ELECTRIC REMOTE CONTROLS
EAC/EDC 100/300 O.M. 03390

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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 content.* 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 Parts and Maintenance Guide refer to the orange warnings insert preceding the Index before continuing with the following instructions.**

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1.0 INTRODUCTION

1.1 Scope of Manual: This manual describes the installation, operation, and maintenance of the Model EAC-100/300 & EDC-100/300 Electric Remote Control Systems, which are designed for Single Chamber Blast Machines which depressurize for abrasive refill each time blasting stops. Both the 120 volt A.C. and 12 volt D.C. models are covered. These instructions apply to the remote control system only. There are separate manuals for the Single Chamber Blast Machine (Clemco Manual No. 06160) and for the Electric RLX Deadman Control (Clemco Manual No. 10574). READ THE MANUALS BEFORE OPERATING THE MACHINE.

1.2 General Description: The components of the system are show in Figure 1. Air enters the bottom of the inlet valve, travels through a filter, and antifreeze injector and then to the control box. If the handle of the electric deadman control is in the up (no blast) position, air stops at the control box; the normally-closed inlet valve remains closed, and the normally-open outlet valve remains open. Depressing the deadman control handle permits air to pass through the control box to operate. Open the inlet valve and close the outlet valve. The machine pressurizes; and blasting begins. Releasing the handle immediately cuts off incoming air at the control box, and simultaneously opens the control box exhaust port to exhaust control air. Blasting stops as the inlet valve closes and the outlet valve opens to depressurize the machine.

