# PNEUMATIC ABRASIVE CONVEYORS MODELS 16-PAC, 24-PAC, 30-PAC AND 36-PAC O.M. 04117 

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## NOTICE TO PURCHASERS AND USERS OF OUR PRODUCTS ANDTHIS INFORMATIONAL MATERIAL

The products described in this material, and the information relating to those products, is intended for knowledgeable, experienced users of abrasive blasting equipment.

No representation is intended or made as to the suitability of the products described herein for any particular purpose or application. No representations are intended or made as to the efficiency, production rate, or the useful life of the products described herein. Any estimate regarding production rates or production finishes are the responsibility of the user and must be derived solely from the user's experience and expertise, and must not be based on information in this material.

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It is the responsibility of the knowledgeable, experienced users of the products mentioned in this material to familiarize themselves with the appropriate laws, regulations and safe practices that apply to these products, equipment that is connected to these products, and materials that may be used with these products.

It is the responsibillty of the user to insure that proper training of operators has been performed and a safe work environment is provided.

Our company is proud to provide a variety of products to the abrasive blasting industry, and we have confidence that the professionals in our industry will utilize their knowledge and expertise in the safe efficient use of these products.



### 1.0 INTRODUCTION

1.1 General Description. Clemco's Pneumatic Abrasive Conveyor (PAC) moves abrasive by means of compressed air. Air entering the unit through the inlet valve (Figure 1) causes the pop-up valve to seat and the vessel pressurizes. An air jet at the bottom of the unit entrains abrasive and forces it through the rubber-lined swage into the abrasive hose, which carries it to its destination.

### 2.0 SET-UP AND OPERATION

### 2.1 Set-Up

1. Start the compressor and bring it up to operating temperature and pressure. The minimum operating pressure for the PAC units is 40 p.s.i., and the maximum is 125 p.s.i. The best pressure for any particular job must be determined by testing.
2. Load the abrasive to be moved into the top of the PAC unit. Never load the PAC unit with the screen off.
3. Connect the air line from the compressor to the
inlet valve. For best performance, use a 1-1/4" I.D. or larger air line.
4. Connect the abrasive hose to the outlet coupling. Use $1.1 / 2^{\prime \prime}$ blast hose (available from Clemco in $50^{\prime}$ lengths). Do not use ordinary air hose. Make sure the coupling gaskets are in place and not worn. Safety wire these couplings together through the holes provided.

### 2.2 Operation

1. To start the unit, open the inlet valve. Abrasive conveying will begin immediately.
2. When you want to stop an empty unit or reload a unit, first make sure that all the abrasive is out of the conveying hose. (Abrasive left in the hose may flow back into the PAC unit and jam it.) Then close the inlet valve. The pop-up valve will open so that abrasive can flow into the unit.
3. Never leave abrasive in the unit overnight. Moisture may accumulate and cause the abrasive to jam. If jamming due to moisture is a recurring problem, install a moisture separator as near to the inlet valve as possible.

### 3.0 MAINTENANCE

## IMPORTANT WARNING

All maintenance should be performed while the unit is depressurized.
3.1 Replacing the Pop-Up Valve. To gain access to the popup valve, remove the inspection door assembly. Using a small pipe wrench, unscrew the pop-up valve guide (Figure 1) by turning it counter-clockwise. Remove the pop-up valve and guide from the machine, install the new pop-up valve and then screw the valve guide (with the pop-up valve in it) back into position inside the machine. Put a new gasket on the inspection door assembly before bolting the door back onto the machine. After tightening the bolts, test for leaks.
3.2 Replacing the Pop-up Valve Seat Gasket. Remove the old gasket by wedging your forefingers between the gasket and the retainer and slowly working it loose. Use a screwdriver if necessary. Push the new gasket all the way through the port and then fit it into the groovein the retainer. For the last few inches, pull up on the gasket and allow it to "pop" into position.

