OPERATOR'S MANUAL

Metal Working

INDUSTRIAL BENCH GRINDER AND BELT GRINDER

MODEL: IGBB-436

Baileigh Industrial Holdings LLC
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THANK YOU & WARRANTY

Thank you for your purchase of a machine from Baileigh Industrial Holdings LLC. We hope that you find it productive and useful to you for a long time to come.

Inspection & Acceptance. Buyer shall inspect all Goods within ten (10) days after receipt thereof. Buyer's payment shall constitute final acceptance of the Goods and shall act as a waiver of the Buyer's rights to inspect or reject the goods unless otherwise agreed. If Buyer rejects any merchandise, Buyer must first obtain a Returned Goods Authorization ("RGA") number before returning any goods to Seller. Goods returned without an RGA will be refused. Seller will not be responsible for any freight costs, damages to goods, or any other costs or liabilities pertaining to goods returned without a RGA. Seller shall have the right to substitute a conforming tender. Buyer will be responsible for all freight costs to and from Buyer and repackaging costs, if any, if Buyer refuses to accept shipment. If Goods are returned in unsalable condition, Buyer shall be responsible for full value of the Goods. Buyer may not return any special-order Goods. Any Goods returned hereunder shall be subject to a restocking fee equal to 30% of the invoice price.

Specifications. Seller may, at its option, make changes in the designs, specifications or components of the Goods to improve the safety of such Goods, or if in Seller's judgment, such changes will be beneficial to their operation or use. Buyer may not make any changes in the specifications for the Goods unless Seller approves of such changes in writing, in which event Seller may impose additional charges to implement such changes.

Limited Warranty. Seller warrants to the original end-user that the Goods manufactured or provided by Seller under this Agreement shall be free of defects in material or workmanship for a period of twelve (12) months from the date of purchase, provided that the Goods are installed, used, and maintained in accordance with any instruction manual or technical guidelines provided by the Seller or supplied with the Goods, if applicable. The original end-user must give written notice to Seller of any suspected defect in the Goods prior to the expiration of the warranty period. The original end-user must also obtain a RGA from Seller prior to returning any Goods to Seller for warranty service under this paragraph. Seller will not accept any responsibility for Goods returned without a RGA. The original end-user shall be responsible for all costs and expenses associated with returning the Goods to Seller for warranty service. In the event of a defect, Seller, at its sole option, shall repair or replace the defective Goods or refund to the original end-user the purchase price for such defective Goods. Goods are not eligible for replacement or return after a period of 10 days from date of receipt. The foregoing warranty is Seller's sole obligation, and the original end-user's exclusive remedy, with regard to any defective Goods. This limited warranty does not apply to: (a) die sets, tooling, and saw blades; (b) periodic or routine maintenance and setup, (c) repair or replacement of the Goods due to normal wear and tear, (d) defects or damage to the Goods resulting from misuse, abuse, neglect, or accidents, (f) defects or damage to the Goods resulting from improper or unauthorized alterations, modifications, or changes; and (f) any Goods that has not been installed and/or maintained in accordance with the instruction manual or technical guidelines provided by Seller.

EXCLUSION OF OTHER WARRANTIES. THE FOREGOING LIMITED WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED. ANY AND ALL OTHER EXPRESS, STATUTORY OR IMPLIED WARRANTIES, INCLUDING BUT NOT LIMITED TO, ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE ARE EXPRESSLY DISCLAIMED. NO WARRANTY IS MADE WHICH EXTENDS BEYOND THAT WHICH IS EXPRESSLY CONTAINED HEREIN.

Limitation of Liability. IN NO EVENT SHALL SELLER BE LIABLE TO BUYER OR ANY OTHER PARTY FOR ANY INCIDENTIAL, CONSEQUENTIAL OR SPECIAL DAMAGES (INCLUDING, WITHOUT LIMITATION, LOST PROFITS OR DOWN TIME) ARISING FROM OR IN MANNER CONNECTED WITH THE GOODS, ANY BREACH BY SELLER OR ITS AGENTS OF THIS AGREEMENT, OR ANY OTHER CAUSE WHATSOEVER, WHETHER BASED ON CONTRACT, TORT OR ANY OTHER THEORY OF LIABILITY. BUYER'S REMEDY WITH RESPECT TO ANY CLAIM ARISING UNDER THIS AGREEMENT IS STRICTLY LIMITED TO NO MORE THAN THE AMOUNT PAID BY THE BUYER FOR THE GOODS.

Force Majeure. Seller shall not be responsible for any delay in the delivery of, or failure to deliver, Goods due to causes beyond Seller's reasonable control including, without limitation, acts of God, acts of war or terrorism, enemy actions, hostilities, strikes, labor difficulties, embargoes, non-delivery or late delivery of materials, parts and equipment or transportation delays not caused by the fault of Seller, delays caused by civil authorities, governmental regulations or orders, fire, lightening, natural disasters or any other cause beyond Seller's reasonable control. In the event of any such delay, performance will be postponed by such length of time as may be reasonably necessary to compensate for the delay.

Installation. If Buyer purchases any Goods that require installation, Buyer shall, at its expense, make all arrangements and connections necessary to install and operate the Goods. Buyer shall install the Goods in accordance with any Seller instructions and shall indemnify Seller against any and all damages, demands, suits, causes of action, claims and expenses (including actual attorneys' fees and costs) arising directly or indirectly out of Buyer's failure to properly install the Goods.

Work By Others; Safety Devices. Unless agreed to in writing by Seller, Seller has no responsibility for labor or work performed by Buyer or others, of any nature, relating to design, manufacture, fabrication, use, installation or provision of Goods. Buyer is solely responsible for furnishing and requiring its employees and customers to use all safety devices, guards and safe operating procedures required by law and/or as set forth in manuals and instruction sheets furnished by Seller. Buyer is responsible for consulting all operator manuals, ANSI or comparable safety standards, OSHA regulations and other sources of safety standards and regulations applicable to the use and operation of the Goods.

Remedies. Each of the rights and remedies of Seller under this Agreement is cumulative and in addition to any other or further remedies provided under this Agreement or at law or equity.

Attorney's Fees. In the event legal action is necessary to recover monies due from Buyer or to enforce any provision of this Agreement, Buyer shall be liable to Seller for all costs and expenses associated therewith, including Seller's actual attorney fees and costs.

Governing Law/Venue. This Agreement shall be construed and governed under the laws of the State of Wisconsin, without application of conflict of law principles. Each party agrees that all actions or proceedings arising out of or in connection with this Agreement shall be commenced, tried, and litigated only in the state courts sitting in Manitowoc County, Wisconsin or the U.S. Federal Court for the Eastern District of Wisconsin. Each party waives any right it may have to assert the doctrine of "forum non conveniens" or to object to venue to the extent that any proceeding is brought in accordance with this section. Each party consents to and waives any objection to the exercise of personal jurisdiction over it by courts described in this section. Each party waives to the fullest extent permitted by applicable law the right to a trial by jury.

Summary of Return Policy.

- 10 Day acceptance period from date of delivery. Damage claims and order discrepancies will not be accepted after this time.
- You must obtain a Baileigh issued RGA number PRIOR to returning any materials.
- Returned materials must be received at Baileigh in new condition and in original packaging.
- Altered items are not eligible for return.
- Buyer is responsible for all shipping charges.
- A 30% re-stocking fee applies to all returns.

Baileigh Industrial Holdings LLC makes every effort to ensure that our posted specifications, images, pricing and product availability are as correct and timely as possible. We apologize for any discrepancies that may occur. Baileigh Industrial Holdings LLC reserves the right to make any and all changes deemed necessary in the course of business including but not limited to pricing, product specifications, quantities, and product availability.

For Customer Service & Technical Support:
Please contact one of our knowledgeable Sales and Service team members at:
(920) 684-4990 or e-mail us at sales@baileigh.com

INTRODUCTION

The quality and reliability of the components assembled on a Baileigh Industrial Holdings LLC machine guarantee near perfect functioning, free from problems, even under the most demanding working conditions. However, if a situation arises, refer to the manual first. If a solution cannot be found, contact the distributor where you purchased our product. Make sure you have the serial number and production year of the machine (stamped on the nameplate). For replacement parts refer to the assembly numbers on the parts list drawings.

Our technical staff will do their best to help you get your machine back in working order.

In this manual you will find: (when applicable)

- Safety procedures
- Correct installation guidelines
- Description of the functional parts of the machine
- Capacity charts
- Setup and start-up instructions
- Machine operation
- Scheduled maintenance
- Parts lists

GENERAL NOTES

After receiving your equipment remove the protective container. Do a complete visual inspection, and if damage is noted, **photograph it for insurance claims** and contact your carrier at once, requesting inspection. Also contact Baileigh Industrial Holdings LLC and inform them of the unexpected occurrence. Temporarily suspend installation.

Take necessary precautions while loading / unloading or moving the machine to avoid any injuries.

Your machine is designed and manufactured to work smoothly and efficiently. Following proper maintenance instructions will help ensure this. Try and use original spare parts, whenever possible, and most importantly; **DO NOT** overload the machine or make any modifications.

Note: *This symbol refers to useful information throughout the manual.*

IMPORTANT

PLEASE READ THIS OPERATORS MANUAL CAREFULLY

It contains important safety information, instructions, and necessary operating procedures. The continual observance of these procedures will help increase your production and extend the life of the equipment.

SAFETY INSTRUCTIONS

LEARN TO RECOGNIZE SAFETY INFORMATION

This is the safety alert symbol. When you see this symbol on your machine or in this manual, **BE ALERT TO THE POTENTIAL FOR PERSONAL INJURY!**

Follow recommended precautions and safe operating practices.

UNDERSTAND SIGNAL WORDS

A signal word – **DANGER**, **WARNING**, or **CAUTION** – is used with the safety alert symbol. **NOTICE**, which is not related to personal injury, is used without a symbol.

DANGER: Indicates a hazardous situation which, if not avoided, will result in death or serious injury.

WARNING: Indicates a hazardous situation which, if not avoided, could result in death or serious injury.

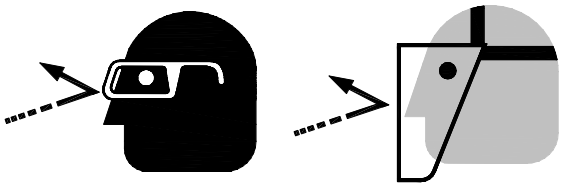
CAUTION: Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

NOTICE: Indicates a situation which, if not avoided, could result in property damage.

SAVE THESE INSTRUCTIONS.
Refer to them often and use them to instruct others.

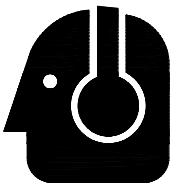
PROTECT EYES

Wear safety glasses or suitable eye protection when working on or around machinery.