2.0 INSTALLATION

2.1 FACTORY INSTALLATION: If the remote control has been factory installed, skip to Paragraph 2.4.

2.2 Converting existing pneumatic remote system

2.2.1 Remove pneumatic deadman control handle and twinline hose from blast hose.

2.2.2 Remove the 5' twinline hose from the inlet valve and blast machine. Skip to Paragraph 2.4.

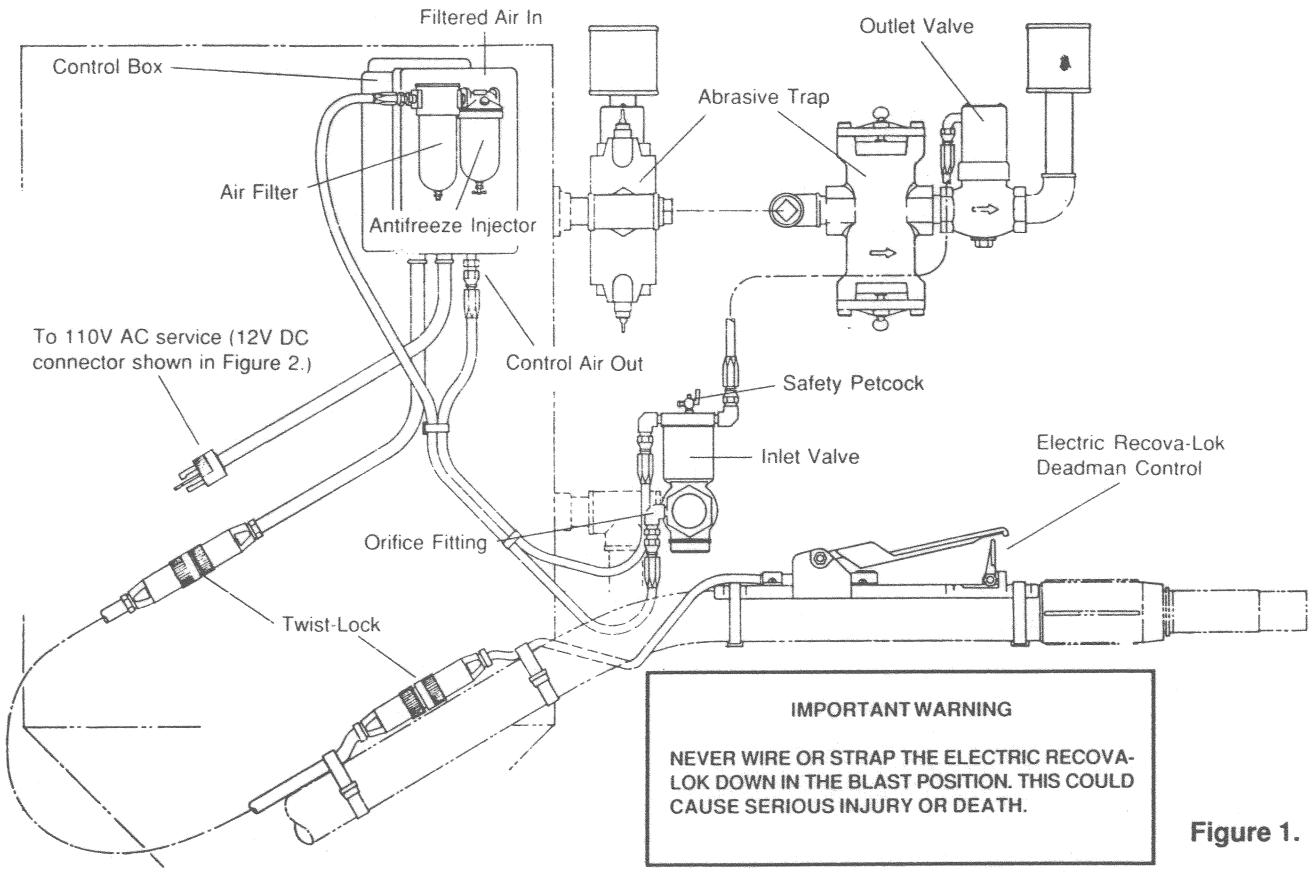

Figure 1.

2.3 Converting Manual Machine

2.3.1 Remove existing manual inlet valve and replace with the Recova Inlet Valve. Directional arrow on valve points toward blast machine.

2.3.2 Remove manual outlet valve.

2.3.3 Install abrasive trap. Directional arrow points away from the machine with the screen up and clean-out down.

2.3.4 Install the Recova Outlet Valve with arrow pointing away from abrasive trap.

2.3.5 Install elbow and exhaust muffler (muffler up).

2.3.6 Connect a 3/16" x 18" air hose between the outlet valve and either one of the elbow fittings near the top of the inlet valve.

2.4 Common Connections

2.4.I Using a 5' twinline hose, connect one leg from the orifice (lower fitting) on the inlet valve to the air filter mounted on the face of the panel.

2.4.2 The other leg of the 5' twinline hose connects to the fitting on the bottom of the panel marked "control air out" and the unused elbow fitting at the top of the inlet valve.

2.4.3 Attach the blast hose to the blast machine. Use safety lock pins or safety wire and lock the coupling together to prevent accidental separation while under pressure.

IMPORTANT WARNING

TO HELP PREVENT ACCIDENTAL SEPARATION WHILE UNDER PRESSURE, USE SAFETY LOCK PINS AND SAFETY CABLES ON ALL COUPLING CONNECTIONS.

2.4.4 Stretch out the blast hose and 50' extension control cord and lay them side by side.

2.4.5 Band the electric deadman control handle to the blast hose just behind the nozzle holder.

2.4.6 Wrap the whip cord from the electric deadman control handle once around the blast hose and then connect it to the 50' extension cord. Band 4" to 6" on each side of the connector as shown in Figure 2.

IMPORTANT WARNING

BLAST HOSE AND CONTROL CORD SHOULD BE OF EQUAL LENGTHS. TO LESSEN THE POSSIBILITY OF HOSE SWITCHING WHEN MULTIPLE OUTLET OR TWO OR MORE BLAST MACHINES ARE USED IN CLOSE PROXIMITY OF EACH OTHER, USE HOSE IDENTIFICATION KITS TO IDENTIFY EACH BLAST HOSE AND CONTROL CORD. CAREFULLY TRACK EACH HOSE AND CORD BEFORE OPERATING.

