

# ***King***

## **#4006-0 LARGE ABRASIVE BLAST CABINET OPERATING MANUAL**

**Model # 4006-0  
UPC: 657807400603**



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# READ ALL INSTRUCTIONS BEFORE OPERATING

## SAVE THESE INSTRUCTIONS

Thank you for purchasing your Clarke SB9007 Abrasive Blast Cabinet. Before attempting to operate your new Abrasive Blast Cabinet please read these instructions thoroughly. You will need these instructions for the safety warnings, precautions, assembly, operation, maintenance procedures, parts list and diagrams. Keep your invoice with these instructions. Write the invoice number in the inside of front cover. Keep the instructions and invoice in a safe, dry place for future reference.

**WARNING:** The warnings, cautions and instructions discussed in this instruction manual cannot cover all possible conditions or situations that could occur. It must be understood by the operator that common sense and caution are factors which cannot be built into this product, but must be supplied by the operator.

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## SPECIFICATIONS

**Construction**.....12 & 18 gauge steel  
**Capacity**.....40 lbs.  
**Arm Hole Openings** .....7"  
**Work Area** .....5.7 cubic feet  
**Overall Dimensions** .....37" x 23" x 54"  
**Air Requirements** .....

5HP compressor w/min 12CFM @ 40-80psi  
**Gross Weight**.....117 lbs.

## SAFETY RULES

1. Do not use any sand or silica based abrasives with this tool. Silica based abrasives have been linked to severe respiratory disease. Always use OSHA recommended abrasives.
2. Know your tool. Read this manual carefully. Learn the tool's applications and limitations, as well as potential hazards specific to it.
3. Do not expose tool to moisture. Don't use this machinery in damp or wet locations. Keep out of rain.
4. Do not abuse cord. Never use the cord to carry tools or pull the plug from an outlet. Keep cord away from heat, sharp edges or moving parts. Replace damaged cords immediately. Damaged cords increase the risk of electric shock.
5. Keep work area clean. Cluttered areas invite injuries.
6. Keep children away. All children should be kept away from the work area. Never let a child handle a tool without strict adult supervision.
7. Do not operate this tool if under the influence of alcohol or drugs. Read warning labels on prescriptions to determine if your judgment or reflexes are impaired while taking drugs. If there is any doubt, do not attempt to operate.
8. Use safety equipment. Eye protection should be worn at all times when operating this tool. Use ANSI approved safety glasses. Everyday eyeglasses are NOT safety glasses. Dust mask, non-skid safety shoes, hard hat, or hearing protection should be used in appropriate conditions.
9. Wear proper apparel. Loose clothing, gloves, neckties, rings, bracelets, or other jewelry may present a potential hazard when operating this machine. Please keep all apparel clear of the machine.
10. Don't overreach. Keep proper footing and balance at all times when operating this product.
11. Always disconnect the tool from power source before making any adjustments, storing, servicing, or changing accessories. Such preventative safety measures reduce the risk of starting the tool accidentally.
12. Do not force tool. Use the correct tool for your application. The correct tool will do the job better and safer at the rate for which it was designed.
13. Check for damage. Check your tool regularly. If part of the tool is damaged it should be carefully inspected to make sure that it can perform its' intended function correctly. If in doubt, the part should be repaired. Refer all servicing to a qualified technician. Consult your dealer for advice.
14. Keep away from flammables. Do not attempt to operate this tool near flammable materials or

combustibles. Failure to comply may cause serious injury or death.

15. Use proper accessories. Using accessories not recommended may be hazardous. Be sure accessories are properly installed and maintained. Do not defeat a guard or other safety device when installing an accessory or attachment.
16. Guard against electric shock. Prevent body contact with grounded surfaces such as pipes, radiators, ranges, and refrigerators. Use a Ground Fault Circuit Interrupter (GFCI) to reduce shock hazards.
17. Store idle tools out of the reach of children and untrained persons. Tools may be dangerous in the hands of untrained users.
18. Periodically check the abrasive medium delivery equipment. Hoses and nozzles that carry the abrasive medium are subjected to the abrasive blasting action so will wear out more quickly than other components.
19. Always disconnect air supply when servicing.