### 4.0 REPLACEMENT PARTS AND ACCESSORIES

### 4.1 Accessories

Discharge hose, 1-1/2" I.D. $\times 50^{\prime}$. . . . . . . . . . . 20 PAC 4358
PAC cycle timer ass'y., 115V a.c. . . . . . . . . . . . . 14 PCT 3480
$1^{\prime \prime}$ Pressure regulator with gauge. . . . . . . . . . . 16 PAC 1904
Recova-Lok II complete . . . . . . . . . . . . . . . . . 15 PAC 2550
1" Recova inlet valve . . . . . . . . . . . . . . . . . . . 15 PAC 1980
Twinline air hose, 5', coupled . . . . . . . . . . . . . . 22 PAC 1952

### 4.2 Replacement Parts

Item Description Stock No.
(-) $16^{\prime \prime}$ Pneumatic Abrasive Conveyor with jet . 34 PAC 1668
(-) 24" Pneumatic Abrasive Conveyor with jet.
. 34 PAC 1669
(-) $30^{\prime \prime}$ Pneumatic Abrasive Conveyor with jet
. 34 PAC 4142
(-) $36^{\prime \prime}$ Pneumatic Abrasive Conveyor with jet
. 34 PAC 5281
(1) $1^{\prime \prime}$ ball valve with handle. . . . . . . . . . . . 13 PAC 2396
(2) Screen, 15-1/2" dia., for $16^{\prime \prime}$ PAC . . . . 34 PAC 1666
(3) Screen, 21" dia., for $24^{\prime \prime}$ PAC . . . . . . . 34 PAC 1667
( 4) Screen, 31-1/2" dia., for $30^{\prime \prime}$ PAC . . . . 34 PAC 1713
(5) Screen, 37-1/2" dia., for 36" PAC ... . 34 PAC 1714
( 6) Pop-up valve seat, rubber . . . . . . . . . . 13 PAC 2325
(7) Pop-up valve and shaft . . . . . . . . . . . . 13 PAC 2321
( 8) Pop-up valve guide. . . . . . . . . . . . . 83 SPF 1845
(9) Air jet, $1 / 4^{\prime \prime}$, for $16^{\prime \prime}$ PAC. . . . . . . . . . . 34 PAC 1696
(10) Air jet, 5/16", for 24" PAC. . . . . . . . . 34 PAC 1697
(11) Air jet, 3/8", for 30" PAC. . . . . . . . . . 34 PAC 1698
(12) Air jet, 1/2, for $36^{\prime \prime}$ PAC . . . . . . . . . . . . 34 PAC 1699
(13) Rubber-lined swage . . . . . . . . . . . . . . 34 PAC 1695
(14) Quick coupling, threaded, $2^{\prime \prime}$. . . . . . . . . 23 PAC 0562
(15) Inspection door assembly, $6^{\prime \prime} \times 8^{\prime \prime} \ldots . .13$ PRP 2377
(16) Inspection door gasket, $6^{\prime \prime} \times 8^{\prime \prime} \ldots . . .13$ PRP 2369

## IMPORTANT <br> WELDING OF ANY KIND ON THIS UNIT RENDERS THE NATIONAL BOARD APPROVAL NULL AND VOID.



Figure 2


### 5.0 ACCESSORIES

5.1 Recova-Lok II (Figure 3). To install, unscrew the existing manual valve and replace it with the Recova inlet valve. Connect the Recova Lok II to the inlet valve by means of the twinline hose provided. Either leg of the hose can go to either fitting on the Recova-Lok II. The safety petcock on top of the inlet valve must be closed; otherwise the system won't work. To open the inlet valve, press in the safety button on the side of the Recova-Lok II and depress the handle. To close the inlet valve, release the handle.

