

# Soot Buster

Fire Tube Boiler Cleaner



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.

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.
- 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.
- It's strongly recommended to use a vacuum with the Soot Buster to reduce the amount of any harmful airborne particulates.
- 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.
- 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. 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.

# **SAFETY GUIDELINES**

- 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.
- Turn off air supply when it is not in use, before changing accessories or performing recommended maintenance.
- Maintain Tool Carefully. Follow instructions for lubrication, maintenance and changing accessories. Periodically inspect the air hose 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.
- 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.

# 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.

## 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.

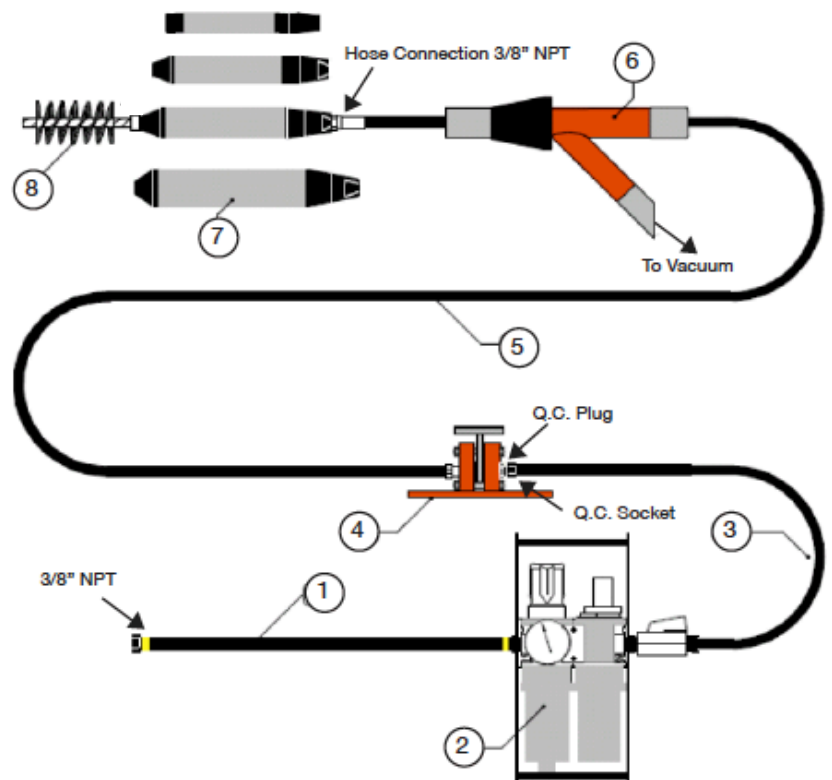
3. Insert one end of the 16.5 foot air hose (3) into the socket of the On/Off valve, located on the side of the filter lubricator (2) and the other into the socket on the foot valve (4). Insert the 33' heavy-duty hose (5) socket onto the foot valve male connection and slide the optional Y-Tube (6) down the hose as shown on the opposite page.

4. Set the filter lubricator (2) On/Off valve 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 On/Off valve 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.

## 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 INSTRUCTIONS

The Soot Buster is an air activated cleaning tool that propels itself inside of the tube at 1.5 feet per second.

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 OD and gauge. Use the table on page 9 to determine proper brush size. Brush OD must be larger than tube ID to function properly.
2. 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.
3. Turn on vacuum cleaner (if being used).
4. 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.
5. Switch on the air by depressing the foot valve. The Soot Buster will feed itself through the tube pulling the hose after it.
6. 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.
7. Without switching off the air, give the hose a firm pull. This will reverse the Soot Buster returning itself to you.
8. Pull the hose gently as the Soot Buster returns to make sure that it does not lock up in the tube.
9. 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.
10. Repeat operation until all tubes are cleaned.