## EXTENSION CORDS

Only use rounded jacket extension cords listed by the Underwriters Laboratories (UL). Improper use of extension cords may cause inefficient operation of your tool which can result in overheating. Be sure your extension cord is rated to allow sufficient current flow. If you are using the tool outdoors, use an extension cord rated for outdoor use (signified by "WA" on the jacket).

The extension cord must have a minimum wire size depending upon the amperage of the tool and the length of the extension cord. This size is determined by its AWG (American Wire Gauge) rating. The smaller the gauge, the greater the cable's capacity. Total length determines the minimum AWG rating. Use the chart below to determine what AWG rating is required for your situation. Cord length is represented in feet.

### AWG RATING CORD LENGTH CHART

	25'	50'	75'	100'	150'	200'
Amps						
0-10	18	18	16	16	14	12
10.1-13	16	16	14	14	12	12
13.1-15	14	14	12	12	12	--
15.1-18	14	12	12	12	12	--

Do not modify your plug in any way. If you have any doubt, call a qualified electrician.

## ASSEMBLY

Your Abrasive Blast Cabinet comes unassembled. It is important that you read the entire manual to become familiar with the unit **before** you use the cabinet. Before assembling your Abrasive Blast Cabinet, be sure that you have all parts described in the parts list in this manual.

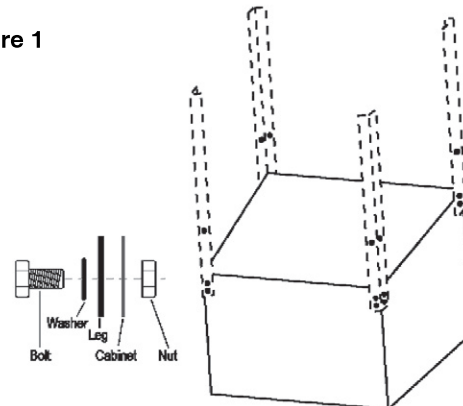
Items included in the box:

1 Operating Manual	1 Screen Frame
1 Cabinet w/Light Assembly	1 Lower Shelf
1 Cabinet Funnel	4 Legs
1 Steel Screen	1 Abrasive Gun
1 Roll Replacement Foam for Door	
Hardware (see parts list)	

### Installing the Legs

1. Unpack the unit and place cabinet, with the viewing window face down, on a table.
2. Loosen the clamp which holds the glove opposite the door and remove glove from mounting ring.
3. Align the four holes on any of the legs with the corresponding holes on cabinet.

Figure 1



4. Attach the leg to the cabinet by inserting a short screw with washer through the leg, then through cabinet, and nut. (See Fig 1) Firmly tighten nut. Repeat for all holes.
5. Repeat steps 3 and 4 for remaining legs.

6. Place screen frame into cabinet with flat edge of frame facing the bottom of cabinet.

### Installing Cabinet Funnel and Shelf

1. Install the Abrasive Suction Pipe into the Cabinet Funnel, securing in place with 2 short screws, 2 washers, and 2 nuts.
2. Place the open end of the Cabinet Funnel on top of the Screen Frame with Abrasive Suction Pipe towards front of unit.
3. Align the holes in the lip of the Cabinet Funnel with holes in the Screen Frame and Cabinet.
4. Attach the Cabinet Funnel to the Screen Frame

and Cabinet by inserting a long screw with washer through each of the holes in the Cabinet, Screen Frame and Cabinet Funnel. Place a nut onto end of each screw, and hand tighten nuts.

