

Soot Buster

M5784-00



Tube & Pipe Cleaners ◦ Tube Testers ◦ Tube Plugs ◦ Tube Removal ◦ Tube Installation



Operating and Maintenance Instructions

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INTRODUCTION

Thank you for purchasing this Elliott product. More than 100 years of experience have been employed in the design and manufacture of this control, representing the highest standard of quality, value and durability. Elliott tools have proven themselves in thousands of hours of trouble-free field operation.

If this is your first Elliott purchase, welcome to our company; our products are our ambassadors. If this is a repeat purchase, you can rest assured that the same value you have received in the past will continue with all of your purchases, now and in the future.

The Soot Buster has been designed for the following types of equipment:

Firetube Boilers

If you have any questions regarding this product, manual or operating instructions, please call Elliott at +1 800 332 0447 toll free (USA only) or +1 937 253 6133, or fax us at +1 937 253 9189 for immediate service.

SAFETY GUIDELINES

Read and save all instructions. Before use, be sure everyone using this machine reads and understands this manual, as well as any labels packaged with or attached to the machine.

- **Know Your Elliott Tool.** Read this manual carefully to learn your tool's application and limitations as well as the potential hazards specific to this tool.
- **Keep Work Area Clean and Well Lit.** Cluttered, dark work areas invite accidents.
- **Dress Properly.** Do not wear loose clothing or jewelry. Wear a protective hair covering to contain long hair. It is recommended that the operator wear safety glasses with side shields or a full face shield eye protection. Gloves and water repellant, nonskid footwear are also recommended. Keep hands and gloves away from moving parts.
- **Use Safety Equipment.** Everyone in the work area should wear safety goggles or glasses with side shields complying with current safety standards. Wear hearing protection during extended use, respirator for a confined space and a dust mask for dusty operations. Hard hats, face shields, safety shoes, respirators, etc. should be used when specified or necessary. Keep a fire extinguisher nearby.
- **Keep Bystanders Away.** Bystanders should be kept at a safe distance from the work area to avoid distracting the operator and contacting the blade.
- **Use The Right Tools.** Do not force a tool or attachment to do a job or operate at a speed it was not designed for.
- **Use Proper Accessories.** Use Elliott accessories only. Be sure accessories are properly installed and maintained.
- **Check for Damaged Parts.** Inspect guards and other parts before use. Check for misalignment, binding of moving parts, improper mounting, broken parts or any other conditions that may affect operation. If abnormal noise or vibration occurs, turn the tool off immediately and have the problem corrected before further use. Do not use a damaged tool. Tag damaged tools "Do Not Use" until repaired. A damaged part should be properly repaired or replaced by an Elliott service facility. For all repairs, insist on only identical replacement parts.
- **Keep Hands Away from All Moving Parts.**
- **Do Not Overreach. Maintain Control.** Keep proper footing and balance at all times.
- **Stay Alert.** Watch what you are doing, and use common sense. DO NOT use a tool when you are tired, distracted or under the influence of drugs, alcohol or any medication causing decreased control.
- **Unplug Tool.** Unplug tool when it is not in use, before changing accessories or performing recommended maintenance.

SAFETY GUIDELINES

- **Maintain Tool Carefully.** Keep tools sharp and clean for best and safest performance. Follow instructions for lubrication, maintenance and changing accessories. For more information see “Maintenance” section. Periodically inspect the tool cord and extension cords for damage. Have damaged parts repaired or replaced by an Elliott service facility.
- **Store Idle Tools.** When not in use, store your tool in a dry, heated, secured place. For more information see “Maintenance” section.
- **Maintain Labels and Nameplates.** These carry important information and will assist you in ordering spare and replacement parts. If unreadable or missing, contact an Elliott service facility for a replacement.
- **Do not leave the system running from one tube to the next.** The system should only be running inside a tube.
- **The operator must stand clear of the hose coils to avoid entanglement.** The hose should only be guided keeping hands well clear of the tube entrance.
- **The system must be used only for the purposes for which it was designed.** Do not throw the components on the floor, strike the housing in any way or use the parts as a hammer to knock material into place. Any hard blow to the cylinder body can distort the bore to the extent that the piston will seize and will need repair.
- **The system must never be run without an oil supply.** Lack of oil will result in accelerated piston and bore wear and in extreme cases seizure of the piston. **ALWAYS** ensure the lubricator is full before starting cleaning operations and that it is flowing when the tool is running.
- **Do not exceed the recommended air pressure.** Be sure the air pressure gauge is operating properly and is checked with every use.

RECEIVING & INSTALLATION

Unpacking

The Elliott Soot Buster is shipped in a carton complete with all accessories listed. On arrival, check for external damage to the box. If damage is found, notify the carrier and the supplier so insurance inspectors can examine the box before it is unpacked. When opened, check the contents against the packing and parts list. Report any damage or shortage to Elliott.

