

## **MODELS W1666, W1685 DUST COLLECTORS**



# **INSTRUCTION MANUAL**

**Phone: 1-360-734-3482 • On-Line Technical Support: [tech-support@shopfox.biz](mailto:tech-support@shopfox.biz)**

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**WARNING: NO PORTION OF THIS MANUAL MAY BE REPRODUCED IN ANY SHAPE OR FORM WITHOUT**

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# WARNING

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

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

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

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USE THE QUICK GUIDE PAGE LABELS TO SEARCH OUT INFORMATION FAST!





# INTRODUCTION

## Woodstock Technical Support

We stand behind our machines! In the event that a defect is found, parts are missing, or questions arise about your machine, please contact Woodstock International Technical Support at (360)-734-3482 or send e-mail to: [tech-support@shopfox.biz](mailto:tech-support@shopfox.biz). Our knowledgeable staff will help you troubleshoot problems, send out parts, or arrange warranty returns.

If you need the latest edition of this manual, you can download it from <http://www.shopfox.biz>. If you still have questions after reading the latest manual, or if you have comments please contact us at:

Woodstock International, Inc.  
Attn: Technical Support Department  
P.O. Box 2309  
Bellingham, WA 98227

## About Your New Dust Collector

Your new **SHOP FOX®** Dust collector has been specially designed to provide many years of trouble-free service. Close attention to detail, ruggedly built parts and a rigid quality control program assure safe and reliable operation. Depending on the design of the dust collection system, the W1666 will draw up to 1550 CFM, and the W1685 will draw up to 1280 CFM.

Woodstock International, Inc. is committed to customer satisfaction in providing this manual. It is our intent to make sure all the information necessary for safety, ease of assembly, practical use and durability of this product be included.

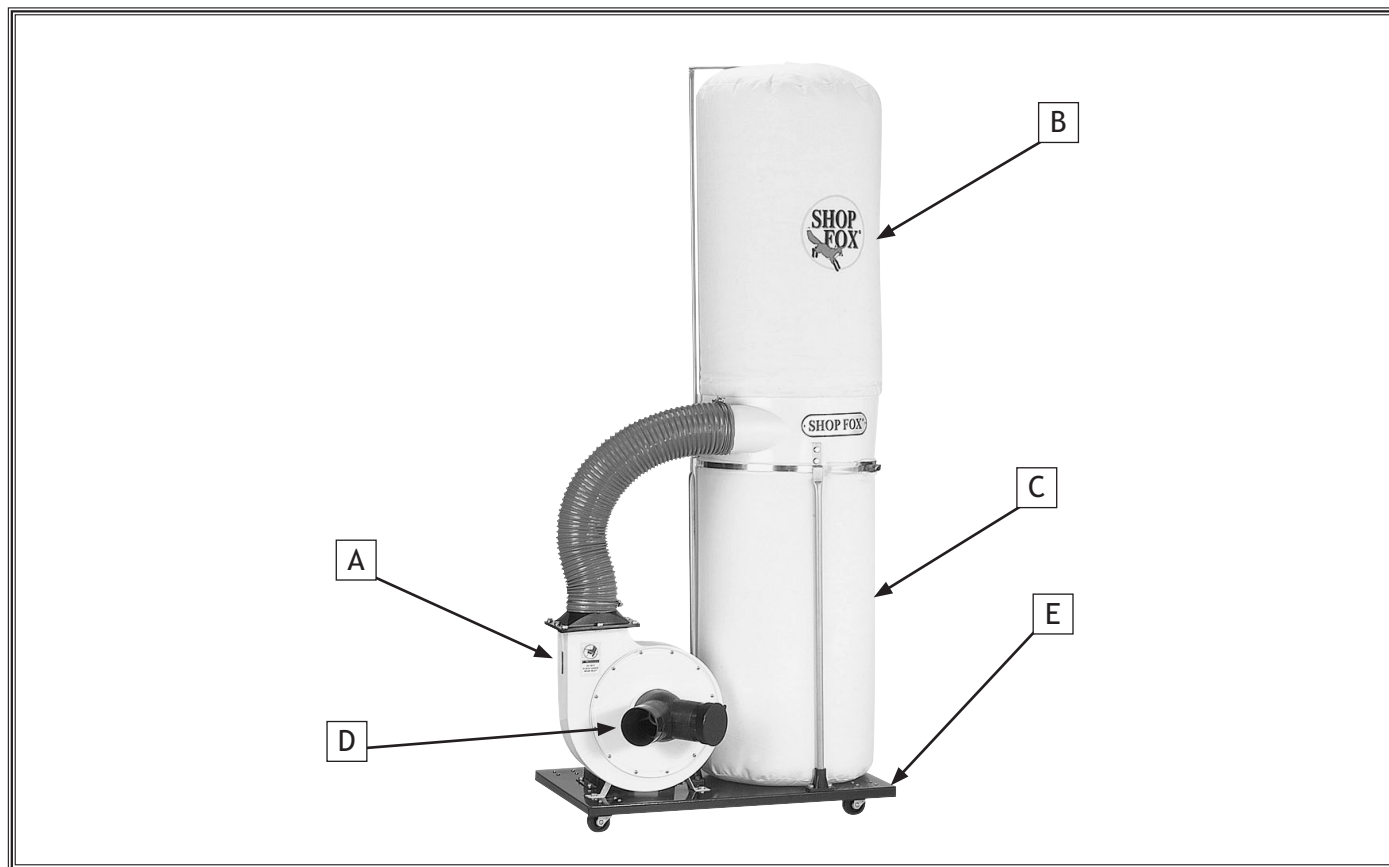
## W1666 Specifications

Motor .....	2 HP, 12A, 220V, 3450 RPM, Single-Phase
Impeller .....	12" Radial Steel Fin
Static Pressure .....	12.8" (of water)
Air Suction .....	1550 CFM
Lower Bag Capacity .....	5.4 (cubic feet)
Upper Bag (Filter Bag) .....	30 Micron Woven Fabric
Lower Bag (Storage Bag) .....	30 Micron Woven Fabric
Bag Dimensions .....	19" Diameter x 33" Tall
Dust Port Inlet Y Size .....	4", 4", and 6"
Footprint and Overall Height .....	33 <sup>1</sup> / <sub>2</sub> " Wide x 21 <sup>1</sup> / <sub>2</sub> " Deep and 78" High
Approximate Machine Weight .....	107 lbs.

## W1685 Specifications

Motor .....	1 <sup>1</sup> / <sub>2</sub> " HP, 16A, 110V, 3450 RPM, Single-Phase
Impeller .....	12" Radial Steel Fin
Static Pressure .....	10.1" (of water)
Air Suction .....	1280 CFM
Lower Bag Capacity .....	5.4 (cubic feet)
Upper Bag (Filter Bag) .....	30 Micron Woven Fabric
Lower Bag (Storage Bag) .....	30 Micron Woven Fabric
Bag Dimensions .....	19" Diameter x 33" Tall
Dust Port Inlet Y Size .....	4", 4", and 6"
Footprint and Overall Height .....	33 <sup>1</sup> / <sub>2</sub> " Wide x 21 <sup>1</sup> / <sub>2</sub> " Deep and 78" High
Approximate Machine Weight .....	107 lbs.

## Controls and Features



Dust collector controls and features.

- A. **ON/OFF Lockout Switch w/Key**—Allows you to lockout the dust collector to prevent unsupervised use.
- B. **Dust Filtration Bag**—Filters wood dust down to 30 microns from the collected air, and allows the dust to fall and collect in the lower dust storage bag.
- C. **Dust Storage Bag**—Stores 5.4 cubic feet of collected dust in a dust bag with a quick disconnect bag clamp.
- D. **Inlet Y**—Allows for single port suction or dual port suction.
- E. **Roller Base**—Supports the lower bag and the dust collector, and allows you to quickly and easily roll and locate your dust collector where you want it.