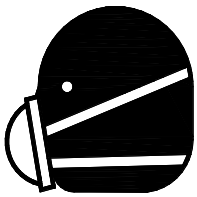
PROTECT AGAINST NOISE

Prolonged exposure to loud noise can cause impairment or loss of hearing. Wear suitable hearing protective devices such as earmuffs or earplugs to protect against objectionable or uncomfortable loud noises.



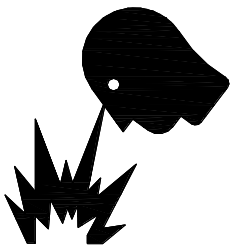
DUST HAZARD

Wear appropriate dust mask. Dust created while using machinery can cause cancer, birth defects, and long-term respiratory damage. Be aware of the dust hazards associated with all types of materials.



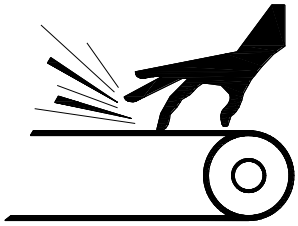
DUST PARTICLES AND IGNITION SOURCES

DO NOT operate this machine in areas where explosion risks are high. Such areas include locations near pilot lights, open flames, or other ignition sources.

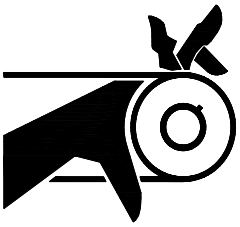


MOVING BELT ABRASIONS

DO NOT place hands or fingers near, or in contact with sanding belt during operation.

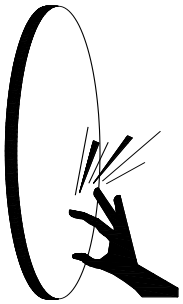


MOVING BELTS CAN CRUSH AND DISMEMBER



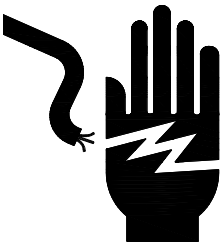
DO NOT allow fingers to get pinched between belt and belt rollers. This may pull the operator's hand into the machine causing serious personal injury. **DO NOT** operate without guards in place.

ROTATING DISC ABRASIONS



DO NOT place hands or fingers near, or in contact with grinding wheel during operation.

HIGH VOLTAGE



USE CAUTION IN HIGH VOLTAGE AREAS. DO NOT assume the power to be off.
FOLLOW PROPER LOCKOUT PROCEDURES.

Power Switch with Lock Out

In the event of incorrect operation or dangerous conditions, the machine can be stopped immediately by pressing the Power Switch paddle downward. Remove the yellow lock key to prevent the machine from starting.

Note: Resetting the Power Switch WILL start the machine.

CALIFORNIA PROPOSITION 65

WARNING: Cancer and Reproductive Harm.
www.P65Warnings.ca.gov

SAFETY PRECAUTIONS

Metal working can be dangerous if safe and proper operating procedures are not followed. As with all machinery, there are certain hazards involved with the operation of the product. Using the machine with respect and caution will considerably lessen the possibility of personal injury. However, if normal safety precautions are overlooked or ignored, personal injury to the operator may result.

Safety equipment such as guards, hold-downs, safety glasses, dust masks and hearing protection can reduce your potential for injury. But even the best guard will not make up for poor judgment, carelessness or inattention. **Always use common sense** and exercise **caution** in the workshop. If a procedure feels dangerous, don't try it.

REMEMBER: Your personal safety is your responsibility.

WARNING: FAILURE TO FOLLOW THESE RULES MAY RESULT IN SERIOUS PERSONAL INJURY

Dear Valued Customer:

- All Baileigh machines should be used only for their intended use.
- Baileigh does not recommend or endorse making any modifications or alterations to a Baileigh machine. Modifications or alterations to a machine may pose a substantial risk of injury to the operator or others and may do substantial damage to the machine.
- Any modifications or alterations to a Baileigh machine will invalidate the machine's warranty.

PLEASE ENJOY YOUR BAILEIGH MACHINE! ....PLEASE ENJOY IT SAFELY!

Abrasive sanding can be hazardous to operators and bystanders. Sanding sparks, chips, and dust particles thrown off by the sanding disc can cause serious injury if contacted or inhaled. To avoid such injuries, you must comply with the following safety requirements:

1. **FOR YOUR OWN SAFETY, READ INSTRUCTION MANUAL BEFORE OPERATING THE MACHINE.** Learn the machine's application and limitations as well as the specific hazards.
2. **Only trained and qualified personnel can operate this machine.**
3. **Make sure guards are in place and in proper working order before operating machinery.**
4. **Dress appropriately. DO NOT** wear loose fitting clothing or jewelry as they can be caught in moving machine parts. Protective clothing and steel toe shoes are recommended when using machinery. Wear a restrictive hair covering to contain long hair.

5. **Use eye protection**. Always wear ISO approved protective eye wear when operating machinery. Wear a full-face shield if you are producing metal filings. Eye wear shall be impact resistant, protective safety glasses with side shields which comply with ANSI Z87.1 specification. Use of eye wear which does not comply with ANSI Z87.1 specification could result in severe injury from breakage of eye protection.
6. W**ea**r leather safety gloves, arm guards, leather aprons, and safety shoes.
7. **Remove any adjusting tools.** Before operating the machine, make sure any adjusting tools have been removed.
8. **A d**us**t co**ll**ec**tio**n** syste**m** i**s** recommen**de**d, The operator should also wear a dust mask at all times.
9. **Keep work area clean.** Cluttered areas invite injuries.
10. **Overloading machine.** By overloading the machine, you may cause injury from flying parts. **DO NOT** exceed the specified machine capacities.
11. **Do not force tool.** Your machine will do a better and safer job if used as intended. **DO NOT** use inappropriate attachments in an attempt to exceed the machine's rated capacity.
12. **Use the right tool for the job. DO NOT** attempt to force a small tool or attachment to do the work of a large industrial tool. **DO NOT** use a tool for a purpose for which it was not intended.
13. **Do not overreach**. Maintain proper footing and balance at all times. **DO NOT** reach over or across a running machine.
14. **Stay alert**. Watch what you are doing and use common sense. **DO NOT** operate any tool or machine when you are tired.
15. **Check for damaged parts**. Before using any tool or machine, carefully check any part that appears damaged. Check for alignment and binding of moving parts that may affect proper machine operation.
16. **Observe work area conditions**. **DO NOT** use machines or power tools in damp or wet locations. Do not expose to rain. Keep work area well lighted. **DO NOT** use electrically powered tools in the presence of flammable gases or liquids.
17. **Keep children away**. Children must never be allowed in the work area. **DO NOT** let them handle machines, tools, or extension cords.
18. Keep visitors a safe distance from the work area.
19. **Store idle equipment**. When not in use, tools must be stored in a dry location to inhibit rust. Always lock up tools and keep them out of reach of children.
20. **DO NOT operate machine if under the influence of alcohol or drugs**. Read warning labels on prescriptions. If there is any doubt, **DO NOT** operate the machine.
21. **Sparks and hot material** from cutting can easily go through small cracks and openings into adjacent areas.

22. **Do not** cut where the atmosphere might contain flammable dust, gas, or liquid vapors such as from gasoline.
23. Wear oil-free protective garments such as leather gloves, heavy shirt, high shoes or boots, cuffless trousers, and a cap.
24. Watch for fire and keep a fire extinguisher close by.
25. **Turn off** power before checking, cleaning, or replacing any parts.
26. Be sure **all** equipment is properly installed and grounded according to national, state, and local codes.
27. Keep **all** cords dry, free from grease and oil, and protected from sparks and hot metal.
28. Inspect power and control cables periodically. Replace if damaged or bare wires are exposed. **Bare wiring can kill! DO NOT** touch live electrical components or parts.
29. **DO NOT** bypass or defeat any safety interlock systems.
30. Additional precautions may be necessary for grinding or sanding materials which are flammable or have other hazardous properties. You should always consult the manufacturer of such materials for instructions on sanding and handling.
31. **B**efor**e** grinding, always allow the motor to come up to operating speed, then check the grinding wheel for wobble, run out, or any unbalanced condition. If the wheel is not operating accurately and smoothly, immediately stop the motor and make repairs before attempting any grinding operations. Do not start the grinder while a workpiece is contacting the grinding wheel or the sanding belt.
32. Always present the piece part to the wheel while resting the piece part firmly on the table. Failure to do so could result in damage to the piece part or throwing the piece part off the wheel.
33. Personal hearing protection such as ear plugs or ear muffs should be used to protect against the effect of noise exposure.
34. Use the grinder's eye shields and spark guards. Also use respiratory protection if the grinding or sanding operation is dusty.
35. Make sure guards are in place and in proper working order before operating machinery.
36. Inspect abrasive wheels for cracks or other forms of damage. Perform a "ring test" to check wheel integrity. Do not use a faulty or damaged wheel.
37. Verify that maximum RPM of abrasive wheels is compatible with speed of grinder. Do not remove the blotter (label) from either side of a grinding wheel.
38. Do not grind on the side of a wheel; do all work on the grinding face or edge near the tool rest.
39. Do not grind aluminum or magnesium, as these may pose a fire hazard.
40. Use only the flanges that are furnished with the grinder.