## **Best Practices**

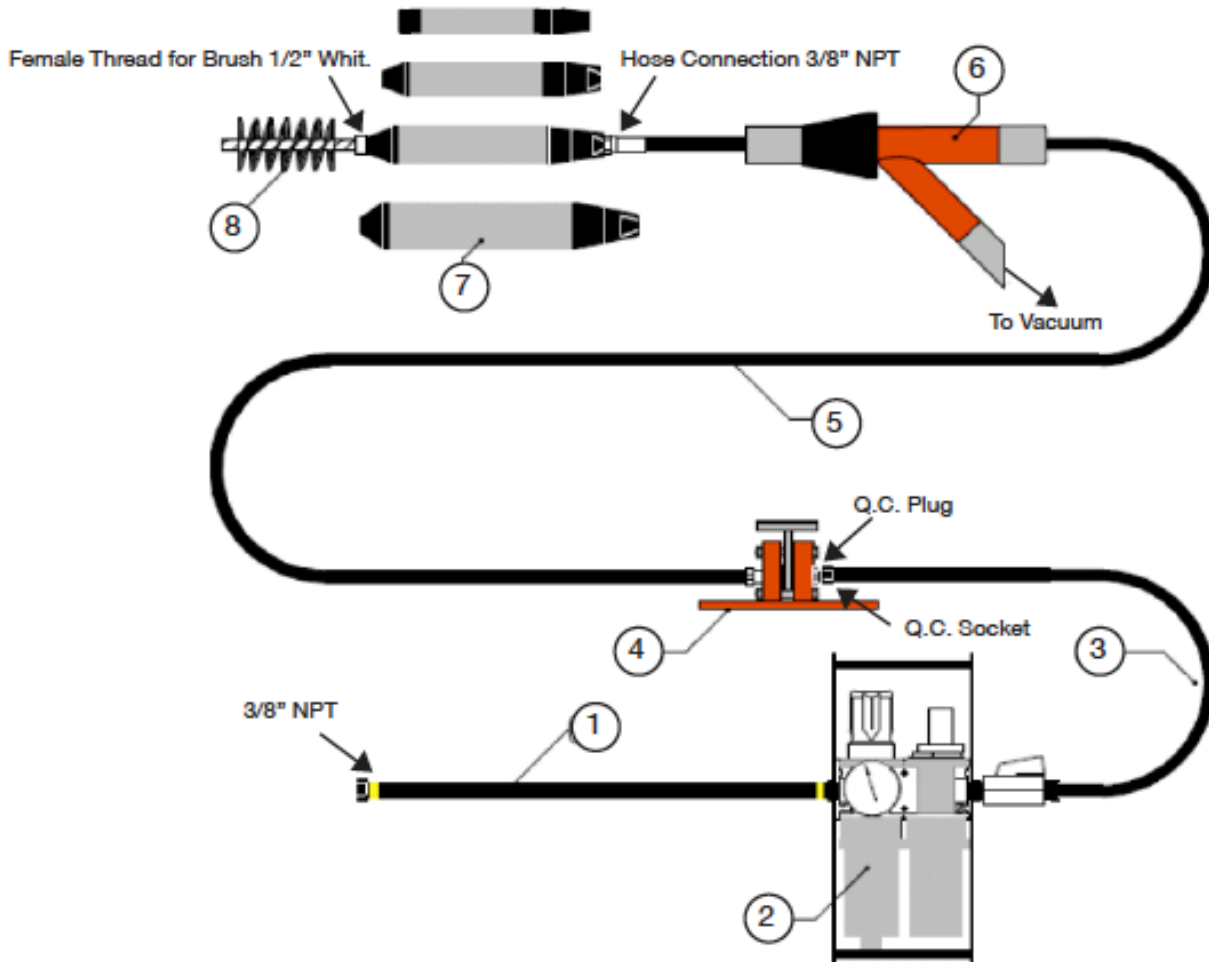
1. Check air line pressures and volumes. Too little of either weakens the tool. A minimum of 60 psi and 20 cfm are necessary. 90 to 100 psi are the preferred line pressures. Airline must not be smaller than 3/8".
2. Brush size is critical. Too large or too small can cause operating problems.
3. Lubrication 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.