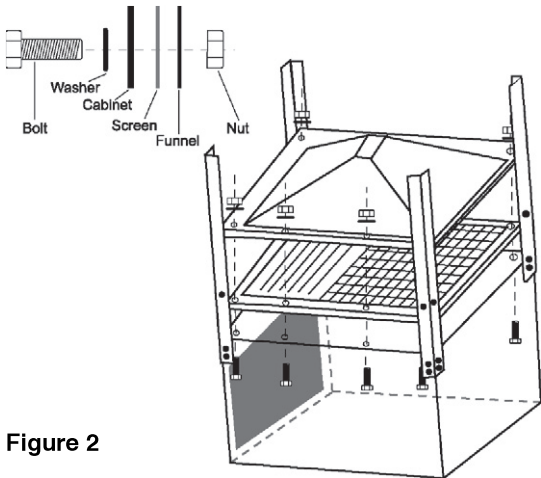


Figure 2

- Align the holes in the corners of the shelf with the corresponding holes in the four legs.
- Attach the shelf to the legs by inserting a short screw with washer through each of the holes in the legs, then through the shelf and nut. (See Fig 3) Securely tighten nuts.

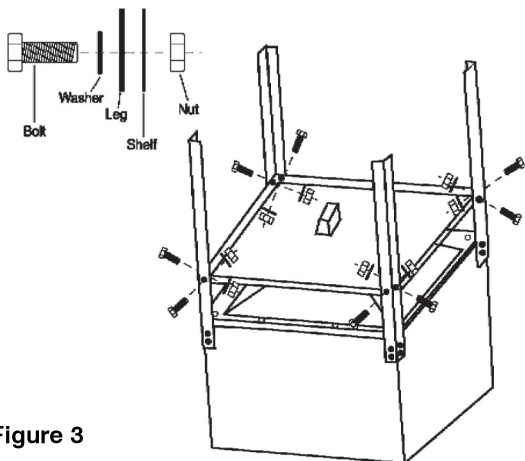
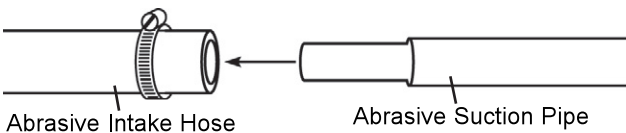


Figure 3

**Final Assembly**

- Carefully stand unit upright.
- Level unit on all four legs and then securely tighten all nuts installed in Step #4 of **Installing Cabinet Funnel and Shelf** section.
- Re-install Rubber Glove onto Mounting Ring and tighten in place with Clamp.
- Open side door of Cabinet and place steel screen (6) into place on Screen Frame. Steel Screw will seat itself into recessed area of Screen Frame when it is properly aligned.



- Secure plastic Abrasive Intake Hose (47) to Abrasive Suction Pipe (9) with the clamp provided. Tighten clamp securely.
- Wrap the threads of the Air Hose Adapter (41) with Teflon tape and place a Washer (44) onto Air Hose Adapter. Insert the threaded end of the Air Hose Adapter through the Hose Inlet Fitting located on the front of the Cabinet. Place another Washer (44) onto threaded end of Air Hose Adapter and then securely tighten the Air Adapter Nut (45) onto threaded end of Air Hose Adapter. Connect the air hose from your air compressor the Air Adapter Nut. **NOTE:** You may want to install a quick disconnect fitting (not included) to the Air Adapter Nut so you can attach and remove your air hose quicker.

You are now ready to begin operation of your Abrasive Blast Cabinet.

**GETTING STARTED**

- WARNING:** Always Close and latch the door prior to operating the cabinet.
- CAUTION:** Clean up all spills; abrasive particles are very slippery.

When using your abrasive blast cabinet, a 5 hp compressor is recommended. A fine grade of abrasive is recommended to prevent clogging. Contact your local authorized King dealer for top quality abrasives.

