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41018  
ABRASIVE BLASTER

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OPERATING GUIDE



DIVISION OF S&H INDUSTRIES

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## **WARNING!**

Do not use an ALC Abrasive Blaster until you have read this manual and you understand its contents and warnings. These warnings are included for the health and safety of the operator and those in the immediate vicinity. Keep this manual for future reference.

Dust created by power sanding, sawing, grinding, drilling, and other construction activities may contain chemicals known to cause cancer, birth defects or other reproductive harm and respiratory illnesses. Some examples of the chemicals include:

- 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 ventilated area, and work with approved safety equipment, such as those dust masks that are specially designed to filter out microscopic particles.

Abrasive blasting produces harmful dust. Everyone in the blasting area must wear a properly fitted and properly maintained NIOSH-approved supplied-air respirator.

### **SILICOSIS AND OTHER DUST WARNINGS:**

Breathing dust from silica sand may cause silicosis, a fatal lung disease. Breathing dust during blasting operations may also cause asbestosis and/or other serious or fatal diseases. A NIOSH-approved, well-maintained air-supplied abrasive blasting respirator must be used by anyone blasting, anyone handling or using media containing toxic substances or media with more than point one percent (.001) free crystalline silica and anyone in the area of the dust. Harmful dust can remain suspended in the air for long periods of time after blasting has ceased, causing serious injury or death.

Before removing respirator, use an air monitoring instrument to determine if atmosphere is safe to breathe. Contact local OSHA or NIOSH office to determine the proper respirator for your particular application.

Supplied-Air respirators do not remove or protect against carbon monoxide (CO) or any other toxic gas. Use a carbon monoxide removal device and monitoring device with the respirator to ensure grade D quality air. Follow all applicable OSHA standards and OSHA regulation 1910.134 (d).

## **OPERATING GUIDE**

### **APPLICATIONS**

#### **1. ABRASIVE BLASTING:**

Your Abrasive blaster is designed to spray abrasive material such as black beauty, aluminum oxide, glass beads, metal shot, silicon carbide, ground corncobs, and ground nutshells. The abrasive blasting of rust, paint, scale, grease, old paint, mold, mildew and other corrosion from metal, wood, stone and fiberglass are ideal applications for the Sandy Jet blast cleaner. This product is also excellent for etching distinctive designs in glass, wood, stone, marble and concrete.

### **ADDITIONAL WARNINGS!**

#### **CAUTION MUST BE EXERCISED BY USER AT ALL TIMES**

- 1. Everyone in the blast area including the equipment operator should correctly use and maintain a NIOSH-approved air-supplied respirator, even after blasting has ceased. Harmful dust can remain suspended in the air for long periods of time after blasting has ceased causing injury or death.**
- 2. Before using the pressure blaster: Put on safety glasses, gloves, and NIOSH-approved respirator. Always wear these protective items when operating and while servicing your abrasive blaster. A well maintained air supplied blasting respirator must be used by anyone blasting.**
- 3. Use thick gloves with gauntlets to protect your hands.**
- 4. Use backboards to prevent overspray from hitting someone or something else because the dust will travel a long distance. Blast in a large open area to minimize abrasive accumulation in surrounding areas.**
- 5. For safe operation, perform recommended preventive maintenance on blaster tank, remote unit and accessories. Replace all worn parts before they fail. Immediate replacement of worn components is required. Failure to replace worn components could result in exposing the operator or bystanders to high speed media and compressed air, causing serious injury.**
- 6. Do not use corrosive materials of any type in unit. Use only clean, dry media**
- 7. Do not splice abrasive hose. The splice will wear out quickly and may violently spray media over the surrounding area. A worn blast hose could suddenly fail by bursting. Couplings and nozzle holders may not adequately grip worn hose, causing them to blow off under pressure. Compressed air and abrasive escaping from a burst hose, or disconnected coupling or nozzle holder, could cause severe injury.**
- 8. Always place the machine so that the outlet is pointed away from any objects or persons. Stand clear of the path of exiting abrasive. It may come out at high velocity. Impact from exiting abrasive could cause severe injury.**

9. **Static electricity can be created by the use of this equipment. Do not use within fifty feet of any explosive, potentially explosive substances, or their vapors as an explosion can occur.**
10. **Do not use this equipment in any area that might be considered hazardous or where flammable gases or liquids are present. Failure to do so may cause an explosion resulting in serious injury.**

### **OPERATION**

Connect your air supply to the handle of the blast gun with a 1/4" NPT fitting. Abrasive materials must be dry and preferably of the finest grit available to prevent clogging of the gun.

