Grizzly Industrial, Inc.®

GRINDER/SANDER COMBO

MODEL H3368

INSTRUCTION MANUAL

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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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SECTION 1: SAFETY

⚠WARNING

For Your Own Safety Read Instruction Manual Before Operating This Equipment

The purpose of safety symbols is to attract your attention to possible hazardous conditions. This manual uses a series of symbols and signal words which are 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.

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

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

⚠CAUTION **Indicates a potentially hazardous situation which, if not avoided, MAY result in minor or moderate injury. It may also be used to alert against unsafe practices.**

NOTICE **This symbol is used to alert the user to useful information about proper operation of the equipment.**

⚠WARNING

Safety Instructions For Power Tools

1. **KEEP GUARDS IN PLACE** and in working order.
2. **REMOVE ADJUSTING KEYS AND WRENCHES.** Form habit of checking to see that keys and adjusting wrenches are removed from tool before turning on.
3. **KEEP WORK AREA CLEAN.** Cluttered areas and benches invite accidents.
4. **DO NOT USE IN DANGEROUS ENVIRONMENT.** Do not use power tools in damp or wet locations, or where any flammable or noxious fumes may exist. Keep work area well lighted.
5. **KEEP CHILDREN AND VISITORS AWAY.** All children and visitors should be kept at a safe distance from work area.
6. **MAKE WORKSHOP CHILD PROOF** with padlocks, master switches, or by removing starter keys.
7. **DO NOT FORCE TOOL.** It will do the job better and safer at the rate for which it was designed.
8. **USE RIGHT TOOL.** Do not force tool or attachment to do a job for which it was not designed.

⚠WARNING
Safety Instructions For Power Tools

9. **USE PROPER EXTENSION CORD**. Make sure your extension cord is in good condition. Conductor size should be in accordance with the chart below. The amperage rating should be listed on the motor or tool nameplate. An undersized cord will cause a drop in line voltage resulting in loss of power and overheating. Your extension cord must also contain a ground wire and plug pin. Always repair or replace extension cords if they become damaged.

Minimum Gauge for Extension Cords

	LENGTH		
AMP RATING	**25ft**	**50ft**	**100ft**
0-6	18	16	16
7-10	18	16	14
11-12	16	16	14
13-16	14	12	12
17-20	12	12	10
21-30	10	10	No

10. **WEAR PROPER APPAREL.** Do not wear loose clothing, gloves, neckties, rings, bracelets, or other jewelry which may get caught in moving parts. Non-slip footwear is recommended. Wear protective hair covering to contain long hair.

11. **ALWAYS USE SAFETY GLASSES.** Also use face or dust mask if cutting operation is dusty. Everyday eyeglasses only have impact resistant lenses, they are NOT safety glasses.

12. **SECURE WORK.** Use clamps or a vise to hold work when practical. It is safer than using your hand and frees both hands to operate tool.

13. **DO NOT OVER-REACH.** Keep proper footing and balance at all times.

14. **MAINTAIN TOOLS WITH CARE.** Keep tools sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories.

15. **USE RECOMMENDED ACCESSORIES.** Consult the owner's manual for recommended accessories. The use of improper accessories may cause risk of injury.

16. **REDUCE THE RISK OF UNINTENTIONAL STARTING.** On machines with magnetic contact starting switches there is a risk of starting if the machine is bumped or jarred. Always disconnect from power source before adjusting or servicing. Make sure switch is in OFF position before reconnecting.

17. **MANY WOODWORKING TOOLS CAN "KICKBACK" THE WORKPIECE** toward the operator if not handled properly. Know what conditions can create "kickback" and know how to avoid them. Read the manual accompanying the machine thoroughly.

18. **CHECK DAMAGED PARTS.** Before further use of the tool, a guard or other part that is damaged should be carefully checked to determine that it will operate properly and perform its intended function. Check for alignment of moving parts, binding of moving parts, breakage of parts, mounting, and any other conditions that may affect its operation. A guard or other part that is damaged should be properly repaired or replaced.

19. **NEVER LEAVE TOOL RUNNING UNATTENDED. TURN POWER OFF.** Do not leave tool until it comes to a complete stop.

20. **NEVER OPERATE A MACHINE WHEN TIRED, OR UNDER THE INFLUENCE OF DRUGS OR ALCOHOL.** Full mental alertness is required at all times when running a machine.

21. **NEVER ALLOW UNSUPERVISED OR UNTRAINED PERSONNEL TO OPERATE THE MACHINE.** Make sure any instructions you give in regards to machine operation are approved, correct, safe, and clearly understood.

22. **IF AT ANY TIME YOU ARE EXPERIENCING DIFFICULTIES** performing the intended operation, stop using the machine! Then contact our service department or ask a qualified expert how the operation should be performed.

⚠WARNING

Additional Safety Instructions For Grinders

1. **ALWAYS WEAR EYE PROTECTION!**

2. **MAKE SURE GRINDER IS SECURED FIRMLY TO A BENCH OR STAND BEFORE USE.** Any "wobbles" must be corrected by shimming or blocking before operation.

3. **BEFORE MOUNTING A NEW WHEEL, BE SURE WHEEL RPM IS RATED AT AN EQUAL OR HIGHER RPM THAN THE GRINDER.**

4. **DO NOT GRIND ON THE SIDES OF THE GRINDING WHEELS,** unless they are special wheels designed specifically for this purpose.

5. **ONLY USE FLANGES THAT ARE INCLUDED WITH THE GRINDER.**

6. **WEAR AN APPROVED DUST MASK OR RESPIRATOR.** Grinding operations produce dust.

7. **REPLACE A CRACKED WHEEL IMMEDIATELY.** DO NOT use a grinding wheel that has cracks or flaws. Before using, inspect each wheel. Handle wheels carefully to avoid bumping or dropping.

8. **DO NOT** stand directly in front of grinding wheels when turning machine on.

9. **PERFORM** a "ring test" (see **page 15**) on grinding wheels to ensure that they are safe for use. Always inspect grinding wheels before operation.

10. **HOLD THE WORKPIECE FIRMLY WHILE GRINDING.**

11. **DO NOT** allow your hands to come into contact with grinding wheels during operation. Abrasive accessories have the ability to remove a lot of material, including skin, very quickly. However, DO NOT wear gloves while grinding, they may get caught in the grinding wheel.

12. **KEEP TOOL REST AS CLOSE AS POSSIBLE TO GRINDING WHEEL.**

13. **NEVER GRIND BY PLACING THE WORKPIECE ON TOP OF THE WHEEL.** The wheel may kick the workpiece toward the operator. Always grind on the downward part of the wheel.
14. **DO NOT USE A DUST COLLECTOR OR SHOP•VAC® WHEN SANDING METAL** or damage to your dust collection equipment or fire may result!

⚠WARNING

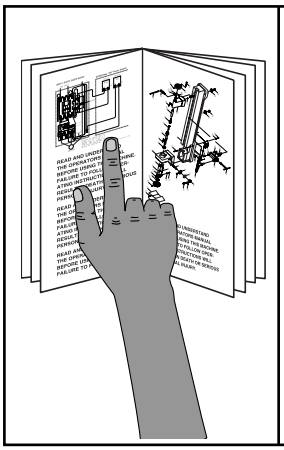
To operate this or any power tool safely and efficiently, become as familiar with it as possible. The time you invest before you begin to use your Model H3368 will be time well spent. DO NOT operate this machine until you are completely familiar with the contents of this manual, or serious personal injury may occur.

⚠CAUTION

No list of safety guidelines can be complete. Every shop environment is different. Always consider safety first, as it applies to your individual working conditions. Use this and other machinery with caution and respect. Failure to follow guidelines could result in serious personal injury, damage to equipment or poor work results.

SECTION 2: INTRODUCTION

Commentary



⚠WARNING

Read the manual before assembly and operation. Become familiar with the machine and its operation before beginning any work. Serious personal injury may result if safety or operational information is not understood or followed.

We are proud to offer the Grizzly Model H3368 Grinder/Sander Combo. The Model H3368 is part of a growing Grizzly family of fine woodworking and metalworking machinery. When used according to the guidelines set forth in this manual, you can expect years of trouble-free, enjoyable operation and proof of Grizzly's commitment to customer satisfaction.

The Model H3368 offers a ½ HP 3450 RPM motor, a 6" grinding wheel, and a 2" x 27" sanding belt.

