

READ THIS FIRST



MODEL SB1099 ***IMPORTANT UPDATE***



Applies to Models Mfd. Since 01/22
and Owner's Manual Printed 02/21

The following change was made to this machine since the owner's manual was printed:

- The inlet adapter has changed.

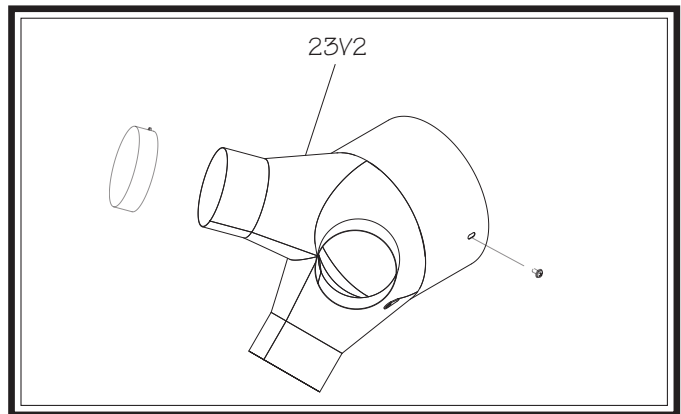
Aside from this information, all other content in the owner's manual applies and **MUST** be read and understood for your own safety. **IMPORTANT: Keep this update with the owner's manual for future reference.**

If you have any further questions about this manual update or the changes made to the machine, contact our Technical Support at (360) 734-1540 or email www.southbendtools.com.

Old Inlet Adapter



Revised Parts



New Inlet Adapter



REF	PART #	DESCRIPTION
23V2	PSB1099023V2	INLET ADAPTER 8" X 4" X 3 (PC) V2.01.22

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#JM22435 Printed in Taiwan

3HP CYCLONE DUST COLLECTOR

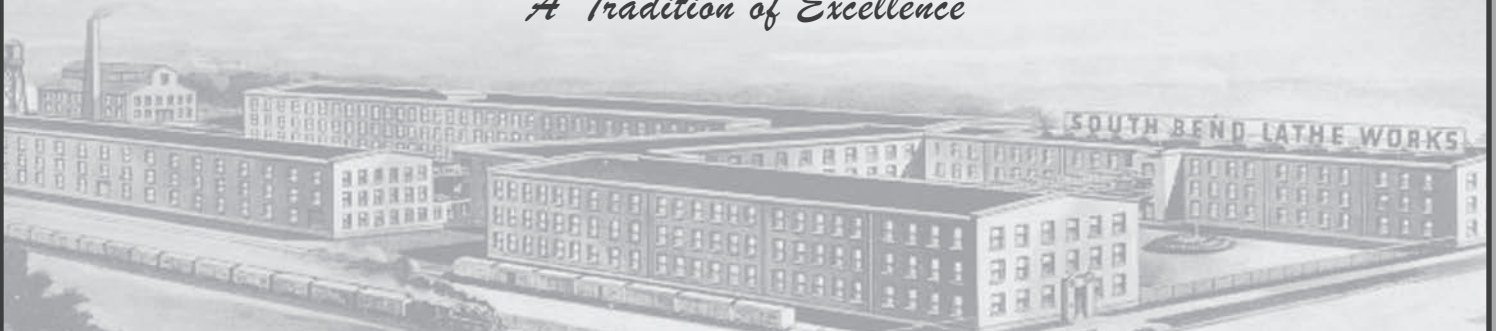
MODEL SB1099



OWNER'S MANUAL

South Bend Tools®

A Tradition of Excellence



Scope of Manual

This manual helps the reader understand the machine, how to prepare it for operation, how to control it during operation, and how to keep it in good working condition. We assume the reader has a basic understanding of how to operate this type of machine, but that the reader is not familiar with the controls and adjustments of this specific model. As with all machinery of this nature, learning the nuances of operation is a process that happens through training and experience. If you are not an experienced operator of this type of machinery, read through this entire manual, then learn more from an experienced operator, schooling, or research before attempting operations. Following this advice will help you avoid serious personal injury and get the best results from your work.

Manual Feedback

We've made every effort to be accurate when documenting this machine. However, errors sometimes happen or the machine design changes after the documentation process—so the manual may not exactly match your machine. If a difference between the manual and machine leaves you in doubt, contact our customer service for clarification.

We highly value customer feedback on our manuals. If you have a moment, please share your experience using this manual. What did you like about it? Is there anything you would change to make it better? Did it meet your expectations for clarity, professionalism, and ease-of-use?

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Updates

For your convenience, any updates to this manual will be available to download free of charge through our website at:

www.southbendtools.com

Customer Service

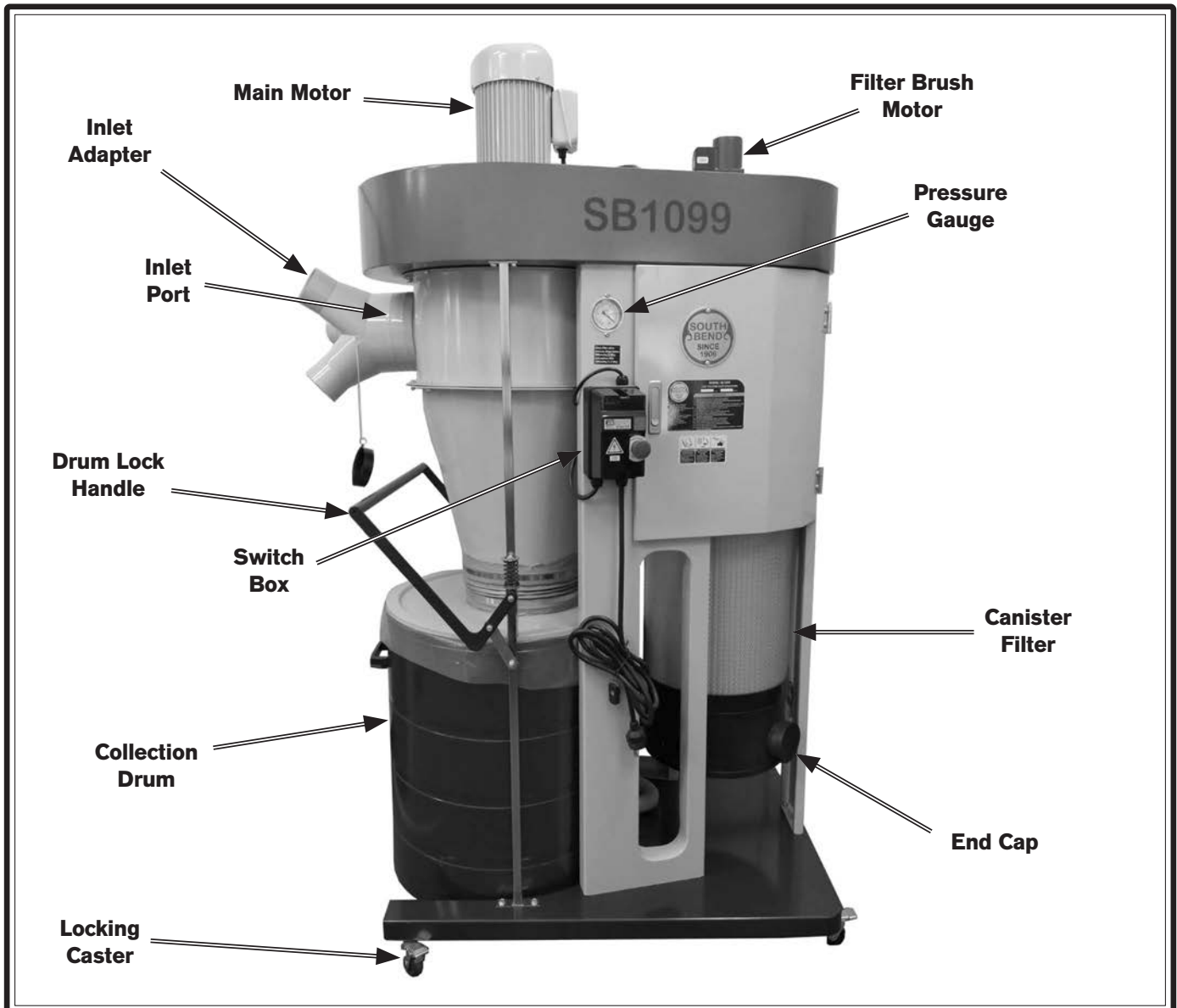
We stand behind our machines. If you have any service questions, parts requests or general questions about your purchase, feel free to contact us.

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Identification



!WARNING

Serious personal injury could occur if you connect the machine to power before completing the setup process. DO NOT connect power until instructed to do so later in this manual.

!WARNING

Untrained users have an increased risk of seriously injuring themselves with this machine. Do not operate this machine until you have understood this entire manual and received proper training.

Description of Controls & Components

Refer to **Figures 1-2** and the following descriptions to become familiar with the basic controls and components used to operate this machine.

- A. Inlet Adapter:** Allows connection of three 4" ducts to main inlet port.
- B. Filter Brush Motor:** Turns **ON** for approximately 90 seconds after main motor is turned **OFF**. Knocks dust cake off filter pleats, cleaning filter and maintaining air flow. Filter brush motor run time can be changed at timer inside switch box (refer to **Wiring Diagram** on **Page 43**).
- C. Pressure Gauge:** Displays vacuum pressure, indicating when filter needs to be cleaned or replaced. Clean filter when operating pressure drops below 200mmAq. If operating pressure reaches 150mmAq and cleaning does not improve performance, replace the filter.
- D. Switch Box:** Controls motor operation with a thermally protected magnetic switch. Houses an RF receiver for remote control operation.
- E. Start Button:** Turns machine **ON**.
- F. Emergency Stop Button:** Turns machine **OFF** and prevents it from starting. Turn button clockwise to reset.
- G. Drum Lock Handle:** Secures dust collection drum to lid when lifted. Releases collection drum when pressed down.
- H. Collection Drum:** Collects large dust particles. Equipped with vacuum equalizer for using plastic collection bags and an inspection window to see when drum is full.
- I. End Cap:** Collects fine dust particles from filter. Includes outlet port for easy filter cleaning.

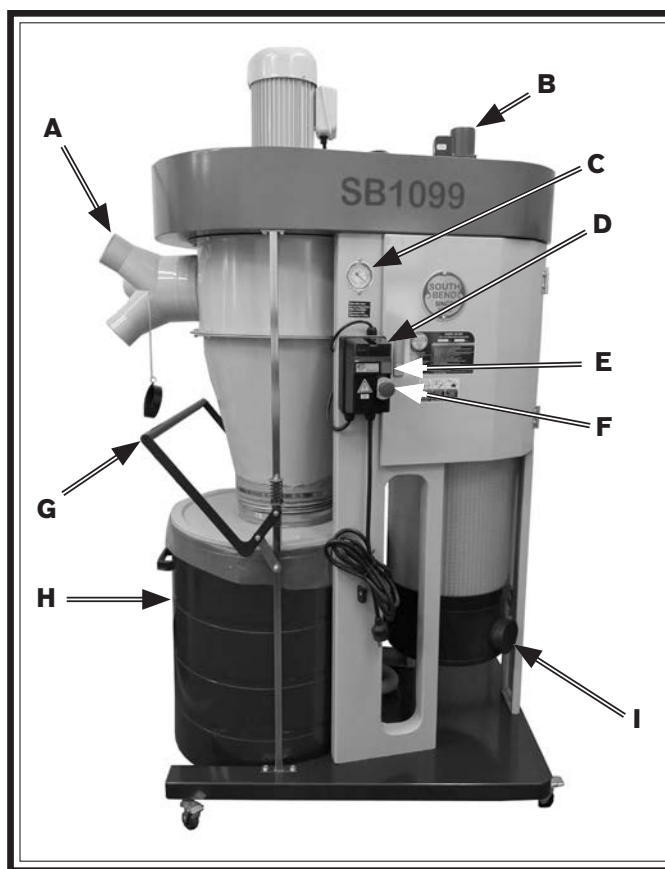


Figure 1. Main controls and components.

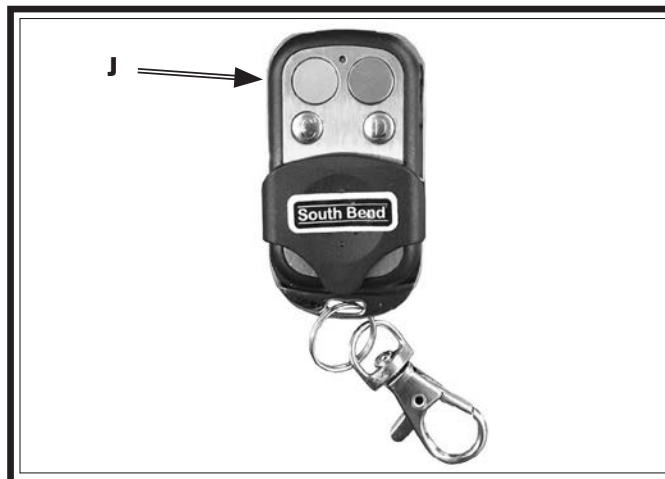


Figure 2. Remote control.

- J. Remote Control:** Green button turns motor **ON**. Red button turns motor **OFF**. Requires a 12V, type A27 battery.

Note: The remote control operates on radio frequency and has a 75-ft. range. It does not need to be aimed at the switch box to operate.



Model SB1099 3 HP Cyclone Dust Collector

Product Dimensions

Weight..... 409 lbs.
 Width (side-to-side) x Depth (front-to-back) x Height..... 44-1/2 x 47 x 81 in.
 Footprint (Length x Width)..... 35 x 42 in.

Shipping Dimensions

Carton #1

Type..... Cardboard Box
 Content..... Machine
 Weight..... 312 lbs.
 Length x Width x Height..... 41 x 34 x 29 in.
 Must Ship Upright..... Yes

Carton #2

Type..... Cardboard Box
 Content..... Stand and Support Arms
 Weight..... 50 lbs.
 Length x Width x Height..... 59 x 19 x 8 in.
 Must Ship Upright..... No

Carton #3

Type..... Cardboard Box
 Content..... Canister Filter, Collection Drum, and Door
 Weight..... 75 lbs.
 Length x Width x Height..... 27 x 27 x 45 in.
 Must Ship Upright..... Yes

Electrical

Power Requirement..... 220V, Single-Phase, 60 Hz
 Full-Load Current Rating..... 15A
 Minimum Circuit Size..... 30A
 Connection Type..... Cord & Plug
 Power Cord Included..... Yes
 Power Cord Length..... 66 in.
 Power Cord Gauge..... 12 AWG
 Plug Included..... Yes
 Included Plug Type..... L6-30
 Switch Type..... Remote Control Magnetic Switch w/Overload Protection

Motors**Main**

Horsepower.....	3 HP
Phase.....	Single-Phase
Amps.....	15A
Speed.....	3450 RPM
Type.....	TEFC Capacitor-Start Induction
Power Transfer	Direct
Bearings.....	Shielded & Permanently Lubricated
Centrifugal Switch/Contacts Type.....	External

Filter Brush

Horsepower.....	15W
Phase.....	Single-Phase
Amps.....	0.2A
Speed.....	1600 RPM
Type.....	TENV Induction
Power Transfer	Direct w/Reducer
Bearings.....	Shielded & Permanently Lubricated
Centrifugal Switch/Contacts Type.....	External

Main Specifications**Operation**

Dust Collector Type.....	Two-Stage (Cyclone)
Approved Dust Types.....	Wood
Filter Type.....	Pleated Cartridge
Airflow Performance.....	1860 CFM @ 3.2 in. SP
Max Static Pressure (at 0 CFM).....	10.5 in.
Main Inlet Size.....	8 in.
Inlet Adapter Included.....	Yes
Number of Adapter Inlets.....	3
Adapter Inlet Size.....	4 in.
Machine Collection Capacity At One Time.....	3
Maximum Material Collection Capacity.....	33-1/2 gal.
Filtration Rating.....	1 Micron
Filter Surface Area.....	46-1/4 sq. ft.

Bag Information

Number Of Filter Bags.....	1
Number Of Collection Drum Bags.....	1
Filter Bag Diameter.....	15 in.
Filter Bag Length.....	19-11/16 in.
Collection Drum Bag Diameter.....	24-1/2 in.
Collection Drum Bag Length.....	47-1/4 in.

Canister Information

Number of Canister Filters.....	1
Canister Filter Diameter.....	14-1/2 in.
Canister Filter Length.....	40-3/4 in.
Collection Drum Size.....	52 Gallons

Impeller Information

Impeller Type.....	Radial Fin
Impeller Size.....	16 in.
Impeller Blade Thickness.....	5/16 in.

Construction

Upper Bag.....	Clear Plastic (Filter)
Lower Bag.....	Clear Plastic (Drum)
Canister.....	Spun Bond Polyester
Base.....	Steel
Frame.....	Steel
Impeller.....	Aluminum
Paint Type/Finish.....	Powder Coated
Blower Housing.....	Steel
Body.....	Steel
Collection Drum.....	Steel

Other

Country of Origin	Taiwan
Warranty	2 Years
Approximate Assembly & Setup Time	1 Hour
Serial Number Location	ID Label

Features

- Steel Stand with Built-In Casters
- BIA Certified Cartridge Filter
- Casters Mounted on Collection Drum for Easy Moving
- Clear Disposable Plastic Collection Bags
- Automatic Filter Cleaning
- Ramped Inlet Maximizes Dust Flow into Collection Drums
- Reinforced Motor Mount
- Remote-Controlled Magnetic Switch
- Vacuum Pressure Gauge




Understanding Risks of Machinery

Operating all machinery and machining equipment can be dangerous or relatively safe depending on how it is installed and maintained, and the operator's experience, common sense, risk awareness, working conditions, and use of personal protective equipment (safety glasses, respirators, etc.).

The owner of this machinery or equipment is ultimately responsible for its safe use. This responsibility includes proper installation in a safe environment, personnel training and usage authorization, regular inspection and maintenance, manual availability and comprehension, application of safety devices, integrity of cutting tools or accessories, and the usage of approved personal protective equipment by all operators and bystanders.

The manufacturer of this machinery or equipment will not be held liable for injury or property damage from negligence, improper training, machine modifications, or misuse. Failure to read, understand, and follow the manual and safety labels may result in serious personal injury, including amputation, broken bones, electrocution, or death.

The signals used in this manual to identify hazard levels are as follows:

 DANGER	<i>Death or catastrophic harm WILL occur.</i>	 CAUTION	<i>Moderate injury or fire MAY occur.</i>
 WARNING	<i>Death or catastrophic harm COULD occur.</i>	NOTICE	<i>Machine or property damage may occur.</i>

Basic Machine Safety

Owner's Manual: All machinery and machining equipment presents serious injury hazards to untrained users. To reduce the risk of injury, anyone who uses THIS item MUST read and understand this entire manual before starting.

Personal Protective Equipment: Operating or servicing this item may expose the user to flying debris, dust, smoke, dangerous chemicals, or loud noises. These hazards can result in eye injury, blindness, long-term respiratory damage, poisoning, cancer, reproductive harm or hearing loss. Reduce your risks from these hazards by wearing approved eye protection, respirator, gloves, or hearing protection.

Trained/Supervised Operators Only: Untrained users can seriously injure themselves or bystanders. Only allow trained and properly supervised personnel to operate this item. Make sure safe operation instructions are clearly understood. If electrically powered, use padlocks and master switches, and remove start switch keys to prevent unauthorized use or accidental starting.

Guards/Covers: Accidental contact with moving parts during operation may cause severe entanglement, impact, cutting, or crushing injuries. Reduce this risk by keeping any included guards/covers/doors installed, fully functional, and positioned for maximum protection.

Entanglement: Loose clothing, gloves, neckties, jewelry or long hair may get caught in moving parts, causing entanglement, amputation, crushing, or strangulation. Reduce this risk by removing/securing these items so they cannot contact moving parts.

Mental Alertness: Operating this item with reduced mental alertness increases the risk of accidental injury. Do not let a temporary influence or distraction lead to a permanent disability! Never operate when under the influence of drugs/alcohol, when tired, or otherwise distracted.

Safe Environment: Operating electrically powered equipment in a wet environment may result in electrocution; operating near highly flammable materials may result in a fire or explosion. Only operate this item in a dry location that is free from flammable materials.

Electrical Connection: With electrically powered equipment, improper connections to the power source may result in electrocution or fire. Always adhere to all electrical requirements and applicable codes when connecting to the power source. Have all work inspected by a qualified electrician to minimize risk.

Disconnect Power: Adjusting or servicing electrically powered equipment while it is connected to the power source greatly increases the risk of injury from accidental startup. Always disconnect power **BEFORE** any service or adjustments, including changing blades or other tooling.

Secure Workpiece/Tooling: Loose workpieces, cutting tools, or rotating spindles can become dangerous projectiles if not secured or if they hit another object during operation. Reduce the risk of this hazard by verifying that all fastening devices are properly secured and items attached to spindles have enough clearance to safely rotate.

Chuck Keys or Adjusting Tools: Tools used to adjust spindles, chucks, or any moving/rotating parts will become dangerous projectiles if left in place when the machine is started. Reduce this risk by developing the habit of always removing these tools immediately after using them.

