

Elliott offers a complete line of precision tube tools, including:



**tube
expanders**

Boiler Expanders
Heat Exchanger Expanders
Condenser Expanders
Refinery Expanders

**tube rolling motors
& torque controls**

Electric
Pneumatic

**tube
cleaners**

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(Internal/External Drives)

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Tube Gauges
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CYCLGRIP Tube Extractors
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**metal working
products**

Back Chamfering Tools
Carbide Roller Burnishing Tools
Diamond Burnishing Tools
Elliptical Deburring Tools
Fine Boring Tools
Internal Recessing Tools
Magic Vise
Mechanical Joining Tools
Roller Burnishing Tools
Single Blade Reamers

"SOOT BUSTER®"
Fire Tube Boiler Cleaner
(M5784-00)



Operating and Maintenance Instructions



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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.

TROUBLE SHOOTING HINTS

Condition	Cause	Remedy
1. The pulsator stops in tube but 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.
2. 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 air and unscrew pulsator from hose. Squirt in plenty of oil. Reconnect and turn on air supply.

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INTRODUCTION

Thank you for purchasing this Elliott product. The design and manufacture of this machine represents 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 Elliott Soot Buster® is a pneumatically activated cleaning tool for removing soot, scale and light deposits from fire tube boiler tubes.

We at Elliott would like you to be completely satisfied with this machine and therefore recommend that this instruction manual be thoroughly read prior to use.

This machine has been designed and manufactured to the highest standards, using the latest in materials and technology. If the guidelines and maintenance schedules in this manual are followed, the Elliott Soot Buster will provide many years of trouble free operation.

Elliott Tool Technologies Ltd shall not be liable for errors contained herein or for incidental or consequential damage in connection with the furnishing, performance, or use of this material.

BRUSH SELECTION CHART

Part #	Description
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

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

SPECIFICATIONS

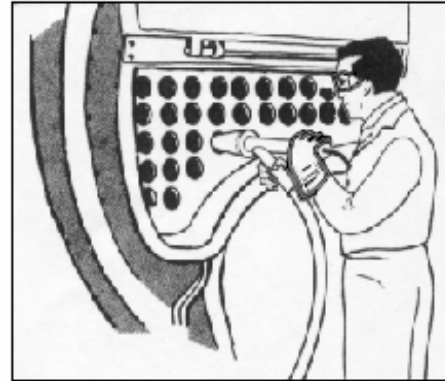
Soot Buster Specifications	
Tube ID Range	1-3/4" to 3-1/2" (44mm to 89 mm)
Air Requirement Minimum	60 psi @ 20 cfm
Oil Type (Lubricator)	SAE 10

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 size to size 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 5.)
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.



SAFETY

Every effort has been made to ensure the operation of the Elliott Soot Buster is safe, although it is impossible to remove all possibilities of accidents.

It is very important that **all operators** of this machine are fully aware of the following safety considerations.

1. If you are unfamiliar with the Elliott Soot Buster, read this Operation Manual thoroughly before use.
2. Always wear protective goggles, gloves, mask and clothing. A considerable amount of dust will be generated.
3. Do not allow other people in the area of the machine unless they are wearing protective goggles, gloves, mask and clothing.
4. Ensure all pneumatic connections are properly made and that the air hoses are in good condition.
5. Shut down the air supply by the foot switch before transferring the air pulsator and brush to the next tube.
6. Stand clear of air hoses when operating the machine as the air pulsator propels the hose into the tube at considerable speed.
7. Do not operate the machine if there appears to be damage to the machine or if performance appears to be unsatisfactory.
8. Never use the Soot Buster or any other power tool when under the influence of medication, drugs or alcohol that decrease concentration and impair operator control.

START-UP

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 Quick Reference Diagram on page 5.

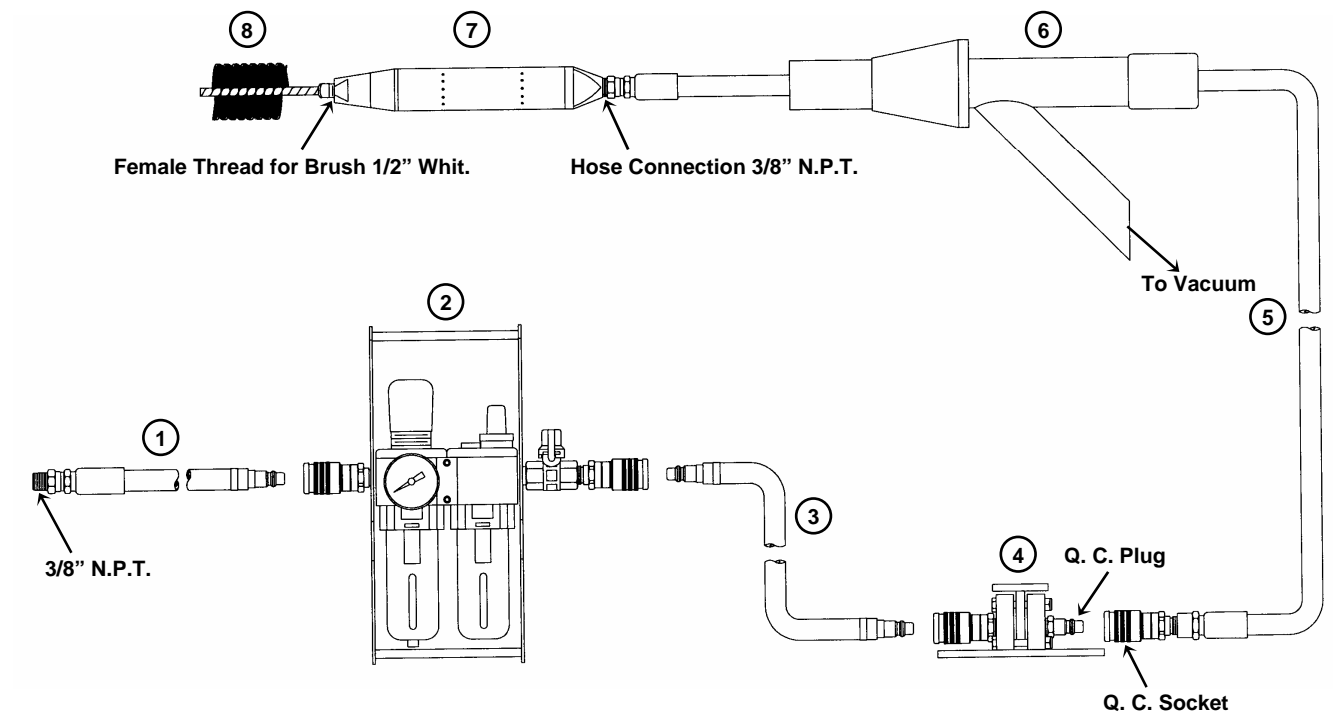
Connecting

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 (4) 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 6.

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.

QUICK REFERENCE 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