

# OPERATOR'S MANUAL

# 650990-XXD

SPECIFICATIONS, SERVICE KITS, GENERAL INFORMATION, TROUBLESHOOTING  
INCLUDE MANUALS: 67301-X LOWER PUMP END (PN 97999-962), 637345 AIR MOTOR (PN 97999-960) &  
S-1212 GENERAL INFORMATION MANUAL (PN 97999-963)

RELEASED: 2-2-01  
REVISED: 5-19-11  
(REV. B)

**12" AIR MOTOR**  
**65:1 RATIO**  
**6" STROKE**

## 650990-XXD EXTRUSION PUMP CARBON STEEL



**READ THIS MANUAL CAREFULLY BEFORE INSTALLING,  
OPERATING OR SERVICING THIS EQUIPMENT.**

It is the responsibility of the employer to place this information in the hands of the operator. Keep for future reference.

### SERVICE KITS

- Use only genuine Johnstone® replacement parts to assure compatible pressure rating and longest service life.
  - **637346** for repair of Air Motor section.
  - **637349-XXD** for repair of Lower Pump section.
- Refer to the chart on page 2 for description of -XXD options.

### SPECIFICATIONS

Model Series (refer to option chart)	650990-XXD
Type	Air Operated, Extrusion, Double Acting Pump
Ratio	65:1
Air Motor	637345
Motor Repair Kit	637346
Motor Diameter	12" (30.5 cm)
Stroke	6" (15.2 cm)
Air Inlet	3/4 - 14 N.P.T.F. - 1 (female)
Air Exhaust	1-1/4 - 11-1/2 N.P.S.M. (female)
Lower Pump End Series	67301-XXD
Lower Pump Repair Kit	637349-XXD
Material Outlet	1-1/4 - 11-1/2 N.P.T.F. (female)
Weight	165 lbs (74.8 kgs)

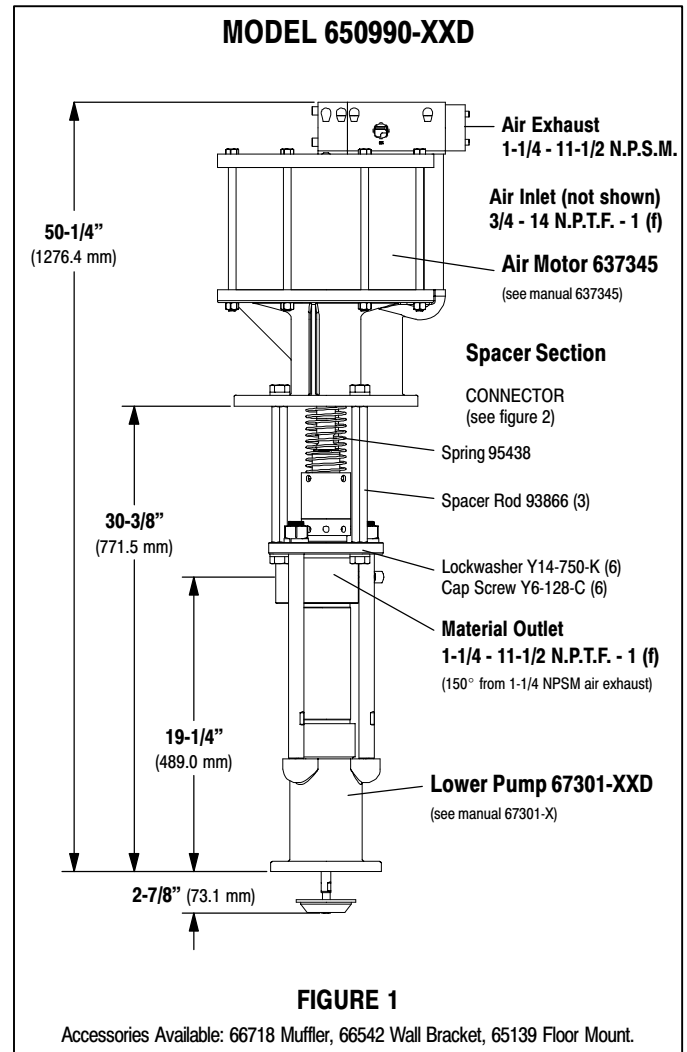
### PERFORMANCE

Air Inlet Pressure Range	30 - 90 p.s.i. (2.1 - 6.2 bar)
Fluid Pressure Range	1950 - 5850 p.s.i. (134.5 - 403.4 bar)
Max. Rec'd Cycles / Minute	70
Displacement In <sup>3</sup> Per Cycle	20.0
Volume / Cycle	11.08 oz. (327.6 ml)
Cycles Per Gallon	11.55
Flow @ 70 Cycles / Minute	6.06 g.p.m. (22.94 l.p.m.)
Noise Level @ 60 p.s.i. - 40 cpm	89.8 db(A) *

\* Tested with 66718 silencer installed.

\* The pump sound pressure level has been updated to an Equivalent Continuous Sound Level (L<sub>Aeq</sub>) to meet the intent of ANSI S1. 13-1971, CAGI-PNEUROP S5.1 using four microphone locations.

### PUMP DATA



### IMPORTANT

This is one of the four documents which support the pump. Replacement copies of these forms are available upon request.