A number of grinding wheels and sanding belt grits for the Model H3368 are available through the Grizzly catalog.

We are also pleased to provide this manual with the Model H3368. It was written to guide you through assembly, review safety considerations, and cover general operating procedures. This manual represents our effort to produce the best documentation possible. If you have any comments regarding this manual, please write to us at the address below:

Grizzly Industrial, Inc.
C/O Technical Documentation
P.O. Box 2069
Bellingham, WA 98227-2069

Most importantly, we stand behind our machines. If you have any service questions or parts requests, please call or write us at the location listed below:

Grizzly Industrial, Inc.
1203 Lycoming Mall Circle
Muncy, PA 17756
Phone: (570) 546-9663
Fax: (800) 438-5901
E-Mail: techsupport@grizzly.com
Web Site: http://www.grizzly.com

The specifications, drawings, and photographs illustrated in this manual represent the Model H3368 as supplied when the manual was prepared. However, owing to Grizzly's policy of continuous improvement, changes may be made at any time with no obligation on the part of Grizzly. For your convenience, we always keep current Grizzly manuals available on our website at www.grizzly.com. Any updates to your machine will be reflected in these manuals as soon as they are complete.

SECTION 3: CIRCUIT REQUIREMENTS

110V Operation

The Model H3368 is wired for 110V and will draw approximately 8 amps under load. If you operate this machine on any circuit that is already close to its capacity, it might blow a fuse or trip a circuit breaker. However, if an unusual load does not exist and a power failure still occurs, contact a qualified electrician or our service department.

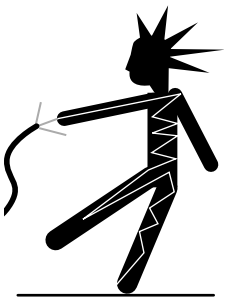
A 10 amp dedicated circuit should be used with this grinder. Always check to see if your current wires are capable of handling a 10 amp load. If you are unsure, consult the advice of a qualified electrician.

Extension Cords

If you find it necessary to use an extension cord with the Model H3368, make sure the cord is rated Hard Service (grade S) or better. Refer to the chart in the standard safety instructions to determine the minimum gauge for the extension cord. The extension cord must also contain a ground wire and plug pin. Always repair or replace extension cords when they become worn or damaged.

Grounding

In the event of an electrical short, grounding reduces the risk of electric shock by providing electric current a path of least resistance. This tool is equipped with a power cord having an equipment-grounding conductor. **See Figure 1B.** The outlet must be properly installed and grounded in accordance with all local codes and ordinances.



⚠WARNING

This equipment must be grounded. Verify that any existing electrical outlet and circuit you intend to plug into is actually grounded. Under no circumstances should the grounding pin from any three-pronged plug be removed. Serious injury may occur.

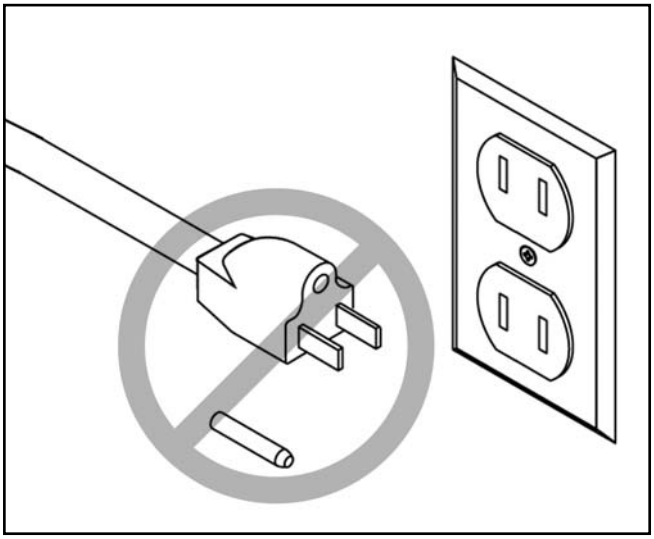


Figure 1A. DO NOT remove grounding pin.

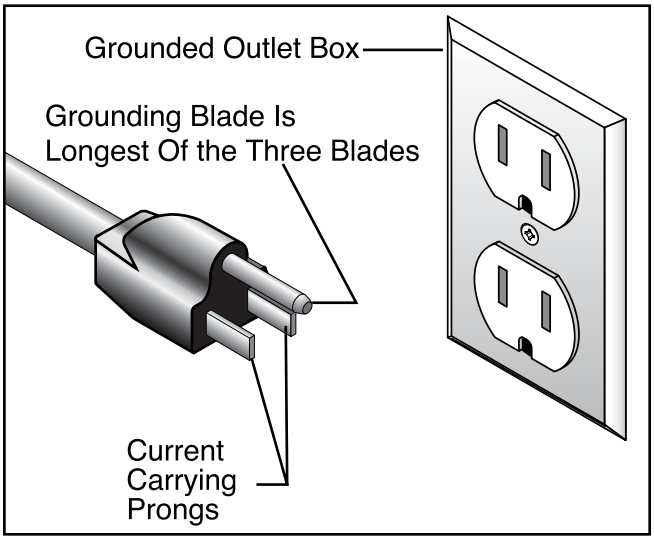


Figure 1B. Typical 110V plug and outlet.

SECTION 4: MACHINE FEATURES

To help you understand the set up and operation instructions, become familiar with the basic features of the Model H3368.

Please match up the list below with the letters in **Figures 2 & 3** to identify the components of the machine.

A. Wheel Dressing Tool

B. Work Light

C. Eye Shield

D. Grinding Wheel

E. Grinding Wheel Tool Rest

F. Coolant Tray

G. *ON*/*OFF* Switch

H. Sanding Belt Tool Rest

I. Sanding Belt

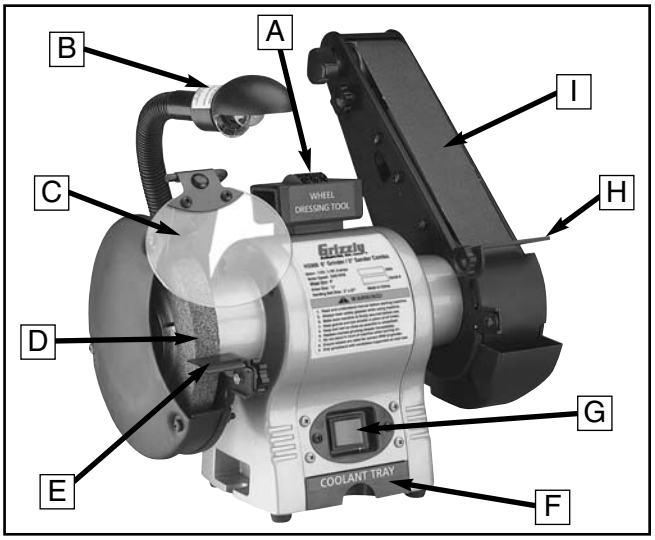


Figure 2. These are features of the Model H3368 shown from the front of the machine.

J. Dust Port

K. Power Plug

L. Sanding Belt Tension Knob

M. Sanding Belt Tracking Knob

N. Spark Guard

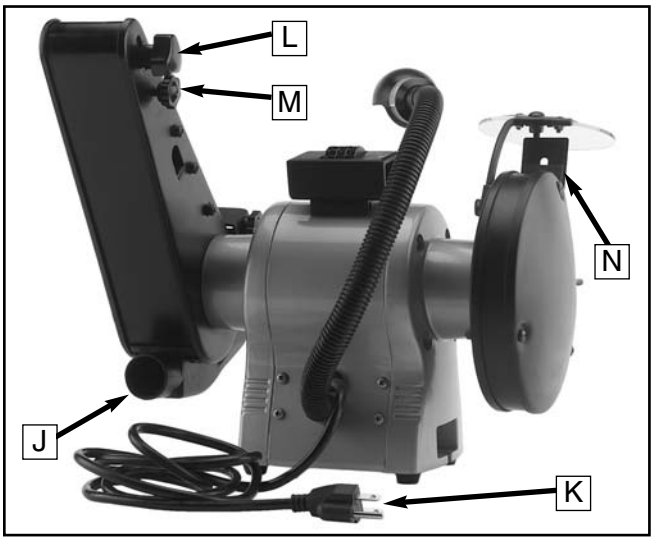


Figure 3. These are features of the Model H3368 shown from the rear of the machine.