Work Area: Clutter and dark shadows increase the risks of accidental injury. Only operate this item in a clean, non-glaring, and well-lighted work area.

Properly Functioning Equipment: Poorly maintained, damaged, or malfunctioning equipment has higher risks of causing serious personal injury compared to those that are properly maintained. To reduce this risk, always maintain this item to the highest standards and promptly repair/service a damaged or malfunctioning component. Always follow the maintenance instructions included in this documentation.

Unattended Operation: Electrically powered equipment that is left unattended while running cannot be controlled and is dangerous to bystanders. Always turn the power **OFF** before walking away.

Health Hazards: Certain cutting fluids and lubricants, or dust/smoke created when cutting, may contain chemicals known to the State of California to cause cancer, respiratory problems, birth defects, or other reproductive harm. Minimize exposure to these chemicals by wearing approved personal protective equipment and operating in a well ventilated area.

Difficult Operations: Attempting difficult operations with which you are unfamiliar increases the risk of injury. If you experience difficulties performing the intended operation, **STOP!** Seek an alternative method to accomplish the same task, ask a qualified expert how the operation should be performed, or contact our Technical Support for assistance.

Additional Dust Collector Safety

⚠️ WARNING

Long-term respiratory damage can occur from using dust collectors without proper use of a respirator. Fire or explosions can result in smoke inhalation, serious burns, or death—if machine is used to collect incorrect materials, is operated near potential explosion sources, or ducting is improperly grounded. Entanglement, amputation, or death can occur if hair, clothing, or fingers are pulled into the inlet. To reduce the risk of these hazards, operator and bystanders MUST completely heed the hazards and warnings below.

Intended Use. Collecting the wrong materials can result in serious inhalation hazards, fire, explosions, or machine damage. This machine is **ONLY** designed to collect wood dust and chips from woodworking machines. **DO NOT** use it to collect silica, polyurethane, toxic fumes, metal dust or shavings, lead paint, drywall, asbestos, biohazards, explosive dusts, flammable or combustible liquids or fumes, nor burning or smoking material.

Wear a Respirator. Fine dust that is too small to be caught in filter will be blown into ambient air. Always wear a NIOSH-approved respirator during operation and for a short time after to reduce your risk of permanent respiratory damage. Never collect dust from any hazardous material.

Impeller Hazards. To reduce risk of entanglement or contact with impeller, **DO NOT** place hands, hair, clothing, or tools in or near open dust collection inlet during operation, and keep small animals and children away. The powerful suction could easily pull them into impeller.

Hazardous Dust. Dust exposure created while using machinery may cause cancer, birth defects, or long-term respiratory damage. Be aware of dust hazards associated with each workpiece material, and always wear a NIOSH-approved respirator.

Emptying Dust. When emptying bag or drum, wear respirator and safety glasses. Empty dust away from ignition sources and into approved container.

Operating Location. To reduce respiratory exposure to fine dust, locate permanently installed dust collectors away from working area or in another room. **DO NOT** place dust collector where it can be exposed to rain or moisture, which creates a shock hazard and will reduce life of machine.

Power Disconnect. Turn machine **OFF**, disconnect from power supply, and allow impeller to completely stop before leaving machine unattended, or doing any maintenance or service.

Regular Cleaning. To reduce risk of starting a fire, regularly check/empty collection bags or drum to avoid buildup of fine dust, which can increase risk of fire. Regularly clean surrounding area where machine is operated—excessive dust buildup on overhead lights, heaters, electrical panels, or other heat sources will increase risk of fire.

Suspended Dust Particles. To reduce risk of death or injury caused by explosions or fires, **DO NOT** operate in areas where these risks are high, including spaces near pilot lights, open flames, or other ignition sources.

Avoiding Sparks. To reduce risk of fire, avoid collecting any metal objects or stones. These can possibly produce sparks when they strike impeller, which can smolder in wood dust for a long time before a fire is detected. If you accidentally cut into wood containing metal, immediately turn **OFF** dust collector, disconnect from power, and wait for impeller to stop. Then empty bag or drum into approved airtight metal container.

Fire Suppression. Only operate dust collector in locations that contain fire suppression system or have fire extinguisher nearby.

Static Electricity. To reduce risk of fire or explosions caused by sparks from static electricity, ground all ducting using grounding wire.

Dust Allergies. Dust from certain woods will cause an allergic reaction. Make sure you know what type of wood dust you will be exposed to in case of an allergic reaction.

Preparation Overview

The purpose of the preparation section is to help you prepare your machine for operation. The list below outlines the basic process. Specific steps for each of these points will be covered in detail later in this section.

The typical preparation process is as follows:

1. Unpack the machine and inventory the contents of the box/crate.
2. Clean the machine and its components.
3. Identify an acceptable location for the machine and move it to that location.
4. Assemble the loose components and make any necessary adjustments or inspections to ensure the machine is ready for operation.
5. Connect the machine to the power source.
6. Test run the machine to make sure it functions properly and is ready for operation.

WARNING

Like all machinery there is potential danger when operating this machine. Accidents are frequently caused by lack of familiarity or failure to pay attention. Use this machine with respect and caution to decrease the risk of operator injury. If normal safety precautions are overlooked or ignored, serious personal injury may occur.

Required for Setup

The items listed below are required to successfully set up and prepare this machine for operation.

For Power Connection

- A power source that meets the minimum circuit requirements for this machine. (Refer to the **Power Supply Requirements** section for details.)
- A qualified electrician to ensure a safe and code-compliant connection to the power source.

For Assembly

- Two Assistants
- Safety Glasses (for each person)
- Phillips Screwdriver #2
- Hex Wrench 5mm
- Wrenches or Sockets 1/2", 7/16"

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 do so may result in serious personal injury or property damage.

Power Supply Requirements

Availability

Before installing the machine, consider the availability and proximity of the required power supply circuit. If an existing circuit does not meet the requirements for this machine, a new circuit must be installed.

To minimize the risk of electrocution, fire, or equipment damage, installation work and electrical wiring must be done by an electrician or qualified service personnel in accordance with applicable electrical codes and safety standards.



! WARNING
Electrocution or fire may occur if machine is not correctly grounded and attached to the power supply. Use a qualified electrician to ensure a safe power connection.

Full-Load Current Rating

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

Full-Load Rating at 220V 15 Amps

The full-load current is not the maximum amount of amps that the machine will draw. If the machine is overloaded, it will draw additional amps beyond the full-load rating.

If the machine is overloaded for a sufficient length of time, damage, overheating, or fire may result—especially if connected to an undersized circuit. To reduce the risk of these hazards, avoid overloading the machine during operation and make sure it is connected to a power supply circuit that meets the requirements in the following section.

! WARNING

Serious injury could occur if you connect the machine to power before completing the setup process. DO NOT connect to power until instructed later in this manual.

Circuit Requirements

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

- Nominal Voltage 220V**
- Cycle 60 Hz**
- Phase Single-Phase**
- Circuit Rating 30 Amps**
- Plug/Receptacle (included) NEMA L6-30**

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

! CAUTION

For your own safety and protection of property, consult an electrician if you are unsure about wiring practices or applicable electrical codes.

Note: The circuit requirements in this manual are for a dedicated circuit—where only one machine will be running at a time. If this machine will be connected to a shared circuit where multiple machines will be running at the same time, consult a qualified electrician to ensure the circuit is properly sized.

Grounding Requirements

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

This machine is equipped with a power cord that has an equipment-grounding wire and a grounding plug (similar to the figure below). The plug must only be inserted into a matching receptacle (outlet) that is properly installed and grounded in accordance with all local codes and ordinances.

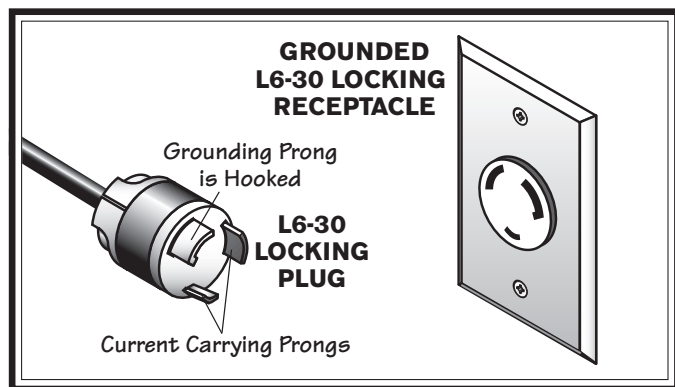


Figure 3. NEMA L6-30 plug and receptacle.

⚠ CAUTION

No adapter should be used with plug. If plug does not fit available receptacle, or if machine must be reconnected for use on a different type of circuit, reconnection must be performed by an electrician or qualified service personnel, and it must comply with all local codes and ordinances.

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

Check with an electrician or qualified service personnel if you do not understand these grounding requirements, or if you are in doubt about whether the tool is properly grounded.

If you ever notice that a cord or plug is damaged or worn, disconnect it from power, and immediately replace it with a new one.

Extension Cords

We do not recommend using an extension cord with this machine. If you must use one, only use it if absolutely necessary and only on a temporary basis.

Extension cords cause voltage drop, which may damage electrical components and shorten motor life. Voltage drop increases as the extension cord size gets longer and the gauge size gets smaller (higher gauge numbers indicate smaller sizes).

Any extension cord used with this machine must contain a ground wire, match the required plug and receptacle listed in the **Circuit Requirements** for the applicable voltage, and meet the following requirements:

- Minimum Gauge Size.....12 AWG**
- Maximum Length (Shorter is Better)50 ft.**

Unpacking

This item was carefully packaged to prevent damage during transport. If you discover any damage, please immediately call Customer Service at (360) 734-1540 for advice. You may need to file a freight claim, so save the containers and all packing materials for possible inspection by the carrier or its agent.

Inventory

Main Inventory (Figure 4)

	Qty
A. Housing Assembly w/Switch Box	1
B. Side Panel (Left)	1
C. Side Panel (Right)	1
D. Rear Panel	1
E. Sound Dampening Panels	2
F. Filter Door w/Hinges (Left)	1
G. Filter Door w/Hinges (Right).....	1
H. Base	1
I. Cyclone Funnel	1
J. Intake Barrel.....	1
K. Inlet Adapter	1
L. Drum Hose	1
M. Collection Drum	1
N. Drum Lid	1
O. Lock Handle Guides.....	2
P. Canister Filter.....	1
Q. Filter Cover Assembly	1
R. Lower Alignment Arm	1
S. Drum Handle	1
T. Drum Lock Handle.....	1
U. Drum Hose Clamps.....	2
V. End Cap w/Cover	1
W. Collection Bag	1
X. Vacuum Ring.....	1
Y. Dust Hose 1½".....	1
Z. Hose Clamps 1½"	2
AA. Pressure Gauge Tube	1
AB. Swivel Casters 2"	4
AC. Locking Swivel Casters 2½"	4
Hardware (Not Shown)	
AD. Flange Bolts 5/16"-18 x 1/2"	41
AE. Flange Bolts 5/16"-18 x 3/4"	14
AF. Button Head Cap Screws 5/16"-18 x 1/2".....	27
AG. Button Head Cap Screws 1/4"-20 x 1/2"	6

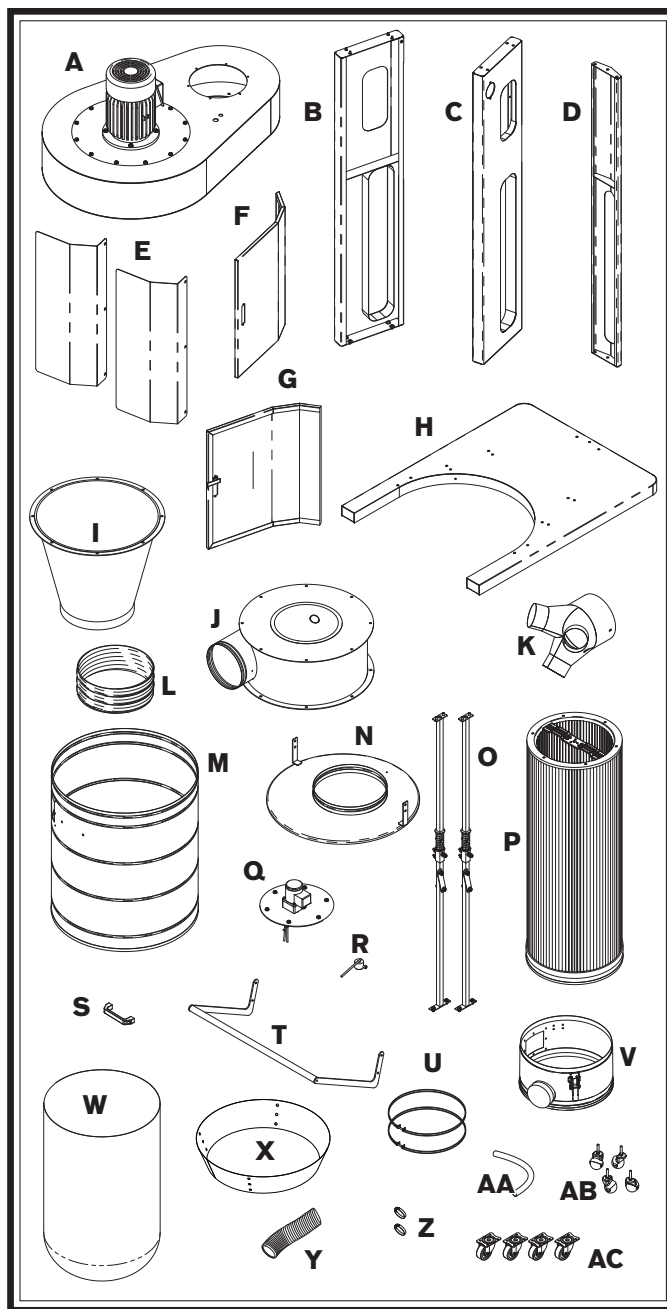


Figure 4. Main inventory.

AH. Phillips Head Screws 1/4"-20 x 5/8"	2
AI. Cap Screw M6-1 x 16	1
AJ. Phillips Head Screws 10-24 x 3/4".....	2
AK. Flat Washers 5/16".....	19
AL. Lock Nuts 5/16"-18.....	8
AM. Hex Nuts 5/16"-18.....	4
AN. Acorn Nuts 1/4"-20.....	2
AO. Hex Nuts 10-24	2

Location

Physical Environment

The physical environment where your machine is operated is important for safe operation and longevity of parts. For best results, operate this machine in a dry environment that is free from excessive moisture, hazardous or flammable chemicals, airborne abrasives, or extreme conditions. Extreme conditions for this type of machinery are generally those where the ambient temperature is outside the range of 41°–104°F; the relative humidity is outside the range of 20–95% (non-condensing); or the environment is subject to vibration, shocks, or bumps.

Electrical Installation

Place this machine near an existing power source. Make sure all power cords are protected from traffic, material handling, moisture, chemicals, or other hazards. Make sure to leave access to a means of disconnecting the power source or engaging a lockout/tagout device.

Lighting

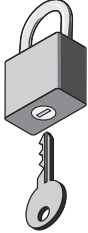
Lighting around the machine must be adequate enough to perform operations safely. Shadows, glare, or strobe effects that may distract or impede the operator must be eliminated.

Weight Load

Refer to the **Machine Specifications** for the weight of your machine. Make sure that the surface upon which the machine is placed will bear the weight of the machine, additional equipment that may be installed on the machine, and the heaviest workpiece that will be used. Additionally, consider the weight of the operator and any dynamic loading that may occur when operating the machine.

Space Allocation

Consider the largest size of workpiece that will be processed through this machine and provide enough space around the machine for adequate operator material handling or the installation of auxiliary equipment. With permanent installations, leave enough space around the machine to open or remove doors/covers as required by the maintenance and service described in this manual.

	<p>⚠ CAUTION Children or untrained people may be seriously injured by this machine. Only install in an access restricted location.</p>
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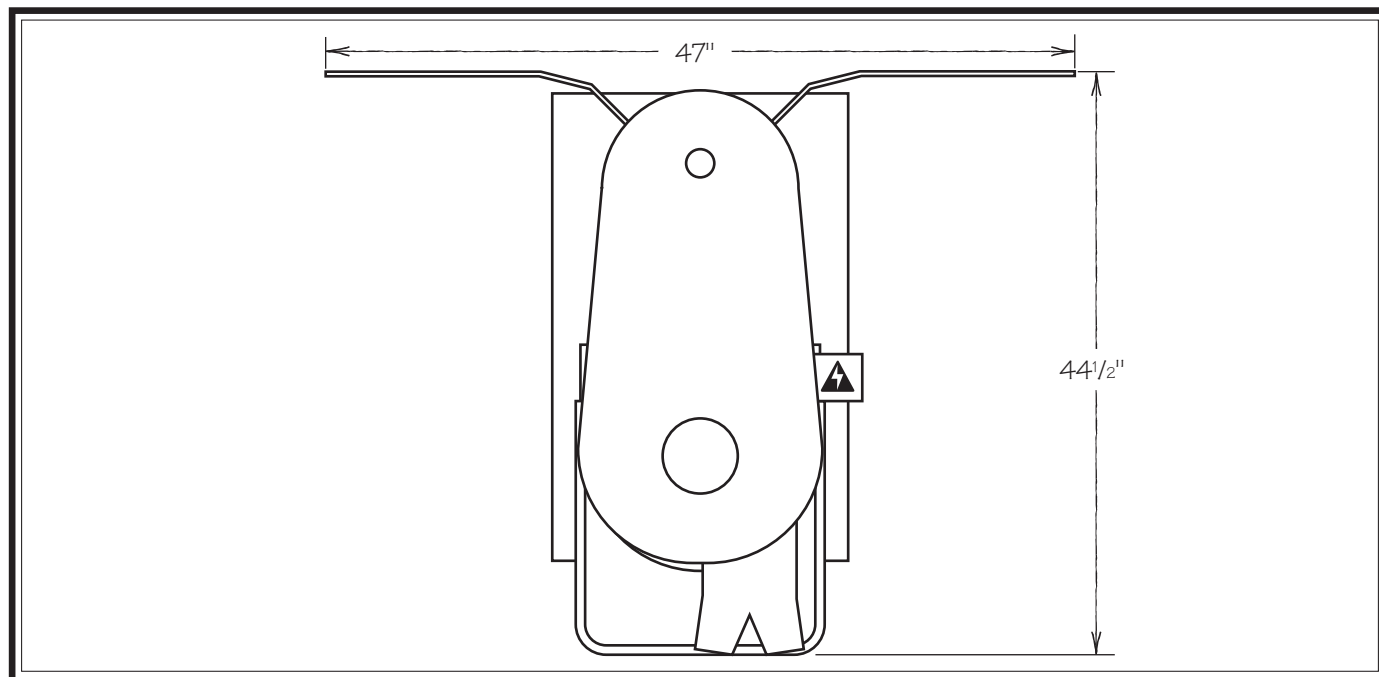


Figure 5. Clearances.

Assembly

The machine must be fully assembled before it can be operated. Before beginning the assembly process, refer to **Needed for Setup** and gather all listed items. To ensure the assembly process goes smoothly, first clean any parts that are covered or coated in heavy-duty rust preventative (if applicable).

To assemble dust collector:

1. Attach (4) 2½" locking swivel casters to base with (16) ½"-18 x ½" flange bolts (see **Figure 6**). Lock casters for assembly.

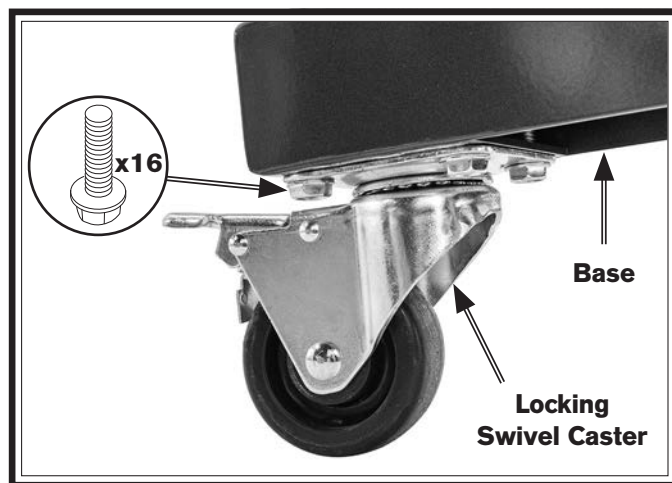


Figure 6. Locking swivel caster attached to base.

2. Attach (2) side panels to base with (8) ½"-18 x ½" button head cap screws and ½" flat washers (see **Figure 7**).

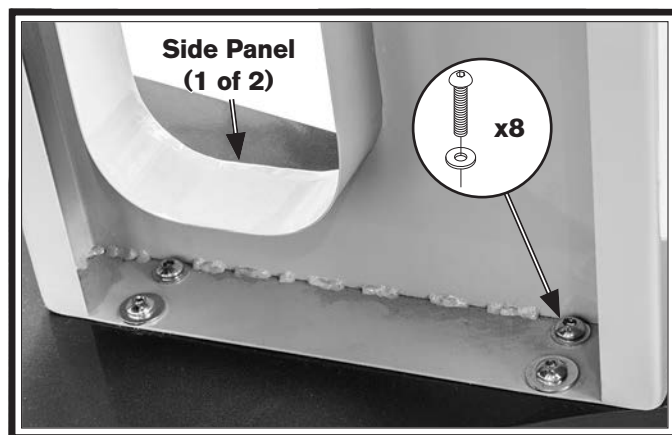


Figure 7. Side panels attached to base.

