

TECHNICAL MANUAL

**OPERATOR'S, ORGANIZATIONAL, DIRECT SUPPORT
AND GENERAL SUPPORT MAINTENANCE
MANUAL INCLUDING REPAIR PARTS LIST
FOR
BLAST CLEANING MACHINE
MODEL SPECIAL 16W
(PAULI & GRIFFIN COMPANY)
(NSN 4940-00-277-2999)**

HEADQUARTERS, DEPARTMENT OF THE ARMY

APRIL 1980

Technical Manual

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HEADQUARTERS
DEPARTMENT OF THE ARMY
Washington, DC, 30 April 1980

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You can help improve this manual by recommending improvements using, DA Form 2028 (Recommended Changes to Publications and Blank Forms) or DA Form 2028-2 located in the back of this manual. Mail your form direct to Commander, US Army Armament Materiel Readiness Command, ATTN: DRSAR-MAS, Rock Island, IL 61299. A reply will be furnished direct to you.

NOTE

This manual is published for the purpose of identifying an authorized commercial manual for the use of the personnel to whom this cleaning machine is issued.

Manufactured by: Pauli & Griffin Company
137 Utah Avenue
South San Francisco, CA 94080

Procured under Contract No. DAAA09-C-77-6505

This technical manual is an authentication of the manufacturers' commercial literature and does not conform with the format and content specified in AR 3103, Military Publications. This technical manual does, however, contain available information that is essential to the operation and maintenance of the equipment.

INSTRUCTIONS FOR REQUISITIONING PARTS**NOT IDENTIFIED BY NSN**

When requisitioning parts not identified by National Stock Number, it is mandatory that the following information be furnished the supply officer.

- 1 - Manufacturer's Federal Supply Code Number - 86413
- 2 - Manufacturer's Part Number exactly as listed herein.
- 3 - Nomenclature exactly as listed herein, including dimensions, if necessary.
- 4 - Manufacturer's Model Number - Model Special 16W
- 5 - Manufacturer's Serial Number (End Item)
- 6 - Any other information such as Type, Frame Number, and Electrical Characteristics, if applicable.
- 7 - If DD Form 1348 is used, fill in all blocks except 4, 5, 6, and Remarks field in accordance with AR 725-50.

Complete Form as Follows:

- (a) In blocks 4 5, 6, list manufacturer's Federal Supply Code Number - 86413 followed by a colon and manufacturer's Part Number for the repair part.
- (b) Complete Remarks field as follows:
Noun: (nomenclature of repair part)
For: NSN: 4940-00-277-2999
Manufacturer: Pauli & Griffin Co.

Model: Special 16W
Serial: (of end item)

Any other pertinent information such as Frame Number,
Type, Dimensions, etc.

CONTENTS

<u>Section</u>		<u>Page</u>
I.	Introduction and General Information	1
II.	Operating Instructions	4
III.	Troubleshooting	5
IV.	Disassembly and Repair Instructions	5
V.	Parts List and Operating Diagram	6

I. INTRODUCTION AND GENERAL INFORMATION

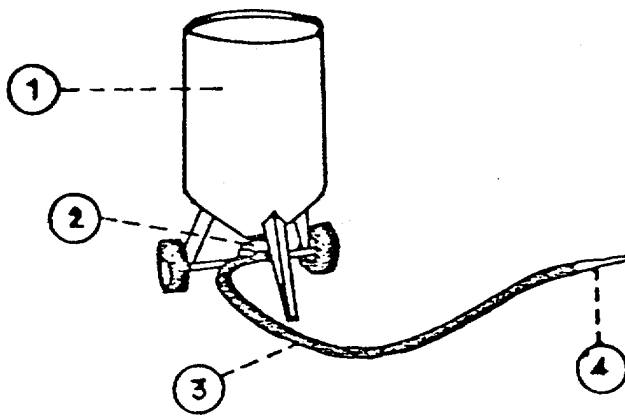
ABRASIVE BLAST CLEANING DEFINED

Abrasive blast cleaning is defined as the cleaning of a surface by the impact of abrasives. The use of compressed air through a nozzle as the propelling force is termed air blasting, and the use of centrifugal force of a rotating blade is termed wheel blasting.

Abrasive blast cleaning takes into consideration all commonly used abrasives, not merely sand as the word sandblasting would imply. However, the word sandblasting is used regularly whether the abrasive is steel grit, walnut shells, glass beads, sand, or any other abrasive.

ONLY FOUR BASIC PARTS ON SANDBLAST EQUIPMENT

Regardless of size or shape, a sandblast machine has only four basic parts:



1. An abrasive container
2. An abrasive metering device
3. A hose to deliver the abrasive
4. A nozzle to guide the abrasive to the blasting surface

The following is a description of machine features.