### 5.2 Electric Cycle Timer (Figure 4)

a. Introduction. If the cycle timer was purchased for use with a pneumatic abrasive conveyor, the kit should contain: a control panel,a1 inch inlet valve and an 18 inch length of twinline hose. The cycle time is designed for use 'with 120 volt a.c., 60 cycle current.

b. Installation. First remove the manual inlet valve at the top of the PAC unit and replace it with the inlet valve provided. Be sure that the arrow on the body of the inlet valve points in the direction of the inlet pipe towards the blast:machine. Place the control panel on the rim of the PAC unit using the brackets provided. Attach the air filter to the inlet valve. Be sure the flow arrow points away from the inlet valve. Connect the inlet valve to the control panel using the twinline hose supplied. The line leading from the air filter is connected to the inlet fitting on the control panel; the other line is connected to the outlet fitting. (The two ports on the valve are marked IN and OUT.)
c. Operation. Connect the control panel to a 120 volt a.c., 60 cycle power source. This activates the cycle timer. After lifting the cover of the control panel, you will see the timer in the upper left hand corner. On the timer face are three arrows: a red arrow (permanently fixed at " O "), a black or off pointer (which times the filling function of a PAC unit) and a blue arrow. The blue arrow. controls the time that a PAC unit conveys abrasive. The length of each cycle depends on many variables and thus is best determined by experience. As one guideline, it is recommended that thecycles be of equal length. Either cycle can then be lengthened or shortened, depending upon specific operating conditions.
d. Troubleshooting.

1. If the cycle timer does not work: Insure that power is reaching the control panel. Test for voltage using a voltmeter or an ohmmeter. Be sure that the ON/OFF switch to the left of the control panel is in the ON position. Insure that the air hoses to the control panel are connected to the proper fittings. An improper connection is indicated by a continual leakage of air from the small copper exhaust tube at the base of the control panel. Check the cycle timer for proper functioning. Insure that the blue and black arrows do not point straight up and cover the red arrow. If the red arrow does not move when the ON/OFF switch is ON, the timer is defective and should be replaced. If the timer functions but the valves on the PAC unit do not activate, remove the air inlet fitting at the base of the control panel and check for air. If no air is escaping, the solenoid is defective and should be replaced.
2. If the cycle timer works but air leaks from the outlet valve during the ON cycle: If the piston in the inlet valve is broken, replace it. If the outlet valve "chatters," insufficient air is being delivered to the outlet valve, and air hoses should be inspected for a loose fitting.
3. If the cycle timer works but the inlet valve does not open: Check the tightness of the hose fittings at the base of the control panel and the inlet valve. Check to be sure that the petcock at the top of the inlet valve is closed. Inspect the inlet valve to insure that the piston inside the valve is not frozen in the closed position. If the piston is frozen, lubricate the valve (see Maintenance) or replace it.
4. If the air continues to escape from the inlet valve when the switch is in the OFF position: Open the inlet valve and check for a worn or damaged valve seat or a weak or broken spring, and replace the respective part.
e. Maintenance. Once a week, with the air off, place one to three drops of machine oil through the safety petcock at the top of the inlet valve. This will lubricate the inlet valve assembly.

## f. Replacement Parts

Description
Cycle Timer, PAC . . . . . . . . . . . . . 14 PCT 3480
1 inch inlet valve assembly . . . . . . 15 PCT 1980
18 inch twinline hose, coupled. . . . 22 PCT 2454

# PNEUMATIC ABRASIVE CONVEYORS <br> Models 16-PAC \& 24-PAC 



OWNER'S MANUAL

WARNING: When exposed to dust from silica sand, wear a NIOSH-approved air-fed helmet. Failure to do so may lead to silicosis, a serious lung disease.

Figure 1

### 1.0 INTRODUCTION

1.1 General Description. Clemco's Pneumatic Abrasive Conveyor (PAC) moves abrasive by means of compressed air. Air entering the unit through the inlet valve (figure 1) causes the pop-up valve to seat and the vessel pressurizes. An air jet at the bottom of the unit entrains abrasive and forces it out through the rubber-lined swage into the abrasive hose, which carries it to its destination.