3. Attach (2) lock handle guides to base and finger-tighten with (4) ½"-18 x ½" flange bolts (see **Figure 8**).



Figure 8. Lock handle guide with stop plate attached to base.

4. Attach (2) sound dampening panels to side panels with (6) ¼"-20 x ½" button head cap screws (see **Figure 9**).

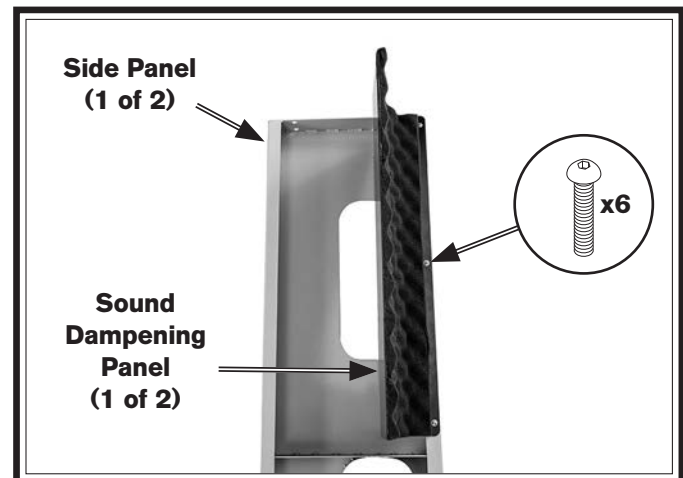
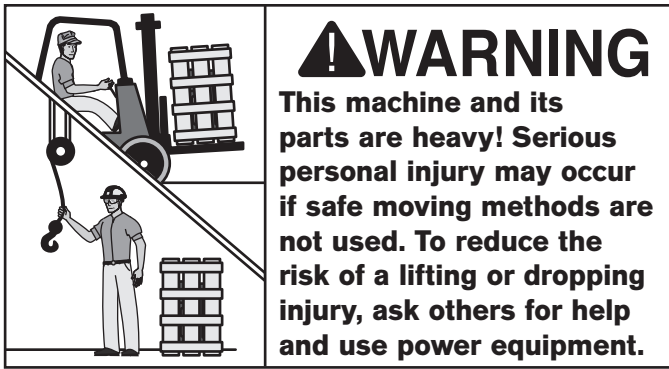


Figure 9. Sound dampening panel attached to side panel.



IMPORTANT: *Dust collector is top heavy once housing assembly is installed. Use assistants to hold machine in place during Steps 5–24.*

- With help of two assistants, lift housing assembly onto side panels and lock handle guides (see **Figure 10**).

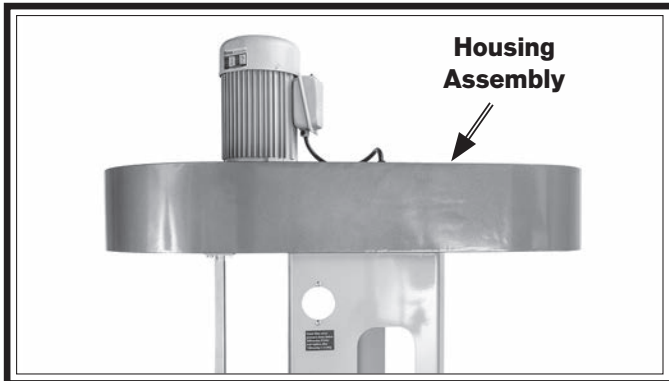


Figure 10. Housing assembly installed to side panels and lock handle guides.

- Attach housing assembly to side panels with (8) $\frac{5}{16}$ "-18 x $\frac{3}{4}$ " button head cap screws and $\frac{5}{16}$ " flat washers (see **Figure 11**).

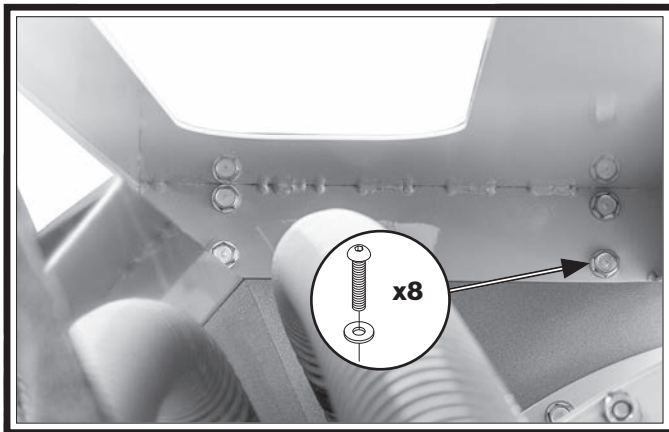


Figure 11. Housing assembly secured to side panel.

- Attach housing assembly to lock handle guides with (4) $\frac{5}{16}$ "-18 x $\frac{1}{2}$ " flange bolts (see **Figure 12**).

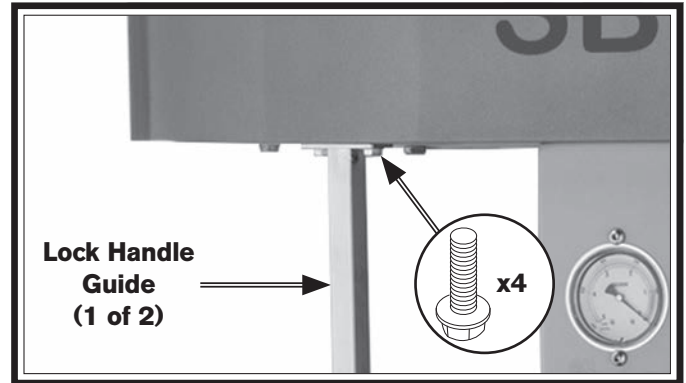


Figure 12. Housing assembly secured to rear panel and lock handle guides.

- Tighten flange bolts connecting lock handle guides to base.
- With help of an assistant, align intake barrel so dust port points straight out from housing assembly, then attach barrel with (8) $\frac{5}{16}$ "-18 x $\frac{1}{2}$ " flange bolts (see **Figure 13**).

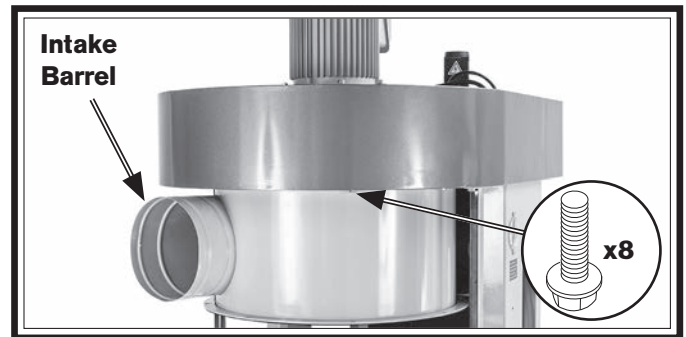


Figure 13. Intake barrel attached to housing assembly.

- Attach cyclone funnel to intake barrel using (8) $\frac{5}{16}$ "-18 x $\frac{3}{4}$ " flange bolts and $\frac{5}{16}$ "-18 lock nuts (see **Figure 14**).

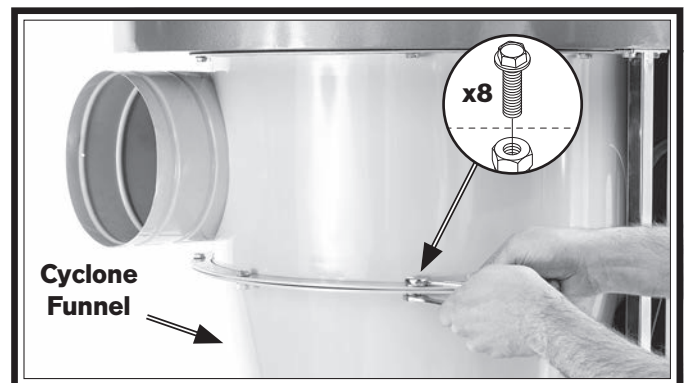


Figure 14. Attaching funnel to intake barrel.

11. Remove pre-installed tap screw from outlet barrel, then attach inlet adapter to adapter port on barrel with tap screw (see **Figure 15**).

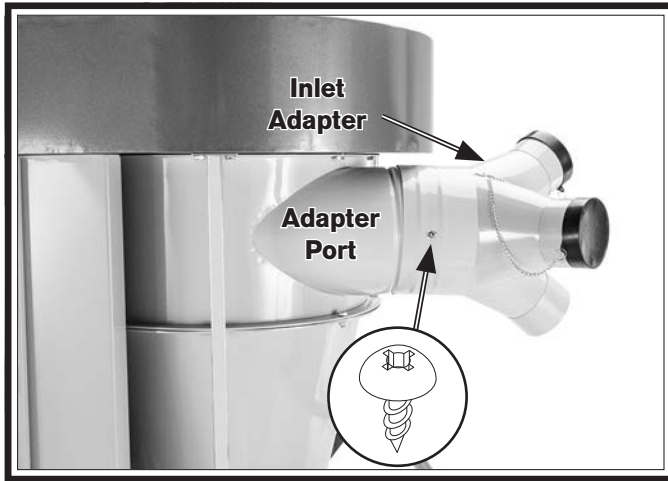


Figure 15. Inlet adapter attached to adapter port.

12. Using pre-installed fasteners, place upper end of drum lock handle over outer stud on spring bracket, then attach lock handle link to lower hole on lock handle (see **Figure 16**).

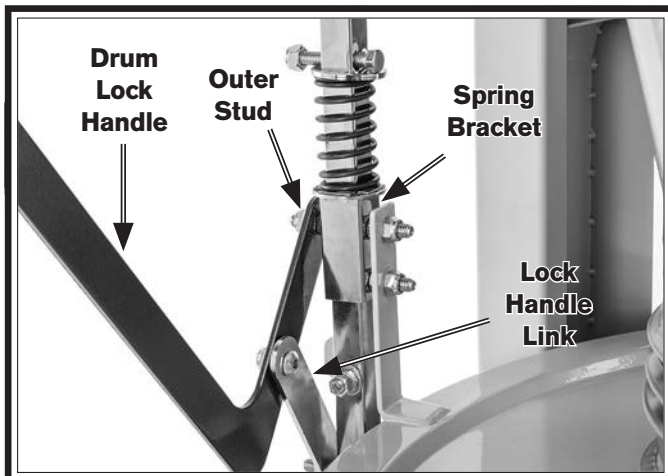


Figure 16. Lock handle attached to spring bracket and lock handle link.

13. Place (2) drum hose clamps around drum hose, then slide hose over port on collection drum lid and tighten bottom clamp (see **Figure 17**).
14. With collection drum lid mounting brackets facing up, orient lid so dust port, drum hose, and spring brackets align (see **Figure 17**).
15. Secure collection drum lid to spring bracket using pre-installed fasteners (see **Figure 17**).
16. Attach drum hose to cyclone funnel and secure with top hose clamp (see **Figure 17**).

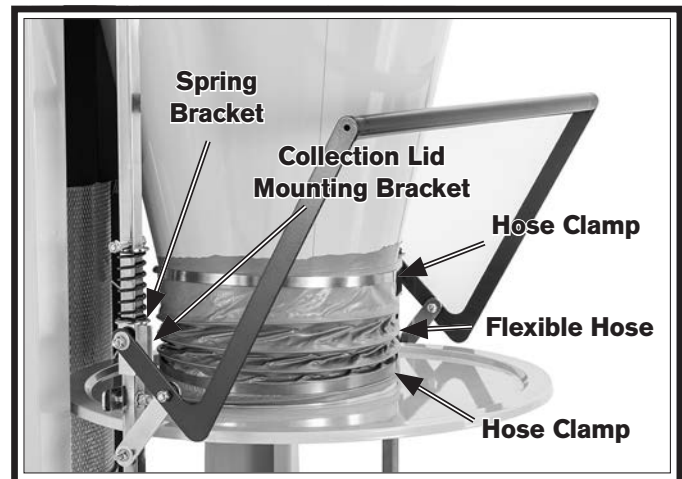


Figure 17. Collection drum lid and lock handle installed.

17. Connect pressure gauge tube to hose ports on barrel and pressure gauge (see **Figure 18**).
18. Attach 1½" hose to hose port on barrel with 1½" hose clamp (see **Figure 18**).

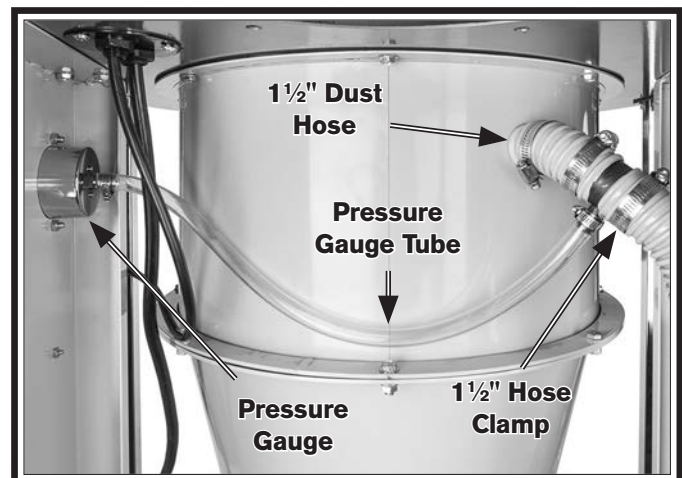


Figure 18. Pressure gauge tube and 1½" dust hose attached to barrel.

19. Attach (4) 2" swivel casters to collection drum with (4) $\frac{5}{16}$ "-18 hex nuts (see **Figure 19**).
20. Adjust hex nuts and pre-installed flange nuts (see **Figure 19**) until drum rolls evenly without rocking or wobbling, then tighten nuts to secure casters in place.

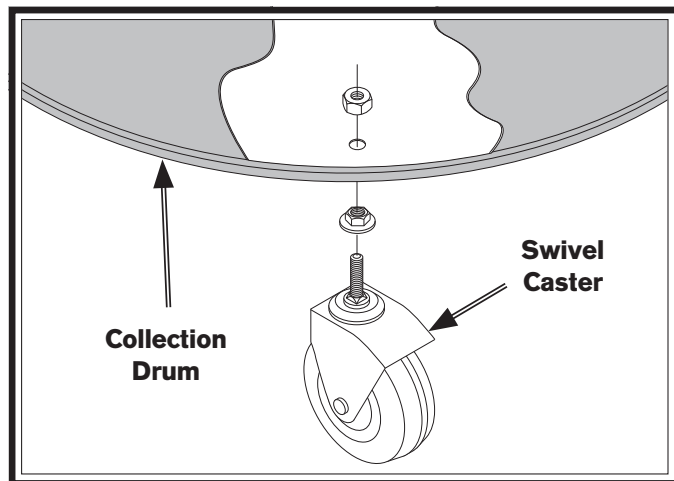


Figure 19. Swivel caster attachment to collection drum.

21. Attach handle to collection drum using (2) $\frac{1}{4}$ "-20 x $\frac{5}{8}$ " Phillips head screws and (2) $\frac{1}{4}$ "-20 acorn nuts (see **Figure 20**).
22. Attach $1\frac{1}{2}$ " hose to hose port on collection drum with $1\frac{1}{2}$ " hose clamp (see **Figure 20**).

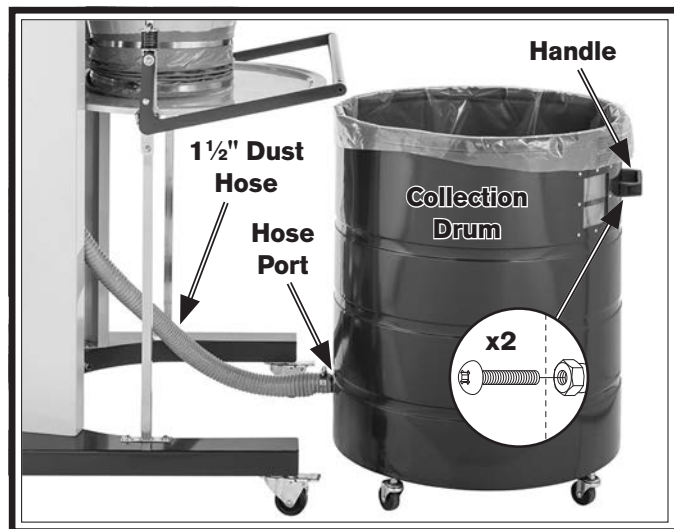


Figure 20. Collection drum assembled and connected to dust hose.

23. Place vacuum ring inside collection drum with smaller side of ring facing down.

Note: *this ring and the vacuum connection to the cyclone prevent the collection bag from collapsing or being pulled into the cyclone.*

24. Insert collection bag inside drum and fold excess length of bag over lip of drum.
25. Move collection drum under lid, then lift drum lock handle to secure drum and seal drum lid.
26. While assistant holds canister filter under housing assembly, attach canister filter to housing with (6) $\frac{5}{16}$ "-18 x $\frac{1}{2}$ " flange bolts (see **Figure 21**).

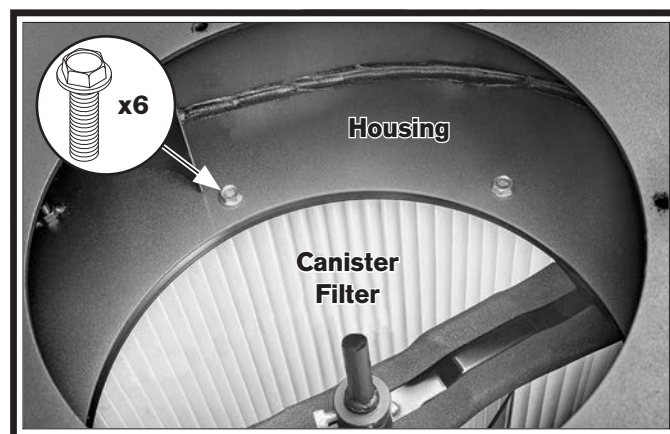


Figure 21. Canister filter attached to housing.

27. Attach lower alignment arm to top of canister filter spindle and secure with M6-1 x 16 cap screw (see **Figure 22**).

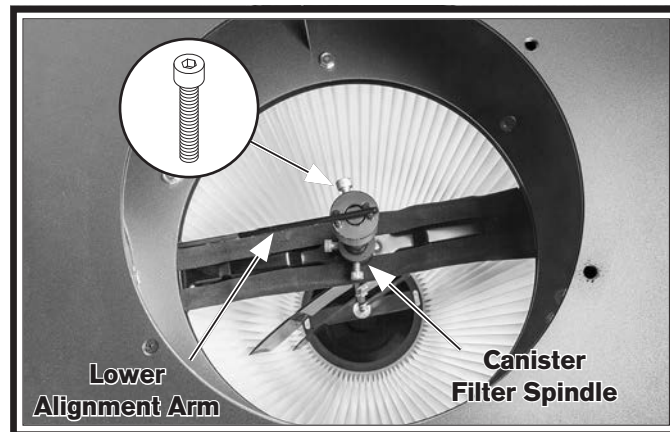


Figure 22. Lower alignment arm attached to canister filter spindle.

28. Attach rear panel to base with (3) $\frac{5}{16}$ "-18 x $\frac{3}{4}$ " button head cap screws and $\frac{5}{16}$ " flat washers (see **Figure 23**).

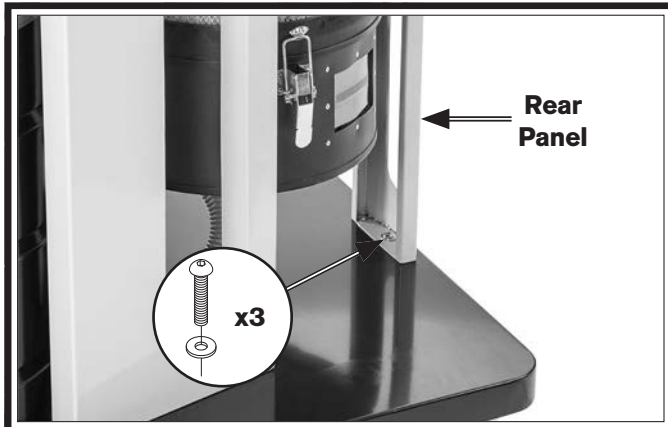


Figure 23. Rear panel attached to base.

29. Attach housing assembly to rear panel with (3) $\frac{5}{16}$ "-18 x $\frac{3}{4}$ " button head cap screws (see **Figure 24**).

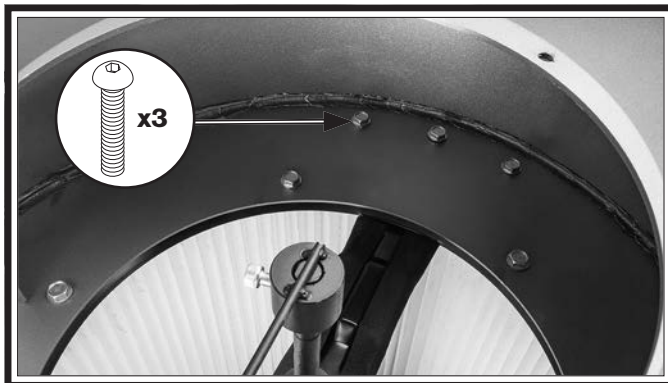


Figure 24. Flange bolts connecting housing assembly to rear panel.

