

**Volume**

**1.1**

# **OPERATIONAL MANUAL**

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MODEL: 40A GRINDER/SANDER/POLISHER

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**by BLUEROCK® Tools**

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#### UNPACKING THE ITEM

Caution: This machine is packed together with items that may be sharp, oily and overly heavy objects. Remove the machine from the packaging in a safe manner. Check to ensure all accessories are included with the item while unpacking. If any parts are found to be missing, contact the retailer as soon as possible. Do not throw away the packaging until the item is out of the guarantee period. Dispose of the packaging in an environmentally responsible manner. Recycle if possible. Keep all plastic bags away from children due to risk of suffocation.



WEEE - Waste Electrical & Electronic Equipment. Note this machine should be disposed of as electrical & electronic waste.

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1100 SW 16<sup>th</sup> St • Suite D  
Renton, WA 98057  
Phone 206.604.8363 • Fax 425.572.5167  
[www.bluerocktools.com](http://www.bluerocktools.com)

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## Safety

**DO NOT USE THIS MACHINE UNLESS YOU HAVE READ THE OPERATING INSTRUCTIONS!**



Safety glasses must be worn at all times in work areas. Use a full face mask whenever possible.



Long and loose hair must be contained.



Appropriate footwear must be worn.



Close fitting/protective clothing must be worn.



Safety gloves should be worn at all times and jewelry must not be worn.



Hearing protection should be worn when using this machine.



Read operational manual prior to use.



Dust mask must be worn while using this machine.

### PRE-OPERATIONAL SAFETY CHECKS

- Examine the power cord and plug for damage.
- Examine the body of the machine and inspect for damage or defects.
- Examine the sanding belt to insure it is operable.
- Ensure that the sanding belt is correctly attached to the machine.
- Make certain the on/off switch is in the off position.

### OPERATIONAL SAFETY CHECKS

- ONLY to be operated by qualified personal who have read instructions.
  - NOTE: Failure to read and follow instructions could result in electrical shock, fire, property damage and/or serious injury!
- DO ensure all non-essential people are clear of the immediate work area.
- DO keep body parts, clothing & power cords clear of turning pieces. Stay alert and use common sense when using this tool.
- DO allow machine to reach operating speed before contacting with surface.
- DO use both hands when using this machine.

#### 40A GRINDER/SANDER/POLISHER

➤	DO unplug machine while changing or adjusting belts so as not to accidentally turn machine on.
➤	DO guard against electric shock by preventing body contact with grounded surfaces such as pipes, radiators, ranges, refrigerators, etc.
➤	DO be mindful that power tools can expose an operator to vibrations transmitted through contact with the machine. Prolonged exposure can lead to medical issues which should be discussed with a medical professional.
➤	DO use a dust extraction system for working materials that create dust. The operator should also wear a protective respiratory device.
➤	DO NOT make adjustments to machine while the machine is running.
➤	DO NOT use this machine with water or any type of liquids.
➤	DO NOT leave the machine running when not in use.
➤	DO NOT hold the work piece by hand or using body. Always mechanically clamp or secure work piece.
➤	DO NOT allow liquids or dust to enter the machine's ventilation system.
➤	DO NOT operate machine outside of machine specifications.
➤	DO NOT touch moving parts while the machine is running as death or dismemberment could occur.
➤	DO NOT remove machine plastic panel while machine is connected to a power source. Only to be removed for service by qualified personal and put back on the machine after service is complete.
➤	DO NOT allow children or untrained personal to operate machine.
➤	DO NOT use this machine in the rain or a wet environment. If using outdoors, make sure the surface is clean and dry.
➤	DO NOT operate in the presence of explosive materials as power tools create sparks which may ignite dust or fumes.
➤	DO NOT use on a work area that may contain a live electrical wire/circuit.
➤	DO NOT operate this machine on the same work surface where welding is being performed. This could result in severe damage to the machine or personal injury to the user.
➤	DO NOT operate this machine on a lower voltage as this could limit the motor life and work efficiency.
○	NOTE: Use of long small gauge power extension cords can result in decreased voltage. As local voltages can vary, it may be a good idea to test the voltage at the end of the extension cord to ensure proper voltage requirements are met. You might also consult an electrician to make sure the length of cord matches up with the proper wire gauge for this size motor. Make sure to use outdoor cords when operating outdoors. Use a GFCI circuit if using in wet locations.