TECHNICAL SPECIFICATIONS

Model Number		IGBB-436
Motor and Electricals		
Motor	Type	Totally Enclosed, Induction, Capacitor Start
	Power	1HP, 1ph, 60hz
	Voltage	115/230V, Prewired 115V
	Listed FLA (Full Load Amps)	11 / 5.5 A
	Speed	3,600 RPM
	Starting Capacitor	200MFD, 125VAC
	Running Capacitor	35µf, 350V
Input Power Required		Single Phase 115V (Or 230V If Rewired)
On/Off Switch		Toggle w/Safety Key, 125/250V, 20/12A
Power Transfer		Direct Drive
Power Cord		SJT 16AWG x 3C, 6 Ft. (183cm)
Power Plug Installed		5-15P, 125V/15A
Recommended Minimum Circuit Size[1]		15 A
Sound Emission Without Load[2]		75 Db at 3 Ft. (92cm)
Shafts		
Shaft Diameter		5/8” (15.875mm)
Threads (Diameter-Pitch)		5/8”-11UNC (Left Turn)
Grinding Wheel Size (ODxWxB)		8” x 1” x .625” (203.2 x 25.4 x 15.875mm)
Grinding Wheel Grit		36 grit
Grinding Wheel Material		Aluminum Oxide
Materials for Grinder		
Motor Housing		Sheet Metal
End Cover		Aluminum
Base		Cast Iron
Tool Rest		Cast Iron
Inner Wheel Guard		Cast Iron
Outer Wheel Guard		Aluminum
Flange Washer		Sheet Metal
Eye Shield (Material / Size [LxWxT])		PC / 5.59” x 3.94” x 0.20” (142 x 100 x 5mm)
Dust Port Diameter		Ø2” (Ø51mm)

Belt Sander	
Sanding Belt Size (L x W)	36” x 4” (914 x 102mm)
Sanding Belt Type	80 Grit, Aluminum Oxide
Belt Speed (SFPM)	3,769
Belt Table Tilt	45 Deg. Down
Belt Table Size (L x W)	6.30” x 2.95” (160 x 75mm)
Drive Wheel Size (Dia. X W)	4” x 4.09” (102.5 x 104mm)
Tool Rest Tilt	45 Deg. Down
Tool Rest Size (L x W)	5.118” x 3.15” (130 x 80mm)
Dust Port Diameter	Ø2” (Ø51mm)
Materials for Belt Sander	
Belt Table	Cast Iron
Bracket of Belt Table	Sheet Metal
Equipment	
Standard	Dresser, Ø1.25” (Ø32mm)
Base	
Foot Print (W x D)	9.5” x 8.06” (242 x 205mm)
Mounting Hole Dimensions	.433” (11mm)
Distance Between Mounting Holes	8.47” (215.1mm)
Weights	
Net Weight	75 Lbs. (34 Kg)
Shipping Weight	90 Lbs. (41 Kg)
Dimensions	
Overall Dimensions (L x W x H) Sander Vertical	22.49” x 13.87” x 20.85” (571.3 x 352.3 x 529.6mm)
Overall Dimensions (L x W x H) Sander Horizontal	22.49” x 20.79” x 14.15” (571.3 x 528.1 x 359.5mm)
Shipping Dimensions (L x W x H)	21.46” x 24.60” x 16.93” (545 x 625 x 430mm)

1 Subject to local and national electrical codes.
2 The specified values are emission levels and are not necessarily to be seen as safe operating levels. As workplace conditions vary, this information is intended to allow the user to make a better estimation of the hazards and risks involved only.

TECHNICAL SUPPORT

Our technical support department can be reached at 920.684.4990 and asking for the support desk for purchased machines. Tech Support handles questions on machine setup, schematics, warranty issues, and individual parts needs: (other than die sets and blades).

For specific application needs or future machine purchases contact the Sales Department at: sales@baileigh.com, Phone: 920.684.4990, or Fax: 920.684.3944.

***Note**: The photos and illustrations used in this manual are representative only and may not depict the actual color, labeling or accessories and may be intended to illustrate technique only.*

***Note:** The specifications and dimensions presented here are subject to change without prior notice due to improvements of our products.*

UNPACKING AND CHECKING CONTENTS

Your Baileigh machine is shipped complete. Separate all parts from the packing material and check each item carefully. Make certain all items are accounted for before discarding any packing material.

WARNING: SUFFOCATION HAZARD! Immediately discard any plastic bags and packing materials to eliminate choking and suffocation hazards to children and animals.
If any parts are missing, DO NOT place the machine into service until the missing parts are obtained and installed correctly.

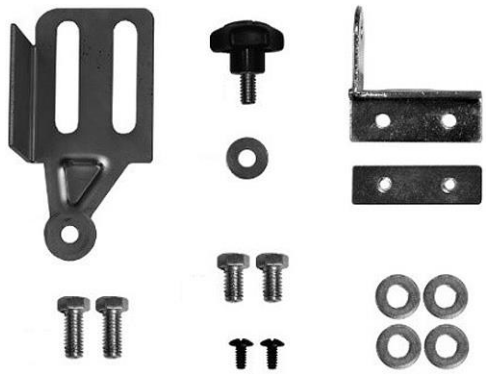
Cleaning

WARNING: DO NOT USE gasoline or other petroleum products to clean the machine. They have low flash points and can explode or cause fire.

CAUTION: When using cleaning solvents work in a well-ventilated area. Many cleaning solvents are toxic if inhaled.

Your machine may be shipped with a rustproof waxy coating and/or grease on the exposed unpainted metal surfaces. Fully and completely remove this protective coating using a degreaser or solvent cleaner. Moving items will need to be moved along their travel path to allow for cleaning the entire surface. For a more thorough cleaning, some parts will occasionally have to be removed. **DO NOT USE** acetone or brake cleaner as they may damage painted surfaces.
Follow manufacturer's label instructions when using any type of cleaning product. After cleaning, wipe unpainted metal surfaces with a light coating of quality oil or grease for protection.

Important: *This waxy coating is **NOT** a lubricant and will cause the machine to stick and lose performance as the coating continues to dry.*

Belt Sander Table Hardware	
	
Stand Off	1
Extension Bracket Plate	1
Flat washer 3/8 (Table)	1
Adjustable handle 3/8 x 5/8L (Table)	1
Flat washer 5/16	1
Adjustable handle 5/16 x 1L	1
Eye Shield Hardware	
	
Spark Guard	1
Lock Knob	1
Flat Washer, 1/4”	1
Eye Shield Bracket	1
Eye Shield Plate	1
Hex Cap Screw, 3/8” x 5/8”	2
Hex Cap Screw, 3/8” x 1/2”	2
Truss Head Screw, 3/16” x 1/2”	2
Flat Washer, 3/8”	4

	
Eye Shield	1
Sanding Table	1
Hex Wench 6 x 140L mm	1
Grinder Tool Rest	1
Wheel Dresser	1
Disc Table	
	
Dust port	1
Truss head screw 3/16 x 3/8	3

TRANSPORTING AND LIFTING

Follow these guidelines when lifting:

- Use proper lifting techniques when moving the grinder from location to location.
- Make sure the machine is balanced, level, and securely tied or strapped to the transport vehicle or device so that all the supporting feet are taking the weight of the machine and no rocking is taking place.
- While transporting, avoid rough or jerky motion, and maintain a safe clearance zone around the transport area.

INSTALLATION

IMPORTANT:

Consider the following when looking for a suitable location to place the machine:

- Overall weight of the machine.
- Weight of material being processed.
- Sizes of material to be processed through the machine.
- Space needed for auxiliary stands, worktables, or other machinery.
- Clearance from walls and other obstacles.
- Maintain an adequate working area around the machine for safety.
- Have the work area well illuminated with proper lighting.
- Keep the floor free of oil and make sure it is not slippery.
- Remove scrap and waste materials regularly, and make sure the work area is free from obstructing objects.
- If long lengths of material are to be fed into the machine, make sure that they will not extend into any aisles.
- **LEVELING:** The machine should be sited on a level, concrete floor. Provisions for securing it should be in position prior to placing the machine. The accuracy of any machine depends on the precise placement of it to the mounting surface.
- **FLOOR:** This machine distributes a large amount of weight over a small area. Make certain that the floor is capable of supporting the weight of the machine, work stock, and the operator. The floor should also be a level surface. If the unit wobbles or rocks once in place, be sure to eliminate by using shims.
- **WORKING CLEARANCES:** Take into consideration the size of the material to be processed. Make sure that you allow enough space for you to operate the machine freely.

- **POWER SUPPLY PLACEMENT:** The power supply should be located close enough to the machine so that the power cord is not in an area where it would cause a tripping hazard. Be sure to observe all electrical codes if installing new circuits and/or outlets.

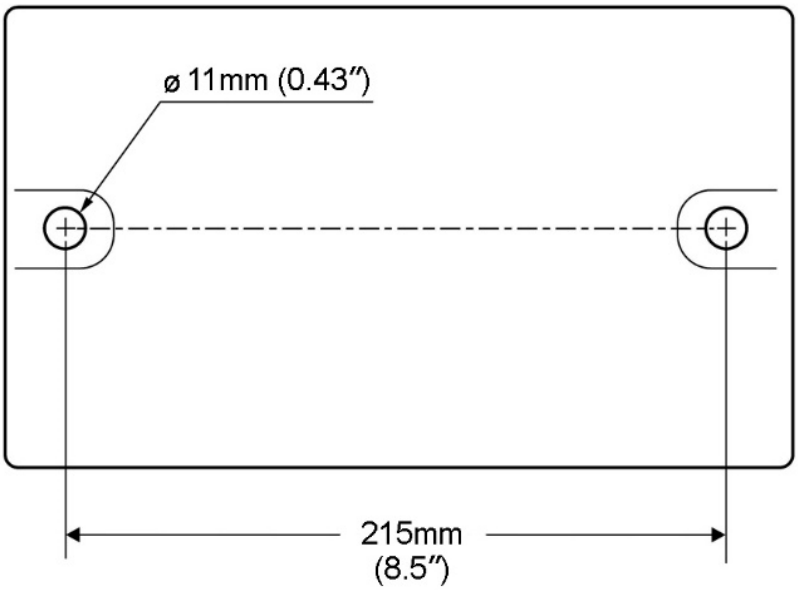
Mounting the Sander

When mount the Baileigh machine on a workbench be aware of the following:

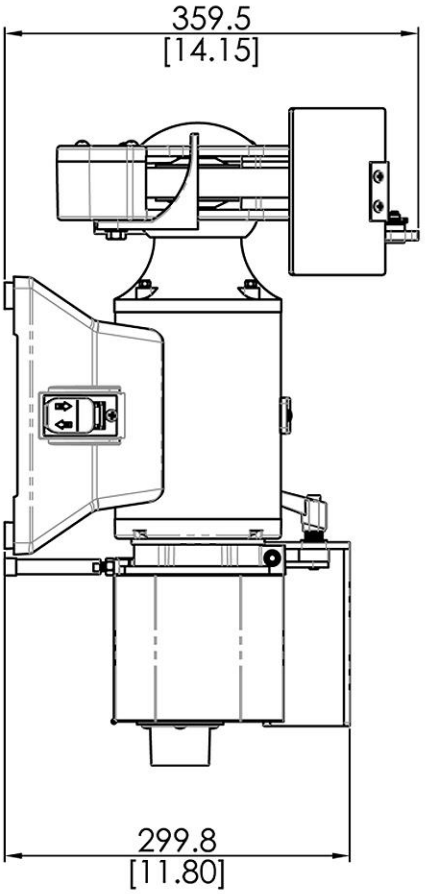
- To prevent the machine from moving during operation, it should be securely mounted to a work bench or stand. Fasteners for mounting are not included with the sander.
- Overall weight of the machine and the weight of material being processed.
- Make sure the workbench is properly reinforced to support the total weight.
- The strongest mounting option is where the holes are drilled all the way through the workbench and the machine is secured with bolts, washers, and nuts.
- When mounting on a stand such as the BTS-33 Baileigh Industrial Universal Bench Tool Stand (sold separately), be sure to position the grinder on the mounting table to create balance. Anchor the stand to the floor to prevent tipping.
- Use the dimensions to layout and drill the mounting holes.
- Align mounting holes on sander with the holes in bench or pedestal. Insert M10 (or 3/8”) bolts through the holes and secure with washers and nuts.