SECTION 5: SET UP

Unpacking

⚠CAUTION

Some metal parts may have sharp edges on them after they are formed. Please examine the edges of all metal parts before handling them. Failure to do so could result in injury.

The Model H3368 is shipped from the manufacturer in a carefully packed carton. If you discover the machine is damaged after you have signed for delivery, immediately call Customer Service for advice.

When you are completely satisfied with the condition of your shipment, you should inventory its parts.

Piece Inventory

After all the parts have been removed from the carton, you should have the parts shown in **Figure 4**:

A. Spark Guard
B. Wheel Dressing Tool
C. Eye Shield & Bracket
D. Tool Rests
E. Hardware Bag
F. Grinder/Sander Unit

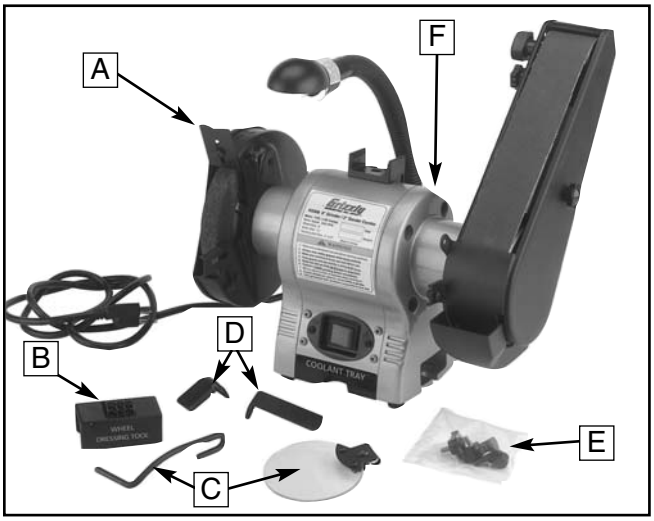


Figure 4. Model H3368 loose parts from package.

NOTICE

A full parts list and breakdown can be found toward the end of this manual. For easier assembly, or to identify specific parts, please refer to the detailed illustrations at the end of the manual.

NOTICE

When mounted, the cooling tray can be easily damaged if the grinder is tipped forward.

Mounting

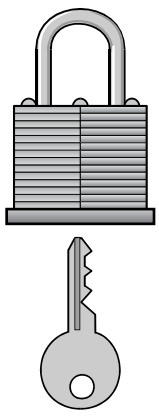
The Model H3368 weighs 27 lbs. Make sure the workbench on which you plan to mount the grinder is sturdy enough to hold the weight of the machine and any downward pressure that may be applied during operation. The workbench should have a level surface and be heavy, or attached to the floor, so that it will not move during operation.

To mount the grinder:

1. Find the best place in your shop to mount the grinder/sander.

- Pick a spot on the workbench that will allow enough room to move the size of an anticipated workpiece around the grinder. The operator (and possibly bystanders) should have enough room to stand out of the way.

- Mount the grinder in an area with proper lighting and near electrical outlets. Lighting should be bright enough to eliminate shadow and prevent eye strain. Electrical circuits should be dedicated or large enough to handle amperage requirements. *Keep power or extension cords clear of high-traffic areas. If you install new lighting, outlets, or circuits, observe all electrical codes.*



⚠CAUTION

The Model H3368 can cause personal injury if operated by untrained users. Ensure that your machine is inaccessible to children and visitors by closing and locking all entrances to your shop/garage when you are away.

2. Mount the grinder to the workbench with bolts that are long enough to exceed the thickness of your workbench and the grinder base. Secure each bolt with flat washers, a lock washer and a hex nut as illustrated in **Figure 5**. *Because sizes vary for each individual situation, the hardware in this step is not included with the Model H3368.*

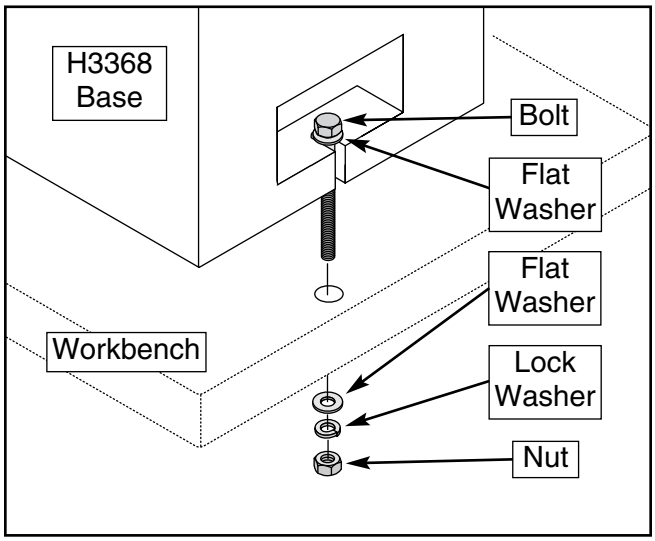


Figure 5. Mounting machine to the workbench.

Tool Rests

The tool rest attaches to the inward side of the guard and provides a surface that can be used to support the workpiece during operation. Certain types of grinding/sanding may require jigs or accessories that will be used with the tool rests to assure the proper angle of the workpiece against the wheel.

To install the tool rests:

1. Attach the tool rests with the knob bolts and 5mm washers and hex nuts, without tightening them completely.

2. To adjust the angle of the sanding belt tool rest, use a square or a protractor to set the angle of the tool rest in relation to the sanding belt. *As a general rule, set the tool rest 90˚ to the belt during the set up procedures.*

3. Adjust both tool rests approximately 1/16"-1/8" from the grinding wheel and the sanding belt. **Figure 6** shows the correct adjustment for the tool rest at the grinding wheel.

4. Tighten the tool rests.

Figure 6. Tool rest installed and positioned near the grinding wheel.

Eye Shield & Spark Guard

The spark guard should be positioned 1/8" from the grinding wheel to minimize sparks flying at the operator. The eye shield must be positioned between the grinding wheel and the operator's face to protect the operator from flying debris—this is not a replacement for safety glasses!

To install the spark guard and eye shield:

1. Using the included 5mm screw and washer, install the spark guard as shown in **Figure 7**.

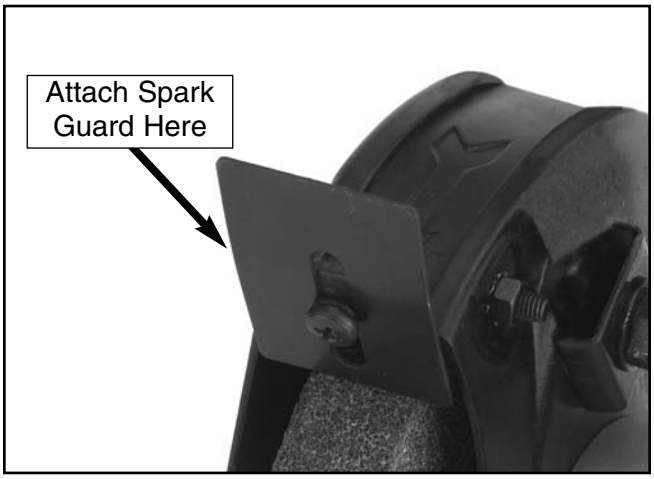


Figure 7. Spark guard attached to rim guard.

2. Attach the eye shield to the support bracket as shown in **Figure 8** with the included 6mm carriage bolt, washer and hex nut. Use the 8mm hex bolt and washer to attach the support bracket to the right wheel cover.

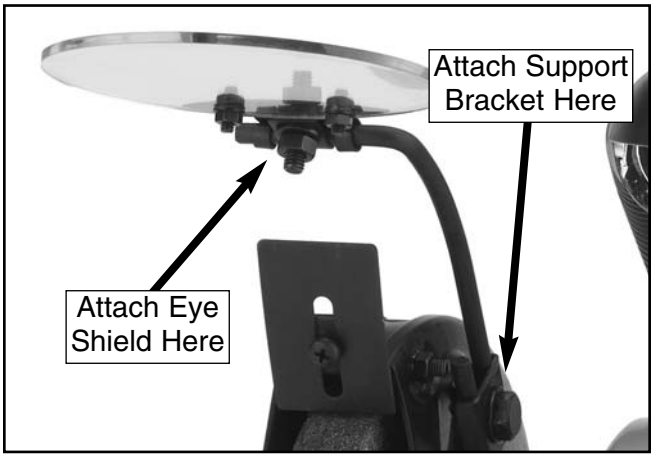


Figure 8. Eye shield and support bracket attached.