The ALC abrasive blaster is designed to operate between 50–110 PSI. Pressures of no more than 70 PSI are recommended for the etching of glass or plastic and the carving of wood. A minimum 2-3 HP compressor is required. At 80 PSI the 1/4" nozzle supplied with the product will require 15 CFM. A smaller nozzle requiring only 7 CFM can be ordered separately. For maximum operating power, no less than 5/16" I.D. air hose of a maximum 50 feet length with no splices or restrictions should be connected to a direct line from the compressor tank to the blast gun.

When using an ALC container, note the air vent is located on the abrasive hose below the container. Keep it open at all times. Abrasives must flow freely from container to the level part of hose below container. When using ALC Model 40018, slide suction hose 1-1/4" onto pick up aspirator tube, allowing 1/4" opening above outer tube for proper air venting.

The speed and quality of the blasting depends upon the size of the air jet and nozzle used, air pressure, type and size of abrasive, and distance from the work surface. The gun should be held almost directly at the object to be cleaned, but at enough angle that the abrasive doesn't rebound at the operator. Abrasive power is increased as you hold the gun closer to the work. Make sure that your abrasive material is dry.

### **WARNING!**

**Disconnecting hose while unit is under pressure could cause serious injury or death. Use safety lock pins and safety cables in all coupling connections to help prevent hose couplings from accidental disconnection.**

**If twist-on type air hose couplings are used, they must be secured by safety lock pins or wires to prevent accidental disconnection while under pressure. Hose disconnection while under pressure could cause serious injury.**

### **WARNING!**

**The threads on the nozzle and nozzle holder must be inspected each time the nozzle is secured to the holder. Check the threads for wear, and make sure nozzle holder securely grips the nozzle. The nozzle washer must also be inspected for wear. Worn nozzle washers cause thread erosion. A loose-fitting nozzle may eject from the holder under pressure and could cause severe injury.**

### **MAINTENANCE**

Replace the nozzle when you notice too much air and abrasive or liquid escaping, or if cleaning speed is reduced. When the air jet is worn, it will deflect the flow downward and will cut a groove in the nozzle. The ratio of wear is one air jet to every three or four steel nozzles. If air jet and nozzle are not replaced when worn, the gun suction head will be damaged.

The nozzle is easily replaced by loosening the nozzle setscrew. The air jet is accessible by removing the suction head. To obtain maximum power, the I.D. of the air jet must be 1/2 the I.D. of the nozzle. When re-assembling the blast gun, ensure that the suction

head is holding the air jet and rubber sealing washer tightly against the gun body. Tighten the setscrew securely, making sure that it is sitting in the proper groove on the gun handle. Also, periodically check the abrasive hose for leaks or cracks.

**IMPORTANT: Nozzle and air jet must maintain proper size ratio, i.e. small/small, medium/medium, large/large.**

**WARNING**

**Abrasive particles and liquids are emitted from the blast gun under high pressure. Operator must wear appropriate personal and respiratory protective equipment as approved by MSHA/NIOSH.**

**Abrasive (Media) Usage:**

1. If moisture is in the media, it will eventually damage the blaster tank or plug the system. Keep the media and compressor air dry to avoid this problem.
2. If the media is moist, screen it and dry it before using.
3. Do not leave media in the tank after blasting because it can absorb moisture and impair blasting performance.
4. Store media in a dry place; keep media off the ground or concrete floors. Put it on a wooden skid.
5. It may not be advisable to blast if the humidity is excessively high.
6. Consider using different grades or different types of media to prevent nozzle clogging due to high moisture content.
7. Do not use sand

ABRASIVE AND PRESSURE GUIDE					
Material to Be Cleaned	Air Pressure	Abrasive		Grit Size	
Steel vats	100-125 psi	Black magnum	10898	30/50	20/40
Auto fenders	50-80 psi	Black magnum	10898	80/120	20/40
Brick and block	80-125 psi	Black magnum	10898	30/50	20/40
Steel cabinets	80-125 psi	Black magnum	10898	30/50	20/40
Truck bodies	100-125 psi	Black magnum	10898	30-50	20/40
Glass etching	50-70 psi	Glass beads	Silicon carbide	30/40	100
Wood	50-70 psi	Nut shells	Glass beads	14/30	30/40