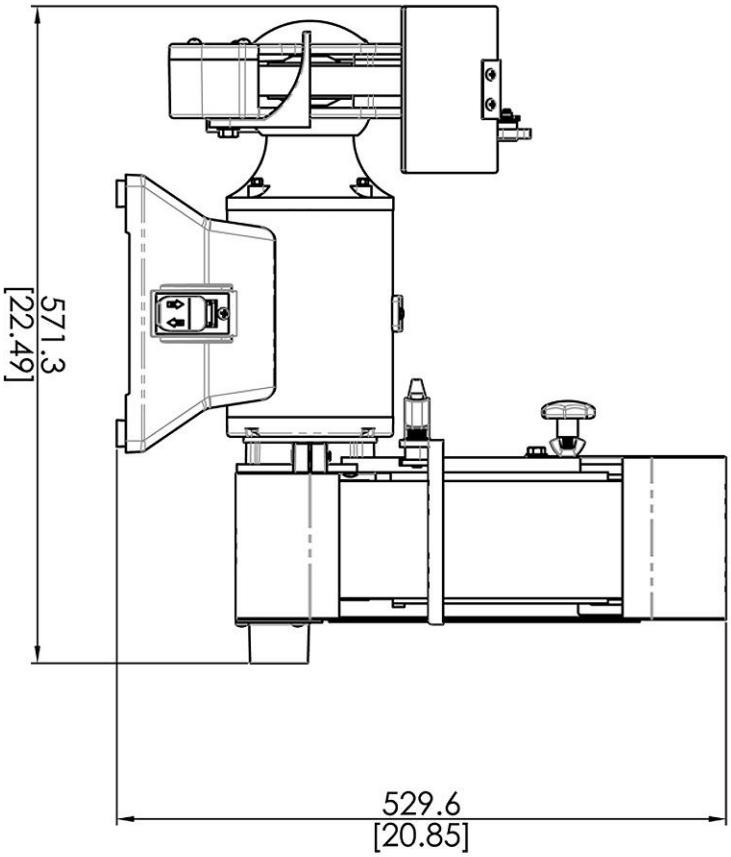
Important: *The sander’s base plate contains ventilation holes for heat dissipation. These holes should not be obstructed. It is recommended the rubber pads be left on, as they allow air circulation as well as vibration dampening. If the rubber pads are removed for mounting to a table, allow an opening in the table below the grinder for air circulation.*

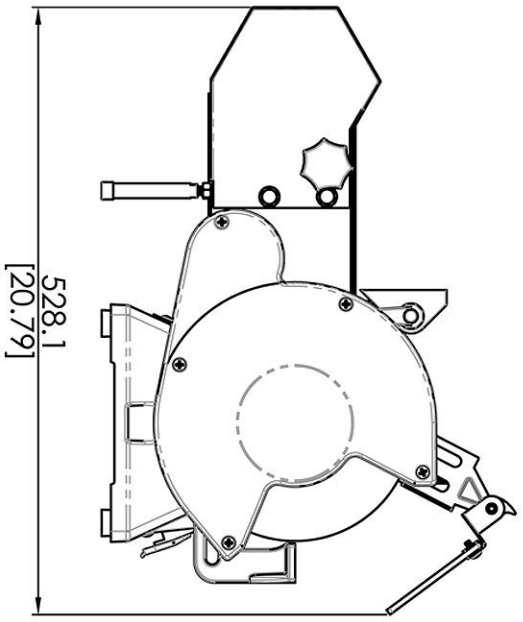
Mounting Dimensions

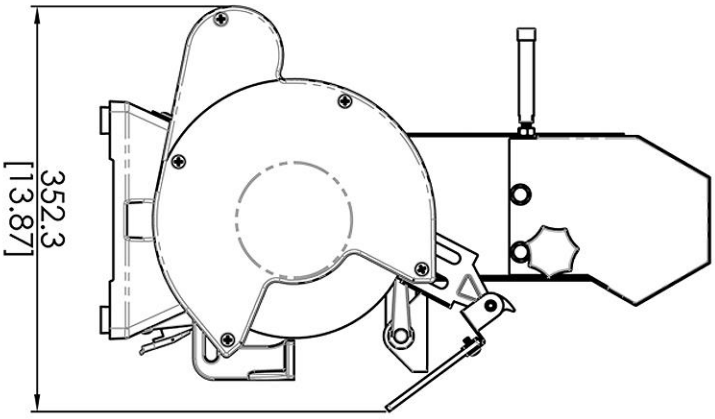


OVERALL DIMENSIONS – IGBB-436





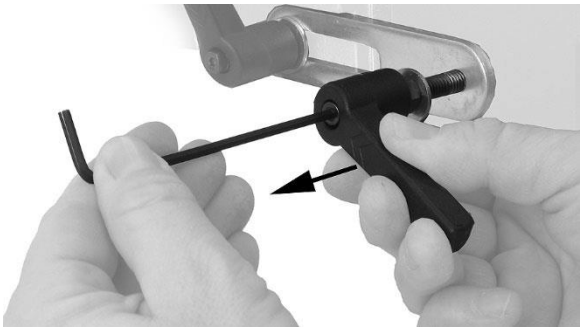




ASSEMBLY AND SET UP

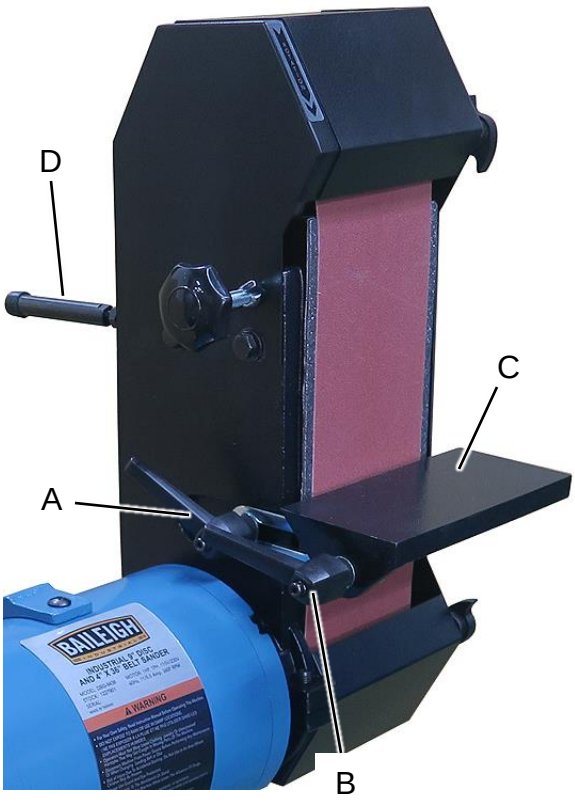
⚠ WARNING: For your own safety, DO NOT connect the machine to the power source until the machine is completely assembled and you read and understand the entire instruction manual.
Do not operate this machine without all guards and shields in place and in working order. Failure to comply may cause serious injury.

Belt Sanding Table



Note: *The quickest method of installing a handle is to start the handle into the threads of the hole, then pull out on the handle while turning the screw with a 3mm hex wrench until tight.*
To reposition a handle for convenience without affecting its tightness, pull out on it, rotate, then release it, allowing it to resettle upon the screw.

Important: *Adjust the table so that the edge of the is not touching the abrasive belt and is no more than 1/16" (1.6mm) away from the abrasive belt even with any belt deflection.*

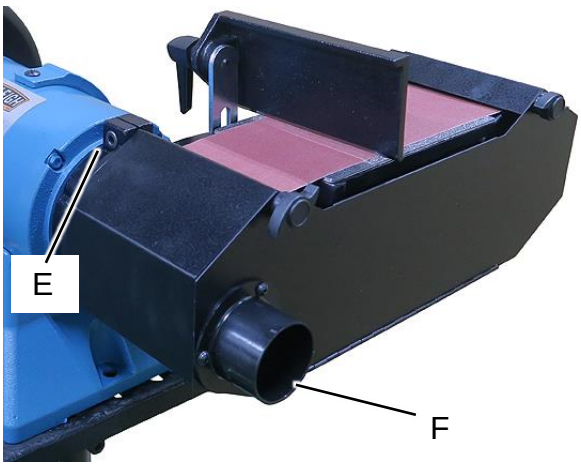


1. Install the slotted end of the extension bracket plate into the groove on the left side of the belt guard. Use the 5/16" x 1"L adjustable handle and the 5/16" flat washer (A) to lightly secure the bracket to the guard.
2. Use the 3/8" x 5/8"L adjustable handle and the 3/8" flat washer (B) to lightly secure the table to the extension bracket.
3. Adjust the table (C) for tilt and distance to the abrasive belt so that the gap from the belt to the table is no more than 1/16" (1.6mm) away from the abrasive belt.
4. Hold this position and tighten both adjusting handles.
5. Position the adjusting handles as needed to ensure they do not interfere with the work piece.

Stand Off

The Stand Off is a support used to provide stability to the sanding arm when the sanding arm is placed in the horizontal position.

1. Install stand-off (D, previous page) into threaded hole in back of sanding arm.
2. Loosen screw (E) with 6mm hex wrench and lower sanding arm to horizontal position.
3. Turn stand-off in or out as needed until sanding arm is level with workbench.
4. Tighten hex nut against sanding arm to secure setting of stand-off.



Dust Port

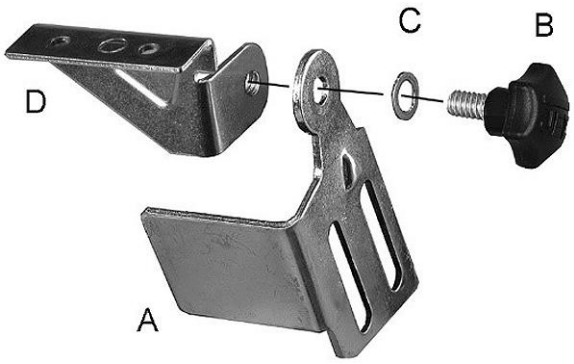
1. Install dust port (F) over exhaust hole in sanding arm, with three screws.

Note: *It is recommended that a dust collection system designed for metal dust and shavings be connected to the two ports on both ends of the machine, using 2-1/2" inside-diameter hose with hose clamp (not provided).*

Spark Guard and Eye Shield Installation

Note: *Spark guard (A) and eye shield bracket (D) are marked L for left side assembly.*

1. Install spark guard and mounting bracket assembly to the left wheel housing with two 3/8 x 1/2" hex cap screws (G) and two 3/8" flat washers (J).
2. The spark guard (A) should be adjusted to within 1/16" of the grinding wheel surface or other accessory being used. As the wheel wears down, the spark guard must be re-adjusted to maintain this 1/16" distance.

