEEL 6 X 1/2 X 3/4 AO36        |
| 68  | X1839068 | HEX NUT M12-1.75                         |
| 69  | X1839069 | OUTER WHEEL COVER (R)                    |
| 70  | X1839070 | TOOL REST (RIGHT)                        |
| 71  | X1839071 | LOCK WASHER 5MM                          |
| 72  | X1839072 | SUPPORT BRACKET (R)                      |
| 73  | X1839073 | INNER WHEEL COVER (R)                    |
| 74  | X1839074 | LED LENS                                 |
| 75  | X1839075 | LED COVER                                |
| 76  | X1839076 | FLANGE NUT M4-.7                         |
| 77  | X1839077 | PHLP HD SCR M4-.7 X 10                   |
| 78  | X1839078 | L-BRACKET METAL                          |
| 79  | X1839079 | HEX NUT M8-1.25                          |
| 80  | X1839080 | MACHINE ID LABEL                         |
| 81  | X1839081 | TOUCH-UP PAINT, SHOP FOX WHITE           |

# W1840 Main Breakdown



# W1840 Parts List

| REF | PART #     | DESCRIPTION                     |
|-----|------------|---------------------------------|
| 1   | X1840001   | LAMP CIRCUIT BOARD              |
| 2   | X1840002   | CIRCUIT BOARD E123995           |
| 2-1 | X1840002-1 | FUSE 10A 250V 5 X 20MM GLASS    |
| 3   | X1840003   | TAP SCREW M3 X 5                |
| 4   | X1840004   | CIRCUIT BOARD COVER             |
| 5   | X1840005   | PHLP HD SCR M4-.7 X 8           |
| 6   | X1840006   | R CAPACITOR 45M 250V 1-3/8 X 3  |
| 7   | X1840007   | BASE                            |
| 8   | X1840008   | STRAIN RELIEF MOUNTING PLATE    |
| 9   | X1840009   | PHLP HD SCR M5-.8 X 10          |
| 10  | X1840010   | STRAIN RELIEF TYPE-1 10MM       |
| 11  | X1840011   | POWER CORD 14G 3W 72" 5-15P     |
| 12  | X1840012   | FLAT WASHER 12MM                |
| 13  | X1840013   | LED LIGHT                       |
| 14  | X1840014   | PHLP HD SCR M5-.8 X 8           |
| 15  | X1840015   | KNOB M5-.8 X 10 3-LOBE          |
| 16  | X1840016   | OUTER WHEEL COVER (L)           |
| 17  | X1840017   | HEX NUT M12-1.75                |
| 18  | X1840018   | WHEEL FLANGE                    |
| 19  | X1840019   | GRINDING WHEEL 8 X 5/8 X 1 AO60 |
| 20  | X1840020   | PHLP HD SCR M5-.8 X 10          |
| 21  | X1840021   | INNER WHEEL COVER (L)           |
| 22  | X1840022   | HEX BOLT M6-1 X 12              |
| 23  | X1840023   | SPARK DEFLECTOR (L)             |
| 24  | X1840024   | HEX BOLT M5-.8 X 10             |
| 25  | X1840025   | HEX NUT M4-.7                   |
| 26  | X1840026   | EYESHIELD (R)                   |
| 27  | X1840027   | EYESHIELD (L)                   |
| 28  | X1840028   | PHLP HD SCR M4-.7 X 8           |
| 29  | X1840029   | FLAT WASHER 6MM                 |
| 30  | X1840030   | KNOB M6-1                       |
| 31  | X1840031   | KNOB BOLT M6-1 X 14 3-LOBE      |
| 32  | X1840032   | TOOL REST (L)                   |
| 33  | X1840033   | HEX BOLT M8-1.25 X 12           |
| 34  | X1840034   | FLAT WASHER 8MM                 |
| 35  | X1840035   | SUPPORT BRACKET (L)             |
| 36  | X1840036   | SPARK GUARD (R)                 |
| 37  | X1840037   | MOTOR COVER (R)                 |
| 38  | X1840038   | SET SCREW M5-.8 X 6             |
| 39  | X1840039   | FEEDBACK WHEEL                  |
| 40  | X1840040   | PHLP HD SCR M2.5-.45 X 6        |

