

MODEL M1114 BENCHTOP SANDBLASTER



OWNER'S MANUFACTURED 1/18)

Phone: (360) 734-3482 · Online Technical Support: tech-support@shopfox.biz

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WARNING!

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

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

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

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





INTRODUCTION Woodstock Technical Support

Woodstock International, Inc. is committed to customer satisfaction. Our intent with this manual is to include the basic information for safety, setup, operation, maintenance, and service of this product.

In the event that questions arise about your machine, please contact Woodstock International Technical Support at (360) 734-3482 or send e-mail to: <u>tech-support@shopfox.biz</u>. Our knowledgeable staff will help you troubleshoot problems or process warranty claims.

If you need the latest edition of this manual, you can download it from <u>http://www.shopfox.biz</u>. If you have comments about this manual, please contact us at:

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

About Your New Benchtop Sandblaster

Your new SHOP FOX[®] Benchtop Sandblaster 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.

The Model M1114 Sandblaster is equipped with an industrial-duty blast gun with ceramic tip, a siphon hose, a built-in light, large viewing window, and sealed rubber gloves. The hopper recycles and stores the sandblasting media for reuse or easy removal. Safely blast away paint and rust without making a mess around your shop.

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

Specifications

Design Type Benchto	p Side-Loading Model
Width	
Height	
Depth	
Operating Air Pressure Range	60-100 PSI
Recommended Air Supply	5-14 CFM
Abrasive Capacity	10 lbs.
Abrasive Type	Dry Only
Lighting Type	15 Watt LED
Load & Unload Access	Sides
Power Supply 110 VAC w	/12 VDC Transformer
Approximate Machine Weight	



SAFETY

For Your Own Safety, Read Manual Before Operating Machine

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



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

AWARNING 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.

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

Standard Machinery Safety Instructions

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

- TRAINED OPERATORS ONLY. Untrained operators have a higher risk of being hurt or killed. Only allow trained/supervised people to use this machine. When machine is not being used, disconnect power, remove switch keys, or lock-out machine to prevent unauthorized use—especially around children. Make workshop kid proof!
- DANGEROUS ENVIRONMENTS. Do not use machinery in areas that are wet, cluttered, or have poor lighting. Operating machinery in these areas greatly increases the risk of accidents and injury.
- MENTAL ALERTNESS REQUIRED. Full mental alertness is required for safe operation of machinery. Never operate under the influence of drugs or alcohol, when tired, or when distracted.

- ELECTRICAL EQUIPMENT INJURY RISKS. You can be shocked, burned, or killed by touching live electrical components or improperly grounded machinery. To reduce this risk, only allow an electrician or qualified service personnel to do electrical installation or repair work, and always disconnect power before accessing or exposing electrical equipment.
- DISCONNECT POWER FIRST. Always disconnect machine from power supply BEFORE making adjustments, changing tooling, or servicing machine. This eliminates the risk of injury from unintended startup or contact with live electrical components.
- **EYE PROTECTION.** Always wear ANSI-approved safety glasses or a face shield when operating or observing machinery to reduce the risk of eye injury or blindness from flying particles. Everyday eyeglasses are not approved safety glasses.



- WEARING PROPER APPAREL. Do not wear clothing, apparel, or jewelry that can become entangled in moving parts. Always tie back or cover long hair. Wear non-slip footwear to avoid accidental slips, which could cause loss of workpiece control.
- HAZARDOUS DUST. Dust created while using machinery may cause cancer, birth defects, or long-term respiratory damage. Be aware of dust hazards associated with each workpiece material, and always wear a NIOSH-approved respirator to reduce your risk.
- HEARING PROTECTION. Always wear hearing protection when operating or observing loud machinery. Extended exposure to this noise without hearing protection can cause permanent hearing loss.
- **REMOVE ADJUSTING TOOLS.** Tools left on machinery can become dangerous projectiles upon startup. Never leave chuck keys, wrenches, or any other tools on machine. Always verify removal before starting!
- INTENDED USAGE. Only use machine for its intended purpose—never make modifications without prior approval from Woodstock International. Modifying machine or using it differently than intended will void the warranty and may result in malfunction or mechanical failure that leads to serious personal injury or death!
- AWKWARD POSITIONS. Keep proper footing and balance at all times when operating machine. Do not overreach! Avoid awkward hand positions that make workpiece control difficult or increase the risk of accidental injury.
- CHILDREN & BYSTANDERS. Keep children and bystanders at a safe distance from the work area. Stop using machine if they become a distraction.
- GUARDS & COVERS. Guards and covers reduce accidental contact with moving parts or flying debris—make sure they are properly installed, undamaged, and working correctly.