**WARNING: THIS MACHINE IS NOT INTENDED FOR USE WITH SILICA BASED ABRASIVES. SILICA BASED ABRASIVES HAVE BEEN LINKED TO SEVERE RESPIRATORY DISEASE. ALWAYS USE SILICA SUBSTITUTES WHEN ABRASIVE BLASTING!**

**Adding Abrasive Media**

- Make sure Tank Drain Cover (10) is closed and latched.
- Open the side door and pour your abrasive blasting media directly onto the steel screen. The media will flow through the holes in

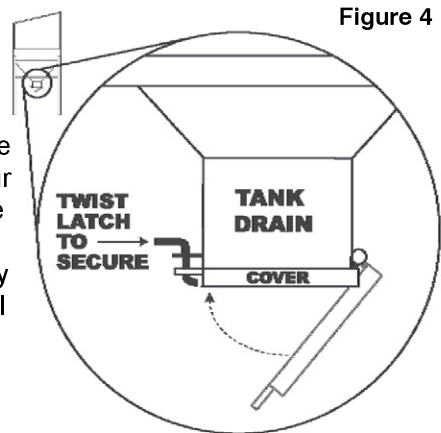


Figure 4

the steel screen and into the bottom of the cabinet.

3. Pour the abrasive media about 6" deep in the bottom of the cabinet.

**⚠ CAUTION:** Do not attempt to move Abrasive Blast Cabinet when it is loaded with abrasive blasting media. This may damage cabinet and cause injury to the user.

### Connecting to Power Source

This unit is designed to operate on a properly grounded 120 volt, 60Hz, single phase, alternating current (ac) power source with a fused 20 amp time delayed fuse or circuit breaker. It is recommended that a qualified electrician verify the actual voltage at the receptacle into which the unit will be plugged and confirm that the receptacle is properly fused and grounded. The use of the proper circuit size can eliminate nuisance circuit breaker tripping while operating your abrasive blast cabinet.

1. Plug power cord into the switch box, located on upper left panel of cabinet. **Note:** Power cord is designed to fit into switch box only one way. Do not attempt to force power cable into switch box. If cable does not fit, rotate 180 degrees and try again.
2. Plug wall adapter into receptacle.

### Turning on the Light

The power switch, located on the upper left panel of cabinet provides power to the fluorescent work light mounted inside the cabinet.

To turn on the light, simply flip the switch to the ON position.

To turn off the light, simply flip the switch to the OFF position.

**⚠ CAUTION:** Air pressure not affected by turning power switch ON or OFF. Air pressure must be adjusted at the air compressor.

### Holding the Gun

The best way to hold the gun is the way that feels most comfortable to you. While practicing to use your new abrasive blast cabinet, experiment with holding the gun in different positions until you find the one which seems to work best for you. Never aim the nozzle at your fingers, the rubber gloves or the light.

## OPERATING BLAST CABINET

**⚠ WARNING:** The air should be turned off until the workpiece is inside the cabinet to prevent accidental spraying of abrasive when loading.

1. Select the appropriate nozzle for your needs.
2. Open the door and place the workpiece in the center of the cabinet. Close door and latch **SECURELY** by placing latch in lip of door and pressing down (see Fig 5).