### 2.1 Set-Up

1. Start the compressor and bring it up to operating temperature and pressure. The minimum operating pressure for the PAC unit is 40 p.s.i., and the maximum is 120 p.s.i. The best pressure for any particular job must be determined by testing.
2. Load the abrasive to be moved into the top of the PAC unit. Never load the PAC unit with the screen off.
3. Connect the air line from the compressor to the inlet valve. For best performance, use a $11 / a^{\prime \prime}$ I.D. air line or larger.
4. Connect the abrasive hose to the outlet coupling. Use $1 \frac{1}{2^{\prime \prime}}$ blast hose (available from Clemco in $50^{\prime}$ lengths. Do not use ordinary air hose. Make sure the coupling gaskets are in place and not worn. Wire these couplings together.

### 2.2 Operation

1. To start the unit, open the inlet valve. Abrasive conveying will begin immediately.
2. To stop the unit when empty, or to reload, close the inlet valve. The pop-up valve will open so that abrasive can flow into the unit. Make sure that all abrasive is out of the conveying hose before closing the inlet valve. Abrasive left in the hose may flow back into the PAC unit and jam it.
3. Never leave abrasive in the unit overnight. Moisture may accumulate and cause the abrasive to jam. If jamming due to moisture is a recurring problem, install a moisture separator as near to the inlet valve as possible.

### 3.0 MAINTENANCE

j. 1 Replacing the Pop-up Valve. To gain access to the popup valve, remove the inspection door assembly. Using a small pipe wrench, unscrew the pop-up valve guide (figure 1) by turning it counter-clockwise. Remove the pop-up valve and guide from the machine, install the new pop-up valve, and then screw the valve guide (with the pop-up valve in it) back into position inside the machine. Put a new gasket on the inspection door assembly before bolting the door back onto the machine. After tightening the bolts, test for leaks.
3.2 Replacing the Pop-up Valve Seat Gasket. Remove the old gasket by wedging your forefingers between the gasket and the retainer and slowly working it loose. Use a screwdriver if necessary. Push the new gasket all the way through the port and then fit it into the groove in the retainer. For the last few inches, pull up on the gasket and allow it to "pop" into position.

### 4.0 REPLACEMENT PARTS AND ACCESSORIES

### 4.1 Accessories

| Discharge hose, 1 ½' 1. D. x 50'. . . . . . . . . . 20 |  |
| :---: | :---: |
| Pressure switch with adjustable timer, electric. . 34 | PAC |
| $1^{\prime \prime}$ Pressure regulator with gauge. . . . . . . . . . 16 | PAC 190 |
| Recova-Lok control valve . . . . . . . . . . . . . 15 | PAC 195 |
| ' Recova inlet valve | PAC |
| win line air hose, $5^{\text {², }}$ coupled . . . . . . . . . . . 22 | AC 19 |

### 4.2 Replacement Parts

| Item | Description | Stock No. |  |
| :---: | :---: | :---: | :---: |
| (-) | $16^{\prime \prime}$ Pneumatic Abrasive Conveyor with jet. | 34 | PAC 1668 |
| (-) | 24" Pneumatic Abrasive Conveyor with jet. | 4 | PAC 1669 |
| (1) | Air inlet valve, $1^{\prime \prime}$ | 13 | PAC 2396 |
| (2) | Screen, 151/2' ${ }^{\prime \prime}$ dia., for $16^{\prime \prime}$ PAC | 34 | PAC 1666 |
| (3) | Screen, 21" dia., for 24" PAC | . 34 | PAC 1667 |
| (4) | Pop-up valve seat, rubber | 13 | PAC 2325 |
| (5) | Pop-up valve and shaft |  | PAC 2321 |
| (6) | Pop-up valve guide. | . 83 | SPF 1845 |
| (7) | Air jet, $1 / 4^{\prime \prime}$, for 16" PAC. | . 34 | PAC 1696 |
| (8) | Air jet, 5/16", for 24" PAC. | . 34 | PAC 1697 |
| (9) | Air jet, 3/8", for $24^{\prime \prime}$ PAC. |  | PAC 1698 |
| (10) | Rubber-lined swage | . 34 | PAC 1695 |
| (11) | Quick coupling, threaded, $2^{\prime \prime}$ |  | PAC 0562 |
| (12) | Inspection door assembly, $6^{\prime \prime} \times 8^{\prime \prime}$ |  | PRP 2377 |
| (13) | Inspection door gasket, 6" $\times 8^{\prime \prime}$ | . 13 | PRP 2369 |

## IMPORTANT

WELDING OF ANY KIND ON THIS UNIT RENDERS THE NATIONAL BOARD APPROVAL NULL AND VOID.