**Coal Slag #40093**

Coal Slag is used when paint and rust has to be removed from steel, such as car bodies, tanks or heavy machinery. Coal Slag is faster cutting, can be re-used, is moisture free, and will not pack or absorb moisture. (25 Lb. container)

**Steel Grit #40109**

Steel grit is extremely fast cutting on rusty metal and hard to remove paint. Steel Grit is popular because it leaves a very smooth finish. It is also comparable in price to most other specialty abrasives. Steel Grit is recommended in reclaim systems or cabinets. (25 Lb. container)

**Glass Bead #40105**

Glass Bead is used in creating a satin or matte finish. Glass Bead is recommended in reclaim systems or cabinets. (25 Lb. container)

**Aluminum Oxide #40098**

Aluminum Oxide is a high quality abrasive that is sharper than sand (not recommended) and cuts twice as fast as sand. It leaves a smooth textured finish with no pits or burrs. Aluminum Oxide is rougher than glass bead and can be used over and over again. It is one of the most economical abrasives you can use in any reclaim systems or cabinets. (4/25 Lb. container)

**Plastic Grit #40110**

Primarily used to strip aluminum and fiberglass. Great for stripping paint, light oxidation and surface rust. Recommended for use in blast cabinets because it creates very little dust. Works quickly, last a long time and increases visibility within the cabinet. (10 Lb. container)

**Walnut Shells #40112**

Walnut shells are recommended for use on "soft" surfaces such as aluminum, glass, wood, and other areas where no pitting is desired. Leaves a smooth, dull finish. (10 Lb. container)

## TROUBLESHOOTING TIPS

### PROBLEM/CAUSE

### POSSIBLE SOLUTION

#### Surging of blast flow:

Air pressure too low  
Too much media

Check pressure gauge on compressor

#### Excessive media consumption:

Media valve open too far  
Air pressure too low

Close slightly  
Check pressure gauge on compressor

#### Clogging and plugging of blast flow:

Debris in media  
Media size too large  
Nozzle plugs  
Nozzle plugs  
Wet media

Purge and screen  
Use smaller grit size  
Use larger nozzle  
Adjust media valve 40200  
Dry media, drain water from air

#### Moisture in abrasive media:

Wet media  
Water in air  
Water in tank

Change or use dry media  
Drain water from air lines  
Empty, dry out and refill

#### Humid weather:

Moderate humidity  
Moderate humidity  
High humidity

Keep media as dry as possible  
Use drier or moisture separator  
Avoid that period of use if possible

#### Overtaxed compressor:

Compressor too small  
Nozzle size too large  
Too many leaks in plumbing  
Holes in abrasive hose  
Air filter on compressor plugged

Restrict time used  
Use smaller size  
Seal and tighten plumbing  
Replace hose  
Clean

#### Lack of air pressure:

Compressor too small  
Supply valves not on full position  
Nozzle size too large  
Leaks in plumbing  
Holes in abrasive hose  
Air filter on compressor plugged  
Urethane gasket worn or dirty

Use smaller nozzle  
Open valves  
Use smaller size  
Seal and tighten plumbing  
Replace hose  
Clean filter  
Clean or replace gasket

#### Lack of abrasive flow:

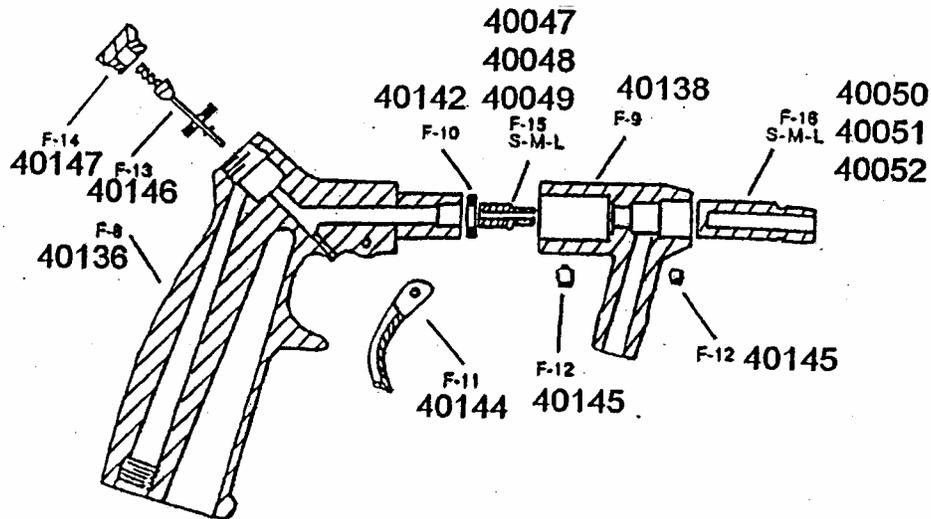
Blaster tank empty  
Moisture in media  
Not enough air pressure  
Abrasive hose kinked