Ensure that there is no packaging material left inside the openings of the machine, especially in the air inlets.

It is important that the system is assembled in the following sequence. Please refer to the diagram on page 10.

Connecting

1. Check and make sure that air supply is shut-off. Connect air hose (1) to an air supply.
2. With one end of the 33 foot air hose (1) into the air supply, insert the other end into the air inlet side of the filter lubricator (2). If necessary, fill the lubricator with clean SAE Oil.
3. Insert one end of the 16.5 foot air hose (3) into the socket on the stopcock side of the filter lubricator (2) and the other into the socket on the foot valve (4). Insert the 33' heavy-duty hose (5) socket onto the foot valve male connection and slide the optional Y-Tube (6) down the hose as shown on the opposite page.
4. Set the filter lubricator (2) shut off cock to the "Off" position, (the T-handle across the line of flow). Set the foot valve (4) to the "Off" position, (the foot pedal in the horizontal position). Switch on the air supply and check the system pressure on the filter lubricator (2) gauge, adjust if necessary. Open the shut off cock on the filter lubricator (2) and set the foot valve to the "On" position. Allow a burst of air to flow through the system to purge the line.
5. Screw the air pulsator (7) onto the swivel end of the heavy-duty hose (5) and tighten down.
6. Holding the hose (5) about two feet from the air pulsator, allow the air pulsator and hose to hang down, but keep above the ground. Switch the Soot Buster on and check that the lubricator is delivering oil at one to two drops per second. Adjust if necessary and switch the Soot Buster off.
7. Proceed to operation, page 8.

Disconnecting

Shut down the air supply at source and set the foot valve (4) and filter lubricator (2) shut off cock to the "On" position to release any pressure trapped in the system. System components may now be disconnected in any order, cleaned and stowed.

OPERATION

The Soot Buster M5784 is designed for the quick and efficient cleaning of fire tube boiler tubes. It removes soot, scale and light deposits on the tube inside diameters. The Soot Buster is an air activated cleaning tool that propels itself inside of the tube at 45 feet per minute and scrubs the tube ID with each pulse.

After the Soot Buster has been set-up and connected according to the start-up instructions, the following steps in operation are:

1. Determine the tube ID dimension and select the proper brush. The brush selected should be sized up to 2". Over 2" tube size, the brush should be approximately 1/8" larger in diameter than the tube ID. (The most common brush sizes are listed on page 9.)
2. Thread the proper brush onto the air pulsator.
3. Re-check to be sure that all hose connections to air supply and optional vacuum cleaner are secure. Air regulator and foot switch should be closed.
4. Turn on vacuum cleaner (if being used).
5. With the air switched off, push the brush approximately 2" into the boiler tube to be cleaned. Make sure that the hose is free to run the length of the tube. The hose length should be about 10' longer than the tube length.
6. Switch on the air by depressing the foot valve. The Soot Buster will feed itself through the tube pulling the hose after it.
7. At the end of the tube, the Soot Buster will stop advancing. Mark the hose at your end with tape, to give you a good indicator of when the Soot Buster is at the end of the tube.
8. Without switching off the air, give the hose a firm pull. This will reverse the Soot Buster returning itself to you.
9. Pull the hose gently as the Soot Buster returns to make sure that it does not lock up in the tube.
10. When the Soot Buster has returned, shut off the air by the foot switch and move the brush and pulsator to the next tube to be cleaned.
11. Repeat operation until all tubes are cleaned.