# BRUSH SELECTION GUIDE

Tube OD	BWG	ID Range	Brush OD	Brush Part Number
1-1/4" (31.8mm)	13-16	1.060" - 1.120"	1-1/8" (28.6mm)	26B10
	19-26	1.166" - 1.214"	1-1/4" (31.8mm)	26B11
1-1/2" (38.1mm)	13-16	1.310" - 1.370"	1-3/8" (34.9mm)	26B12
	19-26	1.416" - 1.464"	1-1/2" (38.1mm)	26B13
1-3/4" (44.5mm)	13-16	1.560" - 1.620"	1-5/8" (41.3mm)	26B14
	19-26	1.666" - 1.714"	1-3/4" (44.5mm)	26B15
2" (50.8mm)	7-14	1.640" - 1.834"	1-7/8" (47.6mm)	26B16
	15-26	1.856" - 1.964"	2" (50.8mm)	26B17
2-1/4" (57.2mm)	7-14	1.890" - 2.084"	2-1/8" (53.9mm)	26B18
	15-26	2.106" - 2.214"	2-1/4" (57.2mm)	26B19
2-1/2" (63.6mm)	7-14	2.140" - 2.334"	2-3/8" (60.4mm)	26B20
	15-26	2.356" - 2.464"	2-1/2" (63.5mm)	26B21
2-3/4" (70.0mm)	7-14	2.390" - 2.584"	2-5/8" (66.8mm)	26B22
	15-26	2.606" - 2.714"	2-3/4" (69.9mm)	26B23
3" (76.3mm)	7-14	2.640" - 2.834"	2-7/8" (73.0mm)	26B24
	15-26	2.856" - 2.964"	3" (76.2mm)	26B25
3-1/4" (82.6mm)	7-14	2.890" - 3.084"	3-1/8" (79.4mm)	26B26
	15-26	3.106" - 3.214"	3-1/4" (82.6mm)	26B27
3-1/2" (88.9mm)	7-14	3.140" - 3.334"	3-3/8" (85.7mm)	26B28
	15-26	3.356" - 3.464"	3-1/2" (88.9mm)	26B29
3-3/4" (95.3mm)	7-14	3.390" - 3.584"	3-5/8" (92.1mm)	26B30
	15-26	3.606" - 3.714"	3-3/4" (95.3mm)	26B31
4" (101.6mm)	7-14	3.640" - 3.834"	3-7/8" (98.4mm)	26B32
	15-26	3.856" - 3.964"	4" (101.6mm)	26B33

# PART NUMBERS & DIAGRAMS



Item #	Part #				Description
	M5784-00	M5784-01	M5784-02	M5784-03	
1	M5784D5				Air Hose 33'
2	M5784D3				Lubricator / Filter with Gauge
3	M5784D4				Air Hose 16.5'
4	M5784D6				Foot Valve
5	M5784D2	M5784D21	M5784D2	M5784D2	Air Hose- 33' Heavy-Duty
6	M5784D8	M5784D81	M5784D82	M5784D84	Y-Tube for Vacuum Hose
7	M5784D1	M5784D9	M5784D12	M5809D1	Air Pulsator

# 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.

# WARRANTY

Should any part, of Seller's own manufacture, prove to have been defective in material or workmanship when shipped (as determined by Seller), Seller warrants that it will, at its sole option, repair or replace said part f.o.b., point of manufacture, provided that Buyer notifies, in writing, of such defect within twelve (12) months from date of shipment from the manufacturing plant.

On request of Seller, the part claimed to be defective will be returned, transportation, insurance, taxes and duties prepaid, to the factory where made, for inspection. Any item, which has been purchased by Seller, is warranted only to the extent of the original manufacturer's warranty to Seller. Seller shall not be liable for any damages or delays caused by defective material or workmanship.

No allowance will be made for repairs or alterations made by others without Seller's written consent or approval. If repairs or alterations are attempted without Seller's consent, Seller's warranty is void.

THE WARRANTIES PROVIDED IN THE OBLIGATIONS AND LIABILITIES OF SELLER HEREUNDER, AND THE RIGHTS AND REMEDIES OF BUYER HEREUNDER ARE EXCLUSIVE AND IN SUBSTITUTION FOR, AND BUYER HEREBY WAIVES ALL OTHER WARRANTIES, GUARANTEES, OBLIGATIONS, CLAIMS FOR LIABILITIES, RIGHTS AND REMEDIES, EXPRESS OR IMPLIED, ARISING BY LAW OR OTHERWISE, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTY FOR MERCHANTABILITY AND FITNESS FOR PURPOSE.

Seller's total liability is limited to the lower of the cost of repair or replacement.





## 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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