2.4.7 Band the cord to the blast hose every 4' to 6' and as close to the connections as possible. Allow ample slack in the cord at the connections to prevent strain when the hose is pulled or coiled.

2.4.8 Band the cord with the female connector (from the control box marked "operator") to the piping just behind the quick coupling.

2.4.9 Connect the control cord with the female connector to the 50' control cord on the blast hose.

3.0 OPERATION

3.1 Start-Up

3.1.1 Check that the safety petcock on the Recova Inlet Valve is open (the handle is in line with the petcock).

3.1.2 Check the electric control handle to make sure it is in the up (no blast) position and that the handle and lock move freely.

IMPORTANT WARNING

A SEPARATE MANUAL IS SUPPLIED WITH THE CONTROL HANDLE. DO NOT OPERATE WITHOUT READING THE CONTROL HANDLE OPERATING INSTRUCTIONS. DO NOT OPERATE WITH A DEFECTIVE HANDLE.

3.1.3 Connect the control box to the appropriate power supply. The 120 volt A.C. model plugs into a standard OSHA 15 amp. 3 wire twist lock.

IMPORTANT WARNING

DO NOT USE ADAPTORS THAT ELIMINATE THE GROUND PRONG.

3.1.4 The 12 volt D.C. model has a separate cord with ring terminals for hook-up to a compressor at the battery, starter relay, or starter. One suggested approach is to connect one ring to the positive (+) terminal of the starter relay, and the other to ground. There is no polarity problem with these units. With both units, only 12 volts actually reaches the electric deadman control.

3.1.5 Open the air supply valve to pressurize the air hose to the blast machine.

3.1.6 Close the safety petcock on the inlet valve.

3.2 Blasting

3.2.1 Pull back the safety lever lock under the handle lever on the control handle.

3.2.2 Holding the lever lock down, depress the handle lever; blasting will begin.

3.2.3 To stop blasting; release the lever. The lever lock will pop up automatically to prevent accidental activation of the blast machine. The blast machine will depressurize to stop blasting and allow refilling

3.2.4 Open safety petcock during work breaks and shut down.

IMPORTANT WARNING

THE LEVER OR LEVER LOCK MUST NEVER BE WIRED OR STRAPPED DOWN IN THE BLAST POSITION. THIS COULD RESULT IN SERIOUS INJURY OR DEATH.

4.0 TROUBLE SHOOTING

4.1 No Blast Action When Handle Is Depressed

IMPORTANT WARNING

NEVER STRAP THE REMOTE CONTROL HANDLE DOWN IN THE OPERATING POSITION. WHEN CHECKING THE SYSTEM, ALWAYS ENLIST THE AID OF ANOTHER PERSON TO OPERATE THE CONTROL HANDLE AND HOLD THE NOZZLE AWAY FROM ANY OBJECT OR PERSONS.

4.1.1 Listen to the control box to determine if it clicks when the control handle is depressed and released. If it does, the fault probably is not in the electrical system. Confirm this by pushing the white manual over-ride button on the solenoid valve. This should operate the valve if the fault is electrical. If the problem is pneumatic, go to Paragraph 4.1.7 for pneumatic check.

IMPORTANT WARNING

TURN OFF AIR AND DISCONNECT AIR SUPPLY HOSE BEFORE CONTINUING.

4.1.2 Check for faulty fuse or loose connections in the control box. BE SURE POWER IS DISCONNECTED AND LOCKED OUT.

4.1.3 Check for adequate power source to the control box.

4.1.4 Check continuity of all electrical cords and valves. Only terminals No. 1 & 3 are used on lo-profile connectors. No. 1 always carries the signal to the control handle, No. 3 is the return. Field test may be made as follows:

4.1.5 Check for faulty connections and/or sections of control cord extension by plugging the electric control handle directly into the cord coming from the control box. If the box clicks when the handle is pressed and released the problem is either in the lo-profile connectors or a break in the control cord extension. Repair or replace as necessary.