Figure 2


Figure 3

### 5.0 HOOK-UP OF ACCESSORIES

5.1 Recova-Lok Control Valve (Figure 3). To install, unscrew the existing manual valve and replace it with the Recova inlet valve. Connect the deadman control to the inlet valve by means of the twin-line hose provided. Either leg of the hose can go to either fitting on the deadman control. The safety petcock on top of the inlet valve must be closed; otherwise the system won't work. To open the inlet valve, press in the safety button on the side of the deadman control and depress the handle. To close the inlet valve, release the handle.

5.2 Electric Cycle Timer (Figure 4). To install, unscrew the existing manual valve and replace it with the Recova inlet valve. Attach the control box to the PAC unit by means of the bracket provided. Attach the air filter to the Recova inlet valve as shown in figure 4, and then connect the inlet valve to the control box, using the twin-line hose supplied. The line leading from the air filter goes to the inlet fitting on the control box; the other line goes to the outlet fitting. (The two ports on the valve inside the control box are marked IN and OUT.)

The timer, located inside the control box, has three pointers. The black pointer sets the duration of the "fill" phase (inlet valve closed, pop-up valve open). The blue pointer sets the duration of the "blow" phase (inlet valve open, pop-up valve closed). The red pointer cycles between these two during operation. The safety petcock on top of the Recova inlet valve must be closed, otherwise the system won't work. The timer's ON/OFF switch is on the control box cover.

# PNEUMATIC ABRASIVE CONVEYORS <br> Models 16 - PAC, 24 - PAC, 30 - PAC and 36 - PAC 



CLEMCO INDUSTRIES • 2177 Jerrold Ave. - San Francisco, CA 94124 Phone: 415/282-7290 • Telex: 34416


### 1.0 INTRODUCTION

1.1 General Description. Clemco's Pneumatic Abrasive Conveyor (PAC) moves abrasive by means of compressed air. Air entering the unit through the inlet valve (Figure 1) causes the pop-up valve to seat and the vessel pressurizes. An air jet at the bottom of the unit entrains abrasive and forces it through the rubber-lined swage into the abrasive hose, which carries it to its destination.

### 2.0 SET-UP AND OPERATION

### 2.1 Set-Up

1. Start the compressor and bring it up to operating temperature and pressure. The minimum operating pressure for the PAC units is 40 p.s.i., and the maximum is 125 p.s.i. The best pressure for any particular job must be determined by testing.
2. Load the abrasive to be moved into the top of the PAC unit. Never load the PAC unit with the screen off.
3. Connect the air line from the compressor to the
inlet valve. For best performance, use a 1-1/4" I.D. or larger air line.
4. Connect the abrasive hose to the outlet coupling. Use 1-1/2" blast hose (available from Clemco in $50^{\prime}$ lengths). Do not use ordinary air hose. Make sure the coupling gaskets are in place and not worn. Safety wire these couplings together through the holes provided.

### 2.2 Operation

1. To start the unit, open the inlet valve. Abrasive conveying will begin immediately.
2. When you want to stop an empty unit or reload a unit, first make sure that all the abrasive is out of the conveying hose. (Abrasive left in the hose may flow back into the PAC unit and jam it.) Then close the inlet valve. The pop-up valve will open so that abrasive can flow into the unit.
3. Never leave abrasive in the unit overnight. Moisture may accumulate and cause the abrasive to jam. If jamming due to moisture is a recurring problem, install a moisture separator as near to the inlet valve as possible.