| REF | PART #   | DESCRIPTION                     |
|-----|----------|---------------------------------|
| 41  | X1840041 | RPM SENSOR                      |
| 42  | X1840042 | GROMMET                         |
| 43  | X1840043 | FLANGE NUT M5-.8                |
| 44  | X1840044 | LOCK WASHER 6MM                 |
| 45  | X1840045 | INNER MOTOR COVER (R)           |
| 46  | X1840046 | BALL BEARING 6203ZZ             |
| 47  | X1840047 | FLAT WASHER 5MM                 |
| 48  | X1840048 | ROTOR                           |
| 49  | X1840049 | STATOR                          |
| 50  | X1840050 | WAVY WASHER 12MM                |
| 51  | X1840051 | MOTOR COVER (L)                 |
| 52  | X1840052 | PHLP HD SCR M5-.8 X 160         |
| 53  | X1840053 | HEX NUT M5-.8                   |
| 54  | X1840054 | EXT TOOTH WASHER 4MM            |
| 55  | X1840055 | PHLP HD SCR M4-.7 X 16          |
| 56  | X1840056 | WIRE CLIP PLASTIC               |
| 57  | X1840057 | HEX BOLT M6-1 X 18              |
| 58  | X1840058 | POTENTIOMETER B103              |
| 59  | X1840059 | SWITCH MOUNTING PLATE           |
| 60  | X1840060 | TOGGLE SWITCH KEDU HY7          |
| 61  | X1840061 | SPEED KNOB SPACER               |
| 62  | X1840062 | SPEED ADJ KNOB                  |
| 63  | X1840063 | PHLP HD SCR M5-.8 X 16          |
| 64  | X1840064 | PHLP HD SCR M4-.7 X 8           |
| 65  | X1840065 | BASE PLATE                      |
| 66  | X1840066 | RUBBER FOOT                     |
| 67  | X1840067 | GRINDING WHEEL 8 X 5/8 X 1 AO36 |
| 68  | X1840068 | HEX NUT M12-1.75                |
| 69  | X1840069 | OUTER WHEEL COVER (R)           |
| 70  | X1840070 | TOOL REST (R)                   |
| 71  | X1840071 | LOCK WASHER 5MM                 |
| 72  | X1840072 | SUPPORT BRACKET (R)             |
| 73  | X1840073 | INNER WHEEL COVER (R)           |
| 74  | X1840074 | LED LENS                        |
| 75  | X1840075 | LED COVER                       |
| 76  | X1840076 | FLANGE NUT M4-.7                |
| 77  | X1840077 | PHLP HD SCR M4-.7 X 10          |
| 78  | X1840078 | L-BRACKET METAL                 |
| 79  | X1840079 | HEX NUT M8-1.25                 |
| 80  | X1840080 | MACHINE ID LABEL                |
| 81  | X1840081 | TOUCH-UP PAINT, SHOP FOX WHITE  |



# Warranty Registration

Name \_\_\_\_\_  
 Street \_\_\_\_\_  
 City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_  
 Phone # \_\_\_\_\_ Email \_\_\_\_\_ Invoice # \_\_\_\_\_  
 Model # \_\_\_\_\_ Serial # \_\_\_\_\_ Dealer Name \_\_\_\_\_ Purchase Date \_\_\_\_\_

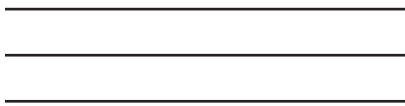
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- How did you learn about us?  
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 Mail Order Catalog       Website       Other:
- How long have you been a woodworker/metalworker?  
 0-2 Years       2-8 Years       8-20 Years       20+ Years
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- Do you think your machine represents a good value?       Yes       No
- Would you recommend Shop Fox products to a friend?       Yes       No
- What is your age group?  
 20-29       30-39       40-49  
 50-59       60-69       70+
- What is your annual household income?  
 \$20,000-\$29,000       \$30,000-\$39,000       \$40,000-\$49,000  
 \$50,000-\$59,000       \$60,000-\$69,000       \$70,000+
- Which of the following magazines do you subscribe to?  
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 Hand Loader       Popular Woodworking       Wooden Boat  
 Handy       Practical Homeowner       Woodshop News  
 Home Shop Machinist       Precision Shooter       Woodsmith  
 Journal of Light Cont.       Projects in Metal       Woodwork  
 Live Steam       RC Modeler       Woodworker West  
 Model Airplane News       Rifle       Woodworker's Journal  
 Modeltec       Shop Notes       Other:  
 Old House Journal       Shotgun News

9. Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

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# WARRANTY

Woodstock International, Inc. warrants all Shop Fox machinery to be free of defects from workmanship and materials for a period of two years from the date of original purchase by the original owner. This warranty does not apply to defects due directly or indirectly to misuse, abuse, negligence or accidents, lack of maintenance, or reimbursement of third party expenses incurred.

Woodstock International, Inc. will repair, replace, or arrange for a dealer refund, at its expense and option, the Shop Fox machine or machine part proven to be defective for its designed and intended use, provided that the original owner returns the product prepaid to an authorized warranty or repair facility as designated by our Bellingham, Washington office with proof of their purchase of the product within two years, and provides Woodstock International, Inc. reasonable opportunity to verify the alleged defect through inspection. If it is determined there is no defect, or that the defect resulted from causes not within the scope of Woodstock International Inc.'s warranty, then the original owner must bear the cost of storing and returning the product.

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