Fill tank  
Dry media  
Check system  
Straighten hose

Debris in media

Clean or screen media

## REPLACEMENT PARTS AND OPTIONAL ACCESSORIES

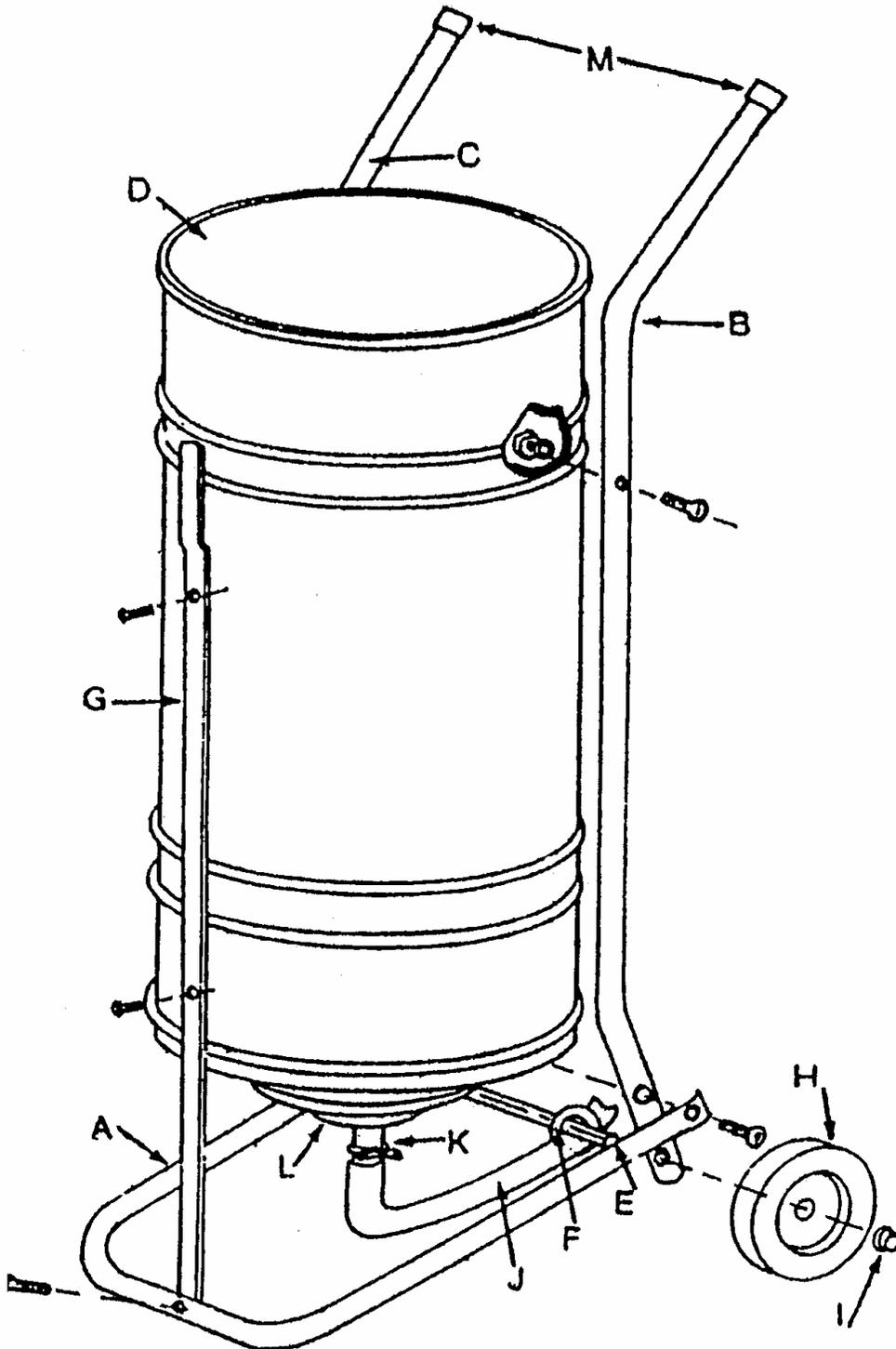


### REPLACEMENT PARTS

Part No.	Description
40153	Blast gun body (equipped with 1/4" nozzle, 1/8" air jet)
40136	Blast gun handle only, with trigger and valve
40138	Blast gun siphon head only, with nozzle and air jet
40142	Washer
40144	Blast gun trigger
40145	Blast gun set screw
40146	Blast gun valve, spring and seat assembly
40147	Valve nut
40050	13/64" Steel nozzle (gold), 7 CFM @ 80 PSI
40051	1/4" Steel nozzle (silver), 15 CFM @ 80 PSI
40052	5/16" steel nozzle (black), 20 CFM @ 80 PSI
40047	5/64" Air jet (gold)
40048	1/8" Air jet (silver)
40049	5/32" Air jet (black)
40056	13/64" Ceramic nozzle, 7 CFM @ 80 PSI
40057	1/4" Ceramic nozzle, 15 CFM @ 80 PSI
40058	5/16" Ceramic nozzle, 20 CFM @ 80 PSI
40148	Allen wrench
40151	Pick-up tube assembly
40111	Abrasive hose (10 ft.) with straight end
40115	Abrasive hose (7 ft.) with molded elbow
40116	Abrasive hose (10 ft.) with molded elbow

**40018 ABRASIVE BLASTER ASSEMBLY INSTRUCTIONS**

All parts for assembly will be found in parts bag inside of box



### BOX CONTENTS

Key	Part No.	Description	Qty.	Key	Part No.	Description	Qty.
A	10953	U-shaped bottom brace	1	L		Funnel end of tank	
B	10951	Left upright arm	1	M	40688	Handle cap	2
C	10952	Right upright arm	1	N	4002100	Safety Goggles	1
D	11032	Tank	1	O	10181	¼-20 x 1½ Carriage Bolt	5
E	10956	Axle	1	P	10183	¼-20 Sq nut chamfered	7
F	40150	Hose ring	1	Q	10182	¼-20 x ½ RHMS	2
G	11034	Front tank support	1	R	4014800	Allen Wrench	1
H	40225	Wheels	2	S	10218	¼ USS Washer	2
I	10705	Hub cap	2	T	10705	Hub Cap	2
J		Hose	1	U	4002000	Open Face Hood	1
K	40149	Hose clamp	1				

### ASSEMBLY:

#### LEAVE ALL BOLTS LOOSE UNTIL STEP 5

1. Attach U-shaped brace (A) to left and right handles (B and C) using long bolts (O). **Note: Brace bolt hole in front must angle downward towards floor in back. Left and right handle bolt holes must angle forward in toward tank (D) for proper assembly.**