4.1.6 If the box still does not click, check the control handle by substitution, if another one is available. Otherwise, simulate depressing the control handle by shorting across terminals No. 1 & 3 on the lo-profile connector coming from the box. If the box clicks, the control handle is at fault. If not, the problem is most likely in the solenoids or transformer. They should be checked and replaced as required.

The solenoid can be checked by pushing manual over-ride button.
NOTE: REPAIR INSTRUCTIONS FOR THE ELECTRIC DEADMAN CONTROL HANDLE ARE IN CLEMCO MANUAL NO. 733-0186, Stock No. 10574.

4.1.7 Check air supply to be sure it is on and all valves are open.

4.1.8 Make sure safety petcock is closed.

4.1.9 Check for air leaks in the control hose, hose fittings and tube fittings in control box.

4.1.10 Check air filter and orifice fitting, clean if necessary.

4.1.11 Apply air and power to the machine. Open the safety petcock anddepress the electric control handle. Air should rush out through the open petcock. If it doesn't, there is a blockage either in the line from the bottom of the inlet valve to the control box or from the control box to the top of the inlet valve. Repair or replace as necessary. If air does rush out, then the inlet valve is not functioning. Disassemble the valve, clean and lubricate it, replace all worn or broken parts.

4.2 Outlet valve won't exhaust or exhausts too slowly.

4.2.1 Clean or replace abrasive trap screen.

4.2.2 Clean inner wall of muffler body with solvent and compressed air, or replace.

4.2.3 Disassemble outlet valve, clean and lubricate it. Replace all worn or broken parts.

5.0 MAINTENANCE

5.1 Air Filter

5.1.1 Drain filter daily.

5.1.2 Replace filter when worn or excessively clogged.

5.2 Antifreeze Injector

5.2.1 Check level of antifreeze solution daily.

5.2.2 Drain sediment in bowl daily. Occasionally clean with dry cloth.

5.3 Abrasive Trap

5.3.1 Clean abrasive trap screen and trap twice daily.

5.4 Lubrication

5.4.1 Once weekly, with the air off, put one or two drops of oil in the inlet valve through the safety petcock. This will lubricate the pistons and O-rings in both the inlet and outlet valves.

6.0 REPLACEMENT PARTS

6.1 System Replacement Parts.

(See Figure 2)

Item	Description	Stock No.
1.	Outlet Valve 1"	01967
2.	Inlet Valve:	
	1"	01980
	1-1/2"	01995
3.	1/4" Hex Nipple	02808
4.	Air Filter 1/4"	05617
5.	Filter Element (Not Shown)	03376
6.	Electric RLX Control Handle	10840
7.	Nylon Tie	02195
8.	Extension Cord For All Models With Lo-Profile Connectors	10835
9.	Twinline Hose, Coupled, 5'	01952
10.	Control Panel:	
	120V A.C. (Includes Items 4 & 14)	07676
	12V D.C. (Includes Items 4 & 14	07677
11.	Pigtail (For 12V D.C. Units Only)	10831
12.	Air Hose, Coupled, 3/16" X 18"	02454
13.	Abrasive Trap	02011
14.	Antifreeze Injector	05616

Control Panel Internal Parts (Not Shown)

(-)	Solenoid, 3 Way, 12V D.C. For 12V Panel	07664
(-)	Solenoid, 3 Way, 12V A.C. For 120V A.C Panel	07662
(-)	Transformer, 12.6V	02198