# SAFETY

**READ MANUAL BEFORE OPERATING MACHINE.  
FAILURE TO FOLLOW INSTRUCTIONS BELOW WILL  
RESULT IN PERSONAL INJURY.**



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



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



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

## **NOTICE**

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

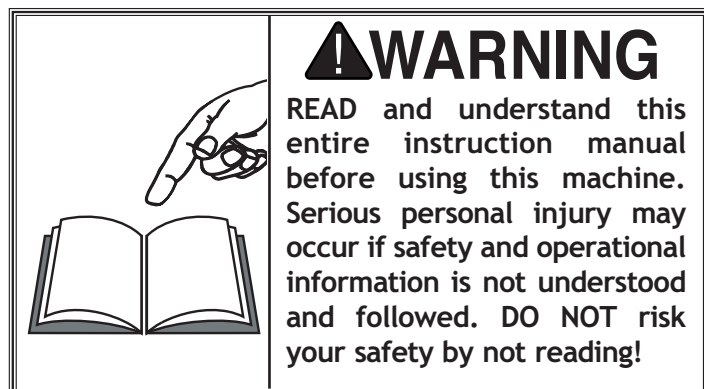
## Standard Safety Instructions

1. **Thoroughly read the Instruction Manual before operating your machine.** Learn the applications, limitations and potential hazards of this machine. Keep the manual in a safe and convenient place for future reference.
2. **Keep work area clean and well lighted.** Clutter and inadequate lighting invite potential hazards.
3. **Ground all tools.** If a machine is equipped with a three-prong plug, it must be plugged into a three-hole grounded electrical receptacle or grounded extension cord. If using an adapter to aid in accommodating a two-hole receptacle, ground using a screw to a known ground.
4. **Wear eye protection at all times.** Use safety glasses with side shields or safety goggles that meet the appropriate standards of the American National Standards Institute (ANSI).
5. **Avoid dangerous environments.** DO NOT operate this machine in wet or open flame environments. Airborne dust particles could cause an explosion and severe fire hazard.
6. **Ensure all guards are securely in place** and in working condition.
7. **Make sure switch is in the OFF position** before connecting power to machine.
8. **Keep work area clean**, free of clutter, grease, etc.
9. **Keep children and visitors away.** Visitors must be kept at a safe distance while operating unit.
10. **Childproof your workshop** with padlocks, master switches or by removing starter keys.
11. **Stop and disconnect the machine when cleaning, adjusting or servicing.**

12. **DO NOT force tool.** The machine will do a safer and better job at the rate for which it was designed.
13. **Allergic reaction to wood dust.** Be aware that certain woods may cause an allergic reaction in people and animals, especially when exposed to fine dust. Make sure you know what type of wood dust you will be exposed to and the possibility of an allergic reaction. Always wear an approved respirator when operating this machine.
14. **Use the correct tool.** DO NOT force machine or attachment to do a job for which it was not designed.
15. **Wear proper apparel.** DO NOT wear loose clothing, neck ties, gloves, jewelry, and secure long hair away from moving parts.
16. **Remove rags and tools.** Before turning the machine on, make it a habit to remove all tools and make sure the area is clean.
17. **Avoid using an extension cord.** If you use an extension cord with an undersized gauge or one that is too long, excessive heat will be generated within the circuit, increasing the chance of a fire, or damage to the circuit. Always examine the extension cord to ensure it is in good condition. Immediately replace a damaged extension cord. And always use an extension cord that uses a ground pin and connected ground wire.
18. **Keep proper footing and balance** at all times.
19. **DO NOT leave the machine running and unattended.** Wait until it comes to a complete stop before leaving the area.
20. **Perform machine maintenance and care.** Follow lubrication and accessory attachment instructions in the manual.
21. **Keep machine away from open flame.** Operating machines near pilot lights or open flames creates a high risk if dust is dispersed in the area. Dust particles and an ignition source may cause an explosion. DO NOT operate the machine in high-risk areas, including but not limited to, those mentioned above.
22. **If at any time you are experiencing** difficulties performing the intended operation, stop using the machine! Then contact Woodstock Technical Support or ask a qualified expert how the operation should be performed.
22. **Habits—good and bad—are hard to break.** Develop good habits in your shop, and safety will become second-nature to you.
24. **Be aware that certain woods may cause an allergic reaction in people and animals,** especially when exposed to fine dust. Make sure you know what type of wood dust you will be exposed to and the possibility of an allergic reaction.



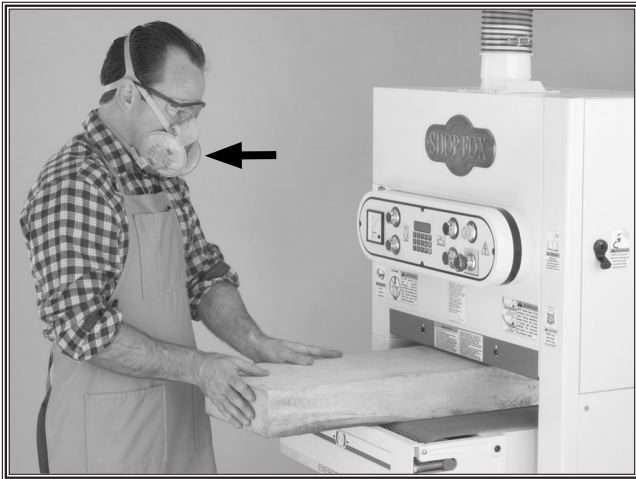
# Safety Instructions for Dust Collectors



1. **AVOIDING A PROJECTILE HAZARD:** Never operate the dust collector without the dust bags and ducting installed.
2. **SAFE SERVICING:** Always turn off and unplug the dust collector, and allow the impeller to come to a complete stop before emptying the dust bags, moving the dust collector, or removing ducting.
3. **KEEPING LIMBS CLEAR:** Always keep hands and fingers and tools away from the dust collector suction port.
4. **PROTECTING BYSTANDERS:** Never leave the dust collector running and unattended, or an uncontrolled machine could suffer damage or injure bystanders.
5. **USING DUST COLLECTOR SAFELY:** Never use the dust collector to collect any other dust than wood dust, and never allow steel, stones, or hard material to be drawn into the dust collector and come in contact with the impeller, or the impeller can explode.
6. **KEEPING MACHINE SAFE:** Do Not modify this dust collector for any purpose other than what it is designed for or you may damage the machine, void warranty, and cause an unsafe condition.
7. **TROUBLESHOOTING:** If you are experiencing difficulties with dust collector setup or use, contact Woodstock Technical Support or ask a qualified expert for solutions.
8. **REDUCING FIRE HAZARDS:** Make sure the dust collector ducting is grounded against static electricity buildup, and never use the dust collector in a wet or flammable environment.
9. **AVOIDING LUNG CONTAMINATION:** Always wear an approved respirator during dust collector use, the bag is not a safe substitute for a respirator.
10. **SAFE WOODSHOP OPERATIONS:** Habits - good and bad - are hard to break. Develop good habits in your shop and safety will become second-nature to you.