- FORCING MACHINERY. Do not force machine. It will do the job safer and better at the rate for which it was designed.
- **NEVER STAND ON MACHINE.** Serious injury may occur if machine is tipped or if the cutting tool is unintentionally contacted.
- **STABLE MACHINE.** Unexpected movement during operation greatly increases risk of injury or loss of control. Before starting, verify machine is stable and mobile base (if used) is locked.
- USE RECOMMENDED ACCESSORIES. Consult this owner's manual or the manufacturer for recommended accessories. Using improper accessories will increase risk of serious injury.
- **UNATTENDED OPERATION.** To reduce the risk of accidental injury, turn machine *OFF* and ensure all moving parts completely stop before walking away. Never leave machine running while unattended.
- MAINTAIN WITH CARE. Follow all maintenance instructions and lubrication schedules to keep machine in good working condition. A machine that is improperly maintained could malfunction, leading to serious personal injury or death.
- CHECK DAMAGED PARTS. Regularly inspect machine for any condition that may affect safe operation. Immediately repair or replace damaged or mis-adjusted parts before operating machine.
- MAINTAIN POWER CORDS. When disconnecting cord-connected machines from power, grab and pull the plug—NOT the cord. Pulling the cord may damage the wires inside, resulting in a short. Do not handle cord/plug with wet hands. Avoid cord damage by keeping it away from heated surfaces, high traffic areas, harsh chemicals, and wet/damp locations.
- EXPERIENCING DIFFICULTIES. If at any time you experience difficulties performing the intended operation, stop using the machine! Contact Technical Support at (360) 734-3482.



Additional Safety Instructions for Sandblasters



AWARNING

READ and understand this Owner's Manual before using your sandblaster! Sandblasting presents a real hazard of silicosis and other respritory contamination injuries! These Injuries are permanent and can get worse over time. If you use sandblasting equipment without the proper protection, your lungs and eyes may become irreversibly contaminated. DO NOT use this sandblaster unless you know how to use it and protect yourself correctly. For types of protective equipment and acceptable respirator types, contact your local OSHA or NIOSH office.

- 1. **PROTECTING RESPIRATORY SYSTEM.** Make sure that you always wear an approved NIOSH respirator when using or cleaning the sandblaster.
- 2. LEAVING THE AREA. Always disconnect air supply when leaving the sandblaster to prevent an accidental blast gun discharge.
- 3. **PROTECTING EYES.** Make sure that you always use safety goggles when using or cleaning the sandblaster.
- 4. **PROTECTING ENVIRONMENT.** Always close and latch shut the sandblaster doors when not in use to protect the enviornment from any abrasive leakage.
- 5. **PREVENTING ABRASIVE LEAKS.** Replace nozzles, hoses, lenses, and gloves when they become worn. Check cabinet for any leaks before every use, and reseal immediately.
- 6. SAFE SANDBLASTING. Do not use the sandblaster over the rated PSI, or cabinet explosion could occur.
- 7. CORRECT LIGHTING. Do not use a light that uses over 60 watts.
- 8. LOADING & UNLOADING. Disconnect the air supply before loading or unloading the workpiece from the sandblaster cabinet so prevent an accidental blast gun discharge.
- 9. SAFE MAINTENANCE. Disconnect air supply and electrical before doing any maintenance.
- **10. SAFE SANDBLASTING.** Always secure the door(s) before beginning sandblasting operations. Never operate the sandblaster with the doors open to accommodate a workpiece that is longer than the cabinet can hold.
- 11. AVOIDING EXPLOSION HAZARDS. Never sandblast in an enviornment where flammable gasses or liquids are present or are near. Electrostatic discharges by sandblasting operations can ignite volatile gasses or liquids nearby.