CONCAVE HEAD

The concave shape enables the pot tender to place additional abrasive above the filler hole. When the machine exhausts, the material will instantly feed into the pot. The result is less down time.

POP-UP VALVE ASSEMBLY

The hemispherical automatic pop-up valve stem allows pressurization of the machine four times faster than other popup stems. It also eliminates backward flow through the sand valve, increasing the life of the valve as much as 50 times. Even when misaligned, the valve seats perfectly, every time.

INSPECTION DOOR

Introduction of the large-sized 6" x 8" handhole allows two-handed servicing-of the inside of the machine. This enables the operator to quickly remove any foreign object that may have fallen into the tank.

CONICAL BOTTOM

The cone-shaped machine bottom is designed at a steeper angle than the angle of repose of sand. This allows a continuous and even flow of abrasive right down to the last pound. No residual matter remains to absorb moisture and cause subsequent clogging.

LAMINAR FLOW ABRASIVE METERING VALVE

Fine tuning is controlled by two stainless steel discs; one stationary and one which rotates to any aperture opening. Even slightly damp sand can be metered smoothly without constant use of the choke valve.

WHEELS

When wheels are specified, portable machines are equipped with large zero pressure wheels for easy moveability. Heavy-duty 1" axles and special lifting eye in handle prevents damage from rough handling and hoist lifting.

II. OPERATING INSTRUCTIONS

READ ALL INSTRUCTIONS BEFORE PROCEEDING
(See drawing page 6)

Preparation:

1. Close air valve (12), choke air valve (10) and air exhaust valve (13).
2. Close abrasive metering valve (9).
3. Connect sandblast hose to abrasive metering valve (9) by using CQ quick couplings, a, (8).
4. Fill sandblast machine with abrasive through the concave head to a level that will allow the pop-up valve (2) to operate freely.

Operation:

1. Open air valve (12). This immediately seats pop-up valve (2) and pressurizes the sandblast machine.
2. Place the nozzle in a blasting position and open choke air valve (10); then-open abrasive metering valve (9) to the desired setting. Unit is now in operation.

NOTE: Choke valve (10) must be fully open while blasting.

To Shut Down and Re-Charge:

1. Close valve (12) and open valve (13).
2. Re-charge as in Step 4 under Preparation above.

To Resume:

Close air exhaust valve (13) and open valve (12) and blasting is resumed.

III. TROUBLESHOOTING

Should blasting become spasmodic or cease, close and open choke air valve (10). If this fails, then there is plugging of abrasive metering valve (9) or the nozzle.

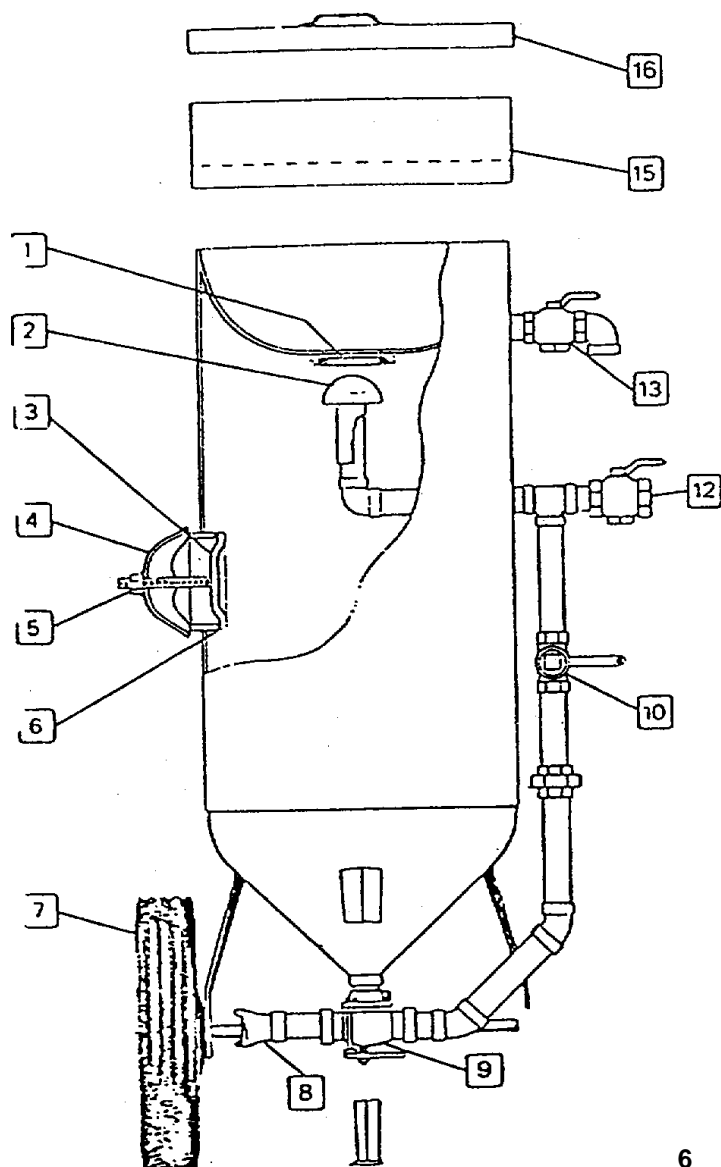
Shutdown and inspect valve through clean-out plug or remove nozzle and inspect. To obtain the most effective blasting mixture, open abrasive metering valve (9) until sand is barely visible in the blast pattern.

