

## Portable Hand-Operated Pump

### Description

The major components of the portable pump assembly in the 8570 model series consist of a(n):

- hand-operated reciprocating pump
- drum cover assembly
- drum dolly assembly
- nozzle assembly with delivery hose
- electronic meter

### Pump

The low-pressure pump included with the assembly is designed to dispense gear oils directly from their original 16-gallon containers.

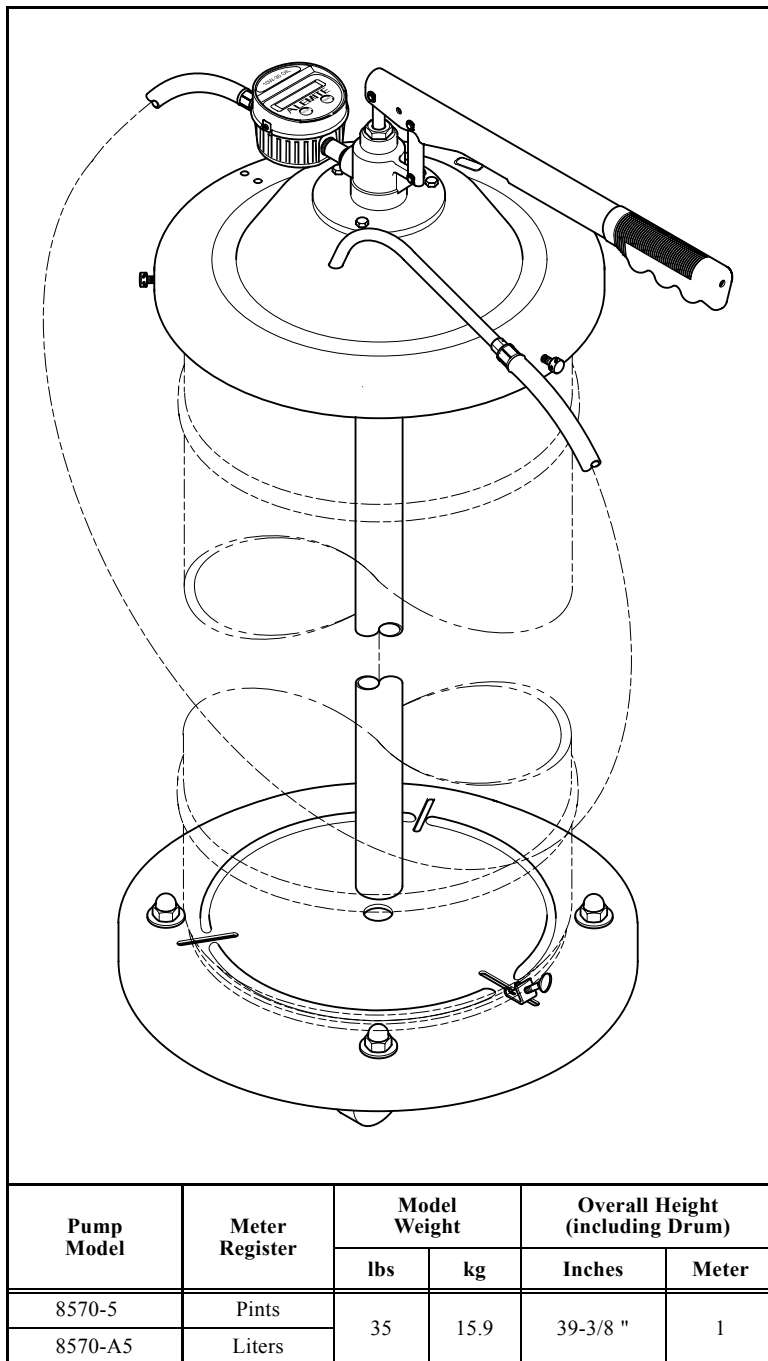
The pump delivers approximately 1 quart (0.95 liter) of product in ten cycles [2-strokes per cycle - one upward and one downward].