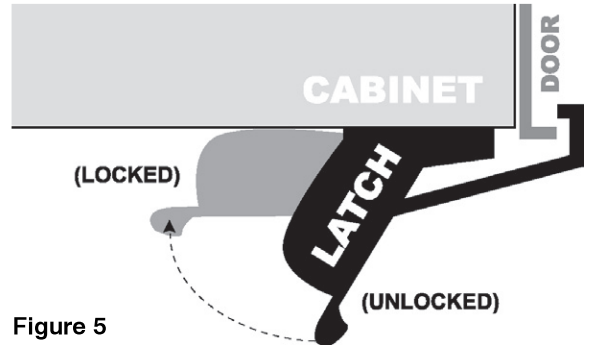


Figure 5

3. Set the compressor's pressure regulator to 40-80 psi. *Do not set the regulator above the maximum 80 psi.*
  4. Place your hands into the rubber gloves (29) inside the cabinet. Make certain your fingers are in the proper positions and that you can easily move your hands and grip things.
  5. Grip the gun with one hand. Point the nozzle at the bottom of the cabinet and operate the gun for a moment to make certain everything is working correctly. If leaking is detected, disconnect the air hose and have it repaired before using.
  6. Hold the material you are working with in your other hand. Position your fingers so that the rubber glove is not in the way of the area you are blasting. You may have to reposition your fingers many different times during the blasting to ensure that you have blasted every area of your workpiece.
  7. Press the trigger of the gun to begin blasting. Aim the nozzle directly at the surface of the workpiece. Bring the nozzle to within two (2) inches of the workpiece if necessary. Move the gun in a side-to-side or circular motion, always making sure that your fingers are not in the way.
- ⚠ WARNING:** Do not aim the nozzle at your fingers, the rubber gloves or the light.
8. To check on the progress of your blasting, release the gun first and pull your hand from the glove. Remove your other hand. Once gun is OFF, disconnect air supply and open the door to inspect your material. If necessary to continue blasting, follow previous steps as needed.



**⚠ WARNING: Never operate gun or have air supply connected when cabinet is open.**

9. Once completed, remove your hands from the gloves and shut off the compressor. Open the door and remove your material.

**NOTE:** Your abrasive blast cabinet has a dust extraction port (located on the left side panel) for your shop vacuum in order to remove any dust created by blasting. Place shop vacuum hose end into dust extraction port. Be sure to follow all vacuum manufacturer's instructions when attaching your vacuum to dust extraction port. When using the vacuum, a paper filter should be placed over the standard filter.

IF THERE IS ANY QUESTION ABOUT A CONDITION BEING SAFE OR UNSAFE, DO NOT OPERATE THE TOOL.

## ABRASIVE SELECTION

The kind of abrasive you choos<sup>e</sup> will greatly influence the amount of time needed to clean a given surface area. Abrasive materials include garnet, glass beads and others. For best results, use 80 grit abrasive or finer. Do not exceed 80 grit media size.

- Make sure that the abrasive you use is thoroughly dry. Damp abrasive can cause clogging of your abrasive blaster.
- While you may reuse abrasive, remember that abrasive does wear out. After use, abrasive becomes smoother and rounder, thus reducing abrasive effectiveness.
- Reusing abrasive may also cause clogging due to debris contained in the mixture from prior use.

## REPLACING NOZZLES

1. Select an appropriate nozzle #37-4mm, #39-6mm or #40-7mm (#38-5mm nozzle is on the gun). Choose a larger nozzle for a broader spray pattern. Choose a smaller nozzle for more focused abrasive blasting.
2. Disconnect air supply.
3. Take off the nozzle adapter nut (#36).
4. Remove the installed nozzle, and insert the new nozzle as shown in Parts List on page 7.
5. Tighten the nozzle adapter nut (#36).

## MAINTENANCE

### 1. Blasting Gun

After 10-12 hours of blasting time, the nozzle should be checked. If it shows uneven wear it should be turned 1/4 turn every 10 hours of use.

### 2. Caking of Media

Media caking is caused by moisture in the air supply or from oily or greasy parts. If this is not corrected, media will not flow correctly and will plug up the hoses and the gun. Check air supply; if water is present, install a good moisture trap. If oily or greasy parts are being blasted, you should degrease and dry the parts first.

### 3. Poor Visibility (viewing window)

The viewing window comes with a clear plastic protective film on it. As this film becomes pitted and worn, it can easily be replaced. Simply peel old film from viewing window and install new film. Your abrasive blast cabinet includes two replacement films. Quality Clarke Replacement Films are available from your authorized Clarke dealer.

### 4. Poor Visibility (Excessive Dust)

A vacuum can be attached to the cabinet to remove the dust from the air while you are blasting. Remove the cap on the Suction Flange (21) on the left side of cabinet. Attach vacuum.

### 5. Pay particular attention to the Blast Gun, Abrasive Hose and Nozzles as they will wear out much more quickly than the other pieces.