# Avoiding Potential Injuries

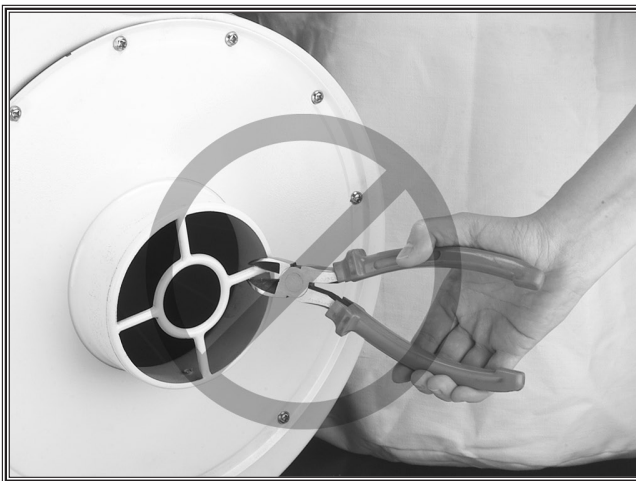
**SAFETY**



**Figure 1.** Wear a respirator when dust collector is in use and when using your machines.



**Figure 4.** Never collect anything except wood dust.



**Figure 2.** DO NOT remove impeller guard.



**Figure 5.** Keep hands and loose objects away.



**Figure 3.** Unplug machine when emptying bags.



**Figure 6.** Wear a respirator when emptying bags.

# ELECTRICAL

## 110V Operation (W1685)

The Model W1685 1½ HP dust collector operates at 110 volts only, and draws up to 16 amps.

Make sure that the power supply circuit this machine is connected to meets local and federal electrical code requirements. Seek assistance from a qualified electrician if you are unsure about electrical codes and wiring!

## 220V Operation (W1666)

The Model W1666 2 HP dust collector operates at 220V only, and draws up to 12 amps. Connect a 220V 6-15 plug and outlet for your power connection (see Figure 7).

Make sure that the power supply circuit this machine is connected to meets local and federal electrical code requirements. Seek assistance from a qualified electrician if you are unsure about electrical codes and wiring!

## Extension Cords

When it is necessary to use an extension cord, use the following guidelines:

- Use cords rated for standard service.
- Use cords under 50 feet of length.
- Use cords with 14 ga. wire or bigger.
- Ensure cord has a ground wire and pin.

## Grounding

This machine must be grounded! The plug attached to the electrical cord supplied with this machine comes with a grounding pin. Do not remove it. If your outlet does not accommodate a ground pin, have it replaced by a qualified electrician or have an appropriate adapter installed.

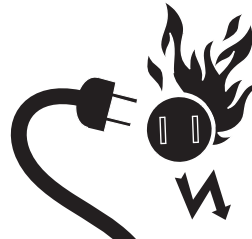
**Note:** When using an adapter, the adapter must be grounded.

### ! WARNING

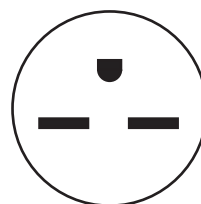


**DO NOT** attempt to work on your electrical system if you are unsure about electrical codes and wiring! Seek assistance from a qualified electrician. Ignoring this warning can cause electrocution!

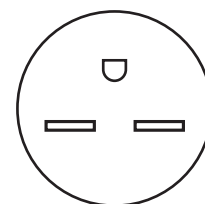
### ! WARNING



This equipment must be grounded. Under no circumstances should the grounding pin from any three-pronged plug be removed or electrocution may occur.



6-15P



6-15R

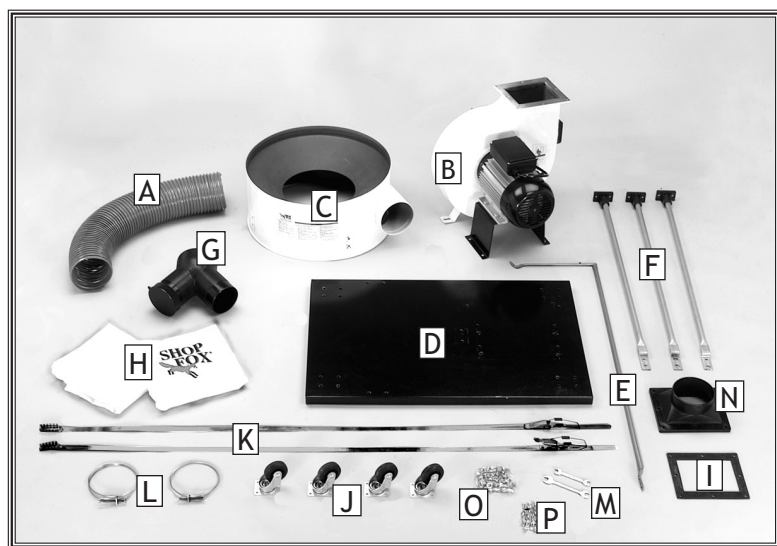
Figure 7. A 220V 6-15 plug and outlet.

# SETUP

## Inventory

The following is a description of the main components carefully packaged with your **SHOP FOX®** Model W1666 and W1685 Dust Collectors. See **Figure 8** and refer to the list below and inventory your shipment.

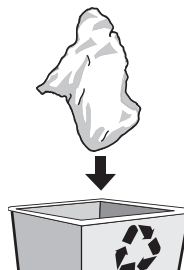
If any part is missing, examine the packaging carefully to be sure parts are not among the packing materials. If the part is not found, find the part number in the back of this manual and contact Woodstock International, Inc. at (360)-734-3482 or at [tech-support@shopfox.biz](mailto:tech-support@shopfox.biz).



**Figure 8.** Dust Collector Inventory.

- |                         |                                |
|-------------------------|--------------------------------|
| A. Transfer Hose        | O. Large Bolt Bag:             |
| B. Impeller/Motor Assy  | • Hex Bolt M8-1.25 X 16mm (14) |
| C. Separator            | • Flat Washer 8mm (14)         |
| D. Base Plate           | • Flat Washer 6mm (16)         |
| E. Bag Hanger           | • Hex Nut M6-1.0 (16)          |
| F. Separator Supports   | • Phlp Hd Scr M6-1 X 12 (16)   |
| G. 6" to 4" Inlet Y     | • Hex Wrench 4mm (1)           |
| H. Dust Collection Bags | • Hex Wrench 5mm (1)           |
| I. Gasket               | P. Small Bolt Bag:             |
| J. Casters              | • Hex Bolt M8-1.25 X 16 (12)   |
| K. Bag Clamps           | • Hex Bolt M8-1.25 X 25 (4)    |
| L. Hose Clamps          | • Flat Washer 8mm (20)         |
| M. Wrenches             | • Hex Nut M8-1.25 (4)          |
| N. Outlet               |                                |

### ! WARNING



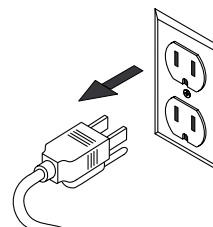
Immediately discard all plastic bags and packing materials to eliminate a choking and suffocation hazard for children and animals.

### ! WARNING



**READ** and understand this entire instruction manual before using this machine. Serious personal injury may occur if safety and operational information is not understood and followed. **DO NOT** risk your safety by not reading!