ELECTRICAL 110V Operation

The SHOP FOX[®] Model M1114 is wired for 110 Volt operation. Never replace a circuit breaker with one of higher amperage without consulting a qualified electrician to ensure compliance with wiring codes.

If you are unsure about the wiring codes in your area or you plan to connect your machine to a shared circuit, you may create a fire hazard—consult a qualified electrician to reduce this risk.

Extension Cords

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

- Use cords rated for Standard Service
- Never exceed a length of 100 feet
- Use cords with 14 ga. wire
- Do not use cords in need of repair
- Make sure the extension cord female plug and the sandblaster transformer is located in a dry place away from all combustibles

If using an extension cord, make sure the extension cord female plug and the sandblaster transformer is located in a dry place away from all combustibles. Otherwise serious injury may occur.



SET UP

Unpacking

The **SHOP FOX**[®] Model M1114 has been carefully packaged for safe transporting. If you notice the machine has been damaged, please contact your authorized **SHOP FOX**[®] dealer immediately.

If any parts are missing, examine the packaging for the missing parts. For any missing parts, find the part number in the back of this manual and contact Woodstock International, Inc. at (360) 734-3482 or at <u>tech-support@</u>

To assemble the sandblaster, do these steps:

- Install the filter assembly with the screws and nuts (Figure 1).
- 2. Install the gloves with the two large hose clamps.
- 3. Install the two lamp holders with the two screws, and then install the electrical box and wires as shown in Figure 2.
- 4. Install the bulkhead fitting with the seal (Figure 3).
- 5. Attach the air supply hose and suction hose to the bulkhead fittings and suction pipe with the hose clamps (Figure 3).
- 6. Make sure all hose clamps, hoses, bolts, and screws are tight and do not leak.
- 7. Plug in the transformer cord into the sandblaster cabinet.



SUFFOCATION HAZARD!

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



Figure 1. Filter installation.



Figure 2. Lamp and electrical installation.



Figure 3. Blast gun assembly.



OPERATIONS

General

The Model M1114 will perform many types of operations that are beyond the scope of this manual. Many of these operations can be dangerous or deadly if performed incorrectly.

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

If you are an inexperienced operator, we strongly recommend that you read books, trade articles, or seek training from a person with quality sandblasting experience before performing any unfamiliar operations. Above all, your safety comes first!

Sandblasting

The Model M1114 Sandblaster is equipped with an industrial-duty blast gun with ceramic tip, siphon hose, work light, large viewing window, and sealed rubber gloves. The hopper recycles and stores the sandblasting media for reuse or easy removal.

To use the sandblaster, do these steps:

- 1. Wear safety goggles and a NIOSH approved respirator at all times when operating or maintaining your sandblaster!
- 2. Plug in the transformer and turn the light ON.
- 3. Install the correct nozzle and air jet into the gun for the abrasive type you will use. Refer to Page 9 for options.
- 4. Carefully, without causing a hazardous dust cloud, pour or spade-in ten pounds of abrasive into the sandblaster. DO NOT over-fill or sandblasting may be sluggish and cloudy inside of the cabinet.
- 5. Insert the workpiece, and close and lock the loading window.

WARNING

Sandblasting presents a real hazard of silicosis and other lung contamination injuries! These Injuries are permanent and can get worse over time. If you use sandblasting equipment without the proper protection, your lungs and eyes may become irreversibly contaminated. DO NOT use this sandblaster unless you know how to use it and protect yourself correctly. For types of protective equipment and acceptable respirator types, contact your local OSHA or NIOSH office.



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

MAKE your shop "child safe." Ensure that your workplace is inaccessible to youngsters by closing and locking all entrances when you are away. NEVER allow untrained visitors in your shop when assembling, adjusting or operating equipment.



6. Adjust the air supply regulator to an air pressure between 60-100 PSI, and begin sandblasting in a slow circular motion.

Note: A good starting point for tip distance is two inches away from the workpiece. Start out with a low air pressure setting to avoid excess peening and abrasive wear.

Note: Experiment with different pressures, abrasives, tips and jets to gain practical experience (*Figure 4*).