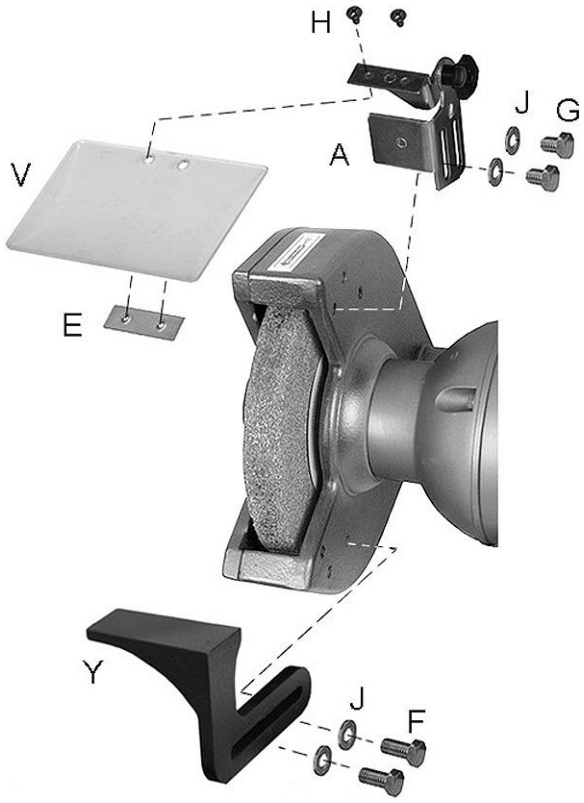


Eye Shield

1. Insert two 3/16" x 1/2" truss head screws (H) through bracket, eye shield (V), and plate (E) which contains threaded mounting holes.
2. Tighten screws (H).

Grinder Tool Rest

1. Install tool rest (Y) by inserting two 3/8" x 3/4" hex cap screws (F) through two 3/8" flat washers (J), through the tool rest (Y), into the wheel housing.
2. The tool rest should be adjusted to within 1/16" of the grinding wheel or other accessories being used. As the wheel wears down, the tool rest must be readjusted to maintain a maximum 1/16" clearance.



ELECTRICAL

CAUTION: HAVE ELECTRICAL UTILITIES CONNECTED TO MACHINE BY A CERTIFIED ELECTRICIAN!
Check if the available power supply is the same as listed on the machine nameplate.

WARNING: Make sure the grounding wire (green) is properly connected to avoid electric shock. DO NOT switch the position of the green grounding wire if any electrical plug wires are switched during hookup.

Power Specifications

Your machine is 115V/230V pre-wired for 115 volts, 60hz alternating current. Before connecting the machine to the power source, make sure the power source is OFF.
Before switching on the power, you must check the voltage and frequency of the power to see if they meet with the requirement, the allowed range for the voltage is ±5%, and for the frequency is ±1%.

Considerations

- Observe local electrical codes when connecting the machine.
- The circuit should be protected with a time delay fuse or circuit breaker with an amperage rating slightly higher than the full load current of machine.
- A separate electrical circuit should be used for your machines. Before connecting the motor to the power line, make sure the switch is in the “OFF” position and be sure that the electric current is of the same characteristics as indicated on the machine.
- All line connections should make good contact. Running on low voltage will damage the motor.
- In the event of a malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This machine is equipped with an electric cord having an equipment-grounding conductor and a grounding plug. The plug must be plugged into a matching outlet that is properly installed and grounded in accordance with all local codes and ordinances.

WARNING: In all cases, make certain the receptacle in question is properly grounded. If you are not sure, have a qualified electrician check the receptacle.

- Improper connection of the equipment-grounding conductor can result in risk of electric shock. The conductor with insulation having an outer surface that is green with or without yellow stripes is the equipment-grounding conductor. If repair or replacement of the electric cord or plug is necessary, do not connect the equipment-grounding conductor to a live terminal.
- Check with qualified electrician or service personnel if the grounding instructions are not completely understood, or if in doubt as to whether the machine is properly grounded.
- Repair or replace damaged or worn cord immediately.

Extension Cord Safety

Extension cord should be in good condition and meet the minimum wire gauge requirements listed below:

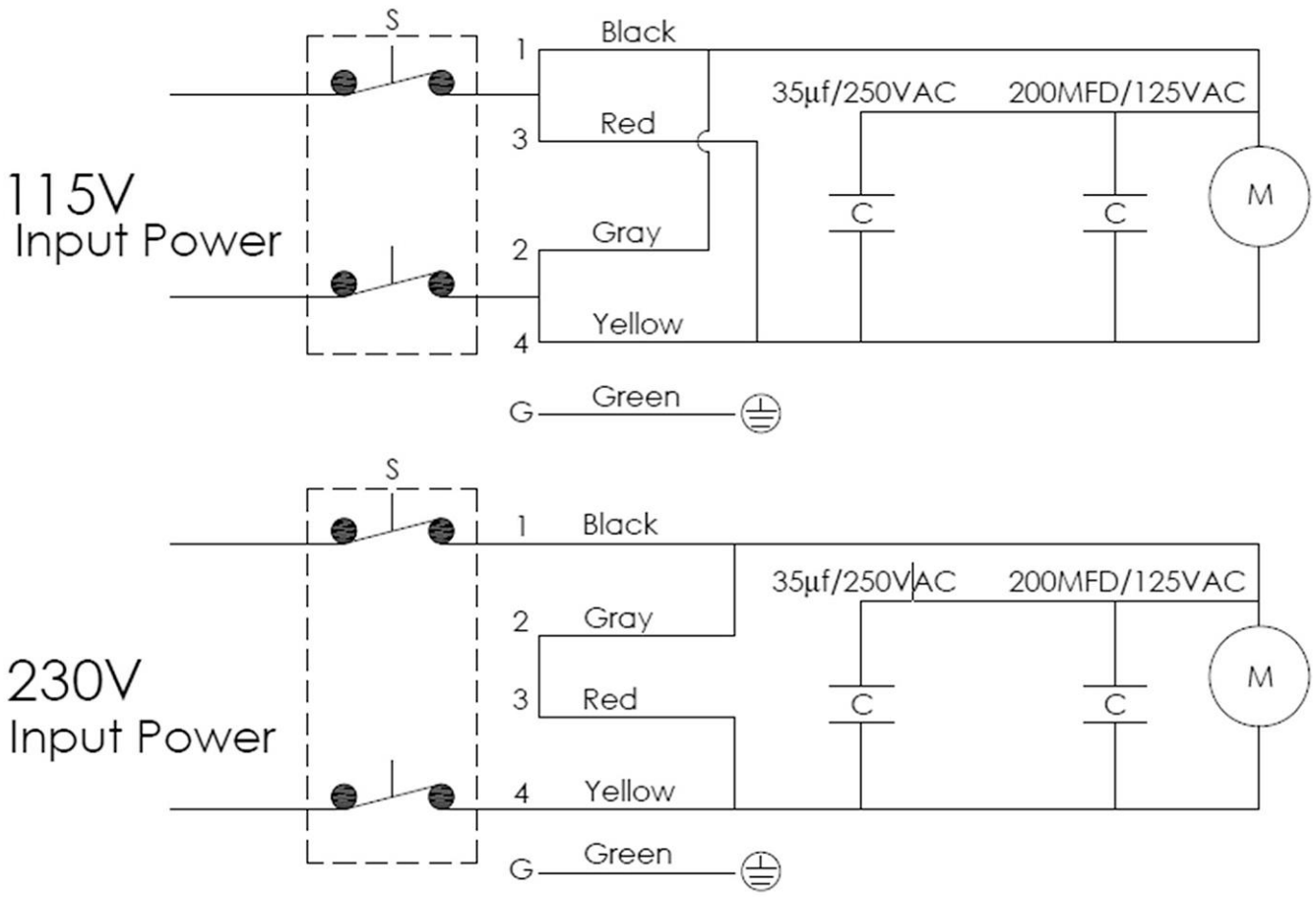
	LENGTH		
AMP RATING	25ft	50ft	100ft
1-12	16	16	14
13-16	14	12	12
17-20	12	12	10
21-30	10	10	No
	WIRE GAUGE		

An undersized cord decreases line voltage, causing loss of power and overheating. All cords should use a ground wire and plug pin. Replace any damaged cords immediately.

Power cord connection:

1. Turn the power switch on the control panel to the OFF position.
2. Unwrap the power cord and route the cord away from the machine toward the power supply.
    a. Route the power cord so that it will NOT become entangled in the machine in any way.
    b. Route the cord to the power supply in a way that does NOT create a trip hazard.
3. Connect the power cord to the power supply and check that the power cord has not been damaged during installation.
4. When the machine is clear of any obstruction. The power switch may be turn ON to test the operation.
5. Turn the switch OFF when the machine is not in operation.

Electrical Diagram



Voltage Change

This belt/disc sander is prewired for 115 volt input power, but can be converted to 230 volt input.

1. Turn the machine over and remove base plate.
2. Using the wiring diagram, change the lead connections (Black, Red, Gray, and Yellow) to match the pattern and terminal connections (1, 2, 3, and 4). DO NOT change the Green (ground) connection.
3. Install base plate.
4. Remove existing plug from power cable and attach a UL/CSA listed plug designed for 230V power; or “hardwire” the machine directly to a panel. If hardwiring, make sure a disconnect is provided for the operator.

OPERATION

⚠ CAUTION: Always wear proper eye protection with side shields, safety footwear, and leather gloves to protect from burrs and sharp edges.
When handling large heavy materials make sure they are properly supported.

ROTATING EQUIPMENT CAN BE DANGEROUS TO OPERATORS AND THOSE WHO MAY BE IN ITS IMMEDIATE OPERATING VICINITY. IT IS THE ABSOLUTE AND DIRECT RESPONSIBILITY OF THE OPERATOR(S) OF THIS EQUIPMENT TO UNDERSTAND AND OBEY THE OPERATING SAFETY REQUIREMENTS.

Belt Sanding

This belt sander can be used to grind, sand, finish and contour many types of parts, including metal, wood, plastic, and composite materials.
Different materials require different grit types and grades to achieve the desired stock removal rate and surface finish. Please consult with your abrasive materials supplier for specific recommendations on the correct grit material and grade required for your specific needs. When removing stock from soft materials (wood, plastic, etc.) these machines are typically called "sanders." When removing stock from hard materials (cast iron, steel, etc.) they are referred to as "grinders".