### ! WARNING



**UNPLUG** the power cord before you do any assembly or adjustment tasks! Otherwise electrocution may occur!

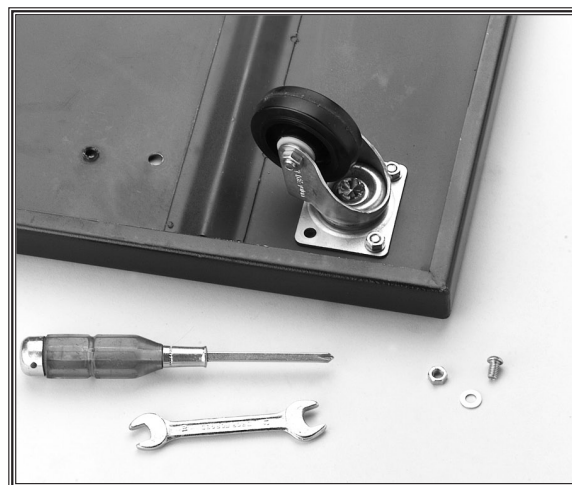


## Casters and Motor

For quiet and vibration-free operation, assemble your dust collector as outlined below. **DO NOT** modify this dust collector for any other purpose than what it is designed for.

To install the casters and motor/impeller assembly, do these steps:

1. **MAKE SURE THE DUST COLLECTOR MOTOR IS UNPLUGGED!**
2. Install the four swivel casters to the base plate with the sixteen M6-1 X 12 Phillip head screws, washers, and nuts (see **Figure 9**).



**Figure 9.** Caster installation.

### **WARNING**

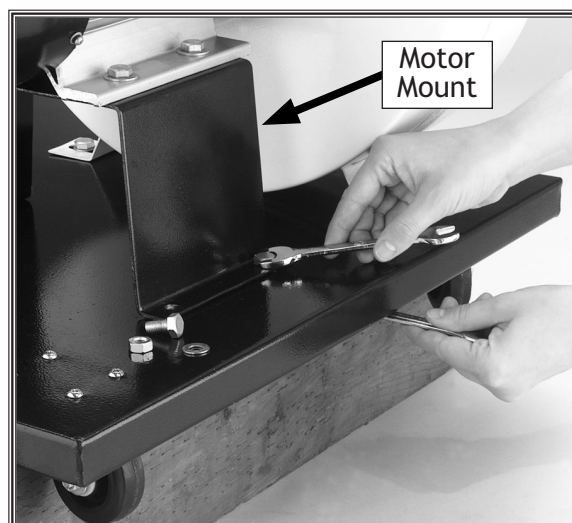


**GET assistance when lifting machine parts. The SHOP FOX® Model W1666 and W1685 dust collector motor/impeller assembly is heavy, and ignoring this warning can cause you a severe back injury.**

3. Bolt the motor to the motor mount with the four M8-1.25 X 25 hex bolts, washers, and nuts; and with lifting assistance, position the motor/impeller assembly on the base (see **Figure 10**).
4. Secure the motor/impeller assembly to the base using six M8-1.25 X 16 hex bolts, washers, and nuts (see **Figure 11**).



**Figure 10.** Motor/impeller assembly positioning.



**Figure 11.** Motor/impeller assembly installation.

# Outlet, Gasket, and Separator Supports

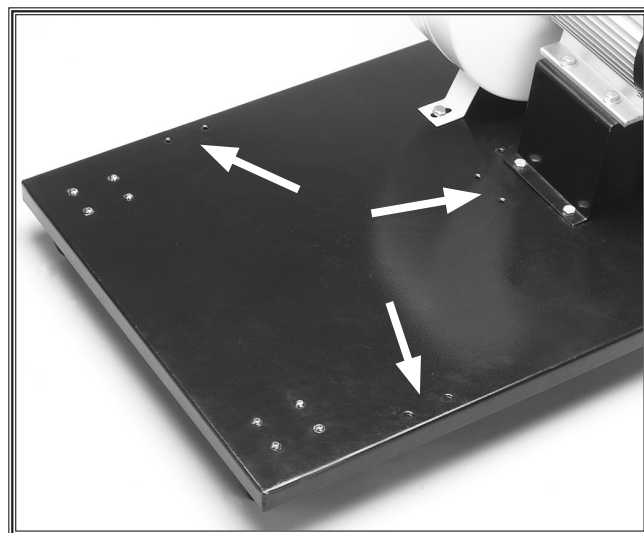
The outlet directs the dust to the collector hat is supported by three separator support rods. Make sure that you do not overtighten the bolts or the threaded holes in the base can strip.

To install the outlet and the separator supports, do these steps:

1. **MAKE SURE THE DUST COLLECTOR MOTOR IS UNPLUGGED!**
2. Place gasket on top of impeller housing body and place the outlet on the gasket (see **Figure 12**).
3. Secure the outlet with eight M8-1.25 X 16 hex bolts and flat washers. **DO NOT** overtighten the bolts or the gasket will squeeze out and the outlet will crack.
4. Place a collector support over one of the sets of holes indicated in **Figure 13**, and make sure the tail at the top is oriented towards the inside as shown in **Figure 14**.
5. Secure the three collector supports in place with six M8-1.25 X 16 hex bolts and flat washers.



**Figure 12.** Placing the outlet on the gasket.



**Figure 13.** Separator support bolt locations.



**Figure 14.** Orientation of separator support tails.

# Separator and Transfer Hose

Never bypass the dust collector or and duct the transfer hose outside without using dust collection bags, or move the separator to a remote location and use a longer transfer hose. Any modification can damage the dust collector motor and create an unsafe condition.

To install the separator and transfer hose, do these steps:

1. The separator has three tabs with threaded holes along the bottom edge for mounting. Orient the separator so the holes align with supports and the inlet is pointed toward the separator body. **See Figure 15.**
2. Secure the front and back supports using the hex bolts and washers provided.
3. Secure the upper bag support rod and the last separator support to the separator as in **Figure 16.**
4. Slide a wire hose clamp onto the end of the transfer hose.
5. Slide the transfer hose end over the inlet for the collector making sure the end passes the ridge on the inlet by  $1\frac{1}{2}$ ".
6. Position hose clamp over the hose and the inlet making sure the clamp is  $\frac{3}{4}$ " from the end of the hose and tighten the screw on the clamp (see **Figure 17**).
7. Slide the second hose clamp onto the free end of the hose.
8. Slide the end of the transfer hose onto the outlet of the impeller housing. The hose should go on as far as possible.
9. Slide the hose clamp within  $\frac{3}{4}$ " of the end of hose, and tighten the screw on the clamp.

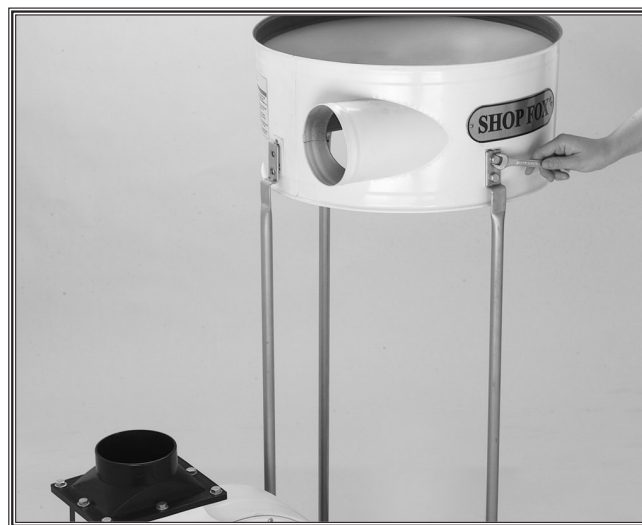


Figure 15. Separator in correct position.



Figure 16. Installing upper bag support.