Belt Tracking

"Tracking" the sanding belt means to center the belt on its rollers, so that it runs balanced and does not make contact with the sides of the belt cover.

NOTICE

The belt must be tracked before turning the machine *ON*.

To track the sanding belt:

1. **Unplug the machine!**

2. Rotate the grinding wheel.

3. As you rotate the grinding wheel, watch how the sanding belt rides on the upper roller. If the belt is tracking properly, the sanding belt should be centered between the sides of the belt cover as shown in **Figure 9**.

Figure 9. Sanding belt centered between belt cover edges at the upper roller.

4. Adjust the tracking with the tracking control knob shown in **Figure 10**.

5. While spinning the wheel, turn the tracking control knob counterclockwise to make the belt move to the left, or turn the tracking control knob clockwise to make the belt move to the right.

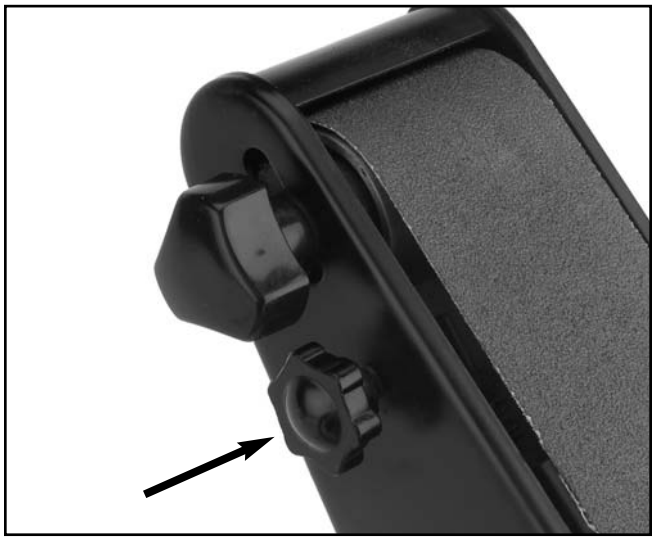


Figure 10. Tracking control knob.

6. After the belt is centered between the belt cover, spin the grinding wheel approximately ten times to ensure that the belt continues to track properly.

Dust Port

The dust port is located behind the sanding belt, below the belt roller. The opening is 1½" in diameter and can be connected to a utility vacuum (such as SHOP•VAC®) or a dust collector.

To connect the dust port to a dust collection system:

1. Place a hose clamp over the dust hose.

2. Slide the hose over the dust port.

3. Secure the hose airtight with a hose clamp.

4. Check the hose with a light tug to make sure it is on tight.

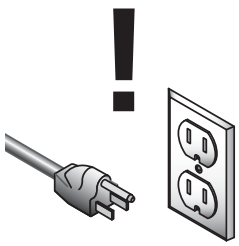
⚠CAUTION

DO NOT use a dust collector or SHOP•VAC® when sanding metal, or damage to the dust collection equipment or fire may result!

SECTION 6: OPERATIONS

⚠WARNING

Keep loose clothing rolled up and out of the way of machinery and keep hair pulled back.



⚠WARNING

Disconnect power from the machine when performing any maintenance, assembly or adjustments. Failure to do this may result in serious personal injury.

⚠WARNING

Wear safety glasses during the entire operation process. Failure to comply may result in serious personal injury.

⚠CAUTION

Using this machine produces dust which may cause allergic reactions and respiratory problems. Use an approved dust mask to protect yourself from these hazards!

About This Section

This section has three main purposes: 1) Have you start your machine to become familiar and comfortable with its controls, 2) Inform you of basic operations and essential information on using grinding wheels, and 3) Inform you of the basic operations and essential information on using sanding belts.

NOTICE

This section provides only a basic description of grinder/sander applications. There are many different grinding wheels and sanding belts available for your grinder/sander. WE STRONGLY RECOMMEND that you read books, trade magazines, or get formal training to maximize the potential of your machine.

Test Run

Once mounting is complete and adjustments are done to your satisfaction, you are ready to test the machine.

⚠WARNING

All grinding wheels have the potential of breaking apart during operation, causing serious personal injury or death! Always stand to the side of the grinder when turning it *ON* and wear the proper safety equipment to protect yourself.

To test run the grinder/sander:

1. Plug the machine into the power source.

2. Stand to the side of the grinding wheel and turn the grinder *ON*.

The machine should run smoothly with little or no vibration or rubbing noises. Strange or unnatural noises should be investigated and corrected before operating the machine further. If the machine seems okay, stay out of the line of rotation of the grinding wheel and let it run for 1-2 minutes to make sure the wheel is structurally sound.

If you cannot easily locate the source of an unusual noise or vibration, feel free to contact our service department for help.

Before Grinding

The grinder is a safe tool when used properly. In addition to the safety instructions in this manual, the most important safety consideration is to use common sense at all times. What may be okay in one situation, may not be safe in another.

Read the following statements to protect yourself before grinding:

- Make sure all guards are in place.
- Stand to the side of the grinder when you turn it on and allow it to run for 1 full minute before EVERY use.
- Make sure that you have mounted your grinder securely and that you have performed the “Test Run” instructions in this manual.
- Remember that grinding often produces sparks. DO NOT allow anyone to stand in the path of the sparks. DO NOT grind near flammable liquids or gases.
- Wear the proper protective clothing. Remember that particles flying off of a grinding wheel will be traveling very fast—prepare for this. Wear safety glasses or a face shield, a dust mask, earplugs, a leather apron, arm guards, a hardhat and heavy leather boots.
- DO NOT lean into the workpiece in a manner that may cause your hands to move into the spinning wheel if the workpiece slips off.
- Concentrate on the task at hand. STOP grinding/sanding if other people are distracting you. STOP grinding/sanding if your mind is on something else.
- DO NOT grind on the side of the wheel. Although side grinding is permissible for some wheel types, the Model H3368 is not designed for side grinding.

Operating Grinder

The grinder is designed for use with ferrous metals only. Non-ferrous metals and wood products should be used on the sanding belt, as they will quickly load the grinding wheel surface and ruin its abrasive qualities.

⚠WARNING

Grinding accidents can cause serious injury or death! Protect yourself by reading and following all preceding safety information in this manual before grinding.

To grind with the grinding wheel:

1. Fill the coolant tray ¾ full with water.
2. With the machine plugged into power, stand to the side of the grinding wheel, and move the red switch to the *ON* position.
3. Allow the machine to run for at least 1 full minute to make sure that the grinding wheel is not going to fly apart and injure you, then move to the front of the machine.
4. Grasp the workpiece tightly and properly support it on the tool rest.
5. Place the workpiece against the front surface of the wheel with moderate pressure, moving it back and forth in a steady, even motion. *Tip: Using too much pressure will bog the motor down and may damage the wheel. Using too little pressure will make the workpiece bounce around and you will not make good contact with the wheel. Finding a balance with application pressure is part of developing a good technique!*
6. Regularly dip the workpiece into the coolant tray to cool it off.
7. When you are ready to stop the grinder, move the red switch to the *OFF* position. At this point, DO NOT continue grinding and DO NOT manually stop the grinding wheel with your workpiece!

Wheel Care

Your safety when grinding depends, on a large part, on the condition of the wheel during grinding. A wheel in poor condition presents the possibility of breaking apart during rotation, injuring the operator and possibly causing property damage.

To properly care for your wheel, follow these tips:

- 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 that is not designed for the wheel.
- Select the right wheel for the machine. A machine that rotates at a higher RPM than the wheel is rated for may cause the wheel to fly apart.
- Mount the wheels properly. (See the "Replacing Wheels" instructions on **page 16** for guidance.) Never use a wheel with the wrong arbor size for the grinder.
- DO NOT abuse the wheel by jamming the work into the grinding wheel with excessive force.
- Learn how to use the grinder and the grinding wheels properly. Ask a trusted person with experience or consult with your local library to learn more.
- Grinding on side of the wheel may cause wheel damage.
- Dress the grinding wheel when the surface loses its abrasive quality or "bite."

Wheel Dressing

Dressing restores the grinding wheel with a like-new abrasive quality. Whenever the front surface of the wheel loses its abrasive qualities (loading or polishing), then the wheel should be dressed. A dressing tool is included for this purpose.