1. With the sander disconnected from the power source, setup the sander for the operation intended. Install the desired sanding belt, set the work rest, provide adequate work area, lighting and ventilation.
2. Belt and platen (horizontal or vertical position) – Workpieces of any length can be worked on the belt and against the platen. The table or tool rest should be tightened in place and used to support the workpiece. The table can tilt down to 45-degrees and may also be used as a fence for workpiece support when sanding arm is horizontal.
3. The general-purpose 80-grit sanding belt is useful for many applications, including radiusing, deburring and finishing/polishing of both ferrous and non- ferrous alloys.

4. Set the head to the desired angel from horizontal to vertical as needed.
5. Start the grinder and allow the belt to come to full speed.
6. Verify that the belt is tracking centered on the contact wheel.

7. Grasp the material firmly and is a way that provide positive operator control and leverage and keeps hands and fingers away from the grinding belt.
8. Draw the work piece across the grinding belt in a smooth even manner using only enough pressure into the grinding belt to allow the belt to remove material.
9. Use the entire width of the belt to reduce wear in one place.
10. At all times, keep hands and fingers away from pinch points.

Bench Grinding

WARNING: Always use approved safety glasses or face shield while operating tool. Failure to comply may cause serious injury.

A bench grinder is designed for hand-grinding operations such as sharpening chisels, screwdrivers, drill bits, removing excess metal, and smoothing and polishing metal surfaces.

Grinding wheel – A medium-grain, 36-grit wheel is provided, and is effective when a considerable amount of metal must be removed, or when obtaining a smooth finish is not important. A finer grain abrasive grinding wheel (not provided) can be mounted for sharpening tools or grinding to close size tolerances because it removes metal more gradually for precision grinding and achieves a smoother finish.

1. Before starting grinder, turn grinding wheel by hand to verify that it is clear of obstruction and turns freely. The tool rest and spark guard should not touch the wheel.
2. Keep tool rest and spark guard to within 1/16" of grinding wheel.
3. Turn On grinder and allow it to reach full running speed before starting to grind.
4. Adjust the eye shield as needed.
5. Keep a steady, moderate pressure on the workpiece and keep it moving at an even pace for smooth grinding. Pressing too hard overheats the motor and prematurely wears the grinding wheel.

Note: *Observe the original bevel angle on the item to be sharpened and try to maintain the same shape. The grinding wheel should rotate into the object being sharpened.*

6. If grinding a narrow workpiece, slide it laterally across width of wheel. Using full width of wheel will help prevent a groove from forming at one place on the wheel.
7. Keep a water pot filled with water and dip your work into it regularly to prevent overheating. Overheating can weaken metals. Do not apply water directly to grinding wheel.

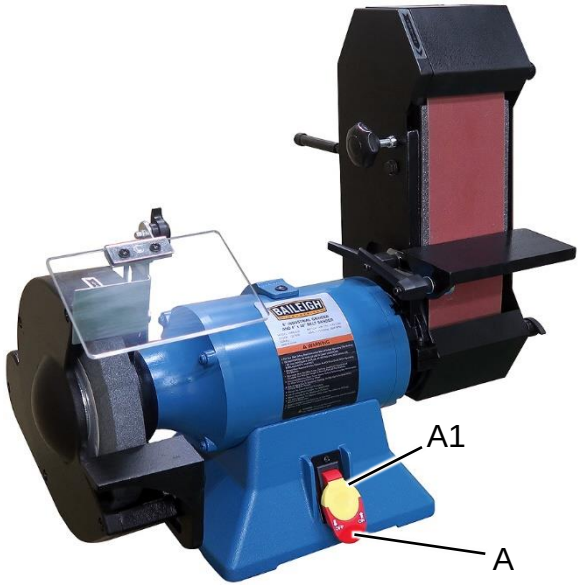
8. Do not use the side of the grinding wheel; this puts dangerous stress on the wheel.
9. When wheel becomes loaded or dull, use an approved grinding wheel dresser and dress the wheel face.
10. At all times, keep hands and fingers away from pinch points.

Operating Controls

⚠ CAUTION: Always verify that the unused sanding station is free and clear of any materials or object which could come into contact with the abrasive while the operator is working on the other station. This can cause an ejection of material which may cause injury.

Note: *After extended operation, the grinder housing may be warm to the touch. This is not abnormal.*

1. Insert the yellow safety key onto the paddle switch lever.
2. Lift upward on the paddle switch (A) to start the sander. Allow the belt and disc to come to full speed before sanding material.
3. Push down on the switch to stop the sander.
4. The safety key (A1) can be removed to prevent unauthorized use of the grinder. The safety key must be inserted to restart the grinder.

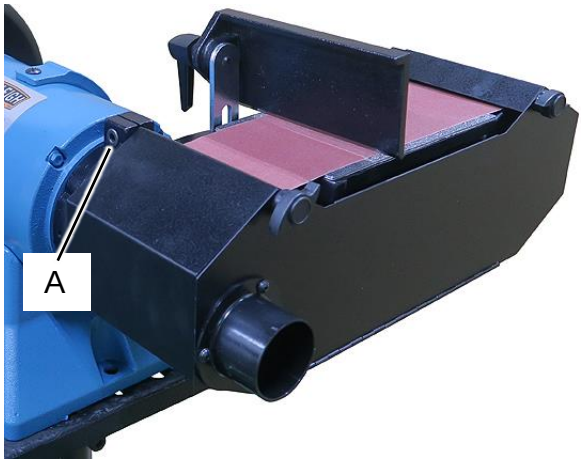


MACHINE ADJUSTMENTS

Sanding Arm Tilt

CAUTION: Make sure the clamping screw is tight when using the sanding arm. Failure to comply may result in the sanding arm falling back to horizontal position during operation, resulting in possible injury.

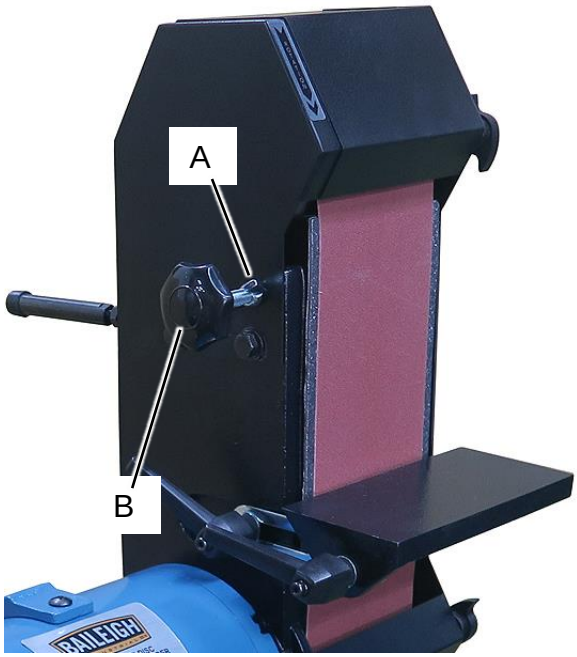
Once the grinder is securely mounted to a bench or stand, adjust the grinding head to either the horizontal or vertical position as desired for the type of grinding to be performed.



1. Loosen the clamping screw (A) and manually move arm to vertical or horizontal position.
2. Securely tighten the clamping screw (A).

Sanding Belt Tracking

1. Turn sander OFF.
2. Move sanding belt by hand to check tracking. If belt migrates to one side or the other, adjust as follows.
3. Loosen wing nut (A).
4. Turn knob (B) while manually moving the belt until belt completely covers drive wheel and stays centered.
    a. Turn knob clockwise to shift belt to the right (away from grinder), counterclockwise to shift belt to the left (toward grinder).



Note: *This adjustment is sensitive, turn handle in small increments and allow belt to respond to changes.*

5. Tighten wing nut (A) to secure setting.
6. Turn on machine to confirm the adjustment at operating speed.

LUBRICATION AND MAINTENANCE

WARNING: Make sure the electrical disconnect is OFF before working on the machine.
Maintenance should be performed on a regular basis by qualified personnel.
Always follow proper safety precautions when working on or around any machinery.

- Check daily for any unsafe conditions and fix immediately.
- Check that all nuts and bolts are properly tightened.
- On a weekly basis clean the machine and the area around it.
- Lubricate threaded components and sliding devices.
- Apply rust inhibitive lubricant to all non-painted surfaces.

***Note**: Proper maintenance can increase the life expectancy of your machine.*

Cleaning

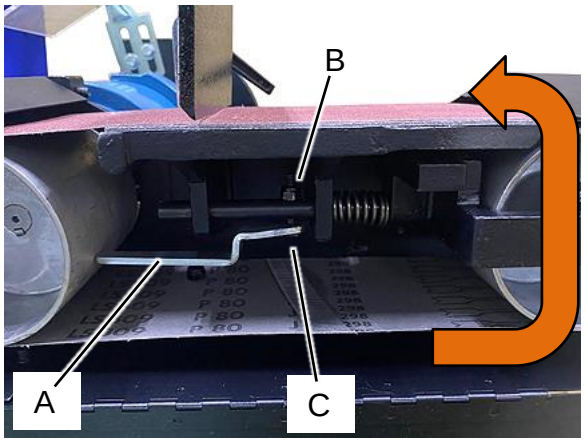
- Metal shavings may still be hot from recent sanding operations. Make sure shavings and debris are cold before cleaning the machine.
- Use a brush or rag to clear shavings, not bare hands.
- Avoid use of the following cleaning chemicals or solvents: gasoline, carbon tetrachloride, chlorinated solvents, ammonia and household detergents containing ammonia.
- Brush all shavings from the motor housing, tool rest, grinding, and sanding belt areas. Clean the area beneath the sander base.
- Periodically use a cleaning stick (not provided) against the abrasive belt to remove build-up.
- If the abrasive belt becomes loaded, it can be cleaned by soaking within a solvent. Allow to dry completely before reinstalling.

Lubrication

- All motor and wheel bearings are permanently lubricated and sealed at the factory and require no additional lubrication.

Sanding Belt Replacement

1. Disconnect sander from power source.
2. Unscrew knobs and open side guard.
3. Pull tension lever (A) outward to compress spring and de-tension the belt.
4. Remove old belt by sliding it off wheels.
5. Install new belt, centering it on the wheels. Make sure arrow printed on back of sanding belt matches direction of belt movement.
6. Push lever (A) inward to tension belt.
7. Verify proper belt tracking.
8. Close side cover and secure with knobs before operating.



Tension Lever Tightness

- If sanding belt tension lever becomes loose, hold the lock nut (B) with an 11mm wrench, and tighten screw (C) with 5mm hex wrench.
- Lever should be snug but still easily moved.