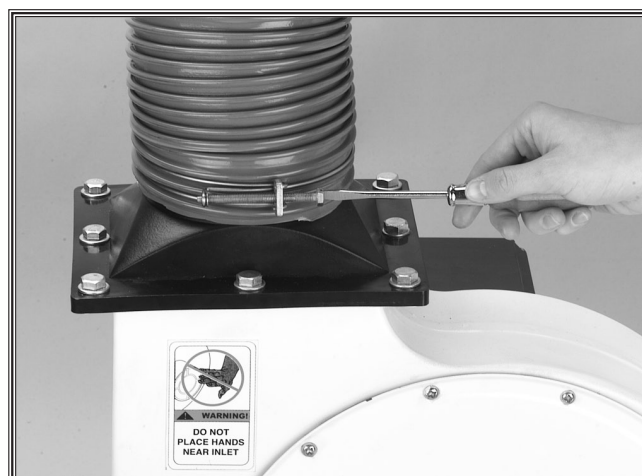


Figure 17. Securing transfer hose with clamp.

# Dust Bags and Inlet Y

Two dust collection bags are included with your new **SHOP FOX®** Dust Collector. There is a top and a bottom bag. The top is distinguished by a **SHOP FOX®** logo. Both bags are secured with band clamps. For increased filtration, optional 0.3 micron dust collector bags are available through your dealer.

To install the dust bags and the inlet Y, do these steps:

1. Find the opening in the rim of both bags and insert the band clamps into the rim of the bags until they come out of the other side (see **Figure 18**).

2. Hang the upper bag as shown in **Figure 19**.

**NOTE:** The upper bag has the **SHOP FOX®** logo on it and the lower bag is plain.

3. Position the rim of the upper bag onto the collector and latch the band clamp closed.
4. Position the rim of the lower bag onto the collector and latch the band clamp closed.
5. Position the inlet Y on the impeller housing inlet, and fasten it in place with the Phillips head screw (see **Figure 20**).



**Figure 18.** Latch clamp with toggle.



**Figure 19.** Fabric loop in upper support hook.



**Figure 20.** Securing inlet with screw.



## System Grounding

Under some circumstances, static electricity can be generated in dust collection systems and can collect on the plastic ducting surfaces. If this static electricity is discharged through a spark, there is a potential for the dust and oxygen in the ducting to ignite.

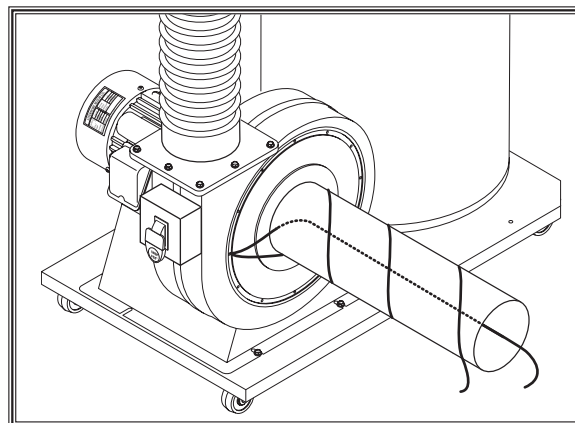
Therefore, your dust collection system must be grounded one of three ways.

- **First**, the ground is achieved by means of using metal ducting throughout the system. All static electricity buildup is carried through the continuous metal ducting and dissipated through the dust collector impeller housing.
- **Second**, for plastic pipe or hose ducting systems, install an uncoated bare copper wire inside the entire length of all ducting. An additional wire must be spiral-wrapped on the outside of all the ducting (see **Figure 21**). Both wires must be connected to the dust collector impeller housing (see **Figure 22**) so all static electricity inside and out of the ducting is carried through the wires and dissipated through the dust collector ground.

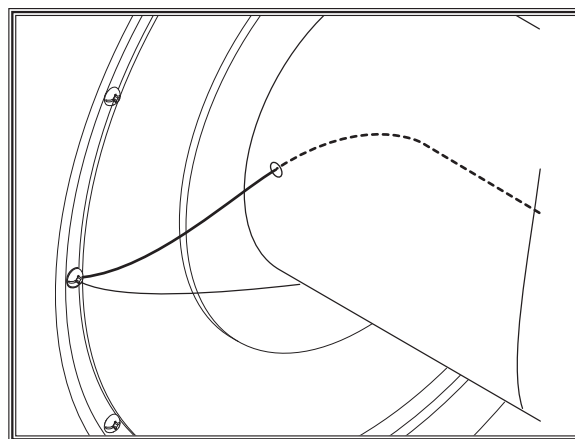
If the system has branches, place wires in the same fashion and connect to the wires on the main pipe/hose with wire nuts. If blast gates are to be used, drill exit and entrance holes on either side of the blast gate to allow wire to be fed out of and into the system (see **Figure 23**).

- **Third**, if you use a combination of metal and plastic ducting, make sure that you use a copper grounding wire to ground all plastic connections with the metal ducting so no part of the ducting is insulated by the plastic.

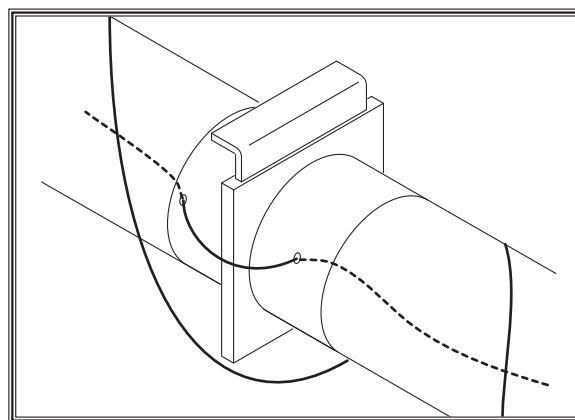
**Note:** For more in-depth information on Dust Collection System design, refer to *The Dust Collection Handbook* (ISBN 0-9635821-2-7), which is available for purchase through any Woodstock/**SHOP FOX**® Dealer.



**Figure 21.** Typical dust collector with ground wire installed inside and around pipe.



**Figure 22.** Typical dust collector impeller housing with ground wires secured to the housing.



**Figure 23.** Ground wires bypassing a blast gate.

## Test Run

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

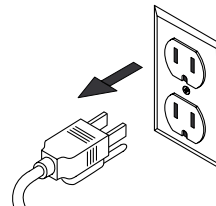
To test run the dust collector, do these steps:

1. Make sure the paddle switch is pushed in the down or **OFF** position.
2. Make sure all the dust collection ducting and fasteners are tight, and that no parts or tools will get sucked into the dust collection intake.
3. Plug in the power cord.
4. Flip the **START** paddle upward and keep your finger poised over the paddle for a quick power kill, just in case there is a problem.

The dust collector should run smoothly, with little or no vibration or rubbing noises.

- If you hear strange or unusual noises, or a loud vibration exists, turn off the dust collector and wait for all moving parts to stop. Unplug the machine, refer to **Troubleshooting** on **Page 25**, and investigate and correct the problem before further operation.
- If the source of the problem is not an easy fix, contact our Technical Support Department for help at (360)-734-3482 or via [tech-support@shopfox.biz](mailto:tech-support@shopfox.biz).

### **WARNING**



**DO NOT** investigate problems or adjust the dust collector while it is running. Wait until the machine is turned off, unplugged, and all working parts have come to a complete stop before you proceed!