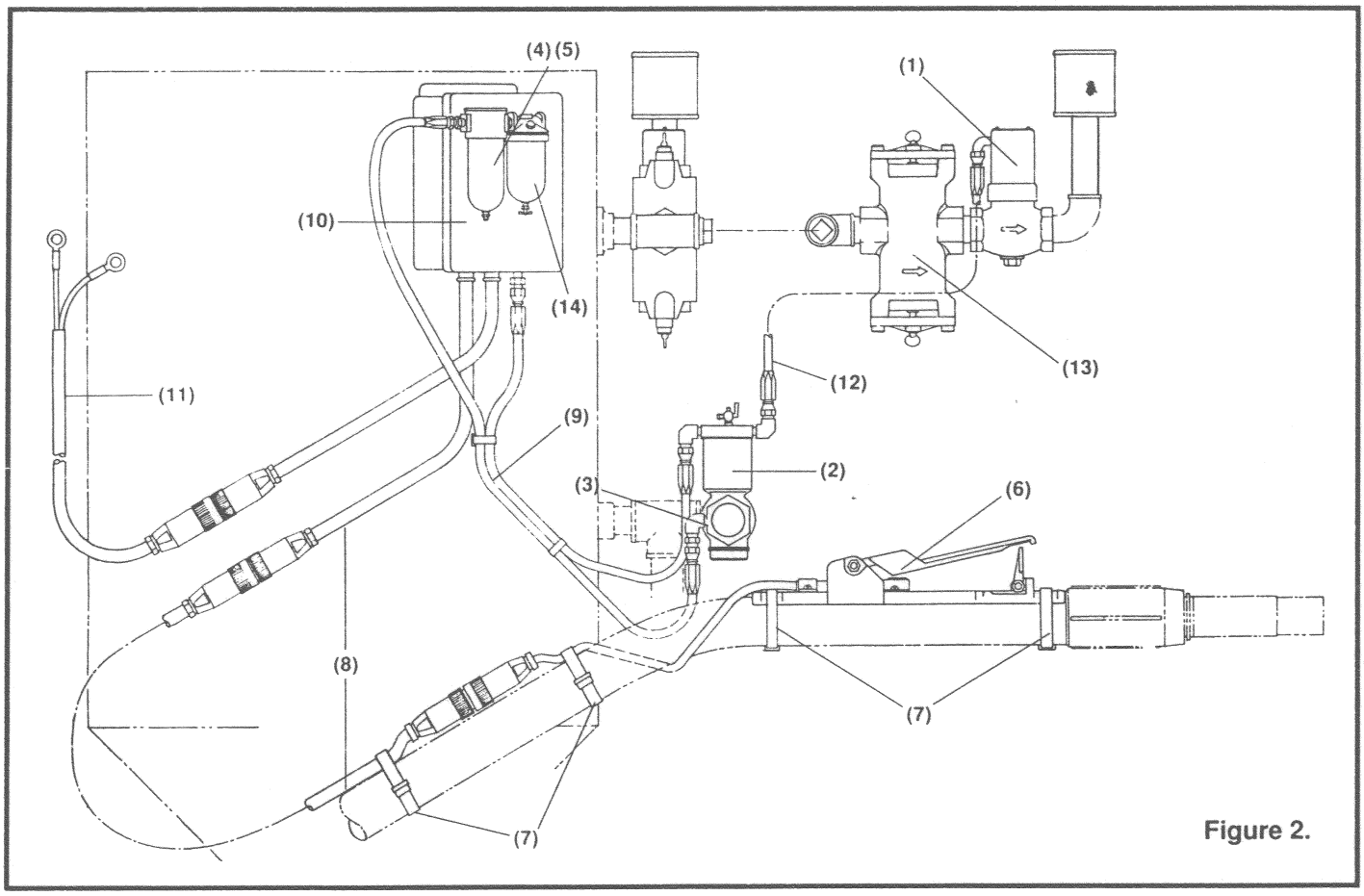

Figure 2.