30. Position filter cover assembly over housing assembly. Rotate lower alignment arm so upper alignment arm on underside of cover assembly (see **Figure 25**) captures lower arm when mounting holes align to housing.

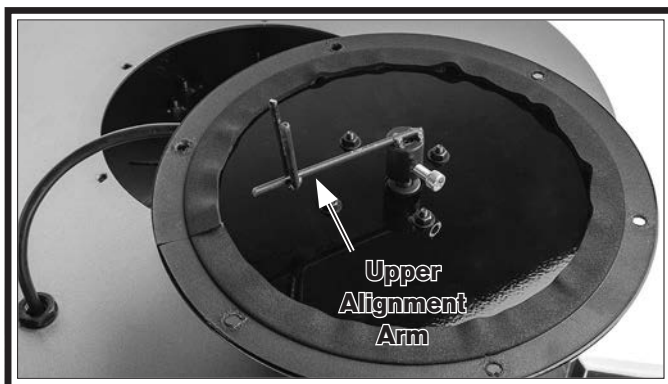


Figure 25. Underneath filter cover assembly.

31. Attach filter cover assembly to housing assembly with (6) $\frac{5}{16}$ "-18 x $\frac{3}{4}$ " flange bolts (see **Figure 26**).

32. Route filter brush motor cord into housing through strain relief (see **Figure 26**), then tighten strain reliefs on top and bottom of housing.

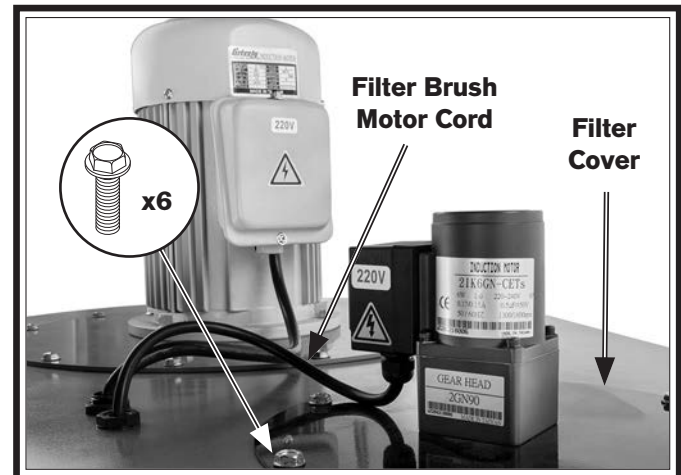


Figure 26. Filter cover attached to housing assembly.

33. Attach end cap to bottom of canister filter and attach end cap cover (see **Figure 27**).

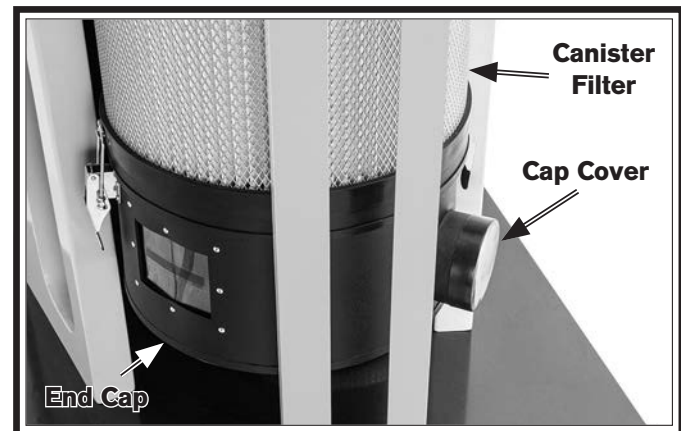


Figure 27. End cap attached to canister filter.

- 34.** Loosen (2) Phillips head screws and remove switch box cover (see **Figure 28**).



Figure 28. Switch box.

- 35.** Attach switch box to side panel underneath pressure gauge with (2) 10-24 x 3/4" Phillips head screws and (2) 10-24 hex nuts (see **Figure 29**).

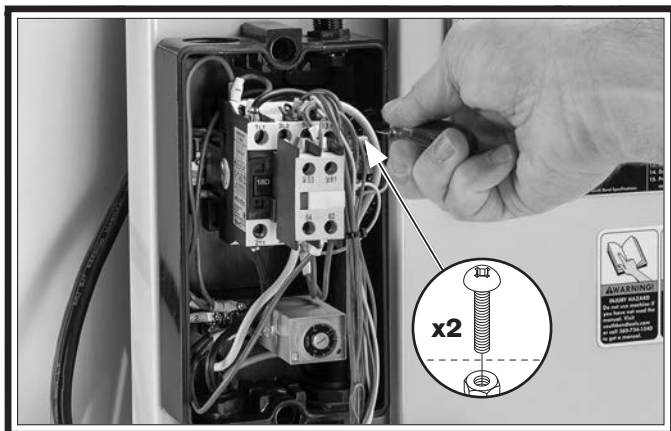


Figure 29. Attaching switch box to side panel.

- 36.** Pull motor cord from filter brush motor through strain relief at top of switch box (see **Figure 30**).

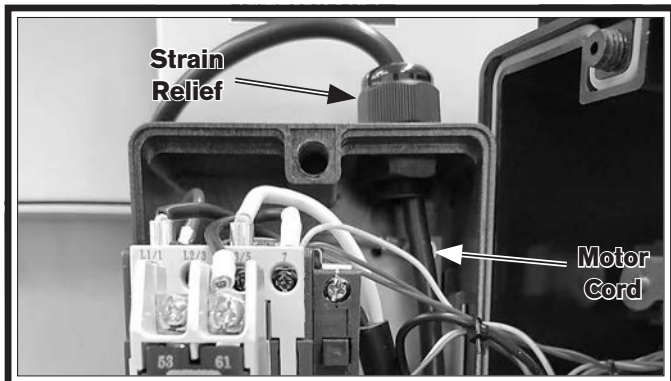


Figure 30. Filter brush motor cord routed into switch box.

- 37.** Connect terminal ends of motor cord to right terminals of timer inside switch box (see **Figure 31**).

Note: *Timer module may be pulled off terminal block if it is in the way during connection of motor cords.*

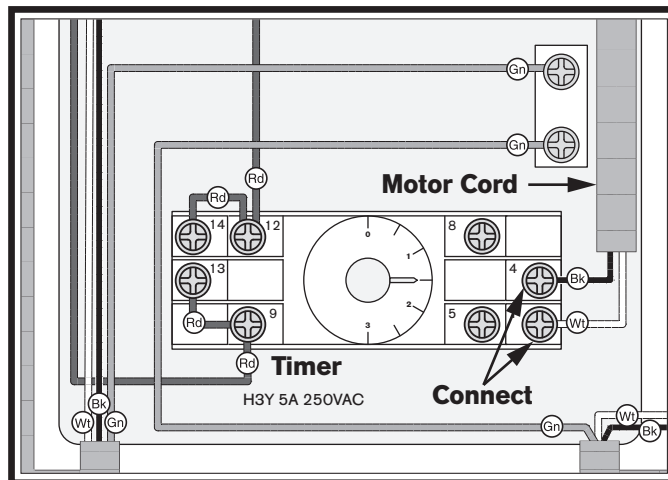


Figure 31. Filter brush motor connection.

Note: *For full wiring diagram refer to **Wiring Diagram** on **Page 43**.*

- 38.** Tighten strain relief (see **Figure 30**) to secure motor cord in position.
- 39.** Attach cover of switch box.
- 40.** Attach left filter door to rear panel with (4) 5/16"-18 x 1/2" button head cap screws (see **Figure 32**).

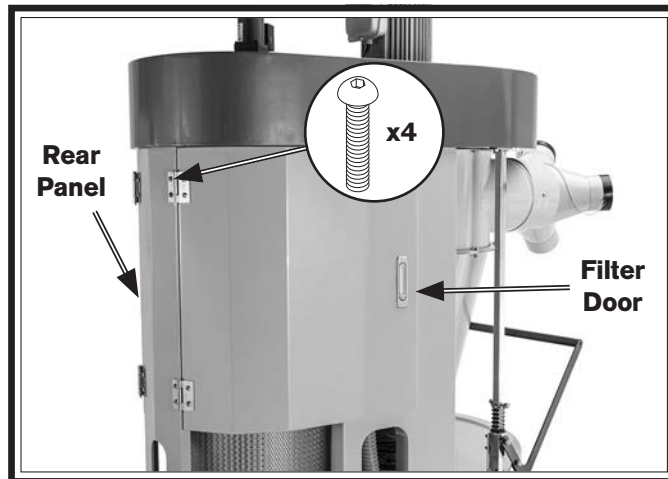


Figure 32. Filter door installed to rear panel.

- 41.** Repeat **Step 40** with right filter door.

Test Run

After all preparation steps have been completed, the machine and its safety features must be tested to ensure correct operation. If you discover a problem with the operation of the machine or its safety components, do not operate it further until you have resolved the problem.

Note: Refer to **Troubleshooting on Page 40** for solutions to common problems. If you need additional help, contact our Tech Support at (360) 734-1540.

The test run consists of verifying the following:

- Motor powers up and runs correctly.
- Emergency Stop button works correctly.
- Remote control works correctly.

WARNING

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

WARNING

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

To test run machine:

1. Clear all setup tools away from machine.
2. Lock all swivel casters on base stand.
3. Connect machine to dust-collection system or place covers over inlet adapter ports.

IMPORTANT: *DO NOT operate the dust collector without first connecting it to a dust-collection system or covering an inlet adapter port. Otherwise, the lack of airflow resistance will cause the motor to operate at full amperage load, which could trip your circuit breaker or blow a fuse.*

4. Press Emergency Stop button in.
5. Connect machine to power.
6. Twist Emergency Stop button clockwise until it springs out (see **Figure 33**). This resets the switch so the machine can start.

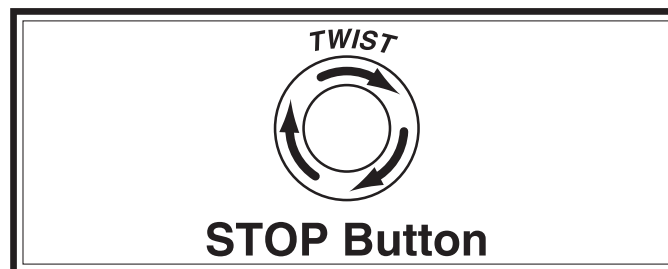


Figure 33. Resetting the switch.

7. Standing away from intake port, press green Start button to turn machine **ON**. Verify motor starts up and runs smoothly without any problems or unusual noises.
8. Press Emergency Stop button to turn machine **OFF**.
9. **WITHOUT** resetting Emergency Stop button, try to start machine by pressing the green Start button. The machine should not start.
 - If the machine *does not* start, the safety feature of the Emergency Stop button is working correctly.
 - If the machine *does* start, immediately turn it **OFF** and disconnect power. The safety feature of the Emergency Stop button is **NOT** working properly and must be replaced before further using the machine.
10. To test remote control operation, reset Emergency Stop button then press remote ON button to turn motor **ON**, then press remote OFF button to turn motor **OFF**.
 - If the machine does **NOT** start or stop, press Emergency Stop button to turn machine **OFF**. Refer to **Pairing Remote Control & Receiver on Page 39** and ensure remote control is paired.

Congratulations! The Test Run is complete.

General

⚠ CAUTION

Always make sure there are no open flames or pilot lights in the same room as the dust collector. There is a risk of explosion if too much fine dust is dispersed into the air with an open flame present.



⚠ CAUTION

Always guard against static electrical buildup by grounding all dust collection lines.

The Model SB1099 works quite well as a point-of-use dust collector, or for collecting dust from up to three machines simultaneously. The locking swivel casters make it easy to move around the shop near the machine being used.

Tips for Optimum Performance

- Avoid using more than 10' of flexible hose on any ducting line. The ridges inside flexible hose greatly increase static pressure loss, which reduces suction performance.
- Keep ducts between the dust collector and machines as short as possible.
- Keep ducting directional changes to a minimum. The more curved fittings you use, the greater the loss of suction at the dust-producing machine.
- Gradual directional changes are more efficient than sudden directional changes (i.e. use 45° elbows in place of 90° elbows whenever possible).
- The simpler the system, the more efficient and less costly it will be.

Duct Material

You have many choices regarding main line and branch line duct material. For best results, use smooth metal duct for the main line and branch lines, then use short lengths of flexible hose to connect each machine to the branch lines.

Plastic duct is also a popular material for home shops. However, be aware that there is a fire or explosion hazard if plastic duct material is not properly grounded to prevent static electrical buildup (refer to **System Grounding** at the end of this section). Another problem with using plastic duct is that it is less efficient per foot than metal.



⚠ CAUTION

Plastic duct generates static electrical buildup that can cause fire or shock. Properly ground it to reduce this risk.

Plastic Duct

The popularity of plastic duct is due to the fact that it is an economical and readily available product. It is also simple to assemble and easily sealed against air loss. The primary disadvantage of plastic duct for dust collection is the inherent danger of static electrical buildup.



Figure 34. Examples of plastic ducting components.

Metal Duct

Advantages of smooth metal duct are its conductivity, efficiency, and that it does not contribute to static electrical charge build-up. However, static charges are still produced when dust particles strike other dust particles as they move through the duct. Since metal duct is a conductor, it can be grounded quite easily to dissipate any static electrical charges.

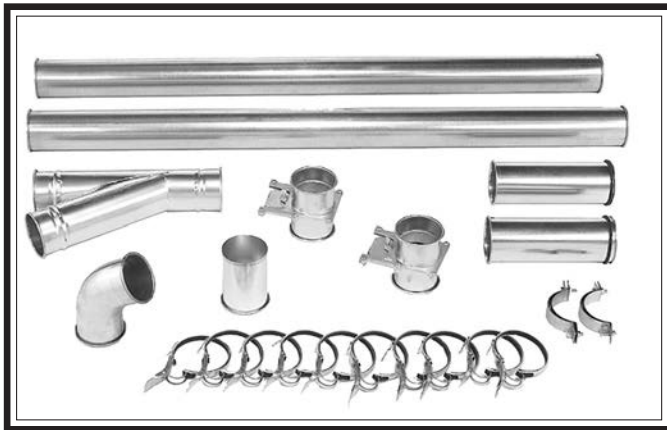


Figure 35. Examples of smooth metal duct and components.

There are a number of options when it comes to metal duct, but metal duct that is specially manufactured for dust collection is the best choice. When selecting your metal duct, choose high quality metal duct with smooth welded internal seams that will minimize airflow resistance. This type of duct usually connects to other ducts or elbows with a simple, self-sealing clamp, is very quick and easy to assemble, and can be readily dismantled and re-installed in a different configuration. This is especially important if you ever need to change things around in your shop or add more tools.

Avoid inferior metal duct that requires you to cut it to length and snap it together. This type of duct is time consuming to install because it requires you to seal all the seams with silicone and screw the components on the ends with sheet metal screws. Another disadvantage is the rough internal seams and crimped ends that unavoidably increase static pressure loss.

Flexible Duct

Flexible hose is generally used for short runs, small shops and at rigid duct-to-tool connections. There are many different types of flex hose on the market today. These are manufactured from materials such as polyethylene, PVC, cloth hose dipped in rubber and even metal, including steel and aluminum.

The superior choice here is metal flex hose that is designed to be flexible, yet be as smooth as possible inside to reduce static pressure loss.

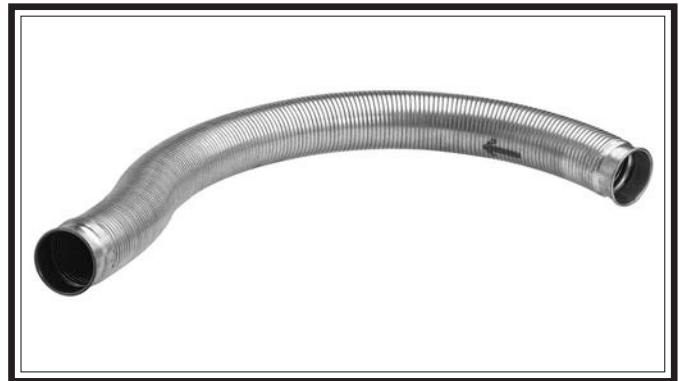


Figure 36. Example of flexible metal duct.

There are also many kinds of pure plastic flexible hose, such as non-perforated drainage type hose and dryer vent hose. Drainage type hose, while being economical, does not quite have the flexibility required for dust collection. The inside of the duct is also deeply corrugated and can increase the static pressure loss by as much as 50% over smooth wall duct. Dryer vent hose, while being completely flexible, is non-resistant to abrasion and has a tendency to collapse in a negative pressure system. We DO NOT recommend using dryer vent hose in your dust collection system.

If using flex-hose, you should choose one of the many types that are designed specifically for the movement of solid particles, i.e. dust, grains, and plastics. However, the cost of specifically designed flexible duct can vary greatly. Grizzly.com offers polyethylene hose, which is well suited for the removal of particulate matter, especially sawdust, since it is durable and completely flexible. Polyethylene is also very economical and available in a wide variety of diameters and lengths for most applications.

System Design

Decide Who Will Design

For most small-to-medium sized shops, you can design and build the dust collection system yourself without hiring engineers or consultants. We have included some basic information here to get you started on a basic design.

If you have a large shop or plan to design a complicated system, we recommend doing additional research beyond this manual or seeking the help of an expert.

Sketch Your Shop Layout

When designing a successful dust collection system, planning is the most important step. In this step, sketch a basic layout of your shop, including space requirements of different machines.

Your sketch only needs the basic details of the shop layout, similar to the figure below, including all your current/planned machines and your planned placement of the dust collector.

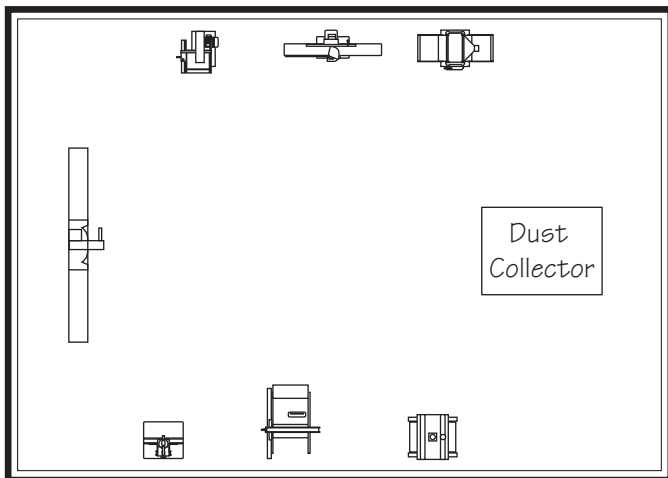


Figure 37. Basic sketch of shop layout.

Sketch a Basic Duct Layout

For the next step, sketch how you will connect your machines to the dust collector. Consider these general guidelines for an efficient system:

1. Machines that produce the most saw dust should be placed nearest to the dust collector (i.e. planers and sanders).
2. Ideally, you should design the duct system to have the shortest possible main line and secondary branch ducts. See the figures below for ideas of efficient versus inefficient duct layouts.

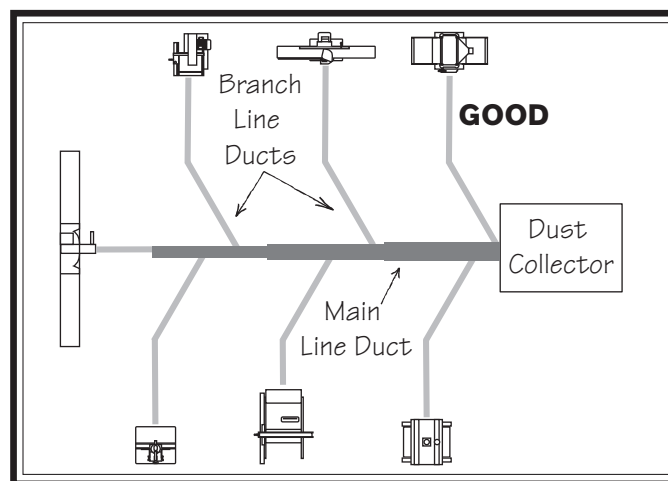


Figure 38. Efficient duct layout.

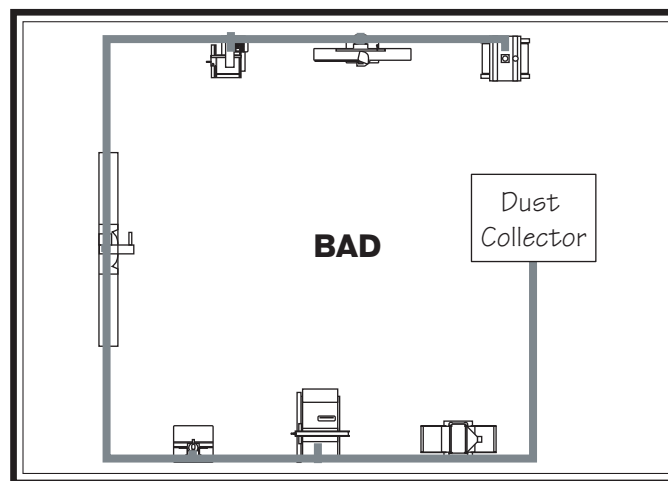


Figure 39. Inefficient duct layout.