Note: Keep the sandblasting abrasives moisture-free; otherwise, the blast gun tip will frequently clog.

Jet/Nozzle Combinations

Refer to the table in **Figure 4** for suggested air jet and nozzle combination for an approximate abrasive flow; for replacement part numbers of a highly used blasting tip, refer to the list in **Figure 5**. Refer to magazines, trade articles, professionals, and the abrasive manufacturer for the best combination that is required for your particular abrasive use.

Sandblasting Media

Below is a list of the most common blasting abrasives. Refer to magazines, trade articles, professionals, and the abrasive manufacturer for the specific surfaces that can be addressed with a type of abrasive. All abrasives have benefits and drawbacks like quality of surface finish, abrasive life, toxicity, and what precautions you must take to prevent environmental damage or personal injury to your respiratory system.

Steel Type Abrasives

This aggressive abrasive creates a rough finish that accepts paint well. The abrasive is very durable and has a long life; however; it MUST be kept very dry to prevent rusting.

Alumina Type Abrasives

This multi-purpose abrasive creates a smoother finish than the steel abrasives, but has a shorter life span. Less of the workpiece surface is removed with this more forgiving abrasive.

Glass and Garnet Type Abrasives

Typically this abrasive works well for soft metals and addressing surface issues with machine parts where tolerances cannot be affected. The life of this abrasive is limited and not well suited for repetitively recycling.

AWARNING

NEVER sand blast with the doors open, point the gun at yourself or anyone else, or attempt to service any part of this machine while it is plugged in our connected to air pressure. ALWAYS disconnect the blast cabinet from power and air pressure when not in use, or during maintneance or adjustments. Ignoring this warning mauy lead to severe injury.

Jet/Nozzle Flow Combinations:

- #1 Air Jet Orifice Diameter: 5/64" Nozzle Orifice Diameter: 3/16" Abrasive Flow @ 60 PSI: 0.11 L/Min.
- **#2** Air Jet Orifice Diameter: 7/64" Nozzle Orifice Diameter: 13/64" Abrasive Flow @ 60 PSI: 0.18 L/Min.
- **#3** Air Jet Orifice Diameter: 1/8" Nozzle Orifice Diameter: 15/64" Abrasive Flow @ 60 PSI: 0.25 L/Min.
- **#4** Air Jet Orifice Diameter: $\frac{5}{32}$ " Nozzle Orifice Diameter: $\frac{9}{32}$ " Abrasive Flow @ 60 PSI: 0.36 L/Min.

Figure 4. Jet/nozzle flow combinations.

Replacement Nozzles:

PART

XM1114005: Nozzle Set (³/₁₆", ¹³/₆₄", ¹⁵/₆₄", ⁹/₃₂"). XM1114005-1: #1 Nozzle (³/₁₆" ID). XM1114005-2: #2 Nozzle (¹³/₆₄" ID). XM1114005-3: #3 Nozzle (¹⁵/₆₄" ID). XM1114005-4: #4 Nozzle (⁹/₃₂" ID).

Figure 5. Replacement nozzles.



Sand Type Abrasives

This abrasive is easy to find, and gives an average finish that is acceptable for most projects. Sand has a good recycling life and is very economical.

Plastic Type Abrasives

Applied at low pressures of 30 to 50 PSI, plastic abrasives should be harder than the coating being removed, but softer than the workpiece to avoid damage. Plastic abrasive is excellent for addressing surface issues on aluminum, magnesium, copper, brass, thin steel, titanium, and composite surfaces and fiberglass.

Other Types of Abrasives Available

Ground walnut or peanut shells. Ground corn cob. Sodium bicarbonate. Wheat starch.

Cabinet Cleaning

When cleaning this sandblasting cabinet, DO NOT use chlorine-based solvents such as brake parts cleaner or acetone—if you happen to splash some onto a painted surface or the plastic window, the paint will lift and the window will cloud. DO NOT use a rag to wipe the dust from the window, or the abrasives will scratch it, use a soft, dry paint brush.