6.2 1-1/2" Inlet Valve

(See Figure 3)

Item	Description	Stock No.
(-)	1-1/2" Inlet Valve, Complete	01995
1.	Petcock ,1/4"	01993
2.	Elbow, Brass, 1/4" Pipe X 1/4" Hose	02513
3.	Street Elbow, Brass, 1/8"	03993
4.	NPT Adaptor 1/8" With 1/16" Orifice	01945
5.	Bottom Cap	02001
6.	Spring (Inner) 5/8" X 1-11/16" Long	01982
7.	Bottom Cap Gasket	02006
8.	Spring (Outer) 7/8" X 2-1/16" Long	02000
9.	Inlet Valve Body	01996
10.	Inlet Valve Plug	01999
11.	Valve Plug Washer	01998
12.	Plug Washer Retainer	02002
13.	O-Ring 7/16" O.D. X 1/16"	02008
14.	Piston And Rod Assembly	02003
15.	O-Ring 2-1/2" O.D. X 1/8"	02007
16.	Cylinder Cap	01997
(-)	Service Kit (Items 6, 7, 8, 11, 12, 13, & 15)	01927

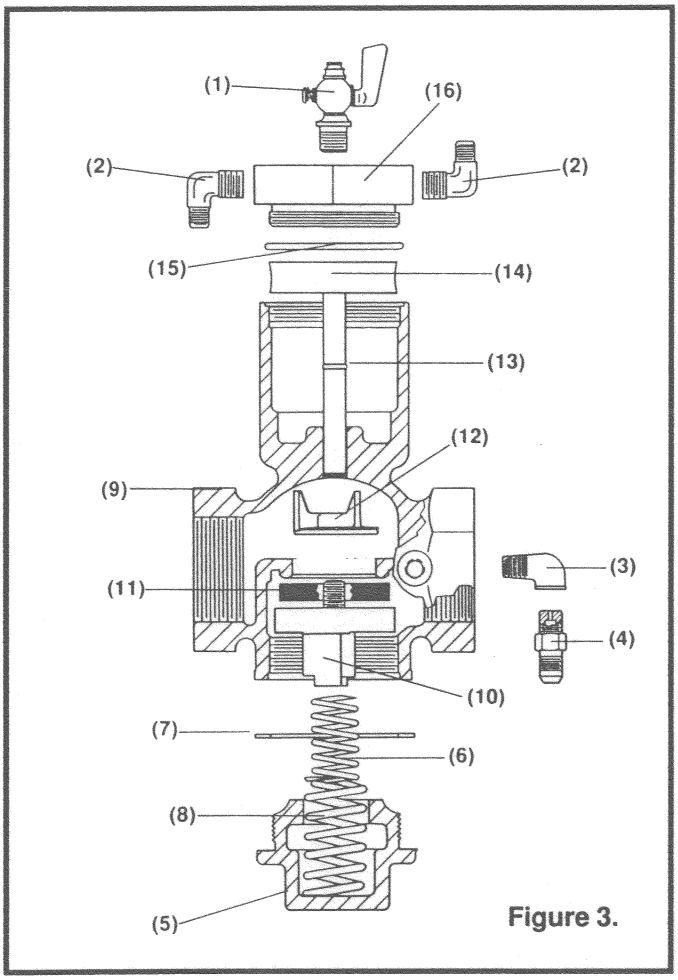

Figure 3.

6.3 1" Inlet Valve

(See Figure 4)

Item	Description	Stock No.
(-)	1" Inlet Valve, Complete	01980
1.	Petcock, 1/4"	01993
2.	Elbow, 1/8" Pipe X 1/4" Hose	02827
3.	NPT Adaptor, 1/8" with 1/16" Orifice	01945
4.	Bottom Cap	01985
5.	Spring, 5/8" X 1-11/16" Long	01982
6.	Bottom Cap Seal	01989
7.	Inlet Valve Plug	01984
8.	Inlet Valve Body	01981
9.	Valve Plug Washer	01969
10.	Plug Washer Retainer	01986
11.	O-Ring 3/16" I.D. X 1/16"	01992
12.	Piston And Rod Assembly	01987
13.	Cylinder Cap	01983
14.	O-Ring 2" I.D. X 1/8"	01990
15.	Street Elbow, Brass, 1/8"	03993
(-)	Service Kit (Items 5,6,9,10,11 & 14)	01929