To dress the grinding wheel:

1. With the machine plugged into power, stand to the side of the grinding wheel and move the red switch to the *ON* position.
2. Allow the machine to run for at least 1 full minute to make sure that the grinding wheel is not going to fly apart and injure you, then move to the front of the machine.
3. Hold the dressing tool firmly on the tool rest with both hands and press it lightly against the front surface of the grinding wheel as shown in **Figure 11**.

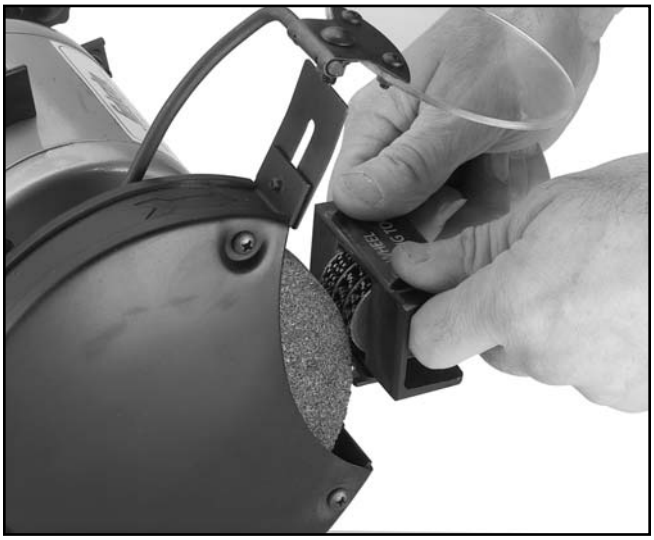


Figure 11. Using wheel dressing tool.

4. Move the dressing tool in a side-to-side motion, while keeping it even with the front surface of the grinder.
5. Regularly pull the dressing tool away from the wheel for visual inspection and repeat **steps 3 & 4** until the surface of the wheel appears to be restored to its normal color and texture.

Wheel Selection

The Model H3368 only accepts Type-1 wheels with a ½" 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 type.

The most common *Abrasive Types* used are A for Aluminum Oxide and 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. 10 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.

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 during shipping, with age, or with exposure to moisture.

First, the wheel should be given 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, the wheel should be given 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 a Ring Test:

1. Make sure the wheel that you test is clean and dry; otherwise, you may get false results.

2. If size permits, balance the wheel with your finger in the hole. If this is not possible, hang the wheel in the air with a piece of cord or string looped through the hole in the center.

3. At the spots shown in **Figure 12**, gently tap the wheel with a light non-metallic device such as the handle of a screwdriver or a wooden mallet.

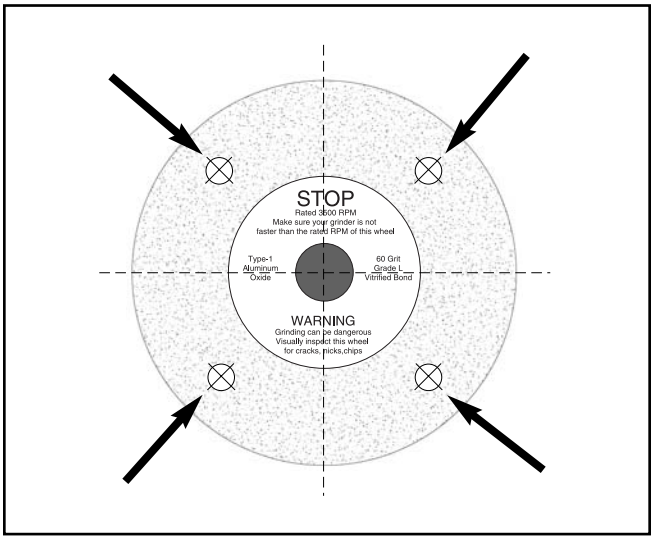


Figure 12. Ring test tapping locations.

4. An undamaged wheel will emit a clear metallic ring or "ping" sound in each of these spots. A damaged wheel will respond with a dull thud that has no clear tone.

5. If you determine from the ring test that the wheel is damaged, DO NOT use it!

Replacing Wheels

The wheel guard assembly must be removed in order to mount or dismount a grinding wheel.

⚠WARNING

The hazards of using a damaged wheel include flying chunks of sharp abrasive material that could cause serious injury or death. Inspect every grinding wheel before it is mounted and DO NOT use a damaged grinding wheel!

To remove/mount a wheel:

1. **Disconnect the machine from the power supply!**

2. Remove the 3 Phillips head screws and nuts that go through the outer guard. Take off the outer guard and the rim guard.

3. Use a wrench on the nut that holds the wheel on the arbor. Hold the wheel from turning with your other hand. *The grinding wheel arbor has a left-handed thread, so loosening the nut will require turning it clockwise.*

4. Remove the outer wheel flange and the paper disc. Pull the wheel free from the arbor. There will also be a paper disc and a wheel flange on the back side of the wheel.

5. Mount the new wheel in the reverse order or as shown in **Figure 13**. Always make certain there is a paper or fiber disc between the wheel flanges and the wheel itself. Tighten the nut snugly but DO NOT over-tighten. Over-tightening can crack the wheel.

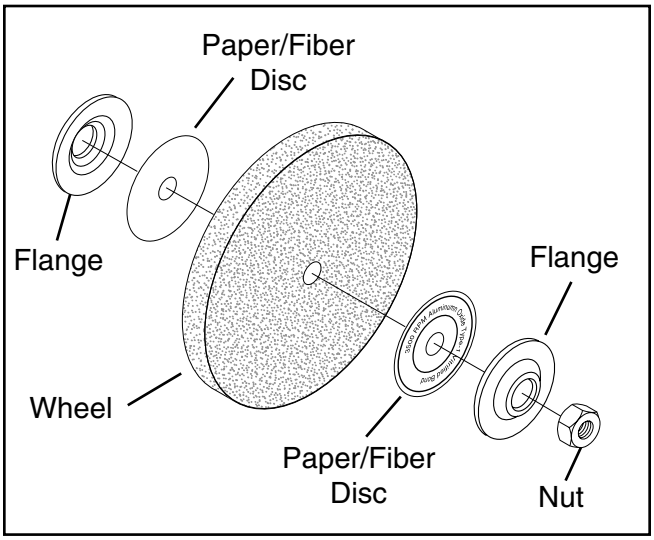


Figure 13. Wheel mounting order.

⚠CAUTION

Omitting the paper discs during assembly can put undue stress on the wheel, causing it to crack and possibly fall apart! NEVER assemble a grinding wheel on the arbor without paper or fiber discs between the wheel and the flange.

6. Re-install the guards and shields.

7. Run a new wheel for at least 1 minute while standing clear of the line of rotation. If a wheel does have defects it will generally fail as soon as it gets up to full speed.

Sanding

The 2" sanding belt on the Model H3368 works great for non-ferrous metals and wood products. A wide variety of belts are also available for many types of materials and stages of finishing.

⚠CAUTION

The sanding belt will remove large amounts of material quickly, including your skin. DO NOT touch the sanding belt and always position your hands so they will not slip into the belt or get caught in the belt.

To sand a workpiece:

1. Before starting the machine, adjust the angle of the tool rest so your workpiece can be properly supported and the area you wish to sand will be parallel with the sanding belt as illustrated in **Figure 14**.

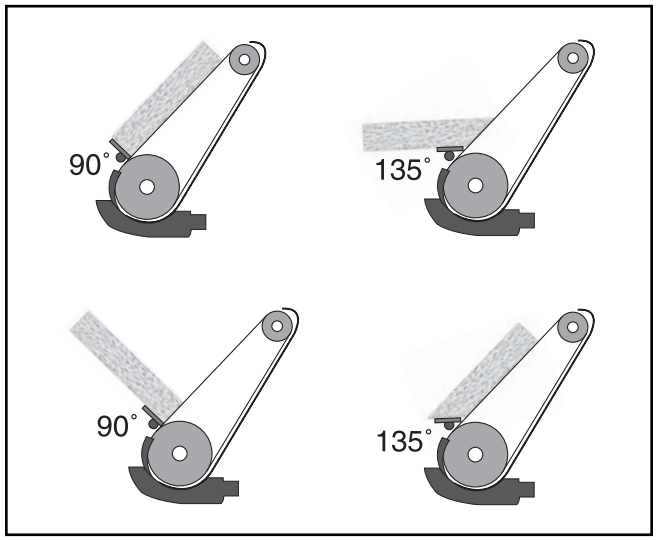


Figure 14. Examples of tool rest angles.

