

WATERBLAST LANCING TOOL

BFW

BIG FLOW WATERBLASTER

**OPERATION AND MAINTENANCE
MANUAL**



466 S. SKYLANE DR. DURANGO, COLORADO 81303 970-259-2869 PHONE 970-259-2868 FAX
www.stoneagetools.com sales@stoneagetools

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1.0 INTRODUCTION

This manual was prepared to provide the operator with the basic information needed to operate and service this equipment. The operating recommendations in the manual will ensure that you receive satisfactory performance. All operating personnel responsible for the care of this equipment should be familiar with the information in this manual.

If you have any questions or problems with this equipment, please contact the distributor you obtained the product from, or the manufacturer:

StoneAge, Inc.
466 Skylane Dr.
Durango, CO 81303
970-259-2869 Phone 970-259-2868 Fax
www.stoneagetools.com

2.0 SAFETY WARNING

Operations with this equipment can be potentially dangerous if caution is not exercised prior to and during tool use. Please read and follow all of these instructions, in addition to the guidelines in the WJTA Recommended Practices handbook.

- 2.1 Only competent and trained persons should operate this equipment.
- 2.2 The immediate work area should be marked off to keep out untrained persons.
- 2.3 All personnel in the area should wear appropriate personal protective equipment.
- 2.4 Inspect the equipment for visible signs of deterioration, damage, or improper assembly. Do not operate until repaired. Make sure all threaded connections are tight and leak free.
- 2.5 Check nozzle orifices before use. If any are plugged, they must be cleaned or replaced.
- 2.6 This equipment should always be used with an operator controlled dump mechanism to release the high pressure water. If it is necessary to have a person work near the cleaning jets, then it is this person who should have control of the pressure dump.
- 2.7 Check that all control functions work properly before going to high pressure.
- 2.8 The tool should be securely supported. Strong thrust is created by waterjets and these forces can become unbalanced if a nozzle should become plugged.
- 2.9 Do not exceed the maximum operating pressure specified for any component in a system.

3.0 DESCRIPTION

The BFW was designed for waterblast cleaning of boilers and boiler floors. The mechanism extends from an adjacent floor thru a small port such as a smelt spout and inserts a rotating lance into the boiler. The tool is powered by two air motors, one for rotation and the other for feed. Both functions are controlled remotely from a control box which also provides lubrication and regulation of the compressed air source.

The structure of the BFW is an aluminum rail mounted on a rubber-tired cart. The cart is rolled into position aligned with a port, and the nozzle head is inserted thru the boiler wall. Jacks allow the elevation and angle of the lance to be adjusted.

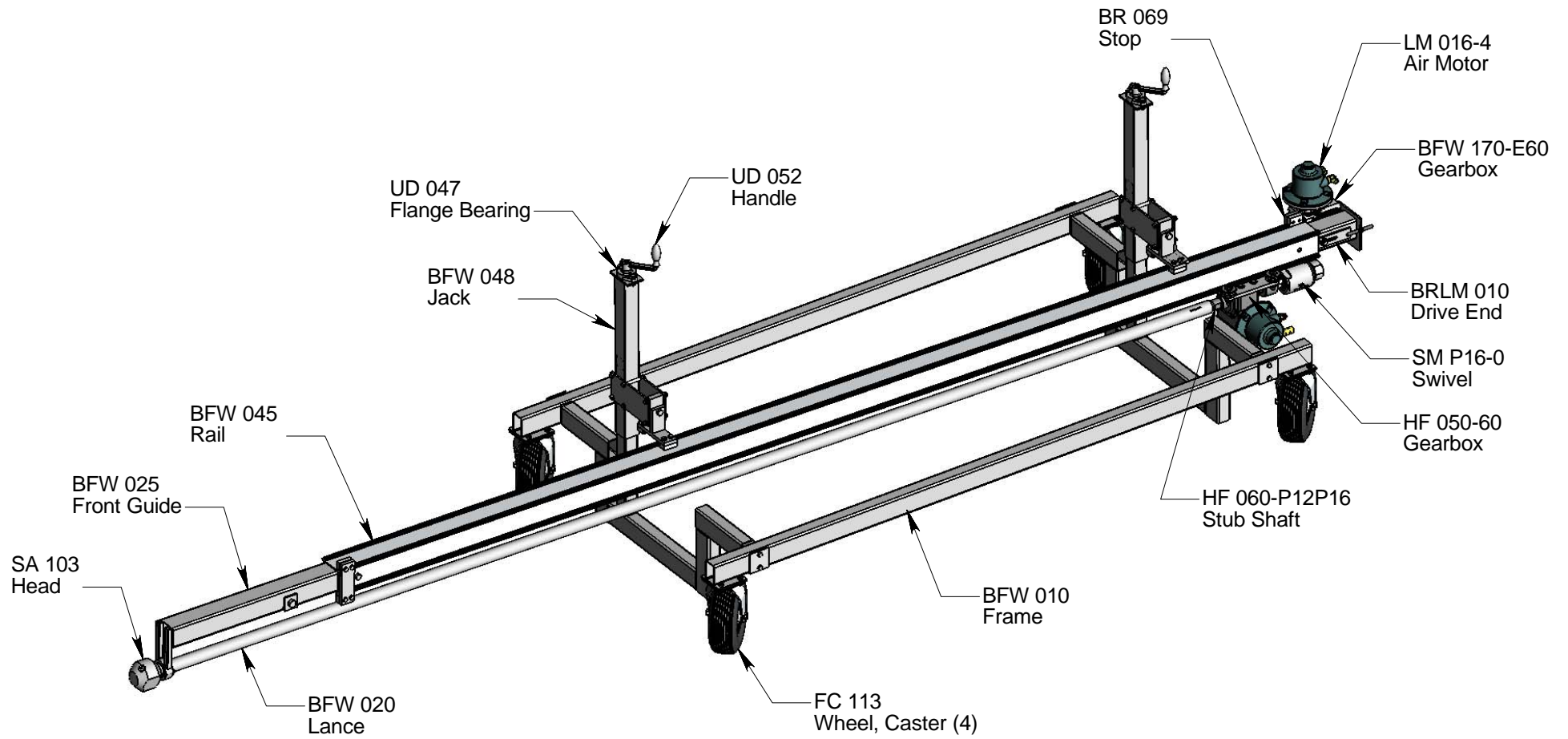
Before the tool is taken up to pressure, the machine must be securely anchored against the jet reaction force produced by the water jets. Nozzle sizes matching the pump and equally matching each other should be used to prevent an unbalanced jet reaction force.

