

SPIN-BLAST HD
INTERNAL-PIPE BLAST TOOL
O. M. 25119

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! WARNING

Do not proceed with these instructions* until you have READ the orange cover of this MANUAL and YOU UNDERSTAND its contents.

These WARNINGS are included for the health and safety of the operator and those in the immediate vicinity.

***If you are using a Clemco Distributor Maintenance and Part Guide, refer to the orange warnings insert preceding the Index before continuing with the enclosed instructions.**

Electronic files include a Preface containing the same important information as the orange cover.

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1.0 INTRODUCTION

1.1 The Spin-Blast HD internal blast tool is designed to blast clean the inside of 18" to 48" ID pipe when using the standard adjustable centering carriage. The tool includes a pneumatic-driven blast head to allow the operator greater flexibility to achieve optimum blast cleaning rates. The tool utilizes two long venturi blast nozzles with orifice size ranging from 1/4" to 1/2".

1.2 Safety Alerts

1.2.1 Clemco uses safety alert signal words, based on ANSI Z535.4-1998, to alert the user of a potentially hazardous situation that may be encountered while operating this equipment. ANSI's definitions of the signal words are as follows:



This is the safety alert symbol. It is used to alert the user of this equipment of potential personal injury hazards.

Obey all safety messages that follow this symbol to avoid possible injury or death.

CAUTION

Caution used without the safety alert symbol indicates a potentially hazardous situation which, if not avoided, may result in property damage.

 **CAUTION**

Caution indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

 **WARNING**

Warning indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

 **DANGER**

Danger indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

2.0 ANCILLARY EQUIPMENT REQUIREMENTS

2.1 The HD Spin Blast tool attaches to the end of a pipe lance or blast hose in place of a standard nozzle. The compressor and air supply lines must be sized to support a blast operation at the pressure and cfm shown in Paragraph 3.1.

2.2 The blast machine should have a minimum of 1-1/4" piping. Minimum size blast hose or pipe lance is as follows:

- 1/4" orifice or 5/16" orifice nozzles
Use a 1 1/4" I.D. blast hose or lance
- 3/8" and larger orifice nozzles
Use a 1 1/2" I.D. blast hose or lance

Smaller diameter hose and lance could cause premature wear on the tool.

2.3 A 20-micron filter is provided on the air motor inlet. An additional 1/2" ID air hose that is as long as the pipe is required to connect to the air motor lead hose. A ball valve or other flow control valve, or pressure regulator should be installed outside the pipe to adjust air motor speed.

2.4 The air motor exhaust requires a 3/8" ID hose to direct the exhaust air, which contains oils, outside the pipe and away from the newly cleaned blast surface.

2.5 The Spin-Blast tube has a 2" NPS-M threaded connection for the pipe lance or blast hose. Attach a coupling that is compatible with the lance or blast hose to the tube. Note * The tool comes with a **Clemco CF-3 Coupling, Stock No. 00555**, which provides a quick connection to a blast hose with standard couplings, or pipe lance.

1-1/4" NPT lance use two ***Clemco CF Couplings, Stock No. 00551**.

1-1/2" NPT lance use two ***Clemco CF-2 Couplings, Stock No. 00553**.

* The following 1-1/2" full port aluminum couplings are available which offer unrestricted flow through 1-1/2" ID blast hose and pipe lance.

00562, 2" NPT-F attaches to Spin Blast tool

00561, 1-1/2" NPT-F attaches to 1-1/2" lance

00574, 1-1/2" coupling..... for 1-1/2" ID blast hose

2.6 Provide a level, platform or structural support for the carriage wheels to ride on at the entrance/exit end of the pipe. Do not manually lift the tool out of the pipe while blasting.

3.0 COMPRESSED AIR REQUIREMENTS

3.1 The following table shows cfm consumption at 100 psi (minimum pressure) when nozzles are new and when they are considered worn (1/16" larger than original). The pneumatic drive motor requires a minimum of 50 scfm of dry clean air for proper operation. These requirements are needed to provide proper volume of compressed air to carry blasting abrasive to the blast head. Consult with an air compressor supplier for compressor recommendations.

Nozzle Orifice	New Nozzles	Worn Nozzles
1/4"	220 cfm	325 cfm
5/16"	325 cfm	450 cfm
3/8"	450 cfm	560 cfm
7/16"	560 cfm	730 cfm
1/2"	730 cfm	1150 cfm

4.0 SET-UP

 WARNING

Hose disconnection while under pressure could cause serious injury or death. Use safety lock-pins and safety cables on all coupling connections to help prevent hose couplings from accidental disconnection.

- 4.1** Oil the air motor per Paragraph 6-10.
- 4.2** Grease back and front fittings per Paragraphs 6.5 and 6.7.
- 4.2** Mount the tool onto the carriage base with the two (2) bolts provided. The bolts screw into threaded holes in the bottom of the blast tube. Install the carriage legs and adjust the legs so the tool is approximately centered to pipe.
- 4.3** Place the tool inside the pipe and, if needed, make minor final adjustment to center the tool in the pipe. The legs may require cutting or replaced with longer or shorter pipe as required.
- 4.4** Attach an air line (minimum of 1/2" I.D.) to the air motor lead hose.
- 4.5** Connect a 3/8" ID hose from the outlet side of the air motor and long enough to reach outside the pipe.