#### Models 8570-5 and 8570-A5

The electronic meter on each model registers in a different unit of measurement. See **Figure 1**.

### Model Assembly

Refer to **Figure 2** for details on the assembly of all packaged components.



**Figure 1** Portable Hand-Operated Pump  
Models 8570-5 and 8570-A5

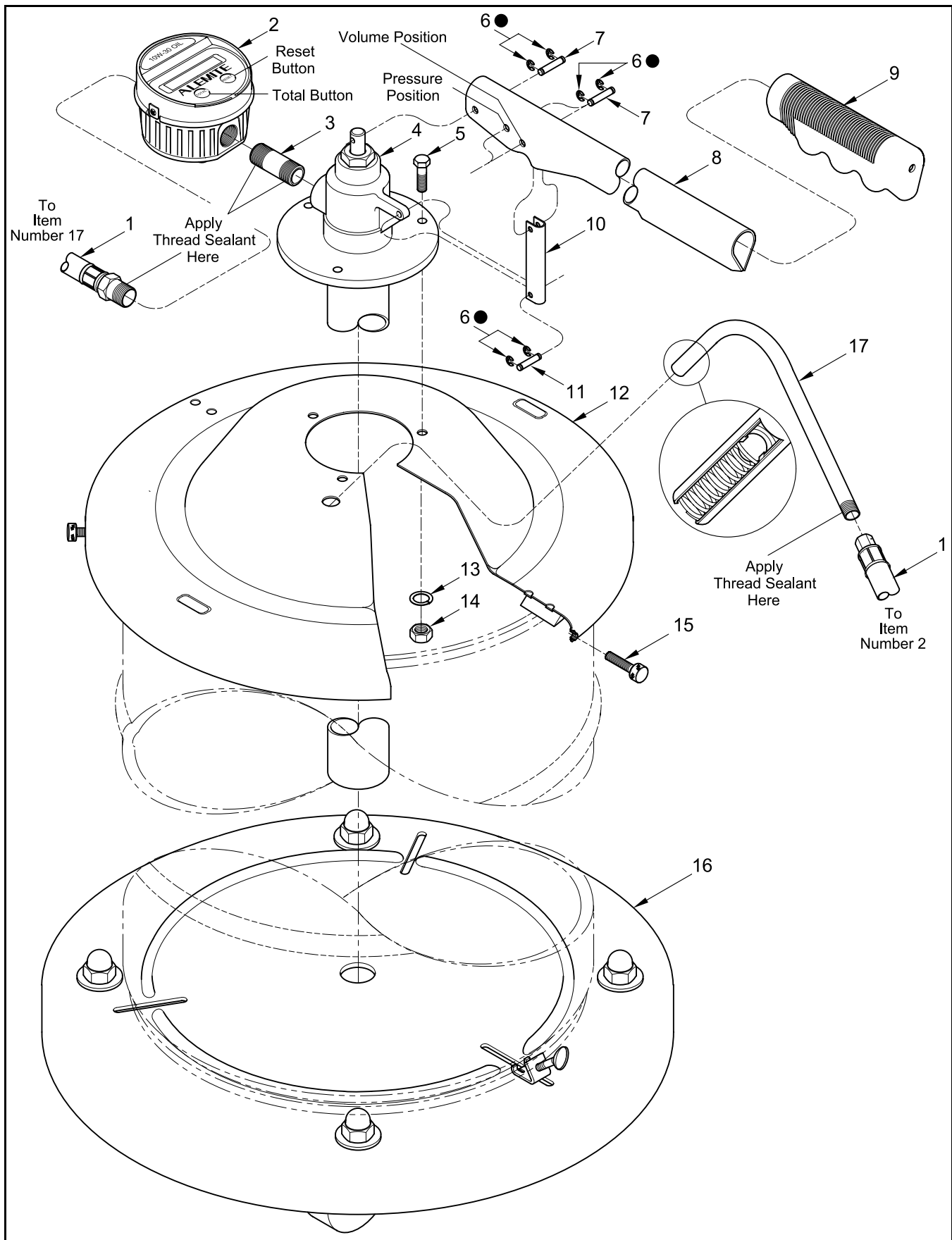


Figure 2 Portable Hand-Operated Pump Model 8570 Series - Exploded View

Item No.	Part No.	Description	Qty	Notes	Numeric Order Part # (Item #)
1	317809-5F	Hose, Material, 1/2 " ID (5-1/2 ' Long)	1		3630-A (2)
2	3631	Meter, Electronic (Pints) <i>Model 8570-5</i>	1	See SER 3630	3631 (2)
	3630-A	Meter, Electronic (Liters) <i>Model 8570-A5</i>	1		48018 (15)
3		Nipple, 1/2 " NPT x 2 " Long	1		77650 (14)
4		Tube Assembly, Pump	1	See Figure 3	77787 (5)
5		Capscrew, 1/4 " -28 x 1-1/8 "	3		171606 (6)
6		Ring, Retaining	6	●	172207-1 (13)
7	339961-2	Pin	2		172263-4 (3)
8	316320	Lever	1		306610 (17)
9	338334	Grip	1		316315-5 (16)
10	328253-3	Link	1		316320 (8)
11	339961-1	Pin	1		317809-5F (1)
12	328245-4	Cover Assembly (w/ Gasket)	1		323496-A4 (12)
13		Washer, Lock, 1/4 "	3		328253-3 (10)
14		Nut, 1/4 " -20	3		328255-C4 (4)
15	48018	Screw, Thumb, 1/4 " -28	3		338334 (9)
16	316315-5	Dolly Assembly	1	See SER 316315-5	339961-1 (11)
17	306610	Nozzle Assembly	1		339961-2 (7)

**Legend:**

Part numbers left blank (or in *italics*) are not available separately

● designates a repair kit item

**Repair Kit**

Part No.	Kit Symbol	Description
394261-1	●	Kit, Repair (Includes items on <b>Figure 2</b> and <b>Figure 3</b> )