WARNING

**TO AVOID INJURY, CARE MUST BE EXERCISED THAT THE NOZZLE
BE HELD IN BLASTING POSITION BEFORE PRESSURIZING.**

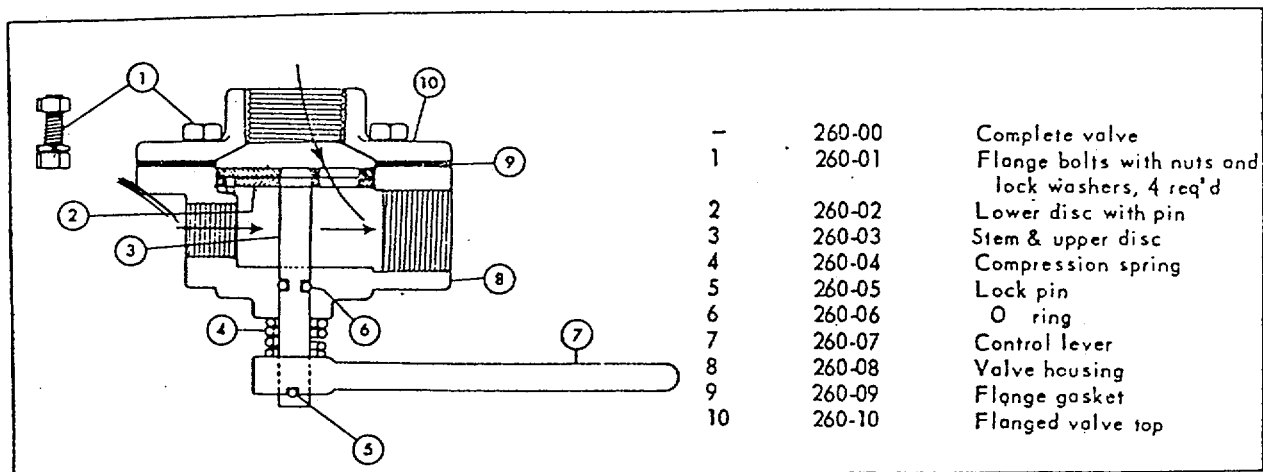
IV. DISASSEMBLY AND REPAIR INSTRUCTIONS

Only pipe and crescent wrench tools are required to repair and replace valves. The movement of sand in, through and near valves causes extreme wear due to abrasive nature. Simple disassembly, cleaning and occasional replacement of parts showing visible wear will make all valves reuseable.

V. PARTS LIST AND OPERATING DIAGRAM

<u>Ref</u>	<u>Part No.</u>	<u>Description</u>
1	175-003	O Ring Pop-Up Seat
2	180-000	Pop-Up and High Volume Stem
3	950-012	6" x 8" Inspection Hole Cover Plate
4	950-013	6" x 8" Inspection Hole Crab
5	950-014	6" x 8" Inspection Hole Bolt, Nut and Washer
6	950-011	6" x 8" Inspection Hole Gasket
7	963-003	8" Rubber-Tired Wheel, 1" axle
8	600-031	CQ 1/2 Coupling
9	260-000	Abrasive Metering Valve
10	202-000	Choke Valve, 1/2"
12	202-000	Inlet Valve, 1/2"
13	202-000	Exhaust Valve, 1/2"
15	954-016	Cover- 16"
16	955-016	Screen - 16"

**PARTS LIST
FOR
MODEL 15 ABRASIVE METERING VALVE**



**PARTS LIST FOR ACCESSORIES
SUPPLIED WITH
MODEL SPECIAL 16W**

<u>PART NO.</u>	<u>DESCRIPTION</u>
511-020	Sandblast Hose 20' Assembly
600-035	Coupling - (installed on assembly)
650-031	Nozzle Holder - (installed on assembly)
711-020	Nozzle - PT-2 (1/8")
71-1-025	Nozzle - PT-2-1 (7/16")
711-026	Nozzle - PT-2-2 (3/32")
901-000	Hood, Model #30
971-003	Leather Gloves

By Order of the Secretary of the Army:

Official:

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General, United States Army
Chief of Staff

J. C. PENNINGTON
Major General, United States Army
The Adjutant General

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