2. With the machine plugged into power, stand to the side of the grinding wheel, and move the red switch to the *ON* position.

3. Allow the machine to run for at least 1 full minute to make sure that the grinding wheel is not going to fly apart and injure you, then move to the front of the machine.

4. Grasp the workpiece tightly and properly support it on the tool rest.

5. Press the workpiece evenly against the sanding belt with light pressure (see **Figures 15 and 16**). DO NOT press hard—let the the rotation of the belt do the work

Figure 15. Sanding a workpiece.

Figure 16. Sanding a workpiece.

6. Remove your workpiece regularly to check the progress the sander has made. *Remember—you can always remove more material but you cannot add it!*

7. When you are finished sanding, move the red switch to the *OFF* position. DO NOT continue grinding and DO NOT manually stop the sanding belt with your workpiece!

Replacing Belts

Many belts are available with different grit sizes.

To remove/replace a sanding belt:

1. **Disconnect the machine from the power supply!**

2. Remove the star knob from the right-hand sanding belt cover as shown in **Figure 17**.

Figure 17. Removing star knob from cover.

3. Remove the right-hand sanding belt cover.

4. Loosen the sanding belt tension knob (shown in **Figure 18**) on the top, left-hand side of the sanding belt cover.

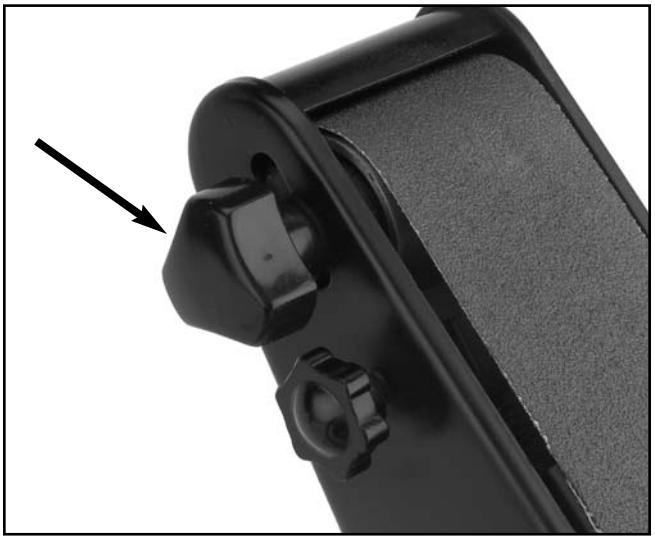


Figure 18. Sanding belt tension knob.

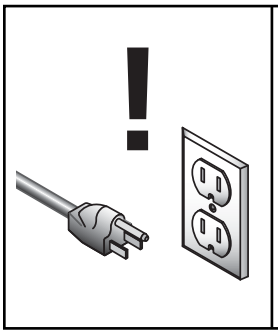
5. Pull the sanding belt tension knob down with one hand and work the sanding belt off the rollers with the other hand as shown in **Figure 19**.

Figure 19. Removing sanding belt.

6. Install the new sanding belt in the reverse order of removal and replace the belt cover.

7. Track the new sanding belt BEFORE turning the machine *ON*.

SECTION 7: MAINTENANCE



⚠WARNING

Disconnect power to the machine when performing any maintenance, assembly or adjustments. Failure to do this may result in serious personal injury.

General

Always be aware of the condition of your machine. Routinely check the condition of the following items and repair or replace as necessary:

- Loose mounting bolts
- Worn switch
- Worn or damaged cord
- Worn or damaged support bearings
- Damaged grinding wheel
- Any other condition that could hamper the safe operation of this machine.

Lubrication

Sealed and pre-lubricated ball bearings require no lubrication for the life of the bearings. All bearings are standard sizes, and replacements can be purchased from our parts department or a bearing supply store.

Grinding Wheels

The grinding wheel should be inspected before every use. Use the “ring test” method from **page 15** 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 dropped on them.

Replace the wheel when the wheel diameter is reduced to 5". Operating at anything less than this diameter does not allow the proper alignment of the tool rest and the eye shield.

Depending on the type of grinding you do, the grinding wheel may require periodic dressing. Refer to the “Wheel Dressing” instructions in this manual for details on how this is done.

Sanding Belts

Clean (“unload”) sanding belts regularly with PRO-STIK® belt cleaners. These crepe-rubber belt cleaners quickly remove gum and grit from belts with out damage. Just press the cleaning block against your sanding belt until it is clean.

Maintenance Log

Date	Approximate Hours Of Use	Maintenance Performed

SECTION 8: CLOSURE

The following pages contain general machine data, parts diagrams/lists, a troubleshooting guide and Warranty/Return information for your Model H3368.

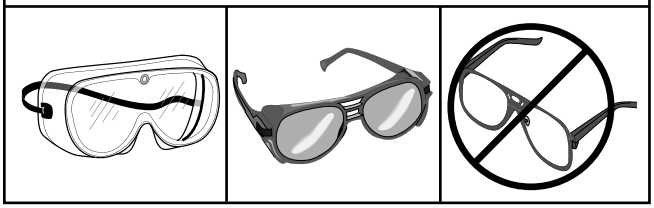
If you need parts or help in assembling your machine, or if you need operational information, we encourage you to call our Service Department. Our trained service technicians will be glad to help you.

If you have comments dealing specifically with this manual, please write to our Bellingham, Washington location using the address in *Section 2: Introduction*.

We have included some important safety measures that are essential to the operation of this machine. While most safety measures are generally universal, Grizzly reminds you that each workshop is different and safety rules should be considered as they apply to your specific situation.

⚠WARNING

Operating this equipment creates the potential for flying debris to cause eye injury. Always wear safety glasses or goggles when operating equipment. Everyday glasses or reading glasses only have impact resistant lenses, they are not safety glasses. Be certain the safety glasses you wear meet the appropriate standards of the American National Standards Institute (ANSI).



We recommend you keep a copy of our current catalog for complete information regarding Grizzly's warranty and return policy. If you need additional technical information relating to this machine, or if you need general assistance or replacement parts, please contact the Service Department listed in *Section 2: Introduction*.

Additional information sources are necessary to realize the full potential of this machine. Trade journals, woodworking magazines, and your local library are good places to start.

⚠WARNING

The Model H3368 was specifically designed for grinding/sanding. DO NOT MODIFY AND/OR USE THIS MACHINE FOR ANY OTHER PURPOSE. Modifications or improper use of this tool will void the warranty. If you are confused about any aspect of this machine, DO NOT use it until all your questions have been answered or serious personal injury may occur.

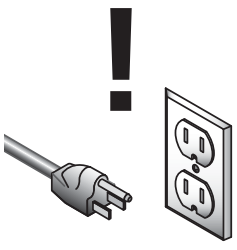
⚠WARNING

Like all power tools, there is danger associated with the Model H3368. Accidents are frequently caused by lack of familiarity or failure to pay attention. Use this tool with respect and caution to lessen the possibility of operator injury. If normal safety precautions are overlooked or ignored, serious personal injury may occur.

TROUBLESHOOTING

This section covers the most common problems encountered during operation and what to do about them. Do not make any adjustments until machine is unplugged and moving parts have come to a complete stop.