2. Insert axle (E) at one end only and hang hose ring (F) over axle end so ring will hang in center between handles. Insert axle through second handle opening.
3. Attach tank (D) to handle uprights. Use two long bolts (O) and put washers (S) on inside of tank.
4. Install front tank support (G) using 2 short bolts (Q) on tank at top and one long bolt (S) on U-shape brace at bottom. Bolt on bottom must angle downward from front to back (instruction No. 1).
5. Now, tighten all bolts.
6. Put wheels (H) on axle ends with long hubs inside and flat side of wheels to the outside.
7. Tap on hub caps (I) gently until seated.
8. Slip formed elbow of hose (J) through ring on axle. Hold hose clamp (K) on funnel end of tank (L) with one hand and push hose over funnel end of tank.
9. Secure hose in position with hose clamp (K). **Note: Hole near formed elbow in hose must be kept open for proper operation.**

**See operating instruction sheet after assembly.**

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### LIMITED WARRANTY

**S & H Industries Inc. warrants this product to be free from defects in materials or workmanship for two years after the date of original purchase.**

**If the product should become defective within that warranty period, we will repair or replace it (at our option) free of charge including return transportation to you provided you deliver it prepaid to S & H Industries Inc., 5200 Richmond Road, Bedford Hts., Ohio 44146.**

**This warranty does not include damage resulting from accident, abuse or misuse of the product. Nor does it apply to parts subject to abrasive wear, i.e., nozzles, air jets, seal blocks, valves, hose connections and hoses.**

**Implied warranties including those of merchantability and fitness for a particular purpose are excluded to the extent permitted by law, and any and all implied warranties are excluded. This is the exclusive remedy and liability for consequential damages under any and all warranties are excluded to the extent exclusion is permitted by law.**