#### HEALTH WARNINGS

➤	Certain dust created by sanding contains chemicals known to cause a variety of health issues including cancer, birth defects or other reproductive harm. The examples of some of these chemicals are below (this is not an exhaustive list):
○	Lead from lead based paint.
○	Crystalline silica from bricks, cement and assorted masonry products.
○	Glues in certain woods.
○	Metal fragments.
▪	TO REDUCE RISK OF EXPOSURE TO THESE CHEMICALS, WORK IN A WELL VENTILATED AREA WITH VACUUM SYSTEMS, RESPIRATORS AND WITH ALL SUITABLE SAFETY EQUIPMENT. DO FOLLOW ALL LOCAL AND NATIONAL SAFETY STANDARDS WHEN WORKING WITH SPECIFIC MATERIALS.

## Specifications

<i>ELECTRICAL DATA</i>	
Voltage	110V, 60Hz
Current	8.18 Amps
Motor Size	900W
Power Connection	US Standard 2 Prong Plug

<i>MECHANICAL DATA</i>	
Belt Length	760mm (30")
Belt Width	40mm (1.57")
Machine Speed	900-2800 RPM Variable Speed Gearbox
Max Pipe Diameter	7" Max
Minimum Pipe Diameter	None
Wrap	270 Degree Max Wrap

<i>SHIPPING DATA</i>	
Shipping Weight	10 Lbs
Shipping Carton	20" x 8" x 6"

## Included Accessories

<i>DESCRIPTION</i>	<i>QTY</i>
Instruction Manual	1
Secondary Handle	1
760mm x 40mm Sanding Belt	1
Spare Brush	2

## Additional Available Accessories

Additional accessories for this machine can be found in BLUEROCK® Tools online shop at [www.bluerocktools.com](http://www.bluerocktools.com) or from your local retailer.

40A Sanding Available Belts	
Coarse Grit Non-woven Nylon Polishing Belts	
#60 Grit Sandpaper Zirconia Alumina Sanding Belt	
#80 Grit Sandpaper Zirconia Alumina Sanding Belt	
#180 Grit Sandpaper Aluminum Oxide Sanding Belt	
#400 Grit Sandpaper Aluminum Oxide Sanding Belt	
#800 Grit Sandpaper Aluminum Oxide Sanding Belt	

## Operations

### Note

**THOROUGHLY READ THROUGH THE ENTIRE MANUAL BEFORE OPERATING THIS MACHINE!**

#### PURPOSE

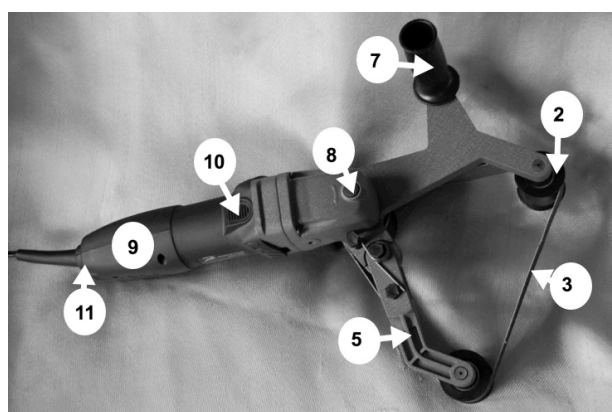
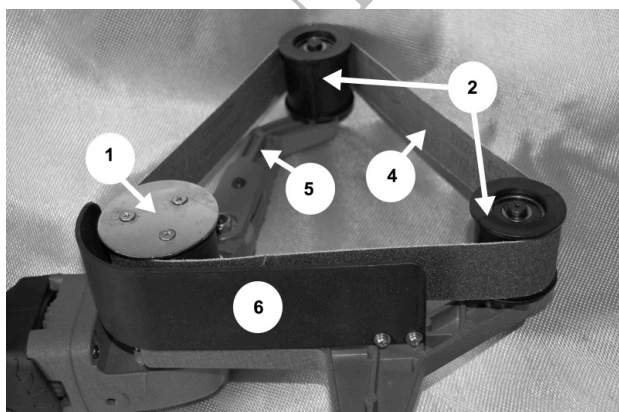
- The purpose of the 40A is to sand, grind, burnish and polish a variety of surfaces from wood to steel.
- This machine uses a spring loaded sanding head, which allows for use on round surfaces. This increases the sanding surface area making for a faster more uniform surface treatment.