4.6 Connect a lance and appropriately sized blast hose between the blast machine and Spin-Blast.

Note: Use 1-1/2" ID hose coupled with *00573 aluminum, or 00566 brass couplings.

1-1/4" ID x 2-brd hose with 00570 aluminum, or 00565 brass couplings.

* Refer to notation in Paragraph 2.5.

5.0 OPERATION

5.1 Connect air lines, blast lines, and blast equipment as described in the applicable operation manuals.

5.2 Push tool through pipe until blast head exits the opposite end.

5.3 Open air supply to air motor. Adjust air pressure or flow to rotate the blast head at 40-60 rpm.

 WARNING

Keep hands, fingers, and clothing clear of the sprocket and drive. Serious injury could occur if items are caught in the sprocket.

- 5.4** Pressurize blast machine and adjust abrasive flow to tool.
- 5.5** Pull tool back through pipe at a constant speed to achieve the desired degree of blast cleanliness.
- 5.6** As the tool exits the pipe turn off air/abrasive supply from the blast machine. NOTE: Provide an exit ramp, platform or structural support at the exit end of the pipe.
- 5.7** Turn off air supply to the air motor.

6.0 MAINTENANCE, Refer to Figure 1

- 6.1** Clean and inspect the tool after each shift (8-10 hrs).
- 6.2** Remove blast head assembly (Item 1).
- 6.3** Remove gasket packing gland (Item 5).

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- 6.4** Clean abrasive from tool body and blast head.
- 6.5** Add grease to back grease fitting until grease protrudes from seal gland (Item 6).
- 6.6** Install gasket packing gland (Item-5) onto tube (Item 14).
- 6.7** Add grease to front grease fitting until grease protrudes from gasket packing gland (Item 5).
- 6.8** Install blast head hand tight; do not over tighten.
- 6.9** Tighten lock ring (Item 2) to secure the head.
- 6.10** Before and after each use, and in a clean environment, clean dust and abrasive for around air filter's swivel connector, and remove the air filter and lead hose from the inlet fitting on the air motor. Add 2 or 3 drops of 10-wt non-detergent oil to the air motor inlet port. To prevent particle contamination, replace the filtered lead hose when done.
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CAUTION

Take special care to prevent any contaminant from entering the air motor or air motor supply hose. Any dust or abrasive in the air supply, and entering the air motor will cause the air motor to fail.

- 6.11** Attach an air line to the air motor lead hose. Open the air valve to air motor and adjust to desired rotating speed. NOTE: If tool does not spin properly, disassemble tool and inspect o-rings and seal on seal gland (Item 9).
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7.0 ASSEMBLY

- 7.1** Press bearing (Item 11) to the back lip on the machined side of the tube (Item 14).
- 7.2** Install lock ring (Item 10) to hold bearing in position.
- 7.3** Install spacer sleeve (Item 12) over the blast tube and against the bearing.
- 7.4** Press bearing (Item 11) to set against spacer sleeve.

- 7.5** Install lock ring (Item 10) in groove next to bearing.

- 7.6** Install seal gland (Item 6) with seal (Item 7), 2 inner o-rings (Item 9) and 2 outer o-rings (Item 8) over tube. The seal must be installed facing the blast head. Lubricate o-rings and seal liberally.

- 7.7** Slide main body (Item 13), chain side first, over the threaded end of the tube (item 14) until it seats against the bearing (Item 11).

NOTE: Check seal gland (Item 9) and press it in to seat against the bearing.

- 7.8** Apply grease to the end of the blast tube (item 14) and install the gasket packing gland (Item 5).

- 7.9** Install main body bushing (Item 3) hand-tight. Using a spanner tighten the body bushing an additional 1/4 turn and lock in place with the bushing lock ring (Item 4).

- 7.10** Install blast head (Item 1) hand tighten against gasket packing gland (Item 5. Lock in place with lock ring (Item 2).

- 7.11** Using mounting blocks (Item 17), Install the air motor (Item 15) onto tube (Item 14). Rotate the air motor to adjust the sprocket height to engage the drive chain.

- 7.12.** Install the carriage to tube with the two (2) bolts provided.
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8.0 PARTS LIST

8.1 Spin-Blast HD Assembly, Figure 1

Item	Description	Stock No.
(-)	Spin-Blast HD, tool with carriage	25070
(-)	Spin-Blast HD, tool without carriage	25129
1.	Blast head	25100
2.	Lock ring, blast head	25101
3.	Bushing, main body	25102
4.	Lock ring, bushing	25103
5.	Packing gasket, gland, each, 3-required..	25104
6.	Seal gland	25105
7.	Seal	25106
8.	O-ring, gland, outer, set of 2	25107
9.	O-ring, gland, inner, set of 2.....	25108
10.	Lock ring, each 2-required	25109
11.	Bearing, set of 2	25110
12.	Spacer sleeve	25111
13.	Body	25112
14.	Tube	25113