### 3.0 MAINTENANCE

## IMPORTANT WARNING

All maintenance should be performed while the unit is depressurized.
3.1 Replacing the Pop-Up Valve. To gain access to the popup valve, remove the inspection door assembly. Using a small pipe wrench, unscrew the pop-up valve guide (Figure 1) by turning it counter-clockwise. Remove the pop-up valve and guide from the machine, install the new pop-up valve and then screw the valve guide (with the pop-up valve in it) back into position inside the machine. Put a new gasket on the inspection door assembly before bolting the door back onto the machine. After tightening the bolts, test for leaks.
3.2 Replacing the Pop-up Valve Seat Gasket. Remove the old gasket by wedging your forefingers between the gasket and the retainer and slowly working it loose. Use a screwdriver if necessary. Push the new gasket all the way through the port and then fit it into the groovein the retainer. For the last few inches, pull up on the gasket and allow it to "pop" into position.

### 4.0 REPLACEMENT PARTS AND ACCESSORIES

### 4.1 Accessories

Discharge hose, 1-1/2" I.D. x 50' . . . . . . . . . . . 20 PAC 4358
PAC cycle timer ass'y., 115 V a.c. . . . . . . . . . . . 14 PCT 3480
1" Pressure regulator with gauge. . . . . . . . . . . . 16 PAC 1904
Recova-Lok II complete . . . . . . . . . . . . . . . . . 15 PAC 2550
1" Recova inlet valve . . . . . . . . . . . . . . . . . . . 15 PAC 1980
Twinline air hose, 5', coupled

### 4.2 Replacement Parts

| Item | Description | Stock No. |
| :---: | :---: | :---: |
| (-) | 16" Pneumatic Abrasive Conveyor with jet | 8 |
| (-) | 24" Pneumatic Abrasive Conveyor with jet | . 34 PAC 1669 |
| (-) | 30" Pneumatic Abrasive Conveyor with jet |  |
| (-) | $36^{\prime \prime}$ Pneumatic Abrasive Conveyor with jet | 281 |
| ( 1) | 1" ball valve with handle | 13 PAC 2396 |
| ( 2) | Screen, 15-1/2" dia., for 16" PAC | 34 PAC 1666 |
| ( 3) | Screen, $21^{\prime \prime}$ dia., for $24^{\prime \prime}$ PAC | 34 PAC 1667 |
| 4) | Screen, 31-1/2"' dia., for 30'1 PAC | 34 PAC 1713 |
| ( 5) | Screen, 37-1/2" dia., for 36" PAC | .34 PAC 1714 |
| ( 6) | Pop-up valve seat, rubber | 13 PAC 2325 |
| ( 7) | Pop-up valve and shaft | 13 PAC 2321 |
| ( 8) | Pop-up valve guide. | 83 SPF 1845 |
| ( 9) | Air jet, 1/4', for 16" PAC. | 34 PAC 1696 |
| (10) | Air jet, 5/16", for 24" PAC | 34 PAC 1697 |
| (11) | Air jet, 3/8", for 30' PAC. | . 34 PAC 1698 |
| (12) | Air jet, 1/2, for $36{ }^{\prime \prime}$ PAC | 34 PAC 1699 |
| (13) | Rubber-lined swage | 34 PAC 1695 |
| (14) | Quick coupling, threaded, $2^{\prime \prime}$ | 23 PAC 0562 |
| (15) | Inspection door assembly, $6^{\prime \prime} \times 8^{\prime \prime}$ | 13 PRP 2377 |
| (16) | Inspection door gasket, $6^{\prime \prime} \times 8^{\prime \prime}$ | 13 PRP 2369 |
| IMPORTANT <br> WELDING OF ANY KIND ON THIS UNIT RENDERS THE NATIONAL BOARD APPROVAL NULL AND VOID. |  |  |
|  |  |  |
|  |  |  |



Figure 2


Figure 3

### 5.0 ACCESSORIES

5.1 Recova-Lok II (Figure 3). To install, unscrew the existing manual valve and replace it with the Recova inlet valve. Connect the Recova Lok II to the inlet valve by means of the twinline hose provided. Either leg of the hose can go to either fitting on the Recova-Lok II. The safety petcock on top of the inlet valve must be closed; otherwise the system won't work. To open the inlet valve, press in the safety button on the side of the Recova-Lok II and depress the handle. To close the inlet valve, release the handle.