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
Motor will not start.	1. Low voltage. 2. Open circuit in motor or loose connections.	1. Check power line for proper voltage. 2. Inspect all lead connections on motor for loose or open connections.
Motor will not start; fuses or circuit breakers blow.	1. Short circuit in line cord or plug. 2. Short circuit in motor or loose connections. 3. Incorrect fuses or circuit breakers in power line.	1. Inspect cord or plug for damaged insulation and shorted wires. 2. Inspect all connections on motor for loose or shorted terminals or worn insulation. 3. Install correct fuses or circuit breakers.
Motor overheats.	1. Motor overloaded.	1. Reduce load on motor.
Motor stalls (resulting in blown fuses or tripped circuit).	1. Short circuit in motor or loose connections. 2. Low voltage. 3. Incorrect fuses or circuit breakers in power line. 4. Motor overloaded.	1. Inspect connections on motor for loose or shorted terminals or worn insulation. 2 Correct the low voltage conditions. 3. Install correct fuses or circuit breakers. 4. Reduce load on motor.
Machine slows when operating.	1. Depth of cut too great.	1. Slow down the rate of movement of the workpiece into wheel.
Wavy condition on surface of workpiece.	1. Machine vibrating. 2. Workpiece not being held firmly. 3. Wheel face uneven. 4. Wheel is too hard.	1. Make sure machine is securely mounted on a solid surface. 2. Use a holding device to firmly retain the workpiece. 3. Dress the grinding wheel. 4. Use softer wheel, or reduce the feed rate.
Lines on surface of workpiece.	1. Impurity on wheel surface. 2. Workpiece not being held tightly.	1. Dress the grinding wheel. 2. Use a holding device to firmly retain the workpiece.
Burning spots or cracks in the workpiece.	1. Improper type of grinding wheel. 2. Improper feed rate. 3. Coolant required.	1. Try a wheel which is softer style or a coarser grit. 2. Slow down the rate of movement of the workpiece into wheel. 3. Add optional coolant system or introduce coolant by hand.
Wheel dulls quickly, grit falls off.	1. Depth of cut too great. 2. Wheel is too soft. 3. Wheel diameter too small. 4. Bad wheel dress. 5. Defective wheel bonding.	1. Slow down the rate of movement of the workpiece into wheel. 2. Wheel too soft for the material being ground, select harder bond. 3. Replace the wheel. 4. Dress the wheel. 5. Consult manufacturer of grinding wheel.
Wheel clogs and workpiece shows burn marks.	1. Wheel is too hard. 2. Feed rate too slow. 3. Bad wheel dress. 4. Coolant required.	1. Wheel too hard for the material being ground, select softer bond. 2. Increase the rate of movement of the workpiece into wheel. 3. Dress the wheel. 4. Add optional coolant system or introduce coolant by hand.
Abrasive belt runs off wheel.	1. Belt not tracking properly.	1. Adjust belt tracking. 2. Belt platen may be interfering. Adjust away from belt.



⚠WARNING

Disconnect power to the machine when performing any maintenance or adjustments. Failure to do this may result in serious personal injury.

MACHINE DATA SHEET

Customer Service #: (570) 546-9663 • To Order Call: (800) 523-4777 • Fax #: (800) 438-5901

MODEL H3368 GRINDER/SANDER COMBO

Design Type..... Bench Model

Overall Dimensions:

Height (w/Work Light Extended) .....19¾"
Width .....15¼"
Depth .....11¾"
Shipping Weight .....26 lbs.
Net Weight.....22 lbs.
Box Size .....17⅜" L x 15 3/16" W x 9¼" H
Footprint.....5" x 6"
Arbor .....½"
Wheel Size .....6" x ¾"
Sanding Belt Size .....2" x 27"

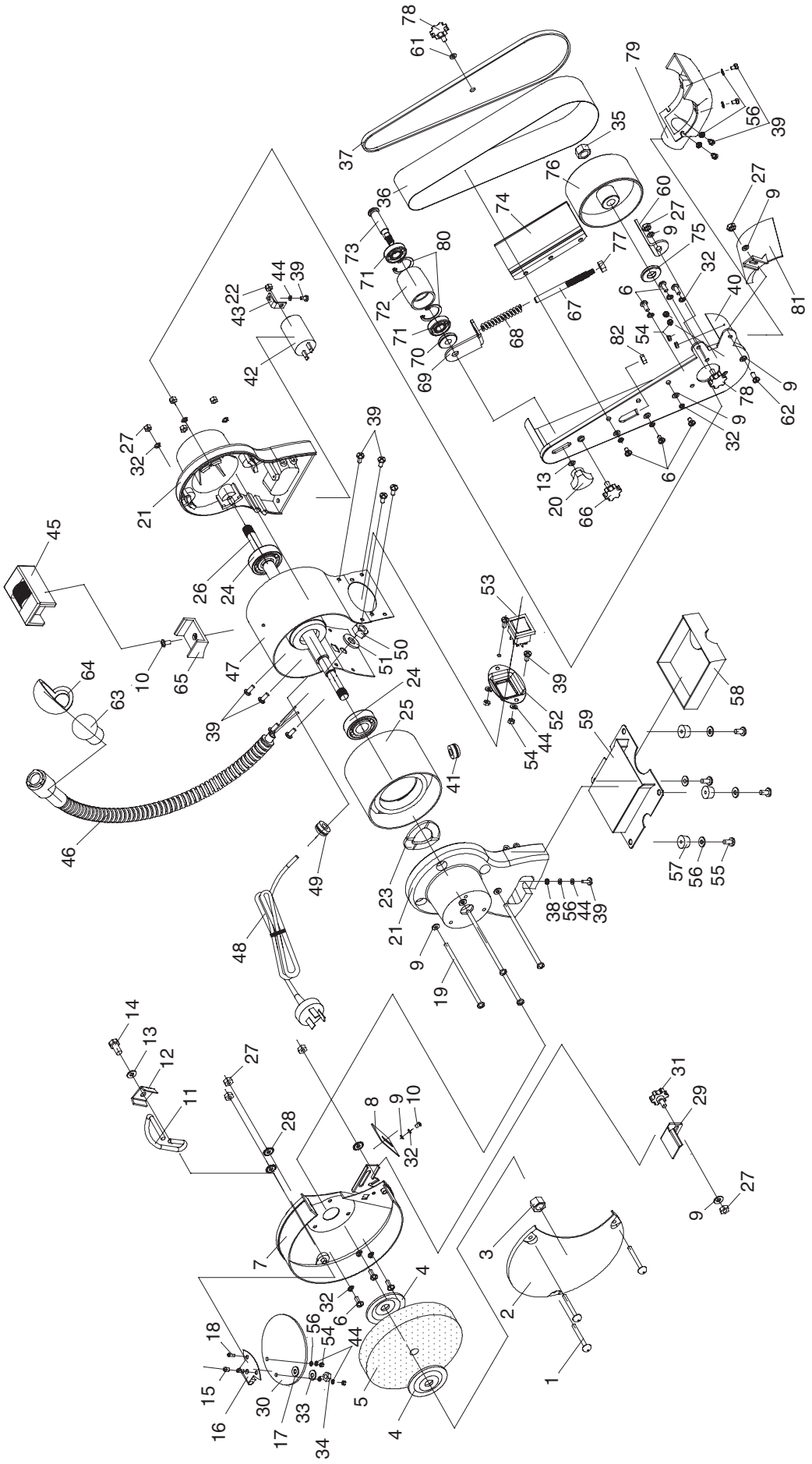
Motor:

Type .....TEFC Capacitor-Start Induction
Horsepower .....½ HP
Phase / Voltage .....Single-Phase / 110V
Amps 8
Cycle / RPM .....60 Hertz / 3450 RPM
Bearings .....Shielded & Permanently Lubricated

Features:

.....Wheel Flanges
.....Tool Rests
.....Rocker-Type Switch
.....Extended Wheel-to-Motor Clearance
.....Convenient Water Tray
.....Included 80 Grit Sanding Belt
.....Included Aluminum Oxide 36 Grit Grinding Wheel

Specifications, while deemed accurate, are not guaranteed.