SPECIFICATIONS

Brush Selection Guide

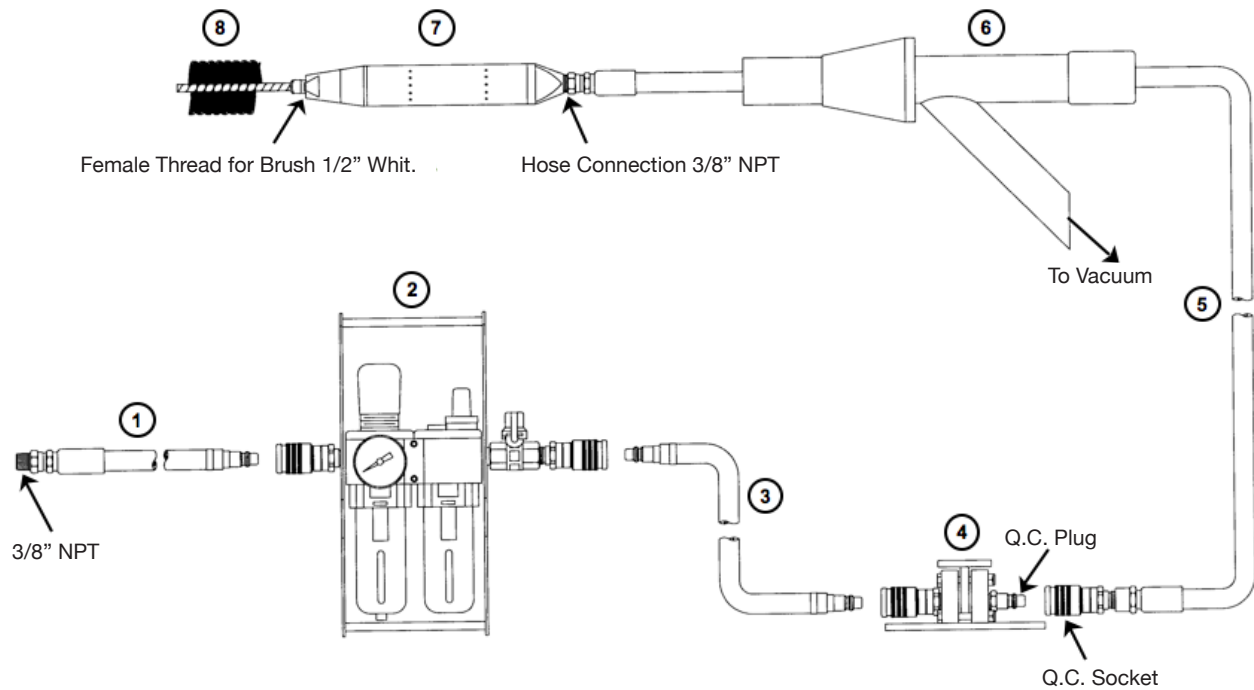
These are the most common brush sizes. For special tube sizes, consult factory.

Brush Selection Guide			
Tube OD	BWG	Brush Part Number	Brush Size
2" (50.8mm)	10	26B15D	1-3/4" (44.5mm) OD Brush
2" (50.8mm)	12	26B16F	1-7/8" (47.6mm) OD Brush
2-1/2" (63.5mm)	10-12	26B20F	2-3/8" (60.3mm) OD Brush
3"	10-12	26B24A	2-7/8" (73mm) OD Brush

Soot Buster Specifications

System Specifications		
	M5784-00	M5784-01
Tube ID Range	1.75" (45mm) ID & upwards	1" (26mm) ID & upwards
Air Requirements	100 psi (7 bar)* 23-25 cfm**	80 psi (5.5bar)* 15-18 cfm**
<small>* +/- 5% ** Actual volume required- not the cfm stated on the compressor.</small>		

PART NUMBERS & DIAGRAMS



ITEM #	PART #	DESCRIPTION
1	M5784D5	Air Hose 33'
2	M5784D3	Lubricator / Filter with Gauge
3	M5784D4	Air Hose 16.5'
4	M5784D6	Foot Valve
5	M5784D2	Air Hose – 33' Heavy-Duty
6	M5784D8	Y-Tube for Vacuum Hose
7	M5784D1	Air Pulsator
8		Common Brushes:
	26B15D	Brush (1-3/4" OD) for 2" x 10 BWG
	26B16F	Brush (1-7/8" OD) for 2" x 12 BWG
	26B20F	Brush (2-3/8" OD) for 2-1/2" x 10 and 12 BWG
	26B24A	Brush (2-7/8" OD) for 3" x 10 and 12 BWG

TROUBLESHOOTING GUIDE

Condition	Cause	Remedy
The pulsator stops in tube but is still pulsating.	1.1 Not enough air pressure.	1.1 Wait until air pressure builds back up.
	1.2 Check oil in lubricator.	1.2 Refill if necessary. Increase flow if required.
	1.3 Hose is caught.	1.3 Turn off air supply and dislodge hose.
	1.4 Brush is off of air pulsator.	1.4 Turn off air supply, rod out brush and refit to air pulsator.
The pulsator stops vibrating in the tube.		2.1 Check remedies 1.1 to 1.4
		2.2 Turn off air supply. Switch on air supply sharply as you pull back the pulsator. Turn off and unscrew pulsator from hose. Squirt in plenty of oil. Reconnect and turn on air supply.

GENERAL TIPS

1. Check air line pressures and volumes. Too little of either weakens the tool. A minimum of 60 psi and 20 cfm are necessary. 90 to 100 psi are the preferred line pressures. Airline must not be smaller than 3/8".
2. Brush size is critical. Too large or too small can cause operating problems.
3. Lubrication is critical. One drop per second is recommended, slightly more for the first hour of operation.
4. Clean the air pulsator after use. Wash using a clean oil and then dip in Shell Ensis Oil L or equivalent positive rust preventing oil.

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Contact Us

Elliott Tool offers a complete line of precision tube tools to meet your needs. Contact us or your local support.

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