Grinding Wheel Care

- In normal use, grinding wheels may become cracked, grooved, rounded at the edges, chipped, out of true or loaded with foreign material.
- Cracked wheels should be replaced IMMEDIATELY. The other conditions can be remedied with a dressing tool. New wheels sometimes require dressing to make them round.

Ring Test

Before replacing a grinding wheel, perform this simple test on the replacement wheel:

1. Loop a piece of string through the grinding wheel hole and suspend the wheel by holding up the string.
2. Tap the wheel with a scrap of wood or wooden dowel.
3. A good wheel will "ring"; a defective wheel will "thud". Discard any wheel that does not "ring".
4. An internal defect may not be apparent by visual inspection alone. The ring test may identify an internal crack or void.

Changing Grinding Wheels

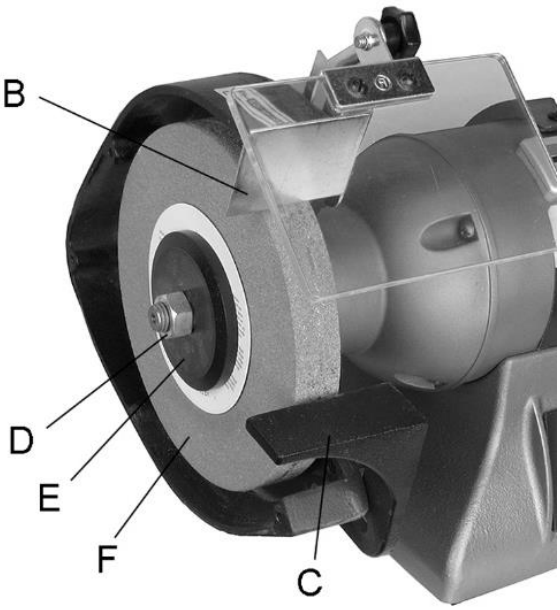
This bench grinder comes equipped with a general-purpose grinding wheel. Wheels vary according to types of abrasive, hardness, grit size, and structure. Contact your local distributor for the proper grinding wheel or wire wheel brush for your application.
When replacing the wheel, obtain one with a safe rated speed at least as high as the NO LOAD RPM marked on the grinder's nameplate.

Important: *The replacement wheel must be 8" OD x 1" W x 5/8" Bore.*

Note: The bench grinder will accept most polishing, buffing, and wire wheels available at dealers and hardware stores.

⚠ CAUTION: The use of any other accessory is not recommended and may result in serious injury.

1. Disconnect grinder from power source.
2. Loosen spark guard (B) and tool rest (C) and move them away from the wheel.
3. Remove wheel guard using a cross-point or flathead screwdriver.
4. Stabilize wheel by placing a wood wedge between wheel and tool rest.
5. Unscrew arbor nut (D) with wrench. ***Note:*** Left-turn threads; turn nut clockwise to loosen.
6. Remove outer flange (E), wheel (F), and inner flange.
7. Clean flanges. Check the flanges to make sure they are flat. Wheel flanges that are not flat will cause the wheel to wobble.



8. Inspect the new grinding wheel and perform a "ring test". Do not install a damaged wheel.
9. Install inner flange, wheel (F), outer flange (E) and nut (D) on the shaft. Tighten nut counterclockwise.

NOTICE: *Do not overtighten nut; this may cause the wheel to crack. Maximum safe torque on nut is 20 lbf•ft (270 kgf•cm).*

10. Reinstall wheel guard. Adjust spark guards and tool rests to 1/16" clearance from wheel.

Wheel Balancing

With the grinder unplugged from the power source, and arbor nut snugged down, rotate wheel by hand and observe its motion.
A grinding wheel has proper balance when:

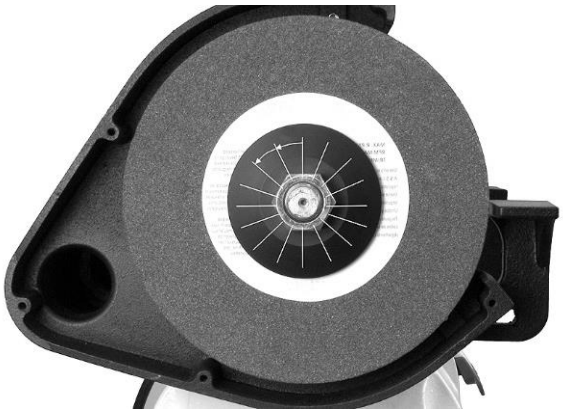
1. The wheel's outside face spins true and round; that is, its circumference rotates concentric to the arbor.
2. There is no side-to-side wobble.

The operator who takes time to patiently perform needed adjustments will be rewarded by a wheel running true, and accurate grinding of work pieces.

Correcting Side-to-Side Wobble

This grinder has a large, machined flanges, making wobble unlikely if a good quality grinding wheel is used.
Should a wheel exhibit need for adjustment:

1. Loosen nut and rotate the outer flange a little. Snug the nut and spin the wheel by hand to check.
2. If wobble still exists, continue repeating step 1, rotating outer flange incrementally in the same direction. Make sure to keep the wheel in the same position each time.
3. If complete rotation of outer flange has proved ineffective, remove nut, outer flange, and wheel. Keep the wheel in same orientation by placing a pencil mark on it somewhere for reference. Then rotate inner flange about 90° and repeat the above steps for the outer flange.



4. Continue this combination of flange movements until the wobble is eliminated.
5. If required, a shim made of paper or card stock may be placed between flange and wheel side.

Note: *A slight wobble may still exist at spin-up and spin-down but will not affect normal speed operation.*

Adjusting Concentricity

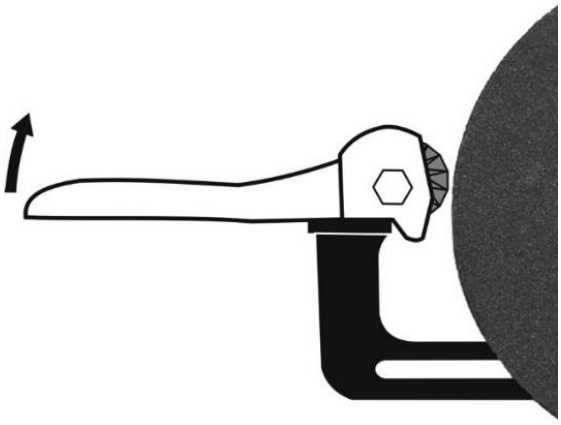
If the outside face is not rotating concentric to arbor, try shifting the wheel closer to arbor centerline before tightening the nut.
Another method of achieving concentricity is the use of a wheel dresser. “Dressing” is the removal of the current layer of abrasive to expose a fresh surface. A wheel dresser is also used to “true” a wheel; that is, to make the grinding surface parallel to the tool rest, so the entire wheel face presents an even surface to the work piece.
Proper use of a wheel dresser will eliminate high spots and result in concentric rotation about the arbor, as well as minimize vibration.

Dressing the Wheel

Below is a general procedure for dressing a grinding wheel.

WARNING: Always use approved safety glasses or face shield while operating tool. Failure to comply may cause serious injury.

1. Back off the tool rest enough to allow the dresser to hook over its inside edge (See Figure).
2. Tighten tool rest in position.
3. Turn on grinder and allow it to reach operating speed.
4. With the dresser handle tipped downward, set the dresser wheel on the rest with the hooks over the tool rest.
5. Bring handle up to cause the dresser wheel to make contact with the grinding wheel. Hold the dresser firmly.



Note: *If sparks appear, increase the pressure of the dresser discs against the wheel.*

6. Move the dresser evenly left and right across the wheel face until the wheel looks clean and is square to the tool rest.
7. Remove the dresser by tipping the handle downward to disengage the wheel contact and carefully lifting the dresser off the tool rest.
8. Turn the grinder off.
9. Adjust the tool rest to 1/16” away from the newly dressed wheel.

Wire Wheel Brushes

Wire brushing (not provided) is a fast way to remove rust scale, burrs, and paint from metal. Use coarse wire brushes for hard cleaning jobs. Use fine wire brushes for polishing and finish work. When the brush tips become dull, reverse the brush on the grinder.

TROUBLESHOOTING

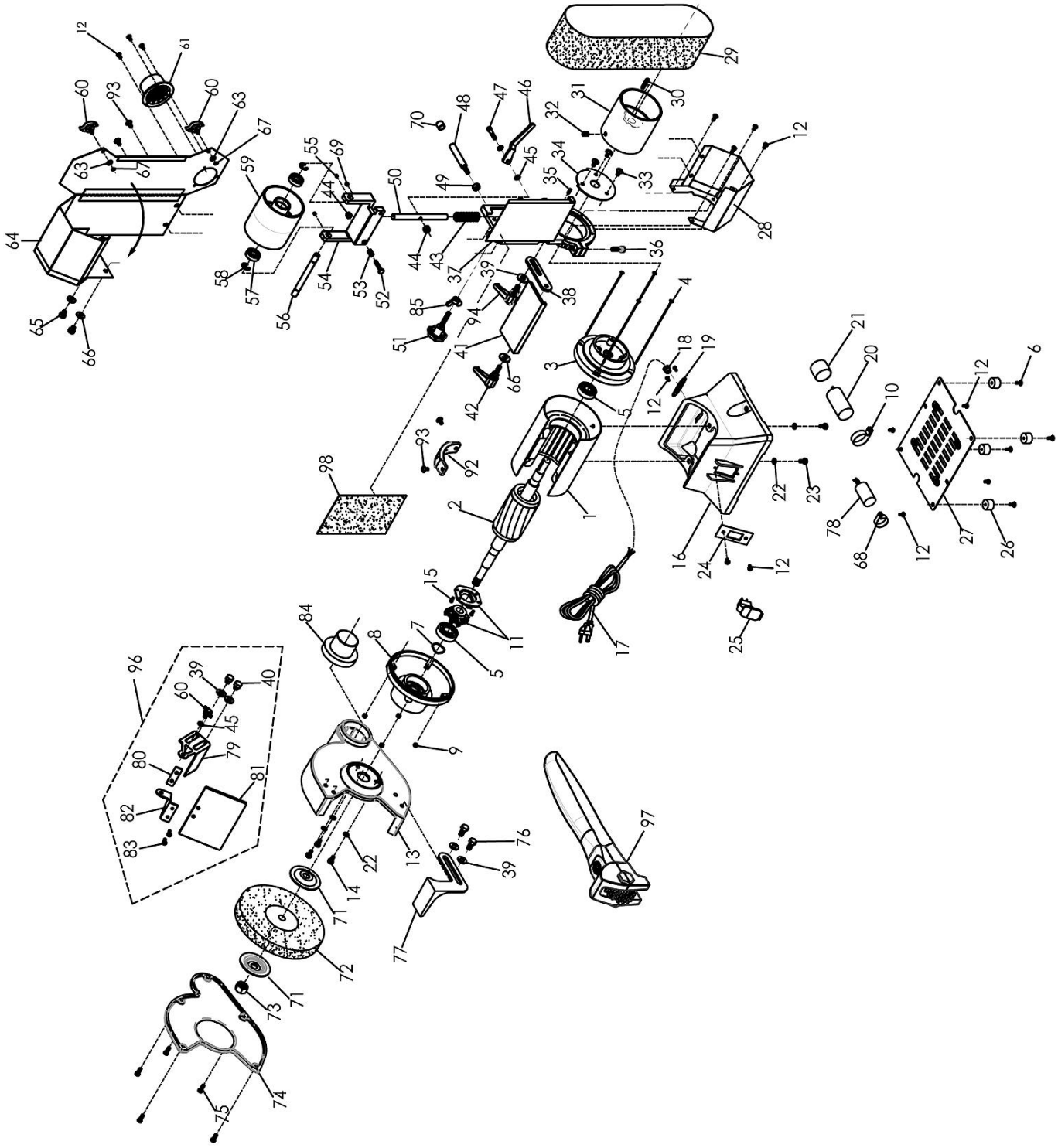
⚠ WARNING: Make sure the electrical disconnect is OFF before working on the machine.