#### OPERATIONAL PRINCIPLES

- The main round machine shaft rotates in a forward direction (when holding the machine by the main handle). The motor connects to the main rubber drive, which makes contact with the non-abrasive side of the sanding belt. The two smaller secondary drive wheels also make contact with the non-abrasive side of the belt.

#### MACHINE COMPONENTS

- The main components of the 40A are the belt holder assembly, gearbox, motor, housing and main handle. The belt holder is driven by the gearbox and the motor.
  - These components must not be removed except by a qualified technician. Power must be disconnected prior to any service.
- The machine has a variable speed switch located on the main handle by the power cord base. This switch has numbers signifying low (1) to high (6) speeds.



1)	Main Rubber Drive	7)	Secondary Handle
2)	Secondary Drive Wheels	8)	Lock for Main Rubber Drive
3)	Abrasive Side of Belt	9)	Main Handle
4)	Non-Abrasive Side of Belt	10)	On/Off Switch
5)	Spring Arm	11)	Variable Speed Switch
6)	Plastic Guard		

**TRANSPORTING THE MACHINE**

- When transporting the machine, always carry with both handles.
- If transporting inside a vehicle, it is recommended to transport it on its side so as to avoid the item falling over.
- DO NOT carry the machine by the cord.
- DO NOT allow the cord or plug to drag along the floor when transporting.

**RUNNING THE MACHINE**

- Do all pre-operational and operational safety checks from Chapter 1.
- Consider your security and stability as well as the orientation of the machine in the work area.
  - Consider the work surface material, condition, strength, density and rigidity. These factors directly affect the tools operation and user safety.
- Ensure the secondary handle is securely attached.
  - It can be connected from the right or left side.
- Ensure the work surface is free of debris, oil, etc.
- Select appropriate grit sanding paper. Install paper.
  - Note: See section below for more information on paper installation.
- Select rotational speed 1-6 using speed chart below (meters per second):
 

○ 1	○ 2.7 m/s	○ 4	○ 6.3 m/s
○ 2	○ 3.8 m/s	○ 5	○ 7.6 m/s
○ 3	○ 5.1 m/s	○ 6	○ 8.5 m/s
- Plug the machine into power source.
- Turn the machine on.
  - Start the machine by sliding switch 1 in picture below forward. For continuous operation, tilt switch downwards until it engages. Stop the machine by sliding the switch backwards and release.



- Very slowly engage the sanding paper with the material surface by lightly engaging towards the material. Ensure the sanding belt is parallel to the work surface. Operating at right angles will ensure the belt does not fall off the rollers.
  - NOTE: Do not force the sanding. Let the machine do most of the work. Excessive physical effort should be avoided as it can cause damage to the machine or the user.



○	CAUTION: This machine is equipped with motor overload protection. If the unit shuts down due to overload, turn switch off. Wait 5 seconds and turn the machine back on and run under no-load for 20 seconds to allow for motor cooling. Not doing this could result in motor failure.
○	If the motor stops due to paper failure, stop the machine immediately to prevent injury. Disconnect the machine from the power supply and change paper.
➤	Finish sanding the surface.
➤	Turn the motor off.
○	CAUTION: Only lay the machine down on surface once the belts have come to a complete stop.

#### INSTALLING SANDING BELTS

➤	Check that the replacement belt is not damaged.
○	Sanding belts that are damaged should not be used.
➤	Make certain the machine is unplugged from power.
➤	Depress the spring arm (number 5 in the picture above) inwards and remove the old sanding belt.
➤	Place the new sanding belt on the rollers so it's direction of circulation (arrows on the non-abrasive side of the belt matches the arrow on the machine's gearbox.
➤	Release the spring arm and ensure the belt is completely on the rollers.