The abrasive hose and air hose must be replaced immediately if their side walls develop leaks or show blisters in the surface. *Do not use if any of these problems are present!*

Keep your tool in good condition by adopting a regular maintenance program. Before use, examine the general condition of your tool. Inspect guards, switches, tool cord and extension cord for damage. Check for loose screws, misalignment, binding of moving parts, improper mounting, broken parts, and any other condition that may affect its' safe operation. If abnormal noise, vibration, or air leaks occur, turn the tool off immediately and have the problem corrected before further use. Do not use a damaged tool.

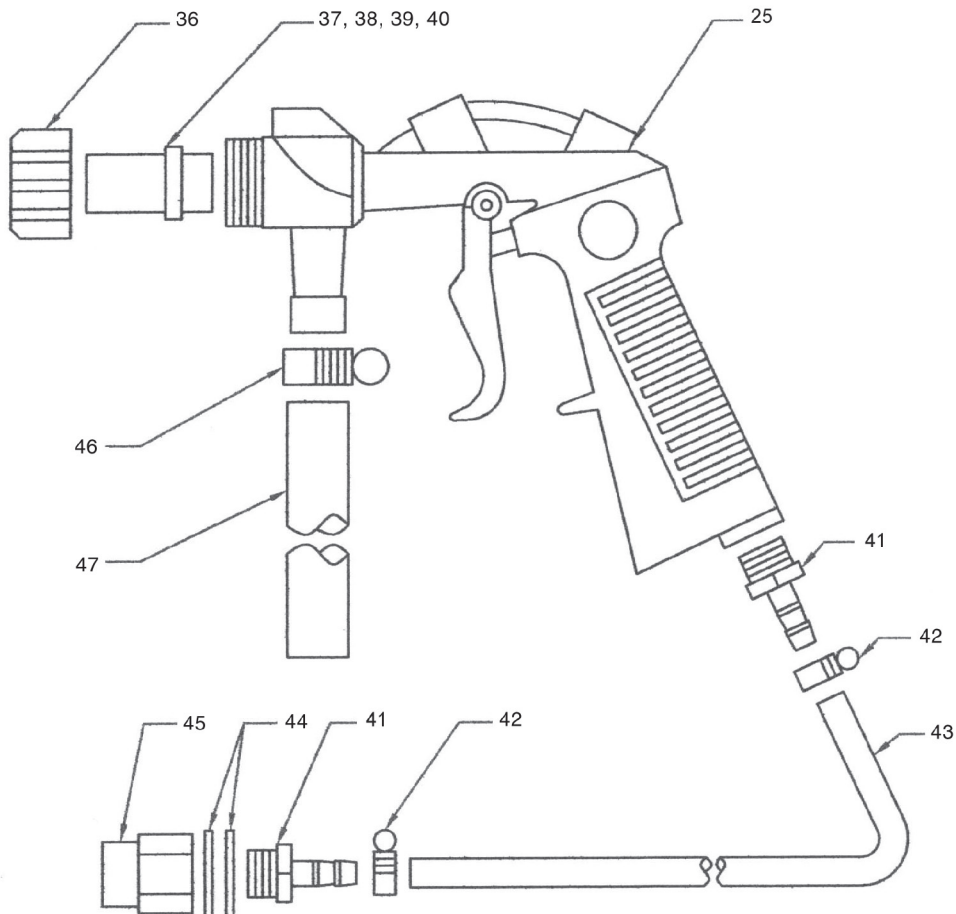
**⚠ WARNING:** To reduce the risk of injury, always unplug your tool and disconnect air supply before performing any maintenance. Never disassemble the tool or try to do any rewiring on the tool's electrical system. Contact Clarke Power Products for all repairs.

## TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	CORRECTIVE ACTION
Excessive dust in cabinet	<ol style="list-style-type: none"> <li>1. Intake vent plugged or airflow is blocked</li> <li>2. Abrasive media worn</li> <li>3. Too much abrasive media in the cabinet</li> <li>4. Loose air line or fitting connections</li> </ol>	<ol style="list-style-type: none"> <li>1. Clean intake vent, and keep vent away from any wall</li> <li>2. Replace abrasive media</li> <li>3. Remove excess media</li> <li>4. Tighten fittings and make sure air lines are secure</li> </ol>
Uneven blasting action	<ol style="list-style-type: none"> <li>1. Too much abrasive media inside cabinet</li> <li>2. Moisture present inside cabinet</li> <li>3. Damp abrasive</li> </ol>	<ol style="list-style-type: none"> <li>1. Remove excess media</li> <li>2. Install Airline moisture separator (not included)</li> <li>3. Replace abrasive, or dry thoroughly before use</li> </ol>
Inadequate or inefficient blasting	<ol style="list-style-type: none"> <li>1. Abrasive media worn</li> <li>2. Pressure too low</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace abrasive media</li> <li>2. Increase incoming pressure from air compressor</li> </ol>
Static electricity present	<ol style="list-style-type: none"> <li>1. Dry weather conditions</li> </ol>	<ol style="list-style-type: none"> <li>1. Leave item on the Steel Screen. Do not hold.</li> </ol>
Excessive Media blown into surrounding atmosphere when no vacuum extraction is being used	<ol style="list-style-type: none"> <li>1. Door not secure</li> <li>2. Foam tape for door is worn</li> </ol>	<ol style="list-style-type: none"> <li>1. Secure door with latch, as shown on page 5</li> <li>2. Replace foam tape</li> </ol>