MODEL H3368 PARTS

Ref#	Part#	Description
1	PS54M	PHLP HD SCR M5-.8 X 45
2	PH3368002	LEFT WHEEL COVER
3	PN16M	HEX NUT M12-1.75 LH
4	PH3368004	FLANGE
5	PH3368005	GRINDING WHEEL A36N5V
6	PS09M	PHLP HD SCR M5-.8 X 10
7	PH3368007	LEFT SAFE GUARD
8	PH3368008	SPARK BREAKER
9	PW02M	FLAT WASHER 5MM
10	PS05M	PHLP HD SCR M5-.8 X 8
11	PH3368011	SUPPORT ARM
12	PH3368012	BRACKET
13	PW01M	FLAT WASHER 8MM
14	PB84M	HEX BOLT M8-1.25 X 14
15	PCB07M	CARR BOLT M6-1.0 X 18
16	PH3368016	EYESHIELD PLATE
17	PW03M	FLAT WASHER 6MM
18	PS53M	PHLP HD SCR M4-.7 X 10
19	PH3368019	HOUSING SCR M5-.8 X 123
20	PH3368020	KNOB M8-1.25
21	PH3368021	END BELL
22	PN03M	HEX NUT M8-1.25
23	PH3368023	WAVY WASHER 28MM
24	P6202RS	BEARING 6202-RS
25	PH3368025	STATOR
26	PH3368026	ROTOR
27	PN06M	HEX NUT M5-.8
28	PTLW02M	EXT TOOTH WASHER 5MM
29	PH3368029	LEFT MOUNT TOOL REST
30	PH3368030	EYESHIELD
31	PH3368031	KNOB BOLT M5-.8 X 10
32	PLW01M	LOCK WASHER 5MM
33	PW05M	FLAT WASHER 4MM
34	PN04M	HEX NUT M4-.7
35	PN09M	HEX NUT M12-1.75
36	PH3368036	SANDING BELT 2" X 27"
37	PH3368037	RIGHT WHEEL COVER
38	PTLW01M	EXT TOOTH WASHER 4MM
39	PS07M	PHLP HD SCR M4-.7 X 8
40	PH3368040	RIGHT SAFE GUARD
41	PH3368041	CORD BUSHING

Ref#	Part#	Description
42	PH3368042	R CAPACITOR 9M 300V
43	PH3368043	CAPACITOR SUPPORT
44	PLW02M	LOCK WASHER 4MM
45	PH3368045	WHEEL DRESSING TOOL
46	PH3368046	LAMP SUPPORT
47	PH3368047	MOTOR HOUSING
48	PH3368048	CORD & PLUG
49	PH3368049	CORD CLIP
50	PN14M	HEX NUT M10-1.0
51	PLW06M	LOCK WASHER 10MM
52	PH3368052	SWITCH PLATE
53	PH3368053	SWITCH
54	PN04M	HEX NUT M4-.7
55	PS21M	PHLP HD SCR M4-.7 X 15
56	PW05M	FLAT WASHER 4MM
57	PH3368057	RUBBER FOOT
58	PH3368058	COOLANT TRAY
59	PH3368059	BOTTOM PLATE
60	PH3368060	RIGHT MOUNT TOOL REST
61	PW02M	FLAT WASHER 5MM
62	PS09M	PHLP HD SCR M5-.8 X 10
63	PH3368063	BULB S-25 12V 10W
64	PH3368064	LAMPSHADE
65	PH3368065	DRESSING BASE
66	PH3368066	KNOB M6-1.0 X 10
67	PH3368067	ADJUSTMENT ROD
68	PH3368068	SPRING
69	PH3368069	TENSION PLATE
70	PH3368070	DRIVE SHAFT WASHER
71	P6201	BEARING 6201-RS
72	PH3368072	UPPER DRIVE CYLINDER
73	PH3368073	DRIVE SHAFT
74	PH3368074	WORK SUPPORT
75	PH3368075	DRIVE SHAFT SPACER
76	PH3368076	LOWER DRIVE CYLINDER
77	PN01M	HEX NUT M6-1.0
78	PH3368078	KNOB BOLT M5-.8 X 10
79	PH3368079	DUST PORT
80	PR29M	INT RETAIN RING 32MM
81	PH3368081	SAFE BOARD
82	PN06M	HEX NUT M5-.8

WARRANTY CARD

Name _____

Street _____

City _____State_____Zip_____

Phone Number_____E-Mail_____FAX_____

MODEL # H3368 Grinder/Sander Combo Serial# _____ Order# _____

The following information is given on a voluntary basis. It will be used for marketing purposes to help us develop better products and services. Of course, all information is strictly confidential.

1. How did you learn about us?

___Advertisement
___Catalog
___World Wide Web
___Friend
___Card Deck

___Other_____

2. Which of the following magazines do you subscribe to.

___American Woodworker
___Cabinetmaker
___Family Handyman
___Fine Homebuilding
___Fine Woodworking
___Home Handyman
___Journal of Light Construction
___Old House Journal
___Popular Mechanics
___Popular Science
___Popular Woodworking
___Practical Homeowner
___Shop Notes
___Today's Homeowner
___WOOD
___Wooden Boat
___Woodshop News
___Woodsmith
___Woodwork
___Woodworker
___Woodworker's Journal
___Workbench

___Other_____

3. Which of the following woodworking/remodeling shows do you watch?

___Backyard America
___Home Time
___The American Woodworker
___The New Yankee Workshop
___This Old House
___Woodwright's Shop

___Other_____

4. What is your annual household income?

___$20,000-$29,999
___$30,000-$39,999
___$40,000-$49,999
___$50,000-$59,999
___$60,000-$69,999
___$70,000-$79,999
___$80,000-$89,999
___$90,000 +

5. What is your age group?

___20-29
___30-39
___40-49
___50-59
___60-69
___70 +

6. How long have you been a woodworker?

___0 - 2 Years
___2 - 8 Years
___8 - 20 Years
___20+ Years

7. How would you rank your woodworking skills?

___Simple
___Intermediate
___Advanced
___Master Craftsman

8. What stationary woodworking tools do you own? Check all that apply.

___Air Compressor
___Band Saw
___Drill Press
___Drum Sander
___Dust Collector
___Horizontal Boring Machine
___Jointer
___Lathe
___Mortiser
___Panel Saw
___Planer
___Power Feeder
___Radial Arm Saw
___Shaper
___Spindle Sander
___Table Saw
___Vacuum Veneer Press
___Wide Belt Sander

___Other_____

9. How many of your woodworking machines are Grizzly? _____

10. Which benchtop tools do you own? Check all that apply.

___1" x 42" Belt Sander
___5" - 8" Drill Press
___8" Table Saw
___8" - 10" Bandsaw
___Disc/Belt Sander
___Mini Jointer
___6" - 8" Grinder
___Mini Lathe
___10" - 12" Thickness Planer
___Scroll Saw
___Spindle/Belt Sander

___Other_____

11. How many of the machines checked above are Grizzly? _____

12. Which portable/hand held power tools do you own? Check all that apply.

___Belt Sander
___Biscuit Joiner
___Circular Saw
___Detail Sander
___Drill/Driver
___Miter Saw
___Orbital Sander
___Palm Sander
___Portable Planer
___Saber Saw
___Reciprocating Saw
___Router

___Other_____

13. What machines/supplies would you like Grizzly Industrial to carry?

_____

_____

14. What new accessories would you like Grizzly Industrial to carry?

_____

_____

15. What other companies do you purchase your tools and supplies from?

_____

_____

16. Do you think your purchase represents good value?

___Yes ___No

17. Would you recommend Grizzly Industrial to a friend?

___Yes ___No

18. Would you allow us to use your name as a reference for Grizzly customers in your area? **Note: We never use names more than three times.**

___Yes ___No

19. Comments:_____

_____

_____

_____

_____

FOLD ALONG DOTTED LINE

Place
Stamp
Here

GRIZZLY INDUSTRIAL, INC.
P.O. BOX 2069
BELLINGHAM, WA 98227-2069

FOLD ALONG DOTTED LINE

Send a Grizzly Catalog to a friend:

Name_____

Street_____

City_____State_____Zip_____

TAPE ALONG EDGES--PLEASE DO NOT STAPLE

WARRANTY AND RETURNS

Grizzly Industrial, Inc. warrants every product it sells for a period of **1 year** to the original purchaser from the date of purchase. This warranty does not apply to defects due directly or indirectly to misuse, abuse, negligence, accidents, repairs or alterations or lack of maintenance. This is Grizzly's sole written warranty and any and all warranties that may be implied by law, including any merchantability or fitness, for any particular purpose, are hereby limited to the duration of this written warranty. We do not warrant or represent that the merchandise complies with the provisions of any law or acts unless the manufacturer so warrants. In no event shall Grizzly's liability under this warranty exceed the purchase price paid for the product and any legal actions brought against Grizzly shall be tried in the State of Washington, County of Whatcom.

We shall in no event be liable for death, injuries to persons or property or for incidental, contingent, special, or consequential damages arising from the use of our products.

To take advantage of this warranty, contact us by mail or phone and give us all the details. We will then issue you a "Return Number," which must be clearly posted on the outside as well as the inside of the carton. We will not accept any item back without this number. Proof of purchase must accompany the merchandise.

The manufacturers reserve the right to change specifications at any time because they constantly strive to achieve better quality equipment. We make every effort to ensure that our products meet high quality and durability standards and we hope you never need to use this warranty.

Please feel free to write or call us if you have any questions about the machine or the manual.

Thank you again for your business and continued support. We hope to serve you again soon.

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