Symptom	Possible Cause	Correction
Motor will not start.	No incoming power.	Verify that plug is properly inserted into receptacle. If so, check main panel for tripped breaker or blown fuse.
	Non-variable speed models: Safety key is missing.	Make sure safety key is inserted.
	Wheel(s) cannot rotate because of obstruction.	Unplug and turn wheel by hand to ensure free movement. Restart.
	Fuse blown or circuit breaker open.	Re-set. May be too many machines on one circuit.
	Motor cord cut or abraded.	Replace with new cord.
	Plug on cord is faulty.	Replace with new plug.
	Low line voltage.	Check power line for proper voltage.
	Faulty switch.	Replace switch.
	Faulty capacitor.	Replace capacitor.
	Open circuit in motor or loose connection.	Inspect all lead connections on motor for loose or open connections.
	Motor faulty.	Have motor inspected.
Motor will not start; fuses blow or circuit breakers trip.	Too many electrical machines running on same circuit.	Turn off other machines and try again. Use dedicated circuit if necessary.
	Incorrect fuse.	Try time delay fuse or go to circuit with higher rated fuse or

Symptom	Possible Cause	Correction
		circuit breaker.
	Wheel(s) cannot rotate because of obstruction.	Unplug and turn wheel by hand to ensure free movement. Clear any obstructions and restart.
	Undersized extension cord.	Use correct size extension cord.
	Short circuit in line cord or plug.	Inspect cord or plug for damaged insulation and shorted wires.
	Short circuit in motor or loose connections.	Inspect all connections on motor for loose or shorted terminals or worn insulation.
Motor fails to develop full power.	Low line voltage.	Check power line for proper voltage.
	Faulty motor or capacitor.	Replace capacitor or motor.
Motor overheats.	Motor overloaded.	Reduce pressure against wheel or platen. Make sure grit size is appropriate for the job.
Motor stalls, resulting in blown fuses or tripped breaker.	Motor overloaded.	Reduce load on motor; do not press so hard.
	Capacitor failure.	Replace capacitor.
	Short circuit in motor or loose connections.	Inspect connections on motor for loose or shorted terminals or worn insulation.
	Low voltage.	Correct the low voltage conditions.
	Incorrect fuses or circuit breakers in power line.	Install correct fuses or circuit breakers.
Motor slows.	Motor overloaded.	Reduce load to motor; do not press so hard.
	Low line voltage.	Check power line for proper voltage.
	Loose connections.	Inspect connections.
Frequent fuse or circuit breaker failure.	Motor overload.	Reduce load to motor; do not press so hard.
	Electrical circuit overload; too many electrical machines running on same circuit.	Turn off other machines and try again.
	Incorrect fuse or circuit breaker.	Have electrician upgrade service

Symptom	Possible Cause	Correction
		to outlet.
Excessive vibration.	Wheel out of balance; wobbling or not rotating concentric to arbor.	Dress wheel or replace it. Adjust wobble by rotating flange as needed.
	Improper mounting.	Secure grinder/sander firmly to bench or stand.
Sanding belt will not tension or de-tension properly.	Tension rod is “sticking”; movement obstructed.	Clean any debris from tension rod and spring area. Lubricate spring if needed.
	Spring is worn or damaged.	Replace spring.
	Set screw which holds tension rod to wheel carrier is loose.	Tighten set screw.

IGBB-436 PARTS DIAGRAM



IGBB-436 Parts List

Item	Part No	Description	Size	Qty.
1	IGBB436-01	Motor Housing w/ Stator		1
2	IBGB436-02	Rotor		1
3	IGBB436-03	End Cover		1
4	IBGB248-04	Cross Head Screw	M5 x 210 x 30S	4
5	BB-6204ZZ	Ball Bearing	6204ZZ	2
6	IBG8-36	Truss Head Screw	3/16”-24 x 1/2”	4
7	IBGB248-07	Wave Washer		1
8	IGB8-19	End Bell		1
9	TS-1540031	Hex Nut	M5	4
10	IBG8-05	Capacitor Bracket		1
11	IBG8-41	Centrifugal Switch Assembly		1
12	IBG8-04	Truss Head Screw	3/16”-24 x 3/8”	16
13	IGB8-21	Wheel Guard - Left		1
14	TS-0050021	Hex Cap Screw	1/4”-20 x 5/8”	3
15	IBG8-04	Truss Head Screw	3/16”-24 x 3/8”	2
16	IGB8-10	Base		1
17	IBG8-46	Power Cord		1
18	IBG8-47	Strain Relief		1
19	IBG8-11	Cord Plate		1
20	IBG8-06	Start Capacitor	200MFD, 125VAC	1
21	IBG8-07	Capacitor Cover		1
22	TS-0720071	Lock Washer	1/4”	5
23	TS-0050011	Hex Cap Screw	1/4”-20 x 1/2”	2
24	IBG8-12	Switch Plate		1
25	IBG8-13	Switch with Safety Key		1
	IBG8-13-1	Safety Key (not shown)		1
26	IBG8-02	Rubber Pad		4
27	IBG8-03	Base Plate		1
28	IGBB436-28	Drive Wheel Cover		1
29	IBGB436-29	Sanding Belt	W 4” x L 36”, 80 Grit	1
30	IBGB436-30	Key, Dbl Rd Hd	3/16” x 3/16” x 2-9/32”	1
31	IGBB436-31	Drive Wheel	Dia. 4” x W 4”	1

Item	Part No	Description	Size	Qty.
32	TS-0267041	Set Screw	1/4”-20 x 3/8”	1
33	IBGB248-33	Truss Head Screw	1/4”-20 x 3/8”	3
34	IBGB248-34	Positioning Plate		1
35	IBGB248-35	Spring Pin	Dia. 5 x 14	1
36	TS-0208061	Socket Hd Cap Screw	5/16”-18 x 1”	1
37	IBGB436-37	Sanding Belt Bracket		1
38	IBGB248-38	Bracket Plate *		1
39	TS-0680042	Flat Washer *	3/8”	5
40	TS-0060011	Hex Cap Screw	3/8”-16 x 1/2”	2
41	IBGB436-41	Sanding Table		1
42	IBGB248-42	Adjustable Handle *	5/16”-18 x 1”	1
43	IBGB436-43	Spring		1
44	TS-0640071	Nylon Lock Hex Nut	1/4”-20	2
45	TS-0680021	Flat Washer	1/4”	3
46	IBGB248-46	Tension Handle		1
47	TS-0207071	Socket Hd Cap Screw	1/4”-20 x 1-1/4”	1
48	IBGB436-48	Stand-Off	Dia.13 x L 80	1
49	TS-0561021	Hex Nut	5/16”-18	1
50	IBGB248-50	Support Post		1
51	IGBB436-51	Tracking Adjustment Knob	M8 x 35	1
52	F000114	Round Head Screw	1/4”-20 x 1-1/4”	1
53	IBGB248-53	Spring		1
54	IBGB436-54	Wheel Carrier		1
55	IBGB248-55	Set Screw	3/16”-24 x 1/4”	2
56	IBGB436-56	Shaft		1
57	BB-6201VV	Ball Bearing	6201BR	2
58	6284728	E-Ring	12mm	2
59	IBGB436-59	Driven Wheel	Dia.4” x W 4”	1
60	IGB8-37	Knob	1/4”	3
61	IBGB248-61	Dust Port	Dia. 2”	1
63	TS-1550041	Flat Washer	M6	2
64	IGBB436-64	Belt Cover		1
65	6293385	Hex Cap Screw	5/16”-18 x 3/8”	2
66	TS-0680031	Flat Washer *	5/16”	4
67	IBGB248-67	S-Ring	6mm	2

Item	Part No	Description	Size	Qty.
68	IBG8-48	Capacitor Bracket		1
69	TS-0267021	Set Screw	1/4”-20 x 1/4”	1
70	IBGB248-70	Rubber Sleeve		1
71	IGB8-22	Wheel Flange	2-7/8” OD, 5/8” ID	2
72	IBG8-23	Wheel	#36 Grit, 8” Dia.	1
73	IBG8-24	Hex Nut (Left Turn Thread)	5/8”-11UNC	1
74	IGB8-25	Wheel Cover - Left		1
75	IBG8-26	Truss Head Screw	1/4”-20 x 5/8”	5
76	TS-0060031	Hex Cap Screw	3/8”-16 x 3/4”	2
77	IBG8-27	Tool Rest-Left		1
78	IBG8-49	Running Capacitor	35µF, 250V	1
79	IBG8-32	Spark Guard – Left		1
80	IBG8-35	Eye Shield Plate		1
81	IBG8-33	Eye Shield		1
82	IBG8-34	Eye Shield Bracket - Left		1
83	IBG8-36	Truss Head Screw	3/16”-24 x 3/8”	2
84	IGBB436-84	Dust Port Adapter		1
85	TS-154306	Wing Nut	M8	1
92	IGB8-63	Lamp Fixed Bracket		1
93	IBGB248-33	Truss Head Screw	1/4”-20 x 3/8”	2
94	IBGB248-94	Adjustable Handle *	3/8”-16 x 3/4”	1
96	IGB8-100	Eye Shield Assembly - Left		1
97	IBG8-54	Dresser Assembly		1
98	IBGB436-98	Graphite Sheet		1
	LM-IGBB436	I.D./Warning Label, IGBB-436 (not shown)		1
	IGBB436-HP	Hardware Package *		

NOTES

NOTES

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