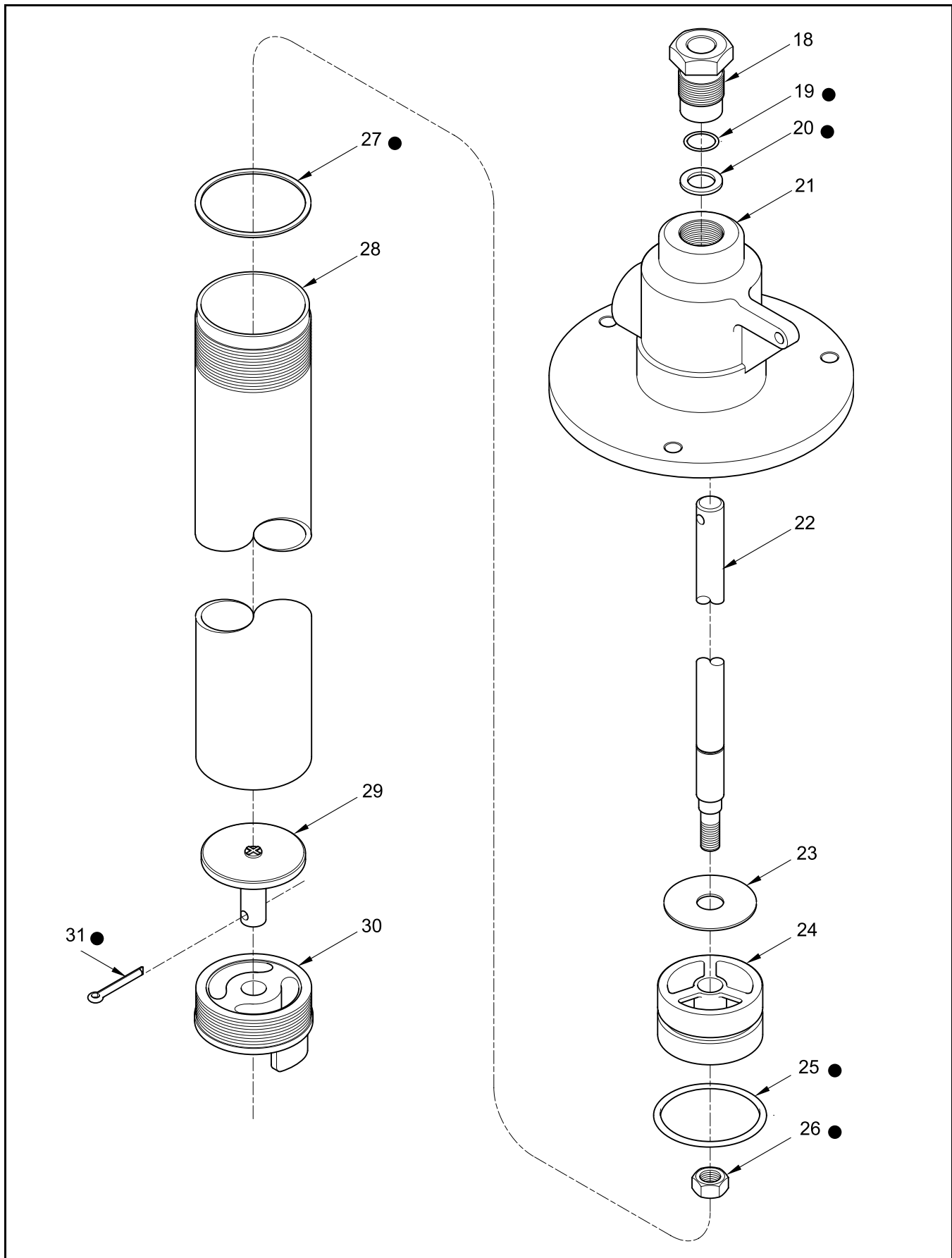


Figure 3 Pump Tube Assembly for Model 8570 Series - Exploded View

Item No.	Part No.	Description	Qty	Notes	Numeric Order Part # (Item #)
18	324733	Nut, Packing	1		<i>17070</i> (26)
19		O-Ring, 1/2 " ID x 5/8 " OD	1	●	50712 (30)
20		Gasket	1	●	131315 (29)
21	328254-4	Body, Outlet	1		<i>131472</i> (27)
22	328257-5	Rod	1		<i>171001-23</i> (25)
23	324747	Valve, Upper	1		<i>171009-2</i> (19)
24		Body, Plunger	1		<i>172212-14</i> (31)
25		O-Ring, 1-1/4 " ID x 1-1/2 " OD	1	●	<i>319320</i> (24)
26		Nut, Elastic Stop, 5/16 " -18	1	●	324733 (18)
27		Gasket	1	●	324747 (23)
28	328256-3	Tube	1		<i>326784</i> (20)
29	131315	Valve, Foot	1		328254-4 (21)
30	50712	Body, Foot Valve	1		328256-3 (28)
31		Pin, Cotter, 3/32 " x 5/8 " Long	1	●	328257-5 (22)
<b>Legend:</b> Part numbers left blank (or in <i>italics</i> ) are not available separately ● designates a repair kit item					

**Repair Kit**

Part No.	Kit Symbol	Description
394261-1	●	Kit, Repair (Includes items on <b>Figure 3</b> and <b>Figure 2</b> )

## Overhaul

Prior to performing any maintenance procedure, the following safety precautions must be observed. Personal injury may occur.