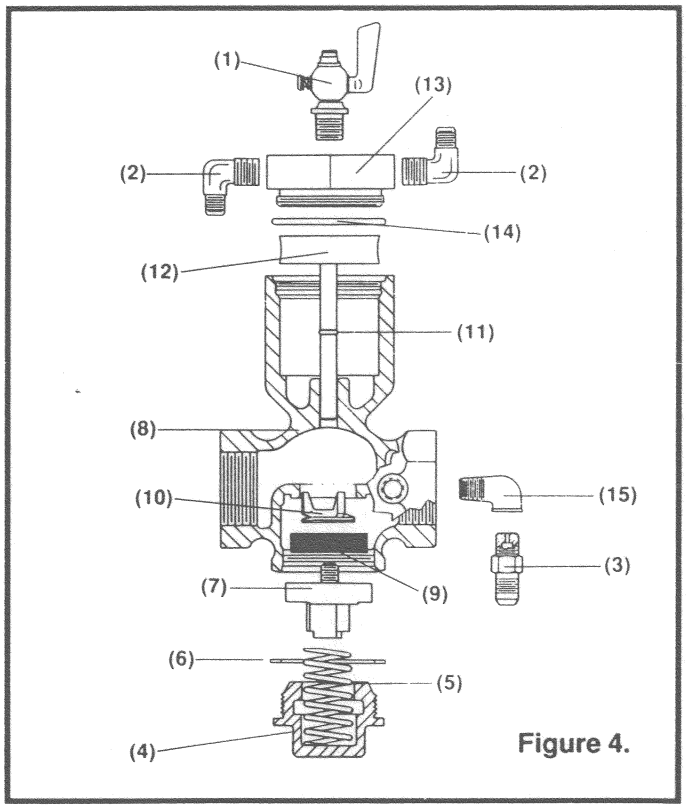

Figure 4.

6.4 1" Outlet Valve

(See Figure 5)

Item	Description	Stock No.
(-)	1" Inlet Valve, Complete	01967
1.	Elbow Adaptor 1/4" NPT X 1/4" Hose	02513
2.	Standard Pipe Plug 1/4"	01950
3.	Outlet Valve Bonnet	01970
4.	Piston And Rod Assembly	01976
5.	Plug And Spindle Guide	01971
6.	Outlet Valve Plug	01972
7.	Valve Plug Washer	01969
8.	Plug Washer Retainer	01986
9.	Outlet Valve Body	01968
10.	Spring, 7/16" X 1-5/8" Long	01974
11.	Nylon Washer	01979
12.	Hex Head Cap Screw, 3/8" NC X 3/4"	03331
(-)	Service Kit (Items 6,7,8 & 10)	01928