Weight	500 pounds (est.)
Maximum Lance Extension	16 ft
Air Motor	GAST 4AM
Rotation Gearbox	Hub City 215 60:1
Rotation Speed	10 to 50 rpm
Feed Gearbox	Electra-Gear 818 60:1
Feed Rate	7 to 35 ft/min
Water Swivel	SM P16-0

4.0 PARTS LIST

<u>Part #</u>	<u>Description</u>	<u>Qty</u>
BFW 010	Frame	1
BFW 020	Lance	1
BFW 025	Front Guide	1
BFW 045	Rail	1
BFW 047	Jack Screw	2
BFW 048	Jack	2
BR 052-2	Axles	4
BR 055	Rollers	4
BR 069	Stop	2
BRLM 010	Drive End	1
BRLM 520	Chain	30
BRLM 525	Chain Link Assy	1
BRLM 022-215	Carriage	1
FC 113	Wheel, Caster	4
GP 052-P12P16	Coupler	1
HF 050-60	Gearbox	1
HF 060-P12P16	Stub Shaft	1
BFW 170-E60	Gearbox	1
LM 016-4	Air Motor	2
LM 518-EG	Drive Gear	1
SA 103	Head	1
SM-P16-0	Swivel	1
UD 047	Flange Bearing	2
UD 052	Handle	2

BFW ASSEMBLY DRAWING



6.0 OPERATION

The BFW is a relatively simple machine to operate, but some care is necessary for safe and productive use. Please read and follow these recommendations.

Air Supply: A compressed air source of at least 50 cfm at 90 psi is required. Lower pressure and volume will result in slower operating speeds. A 1/2 inch or larger supply hose is recommended. Blow out all hoses before connecting. An air filter and lubricator are located on the control box. The lubricator should be adjusted to provide 6 to 8 drips per minute of oil. Keep oil in the lubricator; lack of lubrication for the air motors is the most common problem.

Water Supply: A clean and dependable source of water is required. The SM swivel can handle up to 300 gpm at 10,000 psi. Flush all hoses before use. Keep ends covered when not connected. Check nozzles before going to high pressure for partial blockage, which can create unbalanced reaction forces.

Controls: A ball valve is used to turn the rotation on and off; this can also be used to control the rotation speed by partially opening. A directional valve advances and retracts the lance. Check the direction of movement when attaching air hoses. A dial regulator is used to control the feed rate. If still slower rates of feed or rotation are desired, contact StoneAge for a flow control device that is installed directly on the motor port for slow, stable speeds.

7.0 LIMITED WARRANTY

StoneAge, Inc. warrants to the extent herein provided the products of its own manufacture against defects in material and workmanship under normal use and service for which the products were designed for a period of six months after shipment from the factory. If such products should fail through defect in workmanship or material and specific written notice of failure is made within six months after date of shipment from factory, StoneAge, Inc. will either repair or replace any such items, F.O.B. its factory without charge. StoneAge, Inc. shall not be liable for expense incurred in repairs or alterations made outside the factory without the proper and prior authorization. StoneAge, Inc. shall have the option of requiring the return of the defective products to its factory, with transportation charges prepaid, to establish the claim. StoneAge, Inc. shall in no event be held liable for damages or delay resulting from or arising out of defective products nor for consequential damages or otherwise except for repair or replacement of items of defective material or workmanship aforesaid.

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