### WARNING

**Do not use halogenated hydrocarbon solvents such as methylene chloride or 1,1,1-trichloroethane in this pump. An explosion can result within an enclosed device capable of containing pressure when aluminum and/or zinc-plated parts come in contact with halogenated hydrocarbon solvents.**

**Never point a nozzle at any portion of your body or another person. Accidental discharge of pressure and/or material can result in injury.**

**Read each step of the instructions carefully. Make sure a proper understanding is achieved before proceeding.**

## Disassembly

**NOTE:** Refer to **Figure 2** for component identification on the following procedures.

### Separate Pump Tube from Cover and Lever

1. Unscrew Material Hose (1) from Electronic Meter (2).
2. Remove Capscrews (5), Lock Washers (13), and Nuts (14) that secure Pump Tube Assembly (4) to Cover (12).
  - Remove the Pump Tube Assembly from the Cover.
3. Unscrew the Electronic Meter from Nipple (3).
4. Remove Retaining Rings (6) from one end of Pins (7) and Pin (11).
5. Remove the Pins that secure the Lever to Pump Tube Assembly (4) and Link (10).
6. Remove the Pin that secures the Link to the Pump Tube Assembly.

### Pump Tube

**NOTE:** Refer to **Figure 3** for component identification on the pump tube procedures.

7. Remove the Nipple from Outlet Body (21) as necessary.

8. Unscrew Tube (28) from the Outlet Body.
9. Remove the Tube from the inner components of the Pump Tube Assembly.

### Foot Valve Body

10. Unscrew Foot Valve Body (30) from the Tube.
11. Remove Cotter Pin (31) from Foot Valve (29).
12. Remove the Foot Valve from the Foot Valve Body.

### Outlet Body

13. Remove the Rod assembly from the Outlet Body.
14. Remove Gasket (27) from the Outlet Body.
15. Unscrew Packing Nut (18) from the Outlet Body.
  - Remove Gasket (20) and O-Ring (19).

### Rod Assembly

16. Unscrew Nut (26) from Rod (22).
17. Remove Plunger Body (24) and Valve (23) from the Rod.
18. Remove O-Ring (25) from the Plunger Body.

## Clean and Inspect

**NOTE:** Use the repair kit for replacement parts. Make sure all the components are included in the kit before discarding used parts.

1. Clean all metal parts in cleaning solvent. The solvent should be environmentally safe.
2. Inspect all parts for wear and/or damage.
  - Replace as necessary.
3. Inspect Rod (22) closely. Use a magnifying glass to detect any score marks.
  - Replace as necessary.
4. Closely inspect the mating surfaces of all check valve components for any imperfections. Ensure a smooth and clean contact is obtained when assembled.

## Assembly

**NOTE:** Prior to assembly, certain components require lubrication in clean oil. Refer to **Table 2** for details.

### Foot Valve Body

**NOTE:** Refer to **Figure 4** for a section view of the pump tube assembly.

1. Install Foot Valve (**29**) into the top of Foot Valve Body (**30**).
2. Install Cotter Pin (**31**) into the Foot Valve.
3. Screw the Foot Valve Body assembly into the bottom of Tube (**28**).
  - Do not tighten at this time.