### 5.2 Electric Cycle Timer (Figure 4)

a. Introduction. If the cycle timer was purchased for use with a pneumatic abrasive conveyor, the kit should contain: a control panel,a1 inch inlet valve and an 18 inch length of twinline hose. The cycle time is designed for use with 120 volt a.c., 60 cycle current.

b. Installation. First remove the manual inlet valve at the top of the PAC unit and replace it with the inlet valve provided. Be sure that the arrow on the body of the inlet valve points in the direction of the inlet pipe towards the blast machine. Place the control panel on the rim of the PAC unit using the brackets provided. Attach the air filter to the inlet valve. Be sure the flow arrow points away from the inlet valve. Connect the inlet valve to the control panel using the twinline hose supplied. The line leading from the air filter is connected to the inlet fitting on the control panel; the other line is connected to the outlet fitting. (The two ports on the valve are marked IN and OUT.)
c. Operation. Connect the control panel to a 120 volt a.c., 60 cycle power source. This activates the cycle timer. After lifting the cover of the control panel, you will see the timer in the upper left hand corner. On the timer face are three arrows: a red arrow (permanently fixed at " O "), a black or off pointer (which times the filling function of a PAC unit) and a blue arrow. The blue arrow controls the time that a PAC unit conveys abrasive. The length of each cycle depends on many variables and thus is best determined by experience. As one guideline, it is recommended that the cycles be of equal length. Either cycle can then be lengthened or shortened, depending upon specific operating conditions.
d. Troubleshooting.

1. If the cycle timer does not work: Insure that power is reaching the control panel. Test for voltage using a voltmeter or an ohmmeter. Be sure that the ON/OFF switch to the left of the control panel is in the ON position. Insure that the air hoses to the control panel are connected to the proper fittings. An improper connection is indicated by a continual leakage of air from the small copper exhaust tube at the base of the control panel. Check the cycle timer for proper functioning. Insure that the blue and black arrows do not point straight up and cover the red arrow. If the red arrow does not move when the ON/OFF switch is ON, the timer is defective and should be replaced. If the timer functions but the valves on the PAC unit do not activate, remove the air inlet fitting at the base of the control panel and check for air. If no air is escaping, the solenoid is defective and should be replaced.
2. If the cycle timer works but air leaks from the outlet valve during the ON cycle: If the piston in the inlet valve is broken, replace it. If the outlet valve "chatters," insufficient air is being delivered to the outlet valve, and air hoses should be inspected for a loose fitting.
3. If the cycle timer works but the inlet valve does not open: Check the tightness of the hose fittings at the base of the control panel and the inlet valve. Check to be sure that the petcock at the top of the inlet valve is closed. Inspect the inlet valve to insure that the piston inside the valve is not frozen in the closed position. If the piston is frozen, lubricate the valve (see Maintenance) or replace it.
4. If the air continues to escape from the inlet valve when the switch is in the OFF position: Open the inlet valve and check for a worn or damaged valve seat or a weak or broken spring, and replace the respective part.
e. Maintenance. Once a week, with the air off, place one to three drops of machine oil through the safety petcock at the top of the inlet valve. This will lubricate the inlet valve assembly.
f. Replacement Parts

## Description

Part Number

Cycle Timer, PAC . . . . . . . . . . . . . 14 PCT 3480
1 inch inlet valve assembly . . . . . . . 15 PCT 1980
18 inch twinline hose, coupled. . . . . 22 PCT 2454