**Figure 24.** Hand position for emergency stop.

# OPERATIONS

## General

Many of these operations can be dangerous or deadly if performed incorrectly. The instructions in this section are written with the understanding that the operator has the necessary knowledge and skills to operate this machine. **If at any time you are experiencing difficulties performing any operation, stop using the machine!** If you are an inexperienced operator, we strongly recommend that you read books, trade articles, or seek training from an experienced *dust collector* operator before performing any unfamiliar operations. **Above all, your safety should come first!**

## Operation

This dust collector is designed for collecting wood dust from woodworking machines. The Model W1666 will draw up to 1550 CFM, and the Model W1685 will draw up to 1280 CFM. The dust collectors are not designed to be used as central whole-house vacuums. Central vacuum systems and woodshop dust collection systems have completely different vacuum pumps and are not interchangeable. For safe operation and the best dust collection results, please follow the rules below:

- ALWAYS wear a NIOSH approved respirator to help protect yourself from the respiratory dangers caused by the inhalation of fine dust. Dust collectors do not eliminate the fine, and most harmful, dust from the workshop.
- DO NOT collect metal pieces, glass, or liquid with this dust collector. It is intended for collecting wood dust only (**Figure 25**). Metal pieces may spark when they contact the impeller and cause a fire.
- USE a 4" dust collection hose that is as short as possible. Remember, the longer the hose, and the more bends in the ducting, the less CFM your dust collector will draw.
- LIMIT the use of 90° elbows or 45° elbows. These fittings will decrease the overall efficiency of the dust collector.
- GROUND your dust collection hose to protect against unpleasant static shock, and in the worst case, an accidental fire.

### WARNING



Dust collectors do not eliminate the fine, and most harmful, dust from the workshop. Always wear a NIOSH approved respirator to help protect yourself from the respiratory dangers caused by the inhalation of fine dust.



**Figure 25.** DO NOT collect metal pieces, glass, or liquid with this dust collector.

# MAINTENANCE

## General

Make a habit of inspecting your dust collector each time you use it to ensure optimum performance.

Check for the following conditions and repair or replace when necessary:

- Worn or damaged switch, switch-safety key, electrical cords and plugs.
- Loose mounting bolts, loud rubbing, vibration or tapping noises coming from motor or impeller housing.
- Clogged, frayed, or leaking dust collection bags.
- Any other condition that can cause an unsafe condition.

## Lubrication

All bearings are sealed and permanently lubricated, no lubrication is required.

## Emptying Collected Dust

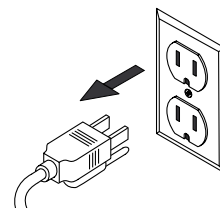
The lower bag on the dust collector should be emptied when it becomes  $\frac{2}{3}$  to  $\frac{3}{4}$  full.

1. **ALWAYS WEAR A RESPIRATOR WHEN EMPTYING DUST COLLECTION BAGS** (see Figure 26).
2. Shake the upper bag and let the dust inside settle for a few minutes.
3. Loosen the latch clamp holding the bag.
4. Take the bag off of the collector body and close up the opening.
5. Place a garbage bag over the opening of the collection bag. Invert both bags to empty.
6. Clean or reinstall the bag on the dust collector.

## Collector Bag Cleaning

The lower dust storage bag is intended to be cleaned by simply emptying it. Once a year under heavy use, hand wash in cold water with a mild soap, and hang dry only. **DO NOT** wash bags in a laundry machine or tumble dry.

### ! WARNING



**MAKE SURE** that your machine is unplugged during all maintenance procedures! If this warning is ignored, serious personal injury may occur.

### ! WARNING



Emptying the collector bag exposes you to harmful dust. Always wear a respirator and safety goggles when emptying the collector bag!



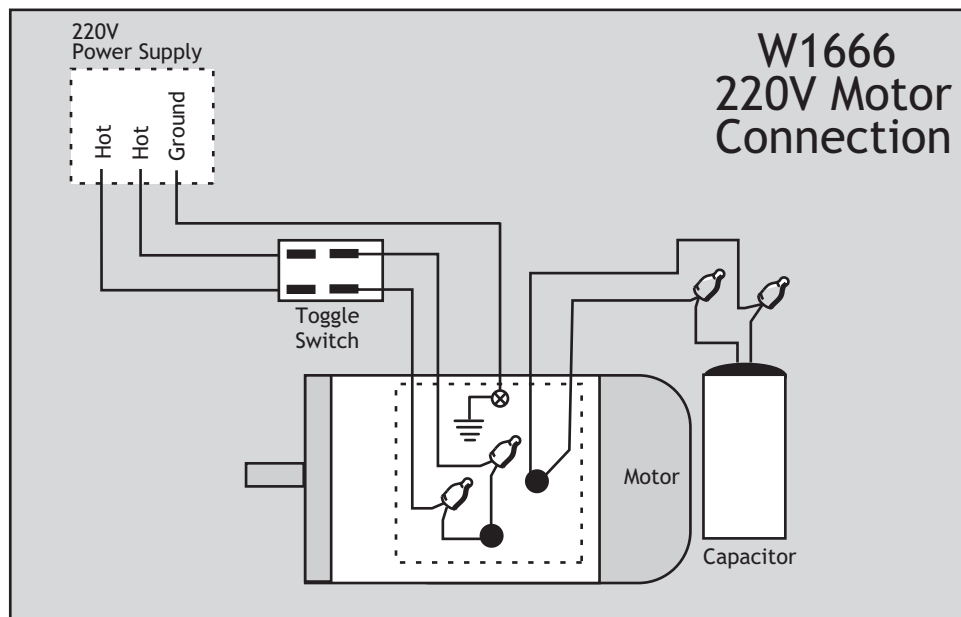
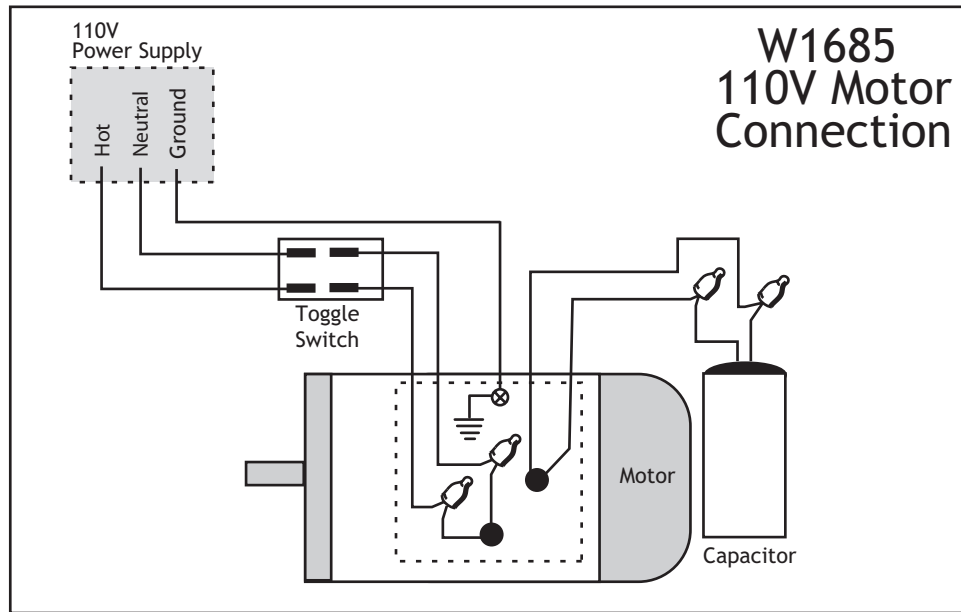
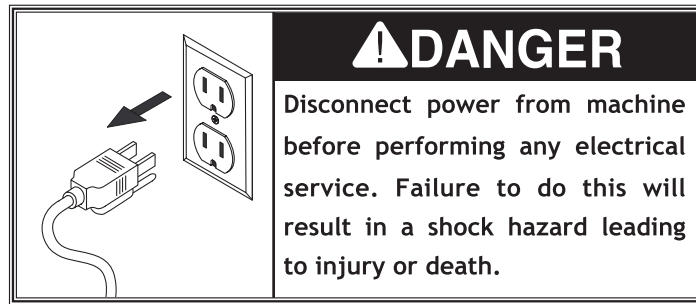
**Figure 26.** Wearing a respirator and safety goggles for personal dust protection.