15.	Air motor assembly with gear	25114
16.	Coupling, CF-3, 2" FNPT	00555
17.	Mounts, air motor, set.....	25116
18.	Nozzle, each, 2- required	
	TSP-4, 1/4" orifice nozzle	23514
	TSP-5, 5/16" orifice nozzle	23515
	TSP-6, 3/8" orifice nozzle	23516
	TSP-7, 7/16" orifice nozzle	23517
	TSP-8, 1/2" orifice nozzle	23518
19.	Carriage assembly	25117
20.	Elbow, 1/4" brass st.	02027
21.	Adaptor, 1/4" NPT x 3/8" male SAE	(*)
22.	Adaptor, 1/4" NPT x 3/8" fem. SAE	(*)
23.	Filter, 1/4" NPT	(*)
24.	Extension, nozzle, pair	25118
25.	Spanner	(*)
26.	Nylon guard, gear	(*)
27.	Gasket, CQG, Pack of 10	00850
28.	Lock pins, Pack of 25	11203
(-)	Service kit, air motor and gear	25130
(*)	Stock number or ordering information available on request	

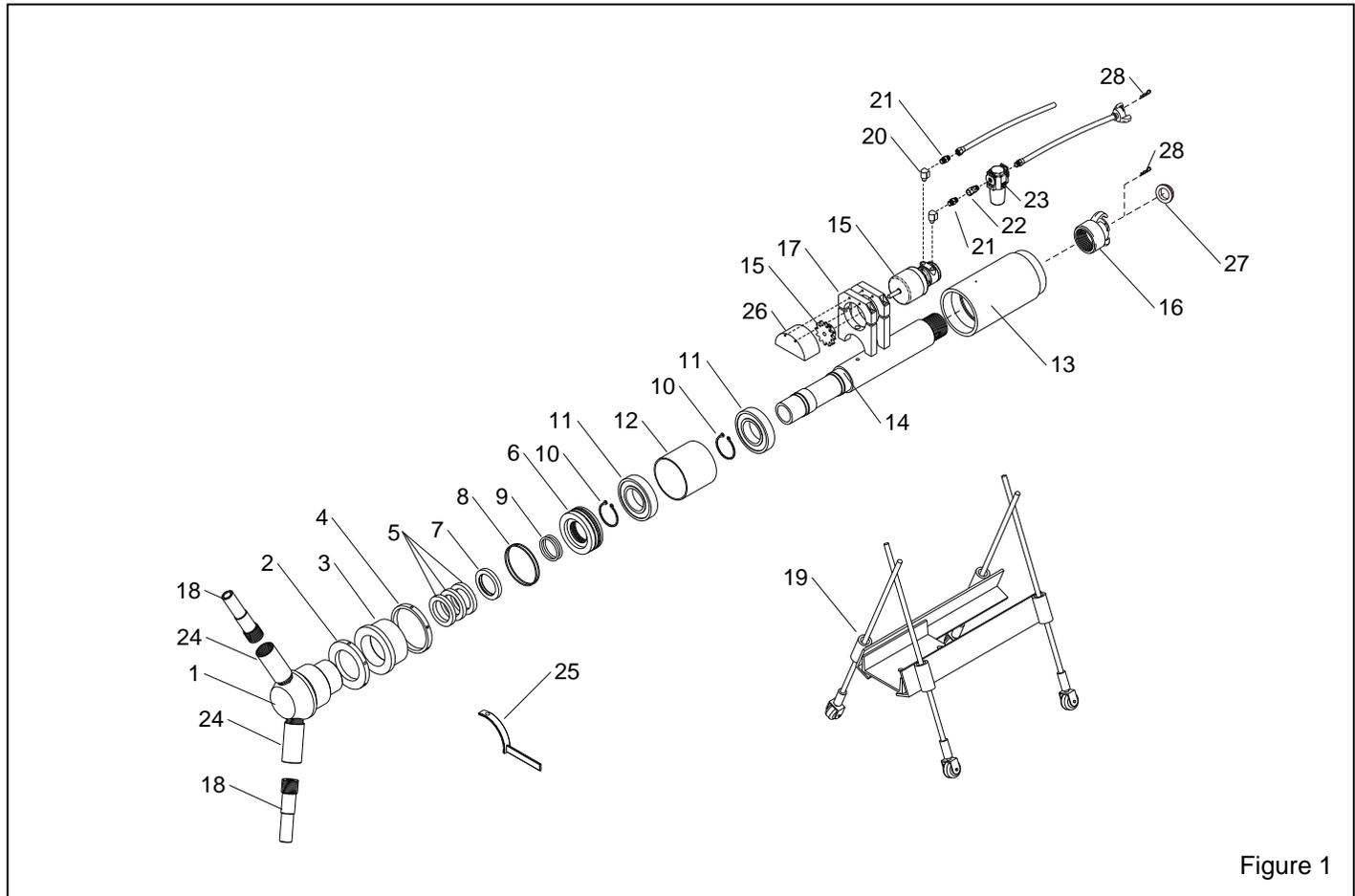


Figure 1