To clean, the sandblasting cabinet, do these steps:

- 1. Put on safety goggles and your approved NIOSH respirator.
- 2. Disconnect the power and air supply.
- **3.** Vacuum the exterior of the sandblasting cabinet and the window.
- **4.** Use a soft, dry paint brush to brush the dust from both sides of the plastic window.





NEVER use gasoline or other petroleumbased solvents to clean with. Most have low flash points, which make them extremely flammable. A risk of explosion and burning exists if these products are used. Serious personal injury may occur if this warning is ignored!



PARTS





REF	PART #	DESCRIPTION	REF	PART #	DESCRIPTION
1	XM1114001	BLAST GUN	30	XM1114030	HEX NUT M47
2	XM1114002	SUCTION HOSE	32	XM1114032	TRANSFORMER
3	XM1114003	SUCTION TUBE	33	XM1114033	LATCH CATCH
4	XM1114004	PRESSURE SUPPLY HOSE	34	XM1114034	HINGE
5	XM1114005	NOZZLE SET	35	XM1114035	RIGHT DOOR
6	XM1114006	JET SET	36	XM1114036	LEFT DOOR
7	XM1114007	JET SEAL NUT	38	XM1114038	TAP SCREW #10 X 5/8
8	XM1114008	BULKHEAD FITTING	40	XM1114040	CABINET
9	XM1114009	SEAL	41	XM1114041	WINDOW FRAME AND SEAL
10	XM1114010	FLAT SPACER	42	XM1114042	WINDOW PLEXIGLASSS
11	XM1114011	HOSE NIPPLE	43	XM1114043	PLASTIC FILM
12	XM1114012	FOAM FILTER	44	XM1114044	PHLP HD SCR M6-1 X 12
13	XM1114013	RING	45	XM1114045	6MM FLAT WASHER
14	XM1114014	PHLP HD SCR M47 X 10	46	XM1114046	HEX NUT M6-1
15	XM1114015	FLAT WASHER 4MM	47V2	XM1114047V2	HOPPER-CONE SHAPE V2.01.18
17	XM1114017	FILTER ELEMENT	48	XM1114048	HOPPER PLUG
18	XM1114018	18" HOSE CLAMP	49V2	XM1114049V2	SHORT LEG (FRONT-LEFT REAR-RIGHT) V2.01.18
19	XM1114019	LEFT GLOVE	49V2-1	XM1114049V2-1	RUBBER FOOT (FRONT-LEFT REAR-RIGHT)
20	XM1114020	RIGHT GLOVE	50V2	XM1114050V2	SHORT LEG (FRONT-RIGHT REAR-LEFT) V2.01.18
21	XM1114021	1" HOSE CLAMP	50V2-1	XM1114050V2-1	RUBBER FOOT (FRONT-RIGHT REAR-LEFT)
22	XM1114022	PHLP HD SCR M47 X 10	51	XM1114051	SCREEN
23	XM1114023	LAMP CLAMP	52	XM1114052	PHLP HD SCR M47 X 10
24V2	XM1114024	LAMP ASSEMBLY LED V2.03.16	53	XM1114053	SWITCH
25	XM1114025	ZIP TIE	55	XM1114055	LATCH
26	XM1114026	FLAT WASHER 4MM	58	XM1114058	RECEPTACLE COVER
28	XM1114028	PHLP HD SCR M47 X 10	59	XM1114059	RECEPTACLE

Label Placement



Safety labels warn about machine hazards and how to prevent machine damage or injury. The owner of this machine MUST maintain the original location and readability of all labels on this machine. If any label is removed or becomes unreadable, REPLACE that label before allowing the machine to enter service again. Contact Woodstock International, Inc. at (360) 734-3482 or www.shopfoxtools.com to order new labels.

REF	PART #	DESCRIPTION
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61	XM1114061	EYE/LUNG INJURY LABEL
62	XM1114062	GENERAL WARNING LABEL
63	XM1114063	PRESSURE WARNING LABEL
64	XM1114064	MACHINE ID LABEL

WARRANTY

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

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

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, acts or electrical codes. We do not reimburse for third party repairs. In no event shall Woodstock International, Inc.'s liability under this limited 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 are committed to continuously improving the quality of our products, and reserve the right to change specifications at any time.



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