3. Directional changes should be kept to a minimum. The more directional change fittings you use directly increases the overall resistance to airflow.

4. Gradual directional changes are more efficient than sudden directional changes (i.e. use the largest corner radius possible when changing hose or pipe direction).
5. Each individual branch line should have a blast gate immediately after the branch to control suction from one machine to another.
6. The simpler the system, the more efficient and less costly it will be.

Determine Required CFMs

Since each machine produces a different amount of sawdust, the requirements for the minimum amount of CFM to move that sawdust is unique to the machine (for example, a planer produces more sawdust than a table saw). Knowing this required CFM is important to gauging which size of duct to use.

Refer to the figure below for a close estimation of the airflow each machine requires. Keep in mind that machines that generate the most sawdust should be placed closest to the dust collector. If the machine has multiple dust ports, the total CFM required is the sum of all ports.

Machine Dust Port Size	Approximate Required CFM
2"	100
2.5"	150
3"	250
4"	400
5"	600
6"	850
7"	1200
8"	1600
9"	2000
10"	2500

Figure 40. Approximate required air flow for machine, based on dust port size.

If the machine does not have a built-in dust port, use the following table to determine which size of dust port to install.

Machine	Average Dust Port Size
Table Saw	4"
Miter/Radial-Arm Saw.....	2"
Jointer (6" and smaller)	4"
Jointer (8"-12")	5"
Thickness Planer (13" and smaller)	4"
Thickness Planer (14"-20")	6"
Shaper.....	4"
Router (mounted to table).....	2"
Bandsaw	4"
Lathe.....	4"
Disc Sander (12" and smaller).....	2"
Disc Sander (13-18")	4"
Belt Sander (6" and smaller)	2"
Belt Sander (7"-9")	3"
Edge Sander (6" x 80" and smaller)	4"
Edge Sander (6" x 80" and larger).....	5"
Drum Sander (24" and smaller)	2 x 4"
Drum Sander (24" and larger).....	4 x 4"
Widebelt Sander (18" and smaller)	5"
Widebelt Sander (24"-37" single head)	2 x 6"
Widebelt Sander (24"-51" double head)	5 x 4"

Figure 41. Dust port size and quantity per average machine.

Write the required CFM for each machine on your sketch, as shown in the figure below.

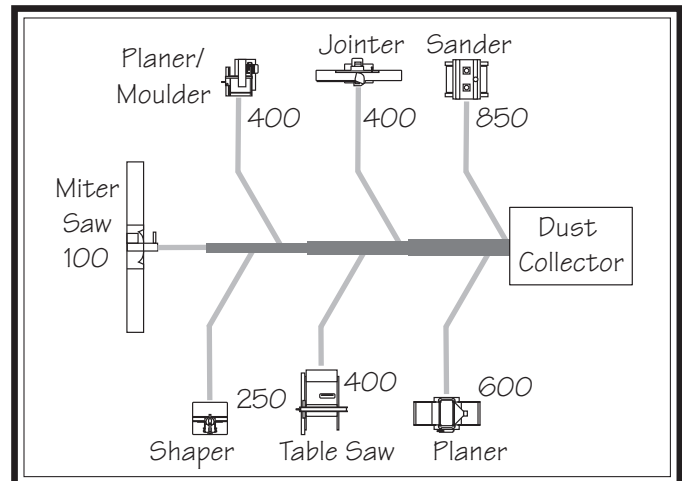


Figure 42. CFM requirements labeled for each machine.

Determine Main Line Duct Size

The general rule of thumb for a main line duct is that the velocity of the airflow must not fall below 3500 FPM.

For small/medium sized shops, using the inlet size of the dust collector as the main line duct size will usually keep the air velocity above 3500 FPM and, depending on your system, will allow you to keep multiple branches open at one time.

Mark your drawing, as shown in the figure below, but using the inlet size for your dust collector as the main line.

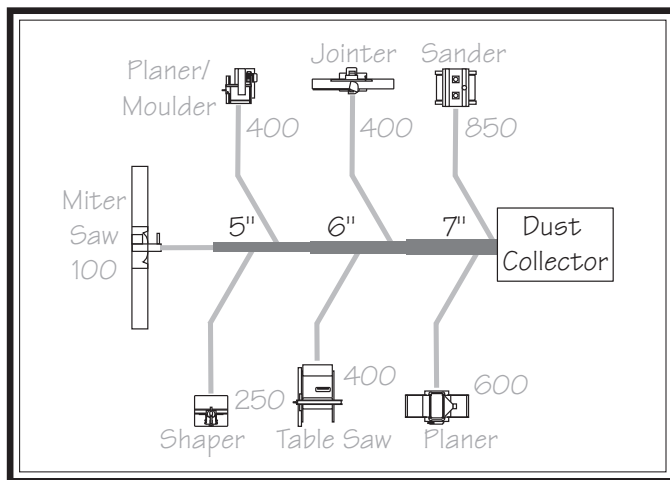


Figure 43. Main line size labeled on sketch.

Determine Branch Line Duct Size

The general rule of thumb for a branch line duct is that the velocity of the airflow must not fall below 4000 FPM.

For small/medium sized shops, using the dust port size from the machine as the branch line duct size will achieve the correct velocity in most applications. However, if the dust port on the machine is smaller than 4", make the branch line 4" and neck the line down right before the dust port.

Note: *Systems with powerful dust collectors work better if multiple blast gates are left open. This also allows you to run two machines at once. Experiment with different combinations of blast gates open / closed to find the best results for your system.*

Write your determined branch line sizes on your drawing, as shown in the following figure.

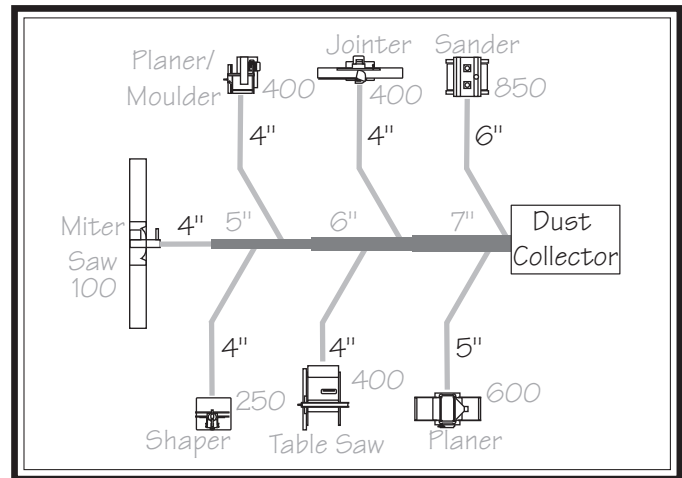


Figure 44. Branch line duct sizes labeled.

If two machines will connect to the same branch line and both will operate at the same time, then add the required CFM for each machine together and find the closest total CFM in the table below to determine the correct branch size.

If both machines will never run at the same time, reference the machine with the biggest dust port in the table below and add blast gates after the Y-branch to open/close the line to each machine.

Total CFM	Branch Line Size
400	4"
500	4"
600	5"
700	5"
800	6"
900	6"
1000	6"

Figure 45. Sizing chart for multiple machines on the same branch line.

Planning Drop Downs

Plan the drop downs for each machine, using blast gates wherever possible to control airflow.

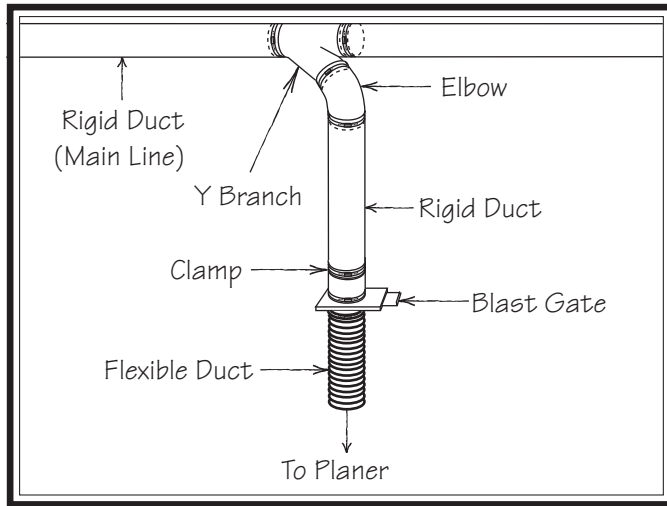


Figure 46. Drop-down setup.

Calculating Duct Resistance

Adding duct work, elbows, branches and any other components to a duct line increases airflow resistance (static pressure loss). This resistance can be minimized by using rigid (smooth) duct and gradual curves, as opposed to flexible duct and 90° elbows.

To help you think about this resistance, imagine riding a bicycle in a tunnel that is an exact replica of your duct work. If the inside of the tunnel is very bumpy (flexible duct) and has a lot of sharp turns (90° elbows), it will take a lot more effort to travel from one end to the other.

The purpose of calculating the resistance is to determine if it is low enough from the machine to the dust collector to meet the given CFM requirement for the machine. Use the following tables to calculate the resistance of duct work.

Duct Dia.	Approximate Static Pressure Loss Per Foot of Rigid Duct		Approximate Static Pressure Loss Per Foot of Flexible Duct	
	Main Lines at 3500 FPM	Branch Lines at 4000 FPM	Main Lines at 3500 FPM	Branch Lines at 4000 FPM
2"	0.091	0.122	0.35	0.453
2.5"	0.08	0.107	0.306	0.397
3"	0.071	0.094	0.271	0.352
4"	0.057	0.075	0.215	0.28
5"	0.046	0.059	0.172	0.225
6"	0.037	0.047	0.136	0.18
7"	0.029	0.036	0.106	0.141
8"	0.023	0.027	0.08	0.108
9"	0.017	0.019	0.057	0.079

Fitting Dia.	90° Elbow	45° Elbow	45° Wye(Y)	90° Wye(Y)
3"	0.47	0.235	0.282	0.188
4"	0.45	0.225	0.375	0.225
5"	0.531	0.266	0.354	0.236
6"	0.564	0.282	0.329	0.235
7"	0.468	0.234	0.324	0.216
8"	0.405	0.203	0.297	0.189

Figure 47. Static pressure loss charts.

In most small/medium shops it is only necessary to calculate the line with the longest duct length or the most fittings (operating under the assumption that if the line with the highest resistance works, the others will be fine).

To calculate the static pressure of any given line in the system, follow these steps:

1. Make a list of each size duct in the line, including the length, and multiply those numbers by the static pressure value given in the previous table.
2. List each type of elbow or branch and multiply the quantity (if more than one) by the static pressure loss given in the previous table.

3. Add the additional factors from the following table to your list.

Additional Factors	Static Pressure
Seasoned (well used) Dust Collection Filter	1"
Entry Loss at Large Machine Hood	2"

Figure 48. Additional factors affecting static pressure.

4. Total your list as shown in the example below to come up with your overall static pressure loss number for that line.

Note: Always account for a seasoned filter, so you don't end up with a system that only works right when the filter is clean.

Main Line	
6" Rigid Duct (0.037) at 20'	0.740
Branch Line	
4" Rigid Duct (0.075) at 10'	0.750
4" Flexible Duct (0.28) at 5'	1.400
Elbows/Branches	
6" 45° Y-Branch	0.329
4" 45° Elbow	0.225
Additional Factors	
Seasoned Filter	1.000
Total Static Pressure Loss	4.444

Figure 49. Totaling static pressure numbers.

Note: When calculating static pressure loss to determine if multiple lines can be left open at the same time, only include the main line numbers once.

5. Compare the total static pressure loss for that line to the closest CFM given on the performance curve for your dust collector.

Example: A typical Data Sheet Performance Curve is illustrated in the figure below. Find the total static pressure loss on the Static Pressure axis (4.4 in the current example), then refer to the closest value on the CFM axis—approximately 1120 CFM.

The 1120 CFM for the static pressure loss of the line connected to the router is well above the 220 CFM requirement of that machine.

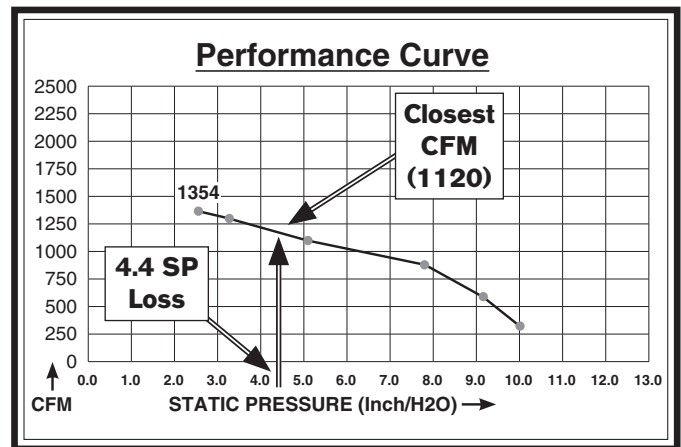


Figure 50. CFM for static pressure loss of line connected to a dust collector and router.

— If the CFM for your static pressure loss is above the requirement of the machine connected to the end of that branch line, then dust collection will most likely be successful. Congratulations! You've just designed your own dust system. Refer to the **Accessories** section of this manual to start buying the components necessary to make your system a reality.

— If the CFM for your static pressure loss is below the requirement of the machine, then that line will not effectively collect the dust. You must then modify some of the factors in that line to reduce the static pressure loss. Some of the ways to do this include 1) installing larger duct, 2) reducing amount of flexible duct used, 3) increasing machine dust port size, 4) moving machine closer to dust collector to eliminate duct length, and 5) reducing 90° elbows or replacing them with 45° elbows.

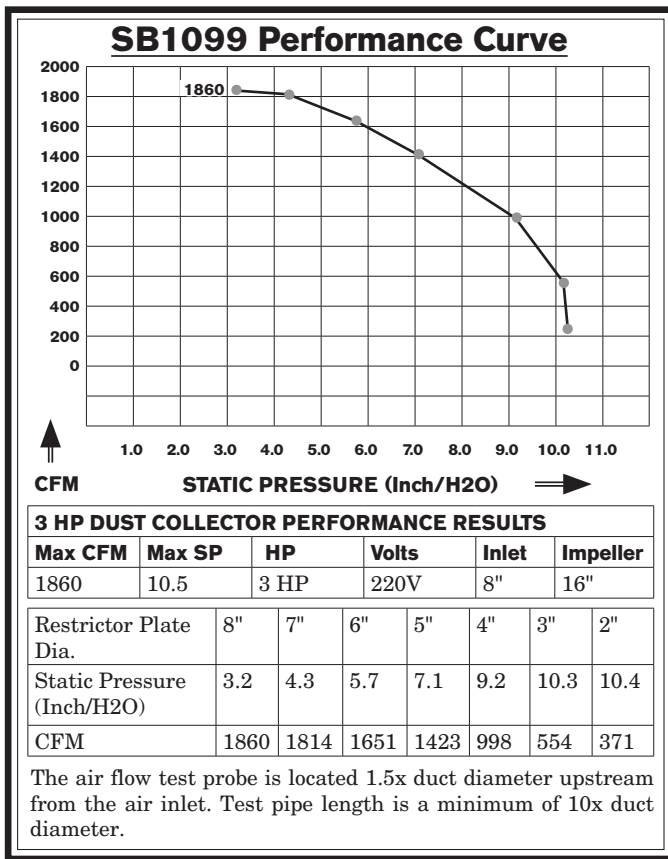


Figure 51. SB1099 performance data.

Example Materials List

After the system is designed, create a materials list of all the items you will need to build your dust collection system. This will make it easy when it comes time to purchase the materials.

Below is an example of some items that might be needed.

Description	Model	Quantity
6" Rigid Duct at 20'	G7364	4
4" Rigid Duct at 10'	G6162	2
4" Flex Hose at 5'	H7215	6
6" 45° Y-Branch	G7353	6
4" 45° Elbow	G6167	6

Figure 52. Example materials list.

System Grounding

Since plastic hose is abundant, relatively inexpensive, easily assembled and air tight, it is a very popular material for conveying dust from woodworking machines to the dust collector.

We recommend only using short lengths of flexible hose (flex-hose) to connect the woodworking machine to the dust collector. However, plastic flex-hose and plastic duct are an insulator, and dust particles moving against the walls of the plastic duct create a static electrical buildup. This charge will build until it discharges to a ground.

If a grounding medium is not available to prevent static electrical buildup, the electrical charge will arc to the nearest grounded source. This electrical discharge may cause an explosion and subsequent fire inside the system.

To protect against static electrical buildup inside a non-conducting duct, a bare copper wire should be placed inside the duct along its length and grounded to the dust collector. You must also confirm that the dust collector is continuously grounded through the electrical circuit to the electric service panel.

If you connect the dust collector to more than one machine by way of a non-conducting branching duct system and blast gates, the system must still be grounded as mentioned above. We recommend inserting a continuous bare copper ground wire inside the entire duct system and attaching the wire to each grounded woodworking machine and dust collector.



Be sure that you extend the bare copper wire down all branches of the system. Do not forget to connect the wires to each other with wire nuts when two branches meet at a “Y” or “T” connection.

Ensure that the entire system is grounded. If using plastic blast gates to direct air flow, the grounding wire must be jumped (see the figure below) around the blast gate without interruption to the grounding system.

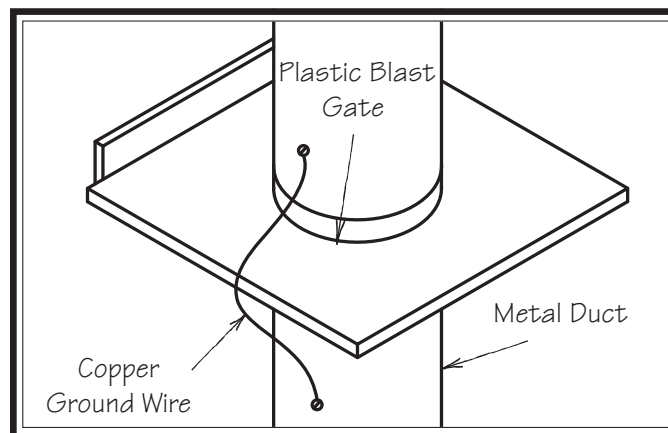


Figure 53. Ground jumper wire when using plastic blast gates and metal duct.

We also recommend wrapping the outside of all plastic ducts with bare copper wire to ground the outside of the system against static electrical buildup. Wire connections at Y's and T's should be made with wire nuts.

Attach the bare ground wire to each stationary woodworking machine and attach to the dust collector frame with a ground screw as shown in the figure below. Ensure that each machine is continuously grounded to the grounding terminal in your electric service panel.

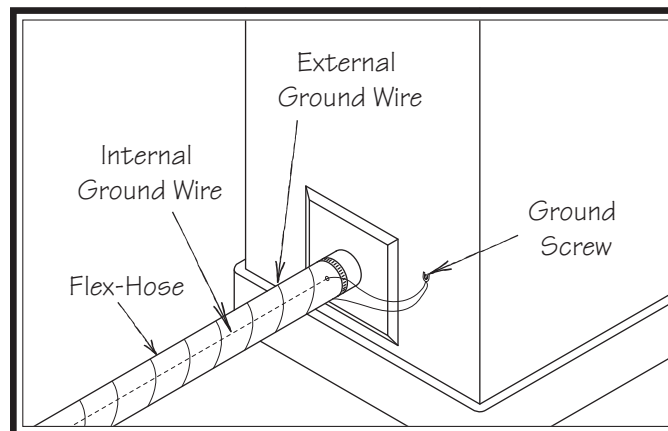
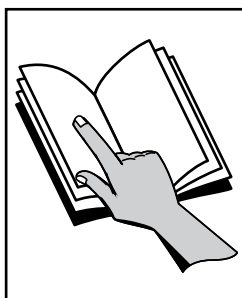


Figure 54. Flex-hose grounded to machine.

Operation Overview

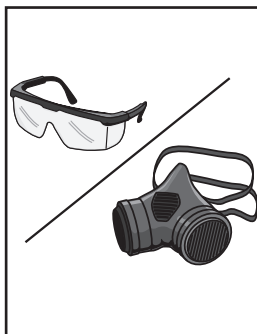
The purpose of this overview is to provide the novice machine operator with a basic understanding of how the machine is used during operation, so they can more easily understand the controls discussed later in this manual.

Note: Due to the generic nature of this overview, it is not intended to be an instructional guide for performing actual machine operations. To learn more about specific operations and machining techniques, seek training from people experienced with this type of machine, and do additional research outside of this manual by reading "how-to" books, trade magazines, or websites.



!WARNING

To reduce the risk of serious injury when using this machine, read and understand this entire manual before beginning any operations.



!WARNING

During operation, small wood chips and dust may become airborne, leading to serious eye injury or lung damage. Wear safety glasses and a respirator to reduce this risk.