## PARTS LIST

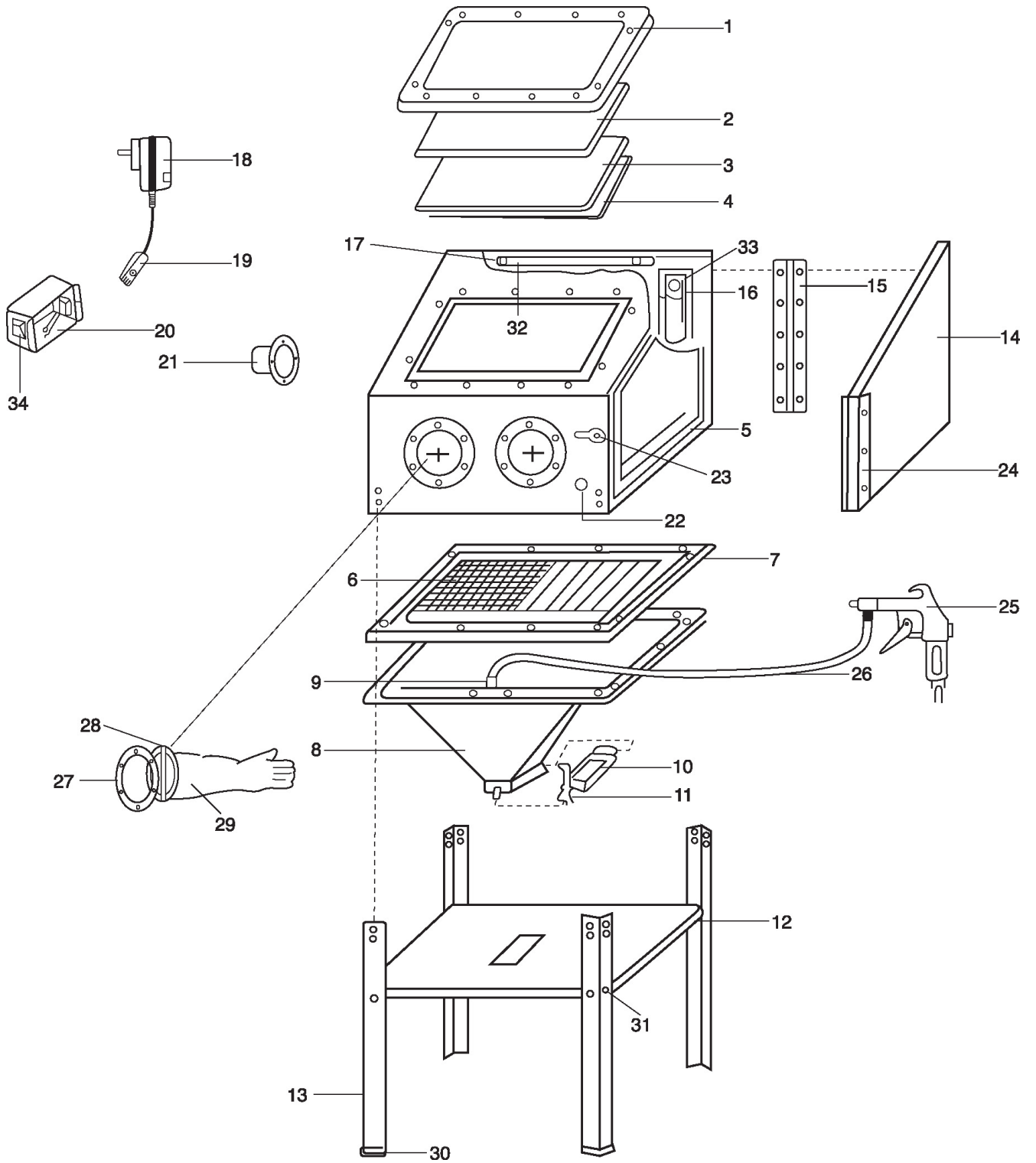
PART #	DESCRIPTION	QTY.	PART #	DESCRIPTION	QTY.
#4006-0-0001	Frame	1	#4006-0-0024	Metal Liner	1
#4006-0-0002	Glass	1	#4006-0-0025	Abrasive Gun	1
#4006-0-0003	Viewing Window	1	#4006-0-0026	Suction Hose	1
#4006-0-0004	Protective Film	1	#4006-0-0027	Mounting Ring, glove	2
#4006-0-0005	Cabinet	1	#4006-0-0028	Clamp	2
#4006-0-0006	Steel Screen	1	#4006-0-0029	Gloves, pair	1
#4006-0-0007	Screen Frame	1	#4006-0-0030	Feet	4
#4006-0-0008	Cabinet Funnel	1	#4006-0-0031	Screws, Nuts, Washers	26 sets
#4006-0-0009	Abrasive Suction Pipe	1	#4006-0-0032	Light, low voltage	1
#4006-0-0010	Tank Drain Cover	1	#4006-0-0033	Intake Vent	1
#4006-0-0011	Cover Lock	1	#4006-0-0034	Switch, low voltage	1
#4006-0-0012	Shelf	1	#4006-0-0036	Nozzle Adapter Nut	1
#4006-0-0013	Legs	4	#4006-0-0037	Abrasive Nozzle 4mm	1
#4006-0-0014	Plastic Door	1	#4006-0-0038	Abrasive Nozzle 5mm	1
#4006-0-0015	Door Hinge	1	#4006-0-0039	Abrasive Nozzle 6mm	1
#4006-0-0016	Intake Vent Cover	1	#4006-0-0040	Abrasive Nozzle 7mm	1
#4006-0-0017	Light Clamp	2	#4006-0-0041	Air Hose Adapter	1
#4006-0-0018	Transformer, low voltage	1	#4006-0-0042	Worm Drive Clip diameter 10	2
#4006-0-0019	Plug, low voltage	1	#4006-0-0043	Air Hose	1
#4006-0-0020	Switch Box, low voltage	1	#4006-0-0044	Flat Washer	2
#4006-0-0021	Suction Flange, 2 1/2" x 2 1/4"	1	#4006-0-0045	Air Adapter Nut	1
#4006-0-0022	Hose Inlet Fitting	1	#4006-0-0046	Clamp	1
#4006-0-0023	Latch	1	#4006-0-0047	Abrasive Intake Hose	1



**THIS TOOL CAN ONLY BE SERVICED AT AN AUTHORIZED CLARKE REPAIR FACILITY.**



# PARTS DIAGRAM



THIS PARTS LIST AND LINE DRAWING ARE FOR REFERENCE ONLY.