# Troubleshooting

This section covers the most common dust collector problems. DO NOT make any adjustments until the dust collector is unplugged and moving parts have come to a complete stop.

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
Motor will not start, or it growls on start up.	<ol style="list-style-type: none"> <li>1. Power supply fuse or circuit breaker has tripped.</li> <li>2. Toggle switch is broken inside.</li> <li>3. Start capacitor is at fault.</li> <li>4. Motor fan cover is dented, stopping the fan from being able to spin.</li> <li>5. Motor is at fault.</li> </ol>	<ol style="list-style-type: none"> <li>1. Disconnect power, and inspect circuit for electrical shorts and repair. Replace circuit breaker if it is old or has tripped many times.</li> <li>2. Disconnect power, and use an ohmmeter to check switch terminals for continuity, and replace switch if required.</li> <li>3. Replace start capacitor.</li> <li>4. Replace motor fan cover (and fan, if damaged).</li> <li>5. Replace motor.</li> </ol>
Motor runs slower than normal.	<ol style="list-style-type: none"> <li>1. Poor electrical connection.</li> <li>2. Low power source voltage.</li> <li>3. Motor is at fault.</li> </ol>	<ol style="list-style-type: none"> <li>1. Inspect the power supply for loose, corroded, or overheated electrical connections and repair.</li> <li>2. Have the power source voltage checked; reduce the length of extension cord.</li> <li>3. Replace the motor.</li> </ol>
Loud, repetitious noise, or excessive vibration coming from dust collector.	<ol style="list-style-type: none"> <li>1. Dust collector is not on a flat surface and wobbles.</li> <li>2. Impeller fan is damaged and unbalanced.</li> <li>3. The motor mounting is loose.</li> <li>4. Impeller is loose on the motor shaft.</li> <li>5. Motor fan cover is dented, causing the motor fan to hit the cover while spinning.</li> </ol>	<ol style="list-style-type: none"> <li>1. Stabilize the dust collector.</li> <li>2. Unplug dust collector, and inspect the impeller for dents, bends, loose fins. Replace impeller if any damage is found.</li> <li>3. Make sure all fasteners on the dust collector are tight.</li> <li>4. Replace the motor and impeller as a set if the motor shaft and the impeller hub is damaged.</li> <li>5. Replace motor fan cover.</li> </ol>
Dust collector does not adequately collect dust or chips; poor performance.	<ol style="list-style-type: none"> <li>1. Dust collection bags are full.</li> <li>2. There is a restriction at the inlet grate.</li> <li>3. The dust collector is too far away from the point of suction, or there are too many sharp bends in the ducting.</li> <li>4. The lumber is wet and the dust is not flowing through the ducting smoothly.</li> <li>5. There is a leak in the ducting, or a series of small leaks, or too many open ports.</li> <li>6. There is a restriction in the ducting, or the ducting and ports are incorrectly sized.</li> <li>7. The dust collection ducting design is inadequate, or machine is undersized for the task.</li> <li>8. The dust collector is too small for the dust collection system.</li> </ol>	<ol style="list-style-type: none"> <li>1. Empty bags.</li> <li>2. Remove dust line from dust collector inlet and clean debris from the inlet grate (and wire-connector, if installed).</li> <li>3. Relocate the dust collector closer to the point of suction, and rework ducting without sharp bends. Refer to the <i>Dust Collection Basics</i> handbook (ISBN 0-9635821-2-7) to help configure your dust system.</li> <li>4. Process lumber with less than 20% moisture content.</li> <li>5. Rework the ducting as to eliminate all leaks, and refer to the <i>Dust Collection Basics</i> handbook (ISBN 0-9635821-2-7) for more solutions.</li> <li>6. Rework the ducting as to eliminate all restrictions, and refer to the <i>Dust Collection Basics</i> handbook (ISBN 0-9635821-2-7) for more solutions.</li> <li>7. Ask your dealer for proper dust collection accessories or the SHOP FOX® Dust Collection Nozzle on Stand.</li> <li>8. Install a larger dust collector to power your dust collection system.</li> </ol>

# Wiring Diagram (W1666 and W1685)





W1666 110/220V 2HP Motor.  
Manf. before Nov. 01, 2002

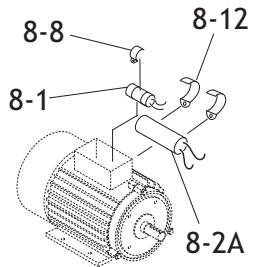


Diagram illustrating the exploded view of the motor assembly components, labeled 56 through 62:

- 56: Motor housing
- 57: Fan
- 58: Fan guard
- 59: Motor terminal block
- 60: Motor label
- 61: Power cord
- 62: Mounting bracket

This exploded view diagram illustrates the assembly of a vacuum cleaner. The components are numbered as follows:

- Motor and Drive Assembly:** Includes the motor (8A), drive pulley (8-6), and various gears and shafts (8-5, 8-10, 8-11, 15, 16, 17).
- Wiring and Controls:** Shows the power cord (7), plug (7-1), and control switch assembly (5, 6, 9, 9-1, 10, 16).
- Roller and Base Assembly:** Features the main roller (1), base plate (3), and various mounting hardware (4, 11, 12, 19, 23, 27, 30, 38).
- Wheels and Casters:** Includes the main wheels (2, 20, 21) and casters (1, 19).
- Flexible Hose and Wand:** Shows the flexible hose (32), wand (14A), and various connectors and seals (31, 34, 36).
- Motor Housing and Fan:** Includes the motor housing (8A), fan (22B), and various mounting hardware (6, 16, 18, 28, 29, 30, 38).
- Accessories and Tools:** Lists various tools and accessories (40, 41, 42, 43, 48).

The diagram also includes a callout for a specific part, W1685, which is a fan blade or impeller.

REF	PART #	DESCRIPTION
1	X1666001	CASTER
2	XPNO3M	HEX NUT M6-1.0
3	X1666003	BASE PLATE
4	XPW01M	FLAT WASHER 6
5	X1666005	MOTOR BASE
6	XPB03M	HEX BOLT M8-1.25 X 16
7	XPWRCRD220L	POWER CORD 220V, LONG
8	XPWRCRD220S	POWER CORD 220V, SHORT
8A	X1666008A	MOTOR 2 HP 220V
8A-1	XPC200A	S. CAPACITOR 200MFD/250V
8-1	XPC600	S. CAPACITOR 600MFD/125V
8-2A	X1666008-2A	R. CAPACITOR 50MFD/350V
8-8	X1666008-8	CAPACITOR STRAP
9	X1666009	SWITCH
10	X1666010	SWITCH KEY
11	XPAW04M	HEX WRENCH 4MM
12	XPAW05M	HEX WRENCH 5MM
13	X1666013	UPPER BAG SUPPORT
14	X1666014A	COLLECTOR SUPPORT
15	XPB07M	HEX BOLT M8-1.25 X 25
16	XPW01M	FLAT WASHER 8MM
17	X1666017	KEY
18	X1666018	GASKET
19	XPNO1M	HEX NUT M6-1.0
21	X1666021	HEX BOLT
22	X1666022	IMPELLER
23	XPS14M	PHLP HD SCR M6-1 X 12
26	X1666026	CAP SCREW M6-1.0 X 20 LH
23	XPS14M	PHLP HD SCR M6-1 X 12
26	X1666026	CAP SCREW M6-1.0 X 20 LH