General Operation

This cyclone dust collector creates a vortex of incoming air that extracts heavy wood chips and large dust particles, and then drops them into the steel drum below, which is lined with a plastic bag.

The remaining fine dust travels past the impeller and is then caught by a canister filter and deposited in the end cap below. The spunbond polyester filters catch 99.9 percent of particles 2–5 micron in size, and are pleated to provide maximum surface area for efficient air flow.

To maintain CFM after heavy use, the automatic filter brush knocks caked-on dust into the collection bag when the machine is turned **OFF**.

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

1. Locks dust collector swivel casters.
2. Closes blast gates to direct vacuum pressure to desired machine.
3. Turns woodworking machine **ON**.
4. Turns dust collector **ON**.
5. Performs woodworking operation.
6. Turns woodworking machine **OFF**.
7. Turns dust collector **OFF**.

Accessories

⚠ WARNING

Installing unapproved accessories may cause machine to malfunction, resulting in serious personal injury or machine damage. To reduce this risk, only install accessories recommended by South Bend or Grizzly.

NOTICE

Refer to Grizzly's website or latest catalog for additional recommended accessories.

This section includes the most common accessories available for your machine, which are available through our exclusive dealer, Grizzly Industrial, Inc., at grizzly.com.

- D4206—Clear Flexible Hose 4" x 10'**
- D4256—45° Elbow 4"**
- D4216—Black Flexible Hose 4" x 10'**
- W1034—Heavy-Duty Clear Flex Hose 4" x 10'**
- D2107—Hose Hanger 4 1/4"**
- W1015—Y-Fitting 4" x 4" x 4"**
- W1017—90° Elbow 4"**
- W1019—Hose Coupler (Splice) 4"**
- W1317—Wire Hose Clamp 4"**
- W1007—Plastic Blast Gate 4"**
- W1053—Anti-Static Grounding Kit**



Figure 55. 4" dust-collection accessories.

- G6177—4" Metal Blast Gate**
- G7340—5" Metal Blast Gate**
- G7358—6" Metal Blast Gate**
- H5234—7" Metal Blast Gate**
- H5249—8" Metal Blast Gate**

Control air flow and resistance between machines. These industrial blast gates can take the abuse of thousands of open and close cycles. Made specifically for production shops. These metal industrial dust collection fittings are simply the best you can find.

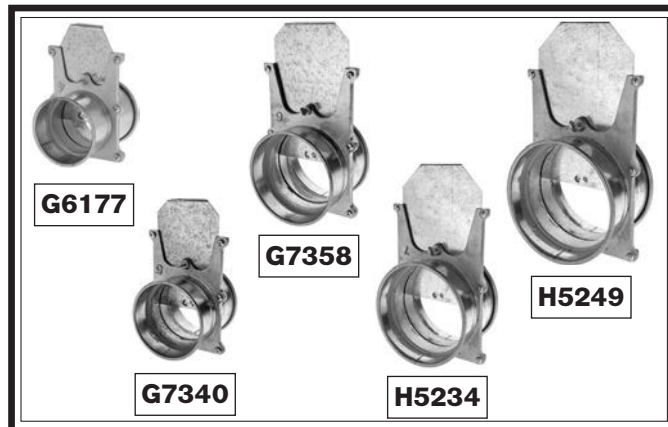


Figure 56. Metal blast gate assortment.

T27422—Viewing Spool 8"

This viewing spool is a section of acrylic glass with QF ends so you can keep an eye on your material flow. Makes it a cinch to check for slow-downs or debris! Ends are 22 gauge, 8" opening. Total length 12.5".



Figure 57. T27422 Viewing Spool.

order online at www.grizzly.com or call 1-800-523-4777

H7428—7" Industrial Dust Collection Machine Adapter
H5228—7" Industrial Dust Collection Pipe Clamp
H5229—7" Industrial Dust Collection Adjustable Nipple
H5250—8" Industrial Dust Collection Pipe Hanger
T26510—8" Industrial Dust Collection Clamp Hanger
T27054—8" Quick-Fit O-Ring, 12-Pk.
T28548—8" x 6" x 6" Industrial Dust Collection Standard Branch



Figure 58. 8" dust-collection accessories.

H7465—8" x 10' Dust Hose
H7463—7" x 10' Dust Hose
W1036—6" x 10' Dust Hose

Spiral-wire-reinforced clear hose allows easy inspection for locating potential clogs in your duct system. Uses RH fittings. Available in additional diameters and lengths.

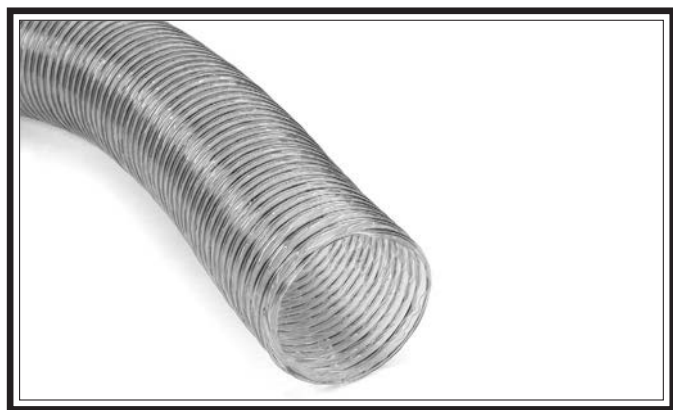


Figure 59. Flexible clear dust hose.

H7217—6" x 5' Rigid Flex Hose
H7218—7" x 5' Rigid Flex Hose
H7219—8" x 5' Rigid Flex Hose

These Rigid Flex Hoses with rolled collars provide just enough flexibility to make difficult connections while still keeping the inside wall smooth.

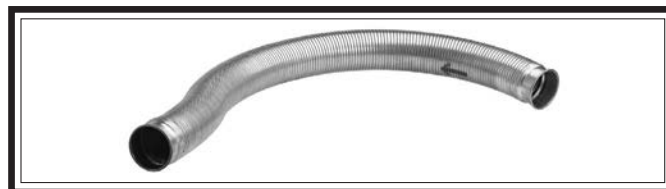


Figure 60. Rigid flex hose.

W1039—Universal Adapter

This adapter provides a multitude of reducing options. Simply cut off unneeded steps. Outside diameter sizes include 1", 2", 2½", 3", 4", 5", and 6". Wall thickness is ½".

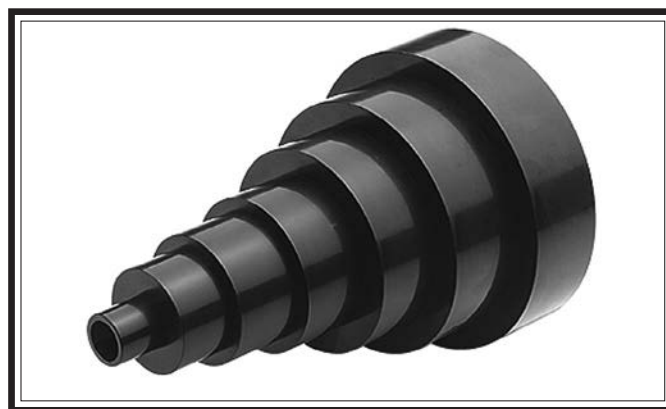


Figure 61. W1039 Universal Adapter.

G6162—4" x 5' Straight Metal Pipe
G7346—5" x 5' Straight Metal Pipe
G7364—6" x 5' Straight Metal Pipe



Figure 62. Straight metal pipe.

order online at www.grizzly.com or call 1-800-523-4777

H5293—4" Metal Duct Starter Kit**H5295—5" Metal Duct Starter Kit****H5297—6" Metal Duct Starter Kit**

Save over 20% with this great starter kit. Includes: (2) machine adapters, (10) pipe clamps, (3) 5' straight pipes, (1) branch, (3) pipe hangers, (1) end cap, (3) adjustable nipples, (1) 90° elbow, and (1) 60° elbow.

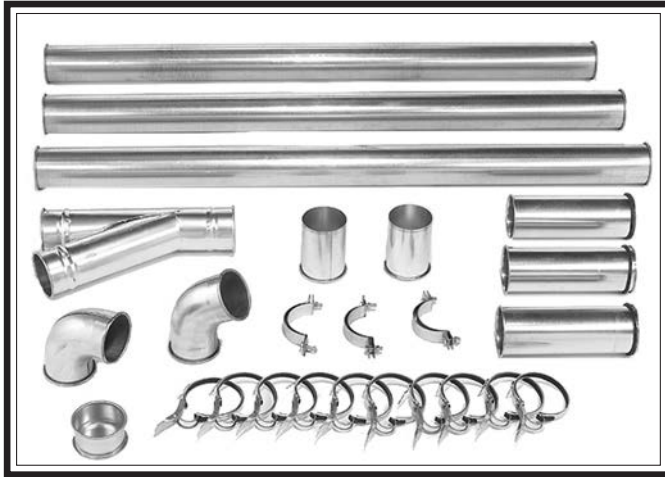


Figure 63. Metal Duct Starter Kit.

H5294—4" Metal Duct Machine Addition Kit**H5296—5" Metal Duct Machine Addition Kit****H5298—6" Metal Duct Machine Addition Kit**

Save over 20% with this great machine addition kit. Includes: (2) blast gates, (1) machine adapter, (10) pipe clamps, (2) pipe hangers, (2) 5' straight pipes, (2) adjustable nipples, (1) branch, and (1) 60° elbow.

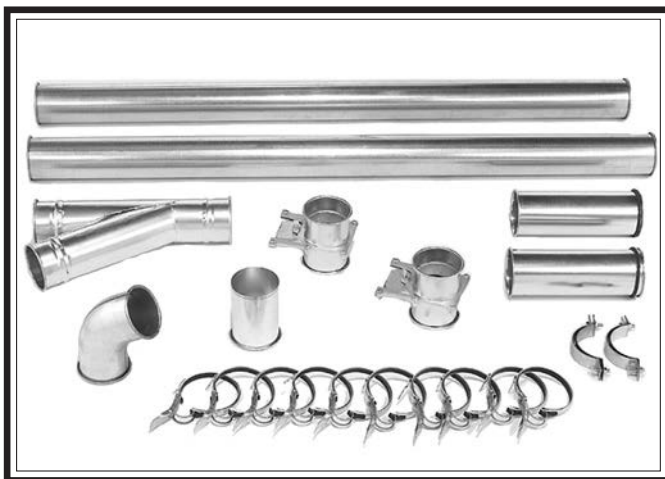


Figure 64. Metal Duct Machine Addition Kit.

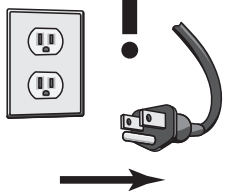
SB1106—Collection Bag 24½" x 47¼"

Figure 65. Replacement collection bags.

T30490—Replacement Filter

Figure 66. Replacement filter.

order online at www.grizzly.com or call 1-800-523-4777

	<p>! WARNING Always disconnect machine from power before performing maintenance or serious personal injury may result.</p>
---	---

Removing/Replacing Collection Drum Bag

Dispose of the collection bag when dust fills it $\frac{3}{4}$ full. Replace the bag if it develops a leak or becomes damaged.

Maintenance Schedule

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


Ongoing

To minimize your risk of injury and maintain proper machine operation, shut down the machine immediately if you ever observe any of the items below, and fix the problem before continuing operations:

- Loose mounting bolts.
- End cap half full.
- Damaged filter canister, cleaning paddle components, or collection bag.
- Worn or damaged wires.
- Suction leaks.
- Any other unsafe condition.

Monthly Check

- Clean/vacuum dust buildup off machine body and motor.

	<p>! WARNING Dust exposure created while using machinery may cause cancer, birth defects, or long-term respiratory damage. Always wear glasses and a NIOSH approved respirator when working with the dust collection bags or canisters.</p>
---	--

Items Needed	Qty
SB1106 Collection Bag.....	1

To remove and replace collection drum bag:

1. DISCONNECT MACHINE FROM POWER!
2. Lower drum lock handle to raise drum lid (see **Figure 67**), then roll drum out from under drum lid.

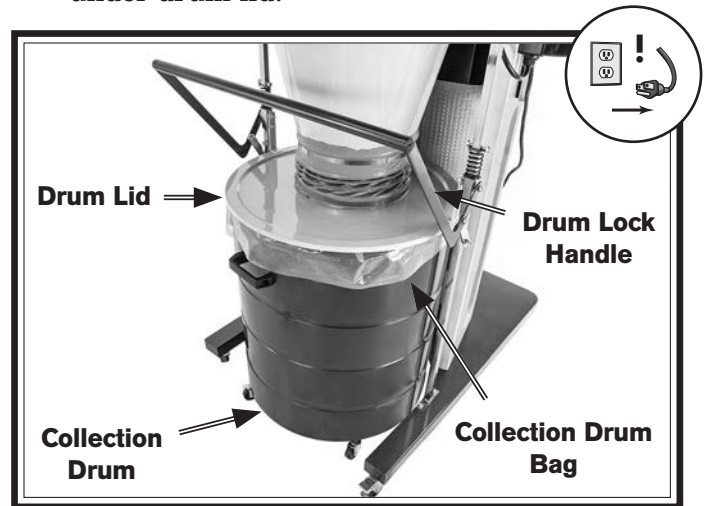


Figure 67. Components used in collection drum bag removal.

3. Lift bag out of drum, firmly tie closed, then dispose of contents.

IMPORTANT: *To contain wood dust and minimize risk of exposure, tie bag closed before disposal.*

4. Place new collection drum bag inside collection drum, and fold excess bag length over top of drum.
5. Move collection drum under lid, then lift drum lock handle to secure and seal collection drum.

Cleaning Canister Filter

This dust collector uses an automatic filter brush to remove dust buildup and debris from the filter pleats. The system will turn **ON** for approximately 90 seconds after the machine is turned **OFF** to clean the canister filter and knock dust cake into the end cap.

If operating pressure on pressure gauge drops below 200mmAq, the canister filter must be cleaned. If operating pressure reaches 150mmAq and cleaning does not improve performance, replace the filter (refer to **Removing/Replacing Canister Filter** on Page 37).

IMPORTANT: *DO NOT use water or high pressure to clean canister filter. Doing so will damage the filter and reduce filtration.*

Items Needed	Qty
Safety Glasses (Per Person).....	1
Respirator (Per Person)	1
4" Dust Hose.....	1
Dust Hose Clamps 4"	2

To clean canister filter:

1. Cycle power to knock loose dust from filter, then empty end cap (refer to **Emptying End Cap**).
2. Replace end cap, then connect 4" dust hose to inlet adapter and end cap outlet port (see **Figure 68**).

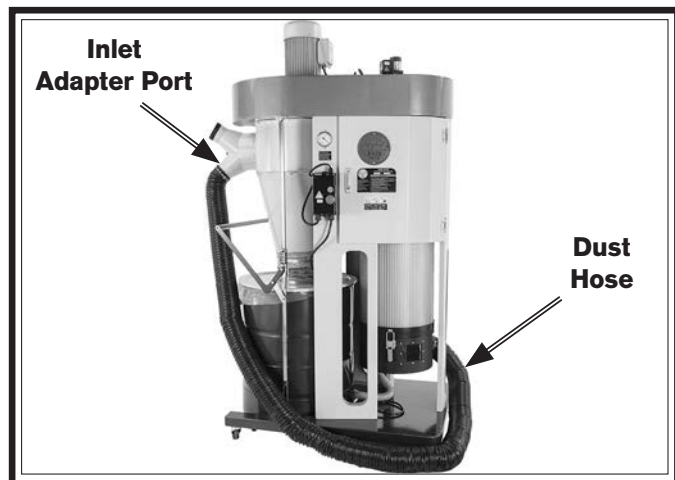


Figure 68. Dust hose connected to inlet adapter and end cap outlet port.

3. Open both filter doors.
4. Turn machine **ON**. The dust hose creates a closed circuit, cycling air through the filter without adding dust to the system.
5. Turn machine **OFF**, then empty end cap.

Emptying End Cap

The end cap collects fine dust from the filter. Failing to empty the end cap will result in a loss of collection efficiency. Empty the filter end cap when it is about 1/2 full.

Items Needed	Qty
Garbage Bag.....	1

To empty end cap:

1. **DISCONNECT MACHINE FROM POWER!**
2. Open garbage bag and lay it underneath end cap.
3. Release end cap from bottom of canister filter, then gently set end cap into garbage bag.
4. Lift garbage bag edges over end cap, then dump dust from end cap into bottom of bag.

IMPORTANT: *To contain wood dust and minimize risk of exposure, tie bag closed before disposal.*

5. Attach end cap to bottom of canister filter (see **Figure 69**).

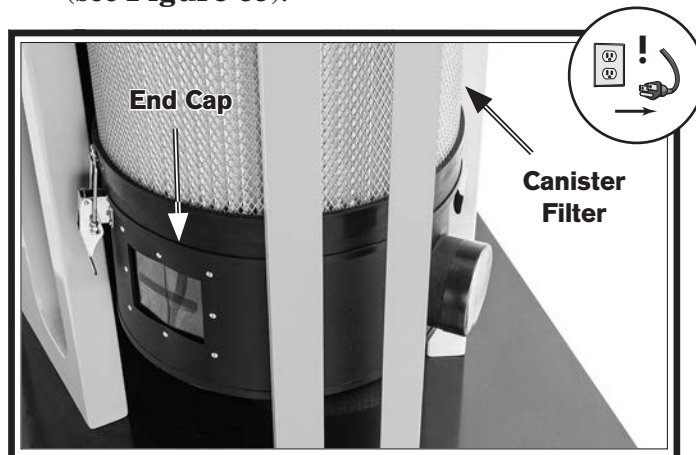


Figure 69. End cap attached to canister filter.

Removing/Replacing Canister Filter

If the canister filter is clogged or dirty and cleaning does not improve dust-collection performance, the canister filter must be replaced.

Items Needed	Qty
An Assistant.....	1
Safety Glasses (Per Person).....	1
Wrench or Socket, 1/2".....	1
Hex Wrench 5mm.....	1
Shop Vac.....	1
T30490 Canister Filter.....	1

To remove and replace canister filter:

1. Cycle power to knock loose dust from filter, then empty end cap (refer to **Emptying End Cap** on **Page 36**).
2. **DISCONNECT MACHINE FROM POWER!**
3. Remove (6) flange bolts and filter cover assembly from top of assembly housing (see **Figure 70**).

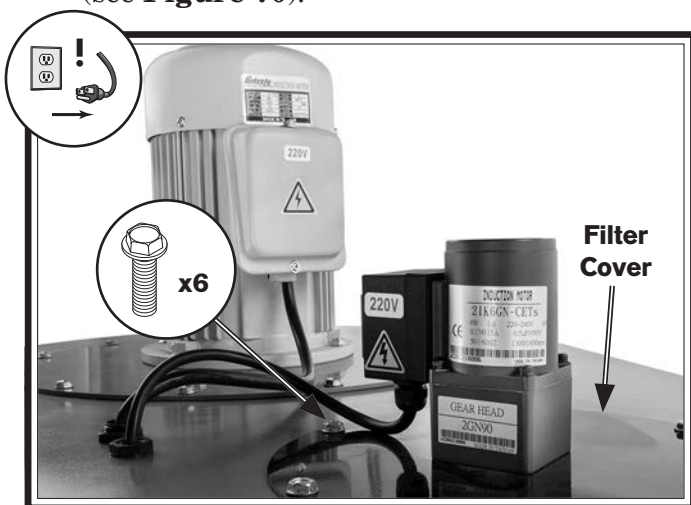


Figure 70. Filter cover.

4. Loosen cap screw and remove lower alignment arm from filter spindle (see **Figure 71**).
5. Remove (3) button head cap screws securing rear panel to housing assembly (see **Figure 71**).

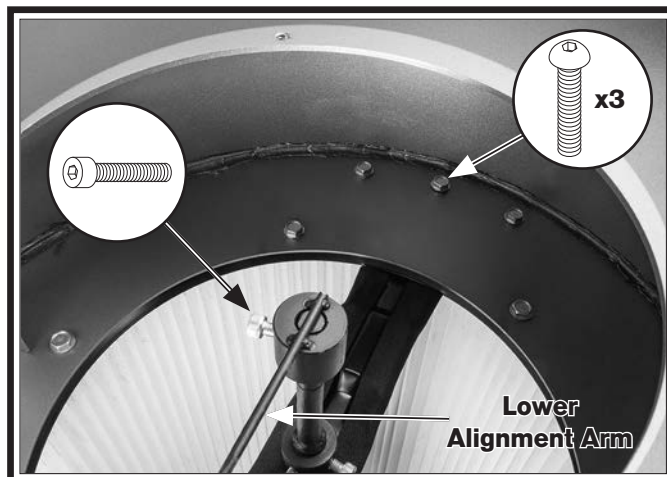


Figure 71. Lower alignment arm and rear panel attachment locations.

6. Open filter doors.
7. While assistant supports rear panel, remove (3) button head cap screws and flat washers, then remove rear panel (see **Figure 72**).