## Troubleshooting

### Note

**SERVICING SHOULD ONLY BE DONE BY A QUALIFIED TECHNICIAN.**

**DON'T FORGET TO UNPLUG POWER TO UNIT PRIOR TO SERVICE!**

PROBLEM	SOLUTION
Motor does not turn on.	<ol style="list-style-type: none"> <li>1) Check external power source (extension cord, breaker, etc).</li> <li>2) Loose internal wire. Check and secure if necessary.</li> <li>3) Motor brushes defective. Replace if necessary.</li> <li>4) Check to ensure the motor on/off switch is operable. Replace if necessary.</li> <li>5) Variable speed switch is defective. Replace switch.</li> </ol>
Excessive sparking when motor is running.	<ol style="list-style-type: none"> <li>1) This may indicate the presence of debris in the motor or worn out carbon brushes. Check the brushes for unusual wear and replace if necessary. Clean out the internal motor armature if necessary.</li> <li>2) Armature has a rough edge. Inspect and replace if necessary.</li> </ol>
Machine is not sanding.	<ol style="list-style-type: none"> <li>1) Belt is dull. Replace belt.</li> <li>2) Work area material is not appropriate for belt type.</li> </ol>

## General Maintenance

- |   |   |
|---|---|
| ➤ | Inspect electrical cords and electrical connections.  |
| ➤ | Keep machine clean and free of debris.  |
| ➤ | Check for misalignment, binding and breakage of all moving parts. If damaged, repair tool before use. |

## Occasional Maintenance

- |   |   |
|---|---|
| ➤ | Have the power tool serviced by a qualified service technician using identical replacement parts. |
|---|---|

○	Change motor brushes:
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- |    |  |
|----|--|
| 1) | Disconnect machine from power.                 |
| 2) | Take of motor handle housing.                  |
| 3) | Unscrew left and right side brush holder caps. |
| 4) | Take out old brushes.                          |
| 5) | Replace with exact same size new brushes.      |
| 6) | Screw in brush holder caps tightly.            |
| 7) | Replace motor handle housing.                  |

## Parts List

Drawing No.	Name	qty	Drawing No.	Name	qty
1	Output Shaft	1	31	Self-tapping screw	2
2	Woodruff key	1	32	Stator	1
3	Front Cap Screw	4	33	Housing	1
4	Dust Cap	1	34	Flat washer	1
5	Front Cover	1	35	Tapping screw	1
6	Bearing	1	36	Switch Push Button	1
7	Gland	1	37	Switch push Lever	1
8	Gland Screw	3	38	Tension disc screw	2
	Flat washer	1	39	Cable disc	1
9	Gear (big)	1	40	Switch	1
10	Set Screw	4	41	Tapping screw	3
11	Set Screw		42	Back frame	1
12	Clamp spring for self-locking	1	44	Sheath	1
13	Clamp spring for Output shaft	1	45	Cable	1
14	Quill roller	1	47	Speed-control switch	1
15	Self-locking spring	1	48	Carbon Brush	1
16	Self-locking	1	49	Carbon brush holder	1
17	Head Cap	1	50	Earth wire	
18	Bearing Set Screw	1	51	Aluminum Upper Spider	1
19	Clamp spring	1	52	Handle	1
20	Gear (small)	1	53	Belts cover	1
21	Bearing	1	54	Belt main wheel	1
22	Gear Case Spindle	1	55	Aluminum Lower Spider	1
23	Spur Gear (small)	1	56	Spider set screw	4
24	Bearing Retainer	1	56	Spring	
25	Bearing	1	57	Screw	1
26	Rotor	1	58	Spindle	3
27	Rotor axis	1	59	Bearing	2
28	Bearing	1	60	Plastic wheel	4
29	Bearing housing	1	61	Clamp spring	2
30	Windshield	1	62	Belt	1

## Breakdown View