REF	PART #	DESCRIPTION
24A	X1666024A	INLET
25A	X1666025A	INLET COVER
28	X1666028	SPECIAL WASHER
29	X1666029	GASKET (W1666)
29	X1685029A	GASKET (W1685)
30	X1666030	OUTLET (W1666)
30	X1685030	OUTLET (W1685)
31	X1666031	HOSE CLAMP
32	X1666032	TRANSFER HOSE
33	X1666033	SEPARATOR
34	X1666034	HOSE CLAMP
35	X1666035	FILTER BAG
36	X1666036	COLLECTOR BAG
38	X1666038	IMPELLER HOUSING (W1666)
38	X1685038	IMPELLER HOUSING (W1685)
39	X1666039	HAND WARNING LABEL
40	X1666040	READ MANUAL LABEL
41	X1666041	MACHINE ID/WARNING LABEL
42	XPWR1214	12 X 14 WRENCH
43	XPWR1012	10 X 12 WRENCH
48	XPS09M	PHLP HD SCR M5-0.8 x 10
56	X1685008A	MOTOR 1-1/2 HP 110V
57	X1685008A-2	MOTOR FAN COVER
58	X1685008A-1	MOTOR FAN
59	XPC200	S. CAPACITOR 200MFD/125V
60	X1684060	MACHINE ID/WARNING LABEL
61	XPWRCRD110L	POWER CORD 110V, LONG
62	XPWRCRD110S	POWER CORD 110V, SHORT
63	X1685022	IMPELLER



## Accessories

Below are some of the accessories that work well with this dust collector. If you do not have a dealer in your area, these products are also available through online dealers. Please call or e-mail Woodstock International Inc. Customer Service to get a current listing of dealers at: (800)-840-8420 or at [sales@shopfox.biz](mailto:sales@shopfox.biz).

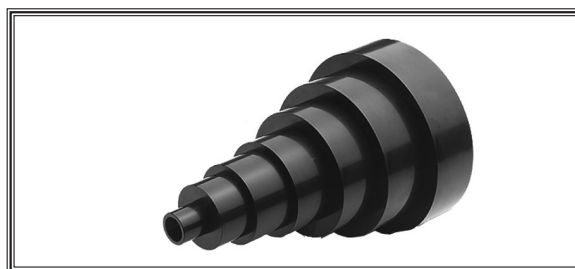
### Quick Disconnect (Model W1038)

This is the perfect accessory for those who will use the dust collector for multiple machines. The quick disconnect is designed to attach to a 4" hose and press-on to any 4" diameter dust port. The quick disconnect works with a friction fit to eliminate constant tightening/loosening hose clamps.



### Universal Adapter (Model W1039)

Providing options for seven different sizes, this universal adapter allows you to connect your dust collector to machines with dust ports smaller than 4". This is a "must-have" for miter saws or when connecting your dust collector to common vacuum hoses.



### Remote Switch (Model D3038 110V or Model D3346 220V)

Turn your dust collector **ON** or **OFF** from up to 75 feet away. The Model D3038 remote switch controls 110V-20A dust collectors up to 1½ HP, and the Model D3346 remote switch controls 220V-20A dust collectors up to 3 HP.



### Grounding Kit (Model W1053)

All dust collectors generate static electricity in the ducting system. If a series of conditions are in place, and the dust collection ducting is not grounded, a spark from static electricity buildup could ignite the fine wood dust particles in the dust collector. To reduce this ignition hazard, install a grounding kit.



### Deluxe Ceiling Mounted Air Cleaner (Model W1690)

Air cleaners are a great solution for removing airborne dust particles. This air cleaner has three speeds (556, 702, and 1,044 CFM) and a primary and secondary filter to remove dust particles as small as 2.5 Micron. Install this air cleaner on a work bench, on a wall, or suspend it from your shop ceiling.



# Notes



# Notes

# Warranty

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

Woodstock International, Inc. will repair or replace, at its expense and at its option, the **SHOP FOX®** machine or machine part which in normal use has proven to be defective, provided that the original owner returns the product prepaid to the **SHOP FOX®** factory service center or authorized repair facility designated by our Bellingham, WA office, with proof of their purchase of the product within two years, and provides Woodstock International, Inc. reasonable opportunity to verify the alleged defect through inspection. If it is determined there is no defect, or that the defect resulted from causes not within the scope of Woodstock International Inc.'s warranty, then the original owner must bear the cost of storing and returning the product.

This is Woodstock International, Inc.'s sole written warranty and any and all warranties that may be implied by law, including any merchantability or fitness, for any particular purpose, are hereby limited to the duration of this written warranty. We do not warrant that **SHOP FOX®** machinery complies with the provisions of any law or acts. In no event shall Woodstock International, Inc.'s liability under this warranty exceed the purchase price paid for the product, and any legal actions brought against Woodstock International, Inc. shall be tried in the State of Washington, County of Whatcom. We shall in no event be liable for death, injuries to persons or property or for incidental, contingent, special or consequential damages arising from the use of our products.

Every effort has been made to ensure that all **SHOP FOX®** machinery meets high quality and durability standards. We reserve the right to change specifications at any time because of our commitment to continuously improve the quality of our products.



# Warranty Registration

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

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

1. How did you learn about us?

\_\_\_\_\_ Advertisement \_\_\_\_\_ Friend \_\_\_\_\_ Local Store  
\_\_\_\_\_ Mail Order Catalog \_\_\_\_\_ Website \_\_\_\_\_ Other:

2. How long have you been a woodworker/metalworker?

\_\_\_\_\_ 0-2 Years \_\_\_\_\_ 2-8 Years \_\_\_\_\_ 8-20 Years \_\_\_\_\_ 20+ Years

3. How many of your machines or tools are **SHOP FOX®**?

\_\_\_\_\_ 0-2 \_\_\_\_\_ 3-5 \_\_\_\_\_ 6-9 \_\_\_\_\_ 10+

4. Do you think your machine represents a good value? \_\_\_\_\_ Yes \_\_\_\_\_ No

5. Would you recommend **SHOP FOX®** products to a friend? \_\_\_\_\_ Yes \_ No

6. What is your age group?

\_\_\_\_\_ 20-29 \_\_\_\_\_ 30-39 \_\_\_\_\_ 40-49  
\_\_\_\_\_ 50-59 \_\_\_\_\_ 60-69 \_\_\_\_\_ 70+

7. What is your annual household income?

\_\_\_\_\_ \$20,000-\$29,000 \_\_\_\_\_ \$30,000-\$39,000 \_\_\_\_\_ \$40,000-\$49,000  
\_\_\_\_\_ \$50,000-\$59,000 \_\_\_\_\_ \$60,000-\$69,000 \_\_\_\_\_ \$70,000+

8. Which of the following magazines do you subscribe to?

_____ Cabinet Maker	_____ Popular Mechanics	_____ Today's Homeowner
_____ Family Handyman	_____ Popular Science	_____ Wood
_____ Hand Loader	_____ Popular Woodworking	_____ Wooden Boat
_____ Handy	_____ Practical Homeowner	_____ Woodshop News
_____ Home Shop Machinist	_____ Precision Shooter	_____ Woodsmith
_____ Journal of Light Cont.	_____ Projects in Metal	_____ Woodwork
_____ Live Steam	_____ RC Modeler	_____ Woodworker West
_____ Model Airplane News	_____ Rifle	_____ Woodworker's Journal
_____ Modeltec	_____ Shop Notes	_____ Other:
_____ Old House Journal	_____ Shotgun News	

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

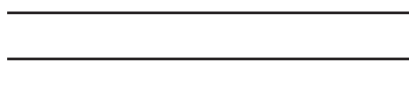
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