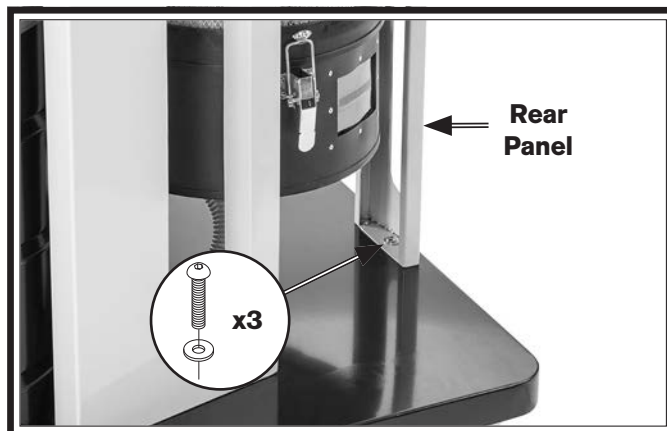


Figure 72. Rear panel attached to base.

8. While assistant supports canister filter, remove (6) flange bolts and canister filter from housing assembly (see **Figure 73**).

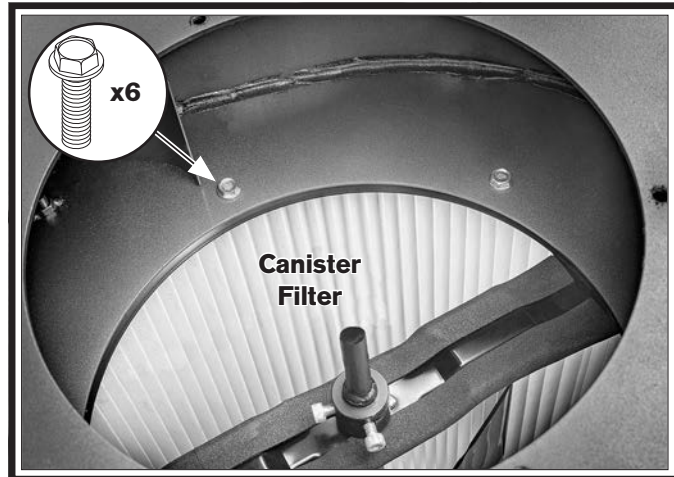


Figure 73. Flange bolts securing canister filter to housing assembly.

9. Vacuum loose dust from inside housing assembly.
10. While assistant supports new canister filter, install to housing assembly with (6) flange bolts removed in **Step 8** (see **Figure 73**).
11. While assistant supports rear panel, attach rear panel to base with (3) button head cap screws and flat washers removed in **Step 7** (see **Figure 74**).

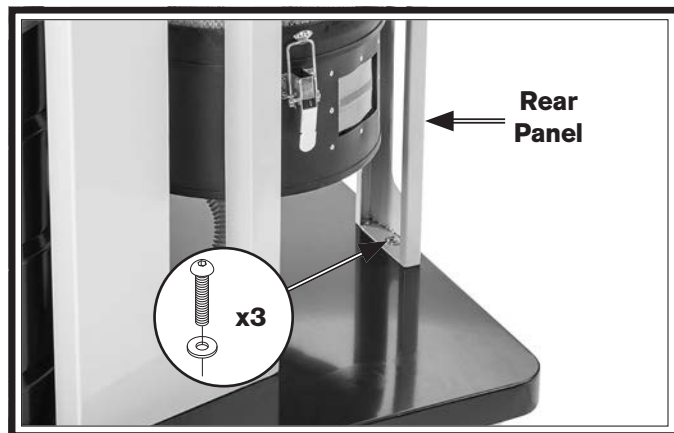


Figure 74. Rear panel attached to base.

12. Attach lower alignment arm to top of new canister filter spindle and secure with cap screw (see **Figure 75**).

13. Attach rear panel to housing assembly with (3) button head cap screws removed in **Step 5** (see **Figure 75**).

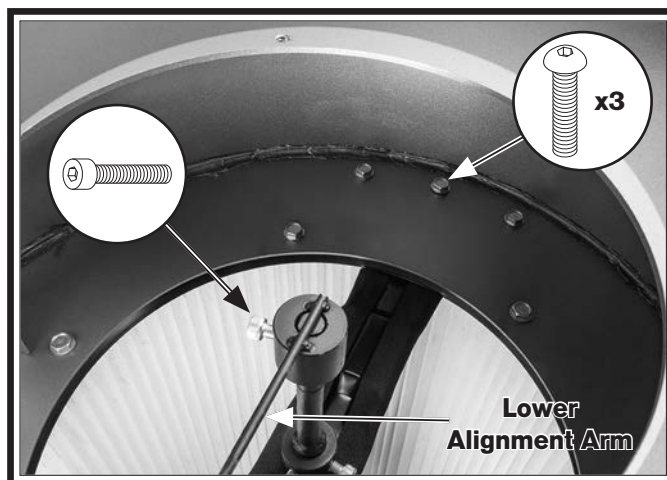


Figure 75. Lower alignment arm and rear panel attachment locations.

14. Position filter cover assembly over housing assembly. Rotate lower alignment arm so upper alignment arm on underside of cover assembly (see **Figure 76**) captures lower arm when mounting holes align to housing.

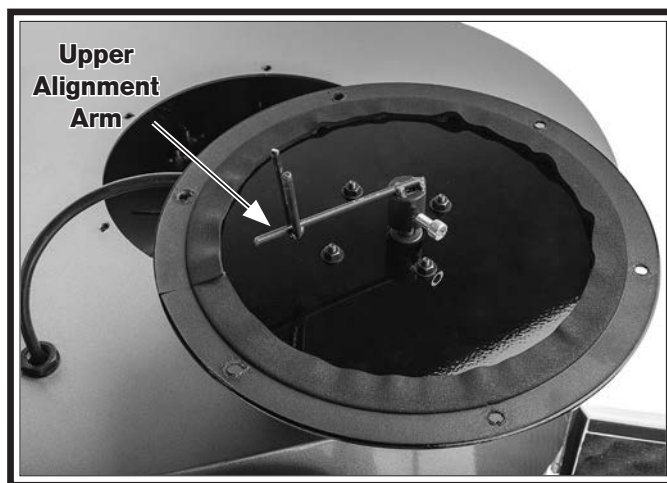


Figure 76. Underneath filter cover assembly.

15. Attach filter cover assembly to canister filter with flange bolts removed in **Step 3**.

Pairing Remote Control & Receiver

The Model SB1099 is equipped with a remote control receiver that can be programmed to operate up to 16 separate controllers.

⚠ WARNING

Avoid touching electrified parts inside receiver while performing procedure below! Touching electrified parts will result in personal injury including but not limited to severe burns, electrocution, or death. Use a wood dowel or other non-conducting item to push button on receiver.

Items Needed

Qty

Phillips Head Screwdriver #2..... 1
Wood Dowel..... 1

Pairing Remote

1. Remove switch cover to get a clear view of remote receiver (see **Figure 77**).

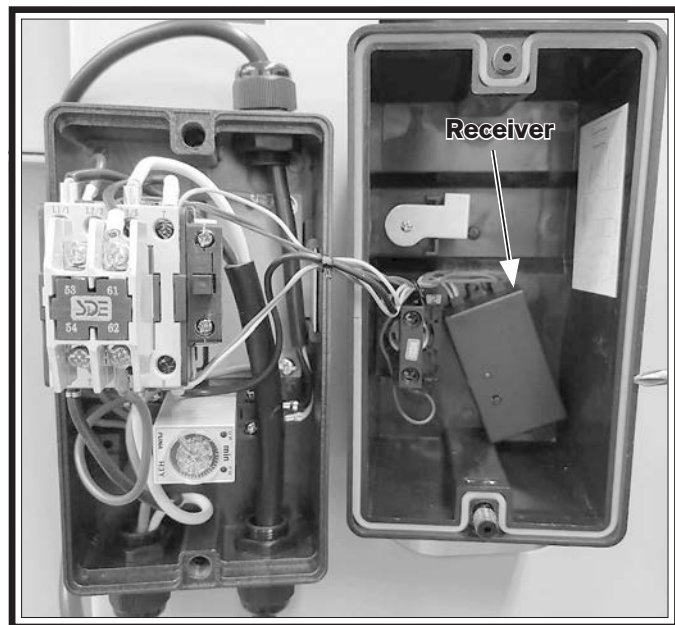


Figure 77. Location of receiver in switch box.

2. Press and hold green ON button on remote control (see **Figure 78**) until LED indicator illuminates on remote receiver (see **Figure 79**).
3. Press pairing button on receiver with a non-conducting tool, then release when LED indicator turns off (see **Figure 79**). Pairing is complete.



Figure 78. Remote control.

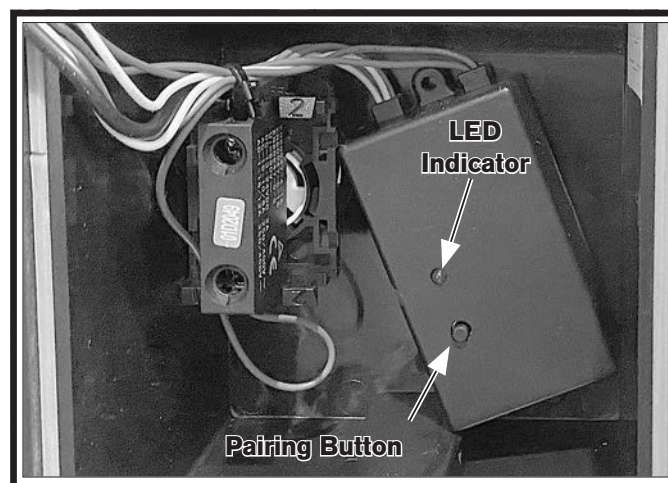


Figure 79. Remote receiver.

Unpairing Remote

1. Remove switch cover to get a clear view of remote receiver (see **Figure 77**).
2. Press and hold green ON button on remote control for eight seconds, then wait for LED indicator to flash three times.

If you need replacement parts, or if you are unsure how to do any of the solutions given here, feel free to call us at (360) 734-1540.

Symptom	Possible Cause	Possible Solution
Machine does not start or a breaker trips immediately after startup.	<ol style="list-style-type: none"> 1. Dust collector not connected to ducting, overloading machine. 2. Emergency Stop button depressed/ at fault. 3. Machine circuit breaker tripped. 4. Incorrect power supply voltage or circuit size. 5. Remote control not working. 6. Remote receiver at fault. 7. Power supply circuit breaker tripped or fuse blown. 8. Motor wires connected incorrectly. 9. Start capacitor at fault. 10. Centrifugal switch adjustment/ contact points at fault. 11. Contactor not energized/at fault. 12. Wiring broken, disconnected, or corroded. 13. Power switch/circuit breaker at fault. 14. Motor or motor bearings at fault. 	<ol style="list-style-type: none"> 1. Connect dust collector to ducting (Page 22) to reduce amps. 2. Rotate Emergency Stop button to reset. Replace if at fault. 3. Reset circuit breaker on main motor. 4. Ensure correct power supply voltage and circuit size. 5. Replace battery; stay in signal range. 6. Inspect/replace if at fault. 7. Ensure circuit is free of shorts. Reset circuit breaker or replace fuse. 8. Correct motor wiring connections. 9. Test/replace if at fault. 10. Adjust centrifugal switch/clean contact points. Replace either if at fault. 11. Test all legs for power; replace if necessary. 12. Fix broken wires or disconnected/corroded connections. 13. Replace switch/circuit breaker. 14. Replace motor.
Machine stalls or is underpowered.	<ol style="list-style-type: none"> 1. Dust collection ducting problem. 2. Collection bag/end cap full. 3. Canister filter clogged/at fault. 4. Dust collector too far from machine or undersized for dust-collection system. 5. Motor overheated, tripping machine circuit breaker. 6. Run capacitor at fault. 7. Extension cord too long. 8. Contactor not energized/at fault. 9. Centrifugal switch adjustment/ contact points at fault. 10. Motor or motor bearings at fault. 	<ol style="list-style-type: none"> 1. Clear blockages, seal leaks, use smooth wall duct, eliminate bends, close other branches. 2. Replace collection bag (Page 35)/empty end cap (Page 36). 3. Clean canister filter (Page); replace canister filter after 1 year of regular use (Page 37). 4. Move closer to machine/redesign ducting layout (Page 22)/upgrade dust collector. 5. Clean motor/let cool, and reduce workload. Reset breaker. 6. Test/repair/replace. 7. Move machine closer to power supply; use shorter extension cord. 8. Test all legs for power; repair/replace if at fault. 9. Adjust centrifugal switch/clean contact points. Replace either if at fault. 10. Replace motor.
Machine has excessive vibration or noise.	<ol style="list-style-type: none"> 1. Motor or component loose. 2. Motor mount loose/broken. 3. Motor fan rubbing on fan cover. 4. Centrifugal switch is at fault. 5. Impeller damaged, unbalanced, or loose. 6. Motor bearings at fault. 	<ol style="list-style-type: none"> 1. Inspect/replace damaged or missing bolts/nuts, and retighten with thread-locking fluid. 2. Tighten/replace. 3. Fix/replace fan cover; replace loose/damaged fan. 4. Adjust/replace centrifugal switch if available. 5. Inspect/tighten/replace. 6. Test by rotating shaft; rotational grinding/loose shaft requires bearing replacement.

Symptom	Possible Cause	Possible Solution
Filter brush motor does not start after machine is powered OFF .	<ol style="list-style-type: none"> 1. Motor connected incorrectly at switch box. 2. Timer at fault. 3. Filter brush motor at fault. 	<ol style="list-style-type: none"> 1. Correct motor wiring connections (Page 43). 2. Inspect/replace if at fault. 3. Replace motor.
Loud, repetitious noise, or excessive vibration coming from dust collector (non-motor related).	<ol style="list-style-type: none"> 1. Dust collector not on a flat surface and wobbles/casters not locked. 2. Impeller damaged and unbalanced. 3. Impeller loose on the motor shaft. 	<ol style="list-style-type: none"> 1. Stabilize dust collector; lock casters. 2. Disconnect dust collector from power; inspect impeller for dents, bends, or loose fins; replace impeller if damaged. 3. Secure impeller; replace motor and impeller as a set if motor shaft and impeller hub are damaged.
Dust collector does not adequately collect dust or chips; poor performance.	<ol style="list-style-type: none"> 1. Collection bag/end cap full. 2. Canister filter clogged/at fault. 3. Ducting blocked/restricted. 4. Dust collector too far away from point of suction; duct clamps not properly secured; too many sharp bends in ducting. 5. Lumber is wet and dust is not flowing smoothly through ducting. 6. Ducting has one or more leaks, or too many open ports. 7. Not enough open branch lines at one time, causing velocity drop in main line. 8. Ducting and ports are incorrectly sized. 9. Machine dust-collection design inadequate. 10. Dust collector undersized. 11. Unused inlet adapter port(s) uncovered. 	<ol style="list-style-type: none"> 1. Replace collection bag (Page 35)/empty end cap (Page 36). 2. Clean canister filter (Page 36); replace canister filter after 1 year of regular use (Page 37). 3. Remove ducting from dust collector inlet and unblock restriction. A plumbing snake may be necessary. 4. Relocate dust collector closer to point of suction; re-secure ducts; remove sharp bends (Page 22). 5. Only process lumber with less than 20% moisture content. 6. Seal/eliminate all ducting leaks; close dust ports for lines not being used (Page 22). 7. Open 1 or 2 more blast gates to different branch lines to increase main line velocity. 8. Install correctly sized ducts and fittings (Page 22). 9. Use dust-collection hood on stand. 10. Install larger dust collector. 11. Cover unused inlet adapter port(s).
Dust collector blows sawdust into the air.	<ol style="list-style-type: none"> 1. Duct clamps or end cap not properly clamped and secured; ducting loose/damaged. 2. Cylinder or funnel seals are loose or damaged. 	<ol style="list-style-type: none"> 1. Secure ducts and end cap, making sure duct and bag clamp are tight; tighten/replace ducting. 2. Tighten all mounting and sealing points; replace damaged seals/gaskets or use silicon to seal.
Remote control does not operate dust collector.	<ol style="list-style-type: none"> 1. Emergency Stop button is pressed in. 2. Machine is disconnected from power. 3. Remote control battery is weak or dead. 4. Wall or barrier disrupts radio frequency, or controller is too far away. 5. Remote control not paired. 	<ol style="list-style-type: none"> 1. Rotate Emergency Stop button to reset. 2. Verify machine is connected to power source. 3. Replace battery. 4. Move machine away from barrier; use remote within 50' of machine. 5. Program receiver to accept remote control (Page 39).

Electrical Safety Instructions

These pages are accurate at the time of printing. In the constant effort to improve, however, we may make changes to the electrical systems of future machines. Study this section carefully. If you see differences between your machine and what is shown in this section, call Technical Support at (360) 734-1540 for assistance BEFORE making any changes to the wiring on your machine.

Shock Hazard: It is extremely dangerous to perform electrical or wiring tasks while the machine is connected to the power source. Touching electrified parts will result in personal injury including but not limited to severe burns, electrocution, or death. For your own safety, disconnect machine from the power source before servicing electrical components or performing any wiring tasks!

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

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

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


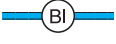

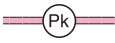



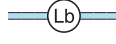



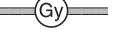
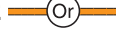
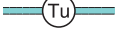

Circuit Requirements: Connecting the machine to an improperly sized circuit will greatly increase the risk of fire. To minimize this risk, only connect the machine to a power circuit that meets the minimum requirements given in this manual.

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

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

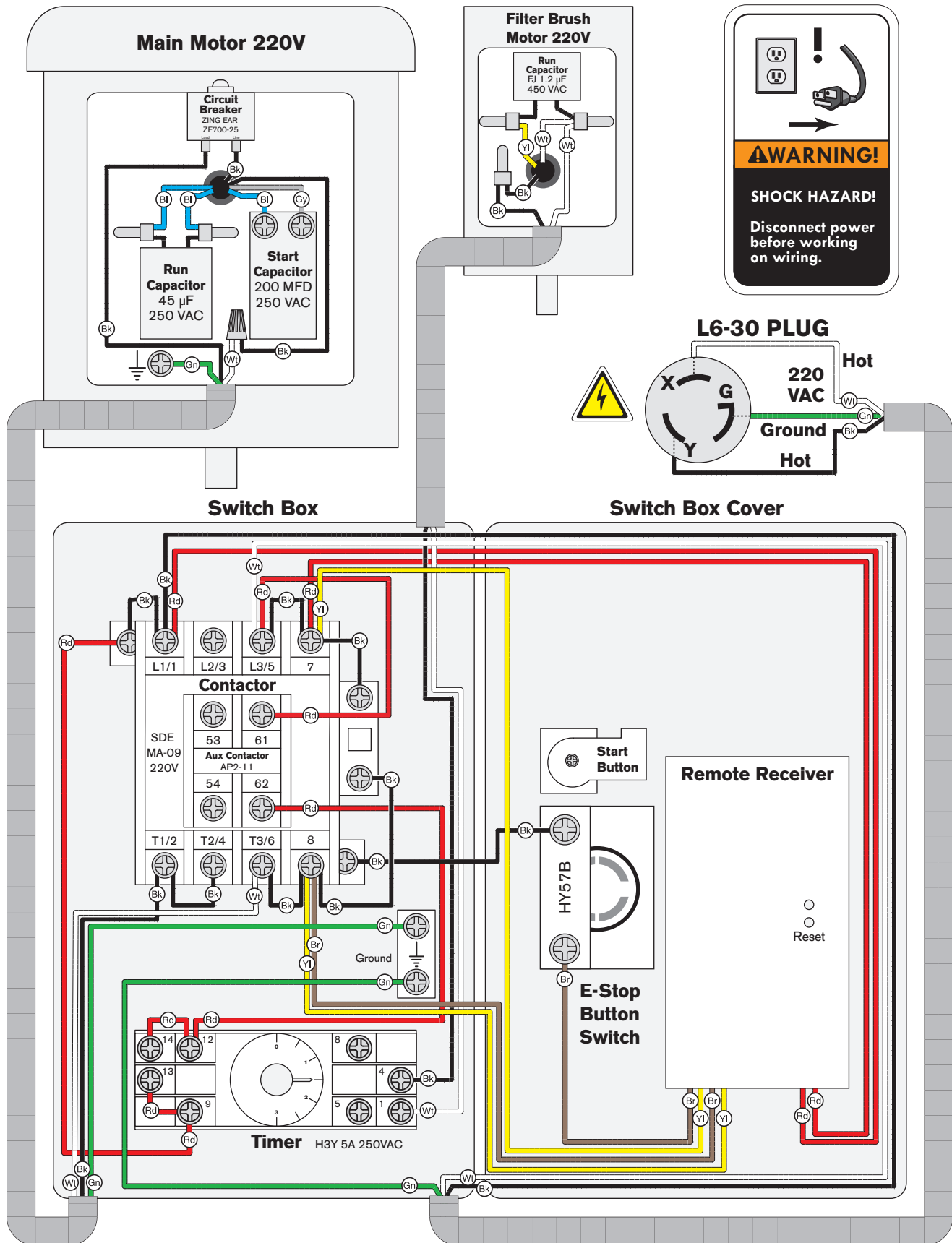
Experiencing Difficulties: If you are experiencing difficulties understanding the information included in this section, contact our Technical Support at (360) 734-1540.