- ☒ 650990-X MODEL OPERATOR'S MANUAL
- ☐ GENERAL INFORMATION - INDUSTRIAL PISTON PUMPS
- ☐ 67301-X LOWER PUMP END OPERATOR'S MANUAL
- ☐ 637345 AIR MOTOR OPERATOR'S MANUAL

## PUMP OPTION DESCRIPTION CHART

**650990 - X X D**  
 PACKING MATERIAL      PLUNGER TYPE  
    SPRING ARRANGEMENT

### PACKING MATERIAL (PACKINGS ARE UPPER AND LOWER UNLESS NOTED)

J Polyurethane (Upper)  
UHMW-PE (Lower)

### SPRING ARRANGEMENT

3 No Spring

### PLUNGER TYPE

D Hardened Stainless Steel W / Hard Chrome Plating

## GENERAL DESCRIPTION

**⚠ WARNING** HAZARDOUS PRESSURE. Do not exceed maximum operating pressure of 5850 p.s.i. (403.4 bar) at 90 p.s.i. (6.2 bar) inlet air pressure.

**PUMP RATIO X**  
**INLET PRESSURE TO PUMP MOTOR**      =      **MAXIMUM PUMP**  
    **FLUID PRESSURE**

Pump ratio is an expression of the relationship between the pump motor area and the lower pump end area. **EXAMPLE:** When 90 p.s.i. (6.2 bar) inlet pressure is supplied to the motor of a 5:1 ratio pump it will develop a maximum of 450 p.s.i. (31.0 bar) fluid pressure (at no flow) – as the fluid control is opened, the flow rate will increase as the motor cycle rate increases to keep up with the demand.

**⚠ WARNING** Refer to general information sheet for additional safety precautions and important information.

- The Extrusion (Chop-Check) pumps are primarily designed for the pumping of heavy viscous material with or without fibrous content. The models can be used with a gravity feed single post lift as a top-per type assembly or with a two post lift as a force feed type assembly. The lower pump is designed for easy priming and the double acting feature is standard in all Johnstone industrial pumps. Material is delivered to the pump discharge outlet on both the up and down stroke.
- The motor is connected to the lower pump end by a spacer section. This allows for lubrication of the upper packing gland and prevents motor contamination because of normal wear and eventual leakage through the material packing gland. Be sure the lubricant cup is adequately filled with lubricant to protect the upper packings and insure longest service life.

## TROUBLE SHOOTING

Pump problems can occur in either the Air Motor Section or the Lower Pump End Section. Use these basic guidelines to help determine which section is affected.

### If the pump will not cycle.

- Be certain to first check for non-pump problems including kinked, restrictive or plugged inlet / outlet hose or dispensing device. Depressurize the pump system and clean out any obstructions in the inlet / outlet material lines.
- Refer to the motor manual for trouble shooting if the pump does not cycle and / or air leaks from the air motor.

### If the pump cycles but does not deliver material.

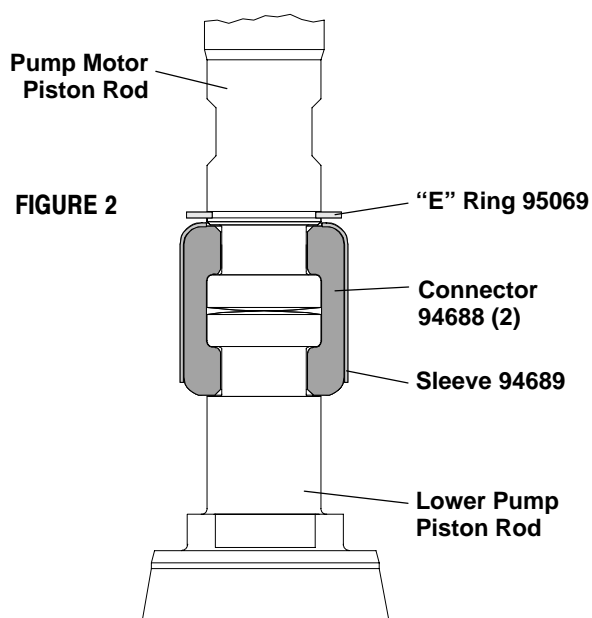
- Refer to the lower pump end manual for further trouble shooting.

## PUMP CONNECTION – UPPER / LOWER

**NOTE:** All threads are right hand.

- Lay the pump assembly on a workbench.
- Remove the three (Y6-128-C) cap screws and (Y14-750-K) lockwashers from the three spacer rods (figure 1).
- Pull the air motor from the lower pump end until motor piston rod is in the “down” position and lower pump end rod is in “up” position.
- Remove the three spacer rods by unscrewing the three (Y6-128-C) cap screws and (Y14-750-K) lockwashers.
- Using e-ring pliers, slide the “e” ring up far enough to allow the sleeve to move upward and release the two connectors (figure 2).

### PUMP CONNECTOR DETAIL



### REASSEMBLY

- Align the pump motor with the lower pump end. Position the air inlet of the motor 60° from the material outlet.
- Install the two connectors and retain with the sleeve, slide the “e” ring back into position.
- Assemble the three spacer rods to the lower pump and secure using three (Y6-128-C) cap screws and (Y14-750-K) lockwashers.
- Reinstall the spacer rods to the pump motor.
- Bring the motor and lower pump together and retain with the three (Y6-128-C) cap screws and (Y14-750-K) lockwashers.