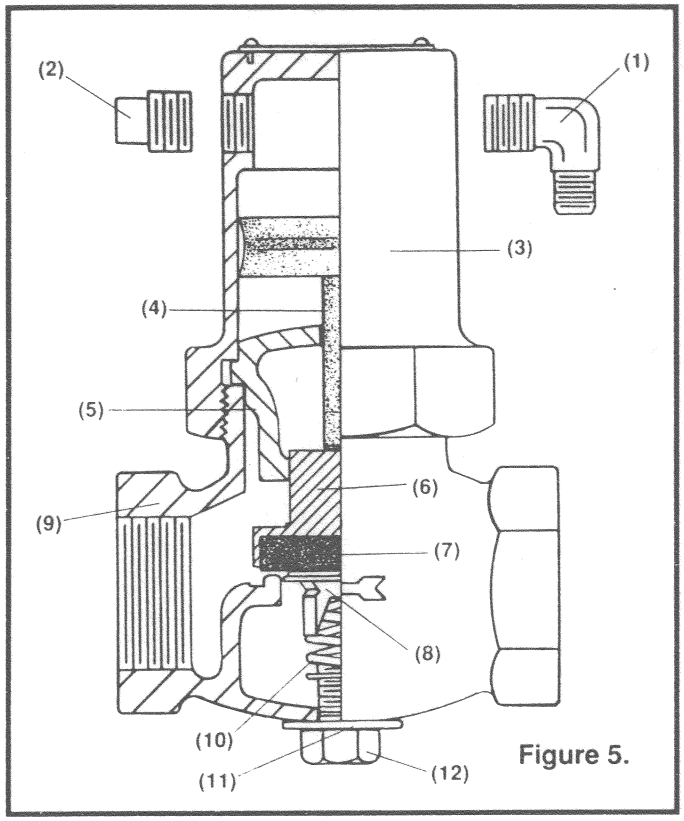

Figure 5.

6.5 Abrasive Trap

(See Figure 6)

Item	Description	Stock No.
(-)	Abrasive Trap Complete	02011
1.	Abrasive Trap Screen	02012
2.	O-Ring (2 Per Unit)	02013
3.	Cap-Aluminum (2 Per Unit)	02014
4.	Body-Aluminum	02015
5.	Cap Lock Bar (2 Per Unit)	02016
6.	3/8" X 1" Thumb Screw (2 Per Unit)	03289
7.	3/8" X 3/8" Shoulder Screw (4 Per Unit)	03291
8.	Screen Gasket-1/8" Thick	02434
(-)	Service Kit (Items 1,2 & 8)	01925

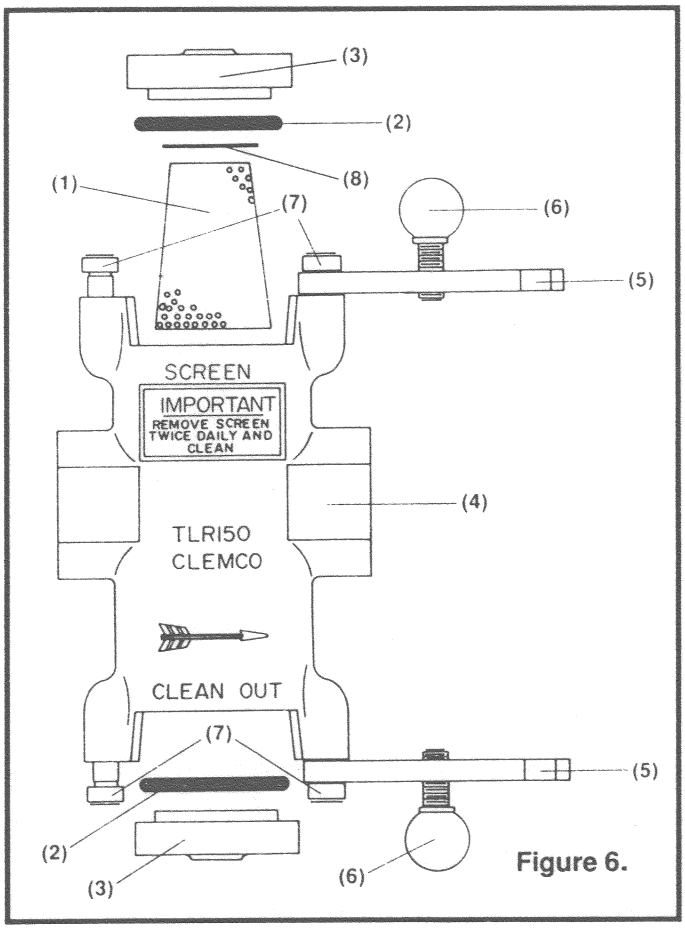

Figure 6.