WIRING DIAGRAM COLOR KEY

BLACK		BLUE		RED		PINK		WHITE	
		BLUE WHITE							
		GREEN		LIGHT BLUE		PURPLE		YELLOW GREEN	
BROWN		GRAY		ORANGE		TUR-QUIOSE		YELLOW	

NOTICE: The photos and diagrams included in this section are best viewed in color. You can see them in color at www.southbendtools.com.

Wiring Diagram



Electrical Component Pictures

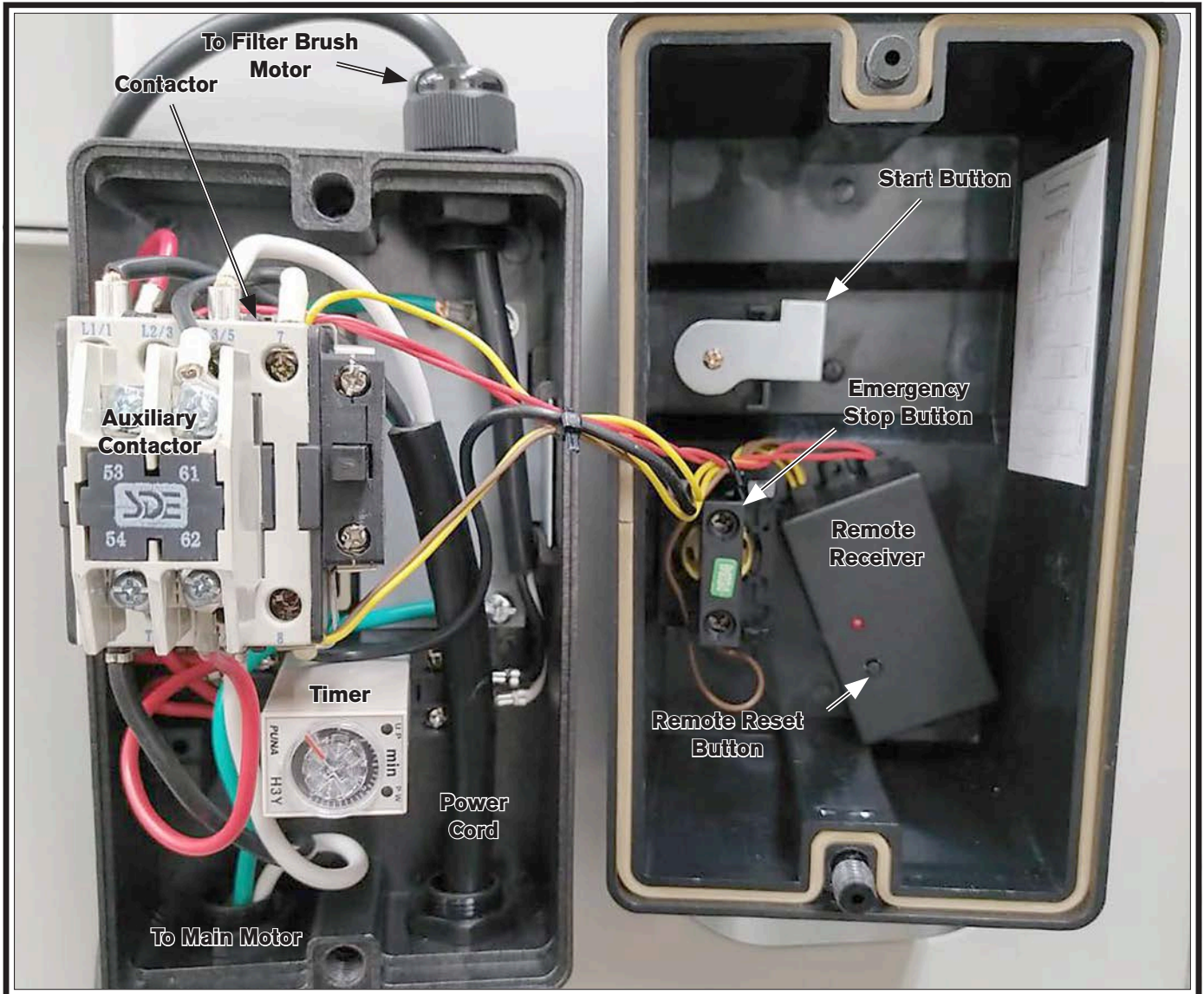


Figure 80. Switch box interior.

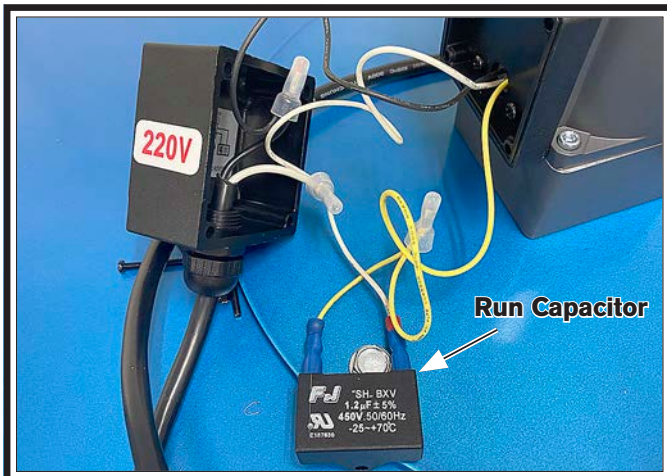


Figure 81. Filter brush motor junction box.

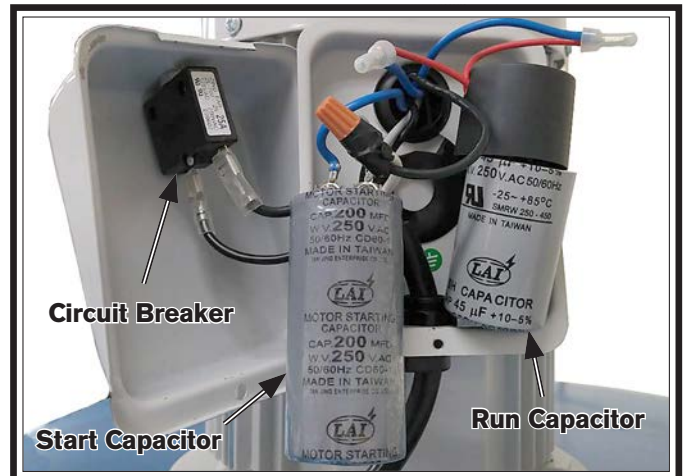
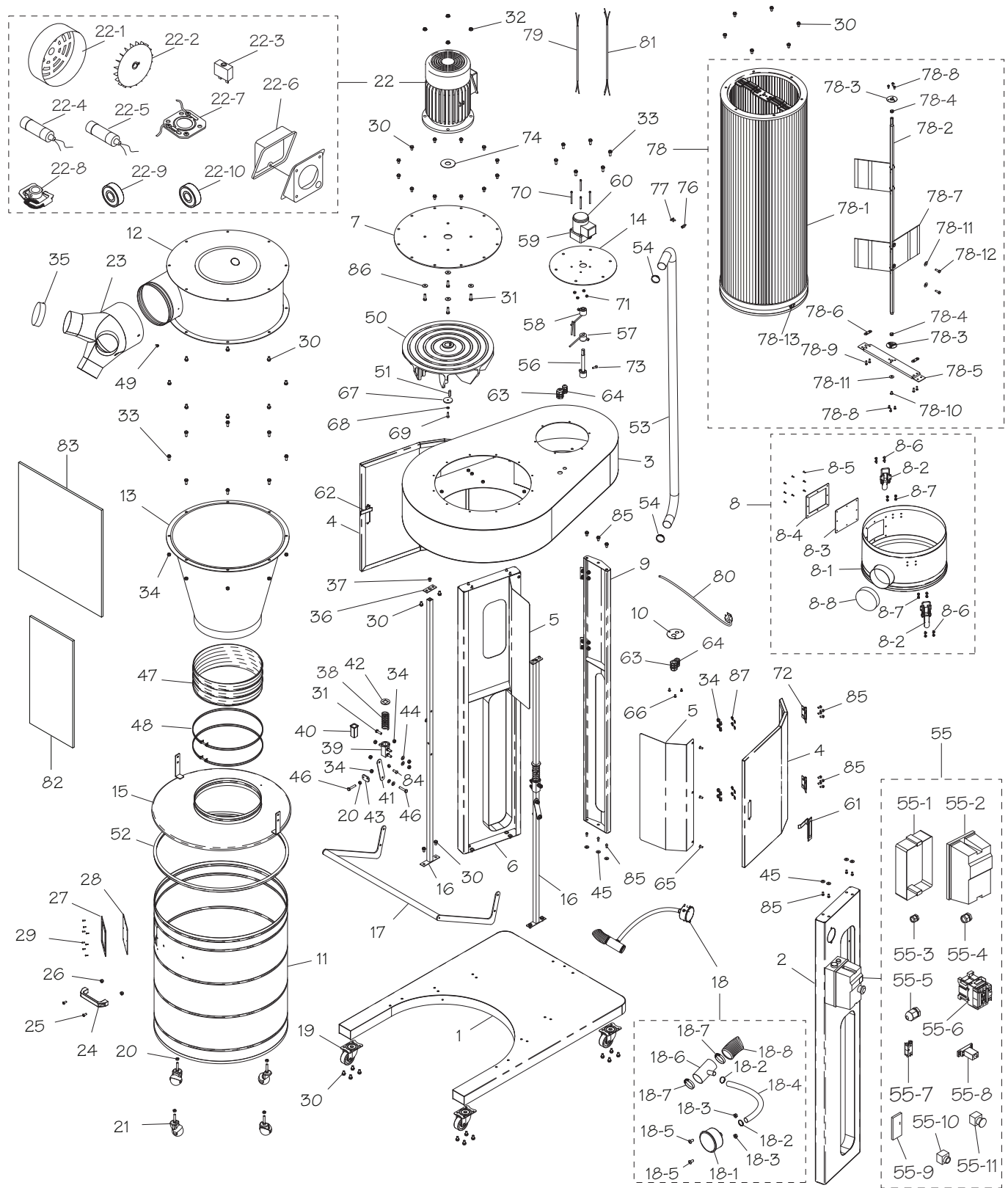


Figure 82. Main motor junction box.

Main



Main Parts List

REF	PART #	DESCRIPTION
1	PSB1099001	BASE
2	PSB1099002	RIGHT SIDE PANEL
3	PSB1099003	IMPELLER HOUSING
4	PSB1099004	FILTER DOOR
5	PSB1099005	SOUNDPROOF COVER
6	PSB1099006	LEFT SIDE PANEL
7	PSB1099007	MOTOR PLATE
8	PSB1099008	END CAP ASSEMBLY
8-1	PSB1099008-1	END CAP
8-2	PSB1099008-2	DRAW LATCH
8-3	PSB1099008-3	DRUM WINDOW 120 X 140MM
8-4	PSB1099008-4	FOAM GASKET 120 X 140MM
8-5	PSB1099008-5	RIVET 2 X 4MM NAMEPLATE AL
8-6	PSB1099008-6	PHLP HD SCR 10-24 X 3/8
8-7	PSB1099008-7	LOCK NUT 10-24
8-8	PSB1099008-8	OUTLET COVER 4"
9	PSB1099009	REAR PANEL
10	PSB1099010	STRAIN RELIEF PLATE
11	PSB1099011	COLLECTION DRUM
12	PSB1099012	INTAKE BARREL
13	PSB1099013	CYCLONE FUNNEL
14	PSB1099014	FILTER COVER
15	PSB1099015	COLLECTION DRUM LID
16	PSB1099016	LOCK HANDLE GUIDE
17	PSB1099017	DRUM LOCK HANDLE
18	PSB1099018	NEGATIVE PRESSURE GAUGE ASSEMBLY
18-1	PSB1099018-1	PRESSURE GAUGE
18-2	PSB1099018-2	HOSE CLAMP 3/4"
18-3	PSB1099018-3	FLANGE NUT 1/4-20
18-4	PSB1099018-4	HOSE 1/2" X 26"
18-5	PSB1099018-5	BUTTON HD CAP SCR 1/4-20 X 1/2
18-6	PSB1099018-6	T CONNECTOR 1-1/2 X 1-1/2 X 1-1/2"
18-7	PSB1099018-7	HOSE CLAMP 1-1/2"
18-8	PSB1099018-8	DUST HOSE 1-1/2" X 67"
19	PSB1099019	CASTER 2-1/2" LOCKING SWIVEL
20	PSB1099020	HEX NUT 5/16-18
21	PSB1099021	CASTER 2" SWIVEL
22	PSB1099022	MOTOR 3HP 220V1-PH
22-1	PSB1099022-1	MOTOR FAN COVER
22-2	PSB1099022-2	MOTOR FAN
22-3	PSB1099022-3	CIRCUIT BREAKER 25A ZING EAR ZE-900
22-4	PSB1099022-4	R CAPACITOR 45M 250V1-1/2 X 2-1/2
22-5	PSB1099022-5	S CAPACITOR 200M 250V1-5/8 X 3-1/8
22-6	PSB1099022-6	JUNCTION BOX
22-7	PSB1099022-7	CONTACT PLATE 16 X 70, 6MM
22-8	PSB1099022-8	CENTRIFUGAL SWITCH 16MM 2700
22-9	PSB1099022-9	BALL BEARING 6203ZZ (REAR)
22-10	PSB1099022-10	BALL BEARING 6206ZZ (FRONT)

REF	PART #	DESCRIPTION
23	PSB1099023	INLET ADAPTER 8" X 4" X 4"
24	PSB1099024	COLLECTION DRUM HANDLE
25	PSB1099025	PHLP HD SCR 1/4-20 X 5/8
26	PSB1099026	ACORN NUT 1/4-20
27	PSB1099027	FOAM GASKET 120 X 140MM
28	PSB1099028	DRUM WINDOW 120 X 140MM
29	PSB1099029	RIVET 2 X 4MM NAMEPLATE AL
30	PSB1099030	FLANGE BOLT 5/16-18 X 1/2
31	PSB1099031	FLANGE BOLT 5/16-18 X 1
32	PSB1099032	FLANGE NUT 5/16-18
33	PSB1099033	FLANGE BOLT 5/16-18 X 3/4
34	PSB1099034	LOCK NUT 5/16-18
35	PSB1099035	INLET CAP 4"
36	PSB1099036	LOCK HANDLE GUIDE MOUNTING PLATE
37	PSB1099037	FLAT HD SCR 5/16-18 X 1
38	PSB1099038	LOCK HANDLE SPRING 3 X 32.5 X 86MM
39	PSB1099039	LOCK HANDLE BRACKET
40	PSB1099040	COPPER PLATE
41	PSB1099041	LOCK HANDLE LINK
42	PSB1099042	FLAT WASHER 5/16
43	PSB1099043	STOPPER
44	PSB1099044	FLAT WASHER 5/16 PL
45	PSB1099045	FLAT WASHER 5/16
46	PSB1099046	HEX BOLT 5/16-18 X 1-1/2
47	PSB1099047	HOSE 12"
48	PSB1099048	HOSE CLAMP 12"
49	PSB1099049	FLANGE SCREW 10-24 X 3/8
50	PSB1099050	IMPELLER 16" ALUMINUM
51	PSB1099051	KEY 7 X 7 X 30
52	PSB1099052	COLLECTION DRUM GASKET
53	PSB1099053	HOSE 1-1/2"
54	PSB1099054	HOSE CLAMP 1-1/2"
55	PSB1099055	MAGNETIC SWITCH SDE 220V
55-1	PSB1099055-1	MAG SWITCH REAR COVER
55-2	PSB1099055-2	MAG SWITCH FRONT COVER
55-3	PSB1099055-3	STRAIN RELIEF TYPE-3 M16
55-4	PSB1099055-4	STRAIN RELIEF TYPE-3 M20
55-5	PSB1099055-5	STRAIN RELIEF TYPE-3 M30
55-6	PSB1099055-6	CONTACTOR SDE-MA15-MA09 220V
55-7	PSB1099055-7	AUX CONTACTOR SDE-AP2-11 220V
55-8	PSB1099055-8	TIMER PUNA H3Y 240V
55-9	PSB1099055-9	REMOTE CONTROL RECEIVER
55-10	PSB1099055-10	BUTTON SWITCH GRN
55-11	PSB1099055-11	E-STOP BUTTON
56	PSB1099056	CONNECTING SPINDLE
57	PSB1099057	LOWER ALIGNMENT ARM
58	PSB1099058	UPPER ALIGNMENT ARM
59	PSB1099059	GEAR REDUCER LUYANG 2GN90

Main Parts List (Cont.)

REF	PART #	DESCRIPTION
60	PSB1099060	MOTOR 15W 220V 1-PH
61	PSB1099061	RIGHT LATCH
62	PSB1099062	LEFT LATCH
63	PSB1099063	STRAIN RELIEF TYPE-3 M16-1.5
64	PSB1099064	STRAIN RELIEF TYPE-3 M20-1.5
65	PSB1099065	BUTTON HD CAP SCR 1/4-20 X 1/2
66	PSB1099066	PHLP HD SCR 10-24 X 3/8
67	PSB1099067	IMPELLER WASHER
68	PSB1099068	LOCK WASHER 1/4
69	PSB1099069	CAP SCREW M6-1 X 30
70	PSB1099070	CAP SCREW M5-.8 X 60
71	PSB1099071	HEX NUT M5-.8
72	PSB1099072	HINGE
73	PSB1099073	CAP SCREW M6-1 X 16
74	PSB1099074	RUBBER BUSHING
76	PSB1099076	CLAMP HOOK
77	PSB1099077	TAP SCREW M4 X 16
78	PSB1099078	CANISTER FILTER ASSEMBLY
78-1	PSB1099078-1	CANISTER FILTER
78-2	PSB1099078-2	MAIN SPINDLE

REF	PART #	DESCRIPTION
78-3	PSB1099078-3	UPPER BEARING RETAINER
78-4	PSB1099078-4	SLEEVE BEARING 1206 SELF-LUBRICATING
78-5	PSB1099078-5	SPINDLE BRACKET
78-6	PSB1099078-6	RETAINER
78-7	PSB1099078-7	FILTER PADDLE
78-8	PSB1099078-8	PHLP HD SCR M5-.8 X 8
78-9	PSB1099078-9	PHLP HD SCR M5-.8 X 15
78-10	PSB1099078-10	PHLP HD SCR M6-1 X 10
78-11	PSB1099078-11	FLAT WASHER 1/4
78-12	PSB1099078-12	PHLP HD SCR M6-1 X 16
78-13	PSB1099078-13	LATCH HOOK
79	PSB1099079	MOTOR CORD 18G 2W 59'
80	PSB1099080	POWER CORD 14G 3W 66" L6-16P
81	PSB1099081	MOTOR CORD 12G 3W 59'
82	PSB1099082	SOUND INSULATION COTTON 270 X 580
83	PSB1099083	SOUND INSULATION COTTON 520 X 580
84	PSB1099084	BUTTON HD CAP SCR 5/16-18 X 3/4
85	PSB1099085	BUTTON HD CAP SCR 5/16-18 X 3/4
86	PSB1099086	FLAT WASHER 5/16
87	PSB1099087	EXT TOOTH WASHER 5/16

Machine Labels

SB1099 ¹⁰¹



REF	PART #	DESCRIPTION
101	PSB1099101	MODEL NUMBER LABEL
102	PSB1099102	ELECTRICITY LABEL
103	PSB1099103	SOUTH BEND NAMEPLATE 125MM
104	PSB1099104	REMOTE LABEL

REF	PART #	DESCRIPTION
105	PSB1099105	MACHINE ID LABEL
106	PSB1099106	DUST COLLECTOR COMBO LABEL
107	PSB1099107	VACUUM PRESSURE GAUGE LABEL

⚠ WARNING

The safety labels provided with your machine are used to make the operator aware of the machine hazards and ways to prevent injury. The owner of this machine **MUST** maintain the original location and readability of these safety labels. If any label is removed or becomes unreadable, **REPLACE** that label before using the machine again. Contact South Bend Tools at (360) 734-1540 or www.southbendtools.com to order new labels.

Warranty

This quality product is warranted by South Bend Tools to the original buyer for **2 years** from the date of purchase. This warranty does not apply to consumable parts, or defects due to any kind of misuse, abuse, negligence, accidents, repairs, alterations or lack of maintenance. We do not reimburse for third party repairs. In no event shall we be liable for death, injuries to persons or property, or for incidental, contingent, special or consequential damages arising from the use of our products.

We do not warrant or represent that this machine complies with the provisions of any law, act, code, regulation, or standard of any domestic or foreign government, industry, or authority. In no event shall South Bend's liability under this warranty exceed the original purchase price paid for this machine. Any legal actions brought against South Bend Tools shall be tried in the State of Washington, County of Whatcom.

This is the sole written warranty for this machine. Any and all warranties that may be implied by law, including any merchantability or fitness, for any purpose, are hereby limited to the duration of this warranty.

Thank you for your business and continued support.

To take advantage of this warranty, register at <https://www.grizzly.com/forms/warranty>, or you can scan the QR code below to be automatically directed to our warranty registration page. Enter all applicable information for the product.





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