### Rod Assembly

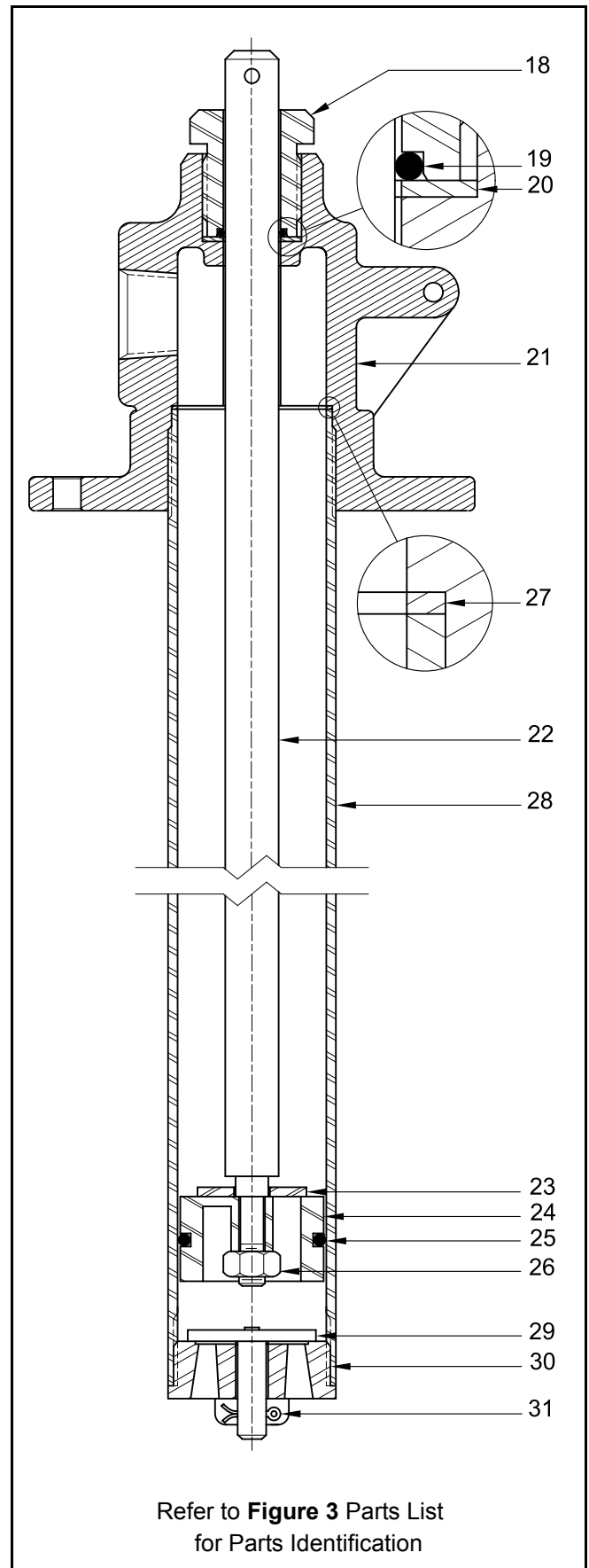
4. Install Valve (**23**) and Plunger Body (**24**) [ribs upward] onto the bottom of Rod (**22**).
5. Screw Nut (**26**) onto the Rod.
  - Tighten the Nut securely.
6. Install O-Ring (**25**) onto the Plunger Body.

### Outlet Body

7. Install and seat Gasket (**27**) into the bottom of Outlet Body (**21**).
8. Install the Rod assembly into the Outlet Body.
9. Install and seat Gasket (**20**) into the Outlet Body.
10. Install O-Ring (**19**) carefully past the cross-hole on the Rod.
11. Screw Packing Nut (**18**) into the Outlet Body.
  - Tighten the Packing Nut securely.
12. Install the Tube assembly over the Rod assembly and screw into the Outlet Body.
13. Tighten the Tube securely into the Outlet Body and at the same time the Foot Valve Body into the Tube.

Item No. on Figure 3	Description
19	O-Ring, 1/2 " ID x 5/8 " OD
25	O-Ring, 1-1/4 " ID x 1-1/2 " OD

**Table 2** Components Lubricated in Clean Oil



Refer to **Figure 3** Parts List for Parts Identification

**Figure 4** Pump Tube Assembly 328255-C4 - Section View

**Attach Pump Tube to Cover and Lever**

1. Install Pin (11) that secures Link (10) to Pump Tube Assembly (4).
2. Install Pins (7) that secures Lever (8) to the Pump Tube and Link.
3. Install Retaining Rings (6) onto the ends of all Pins.
4. Screw Nipple (3) [with thread sealant on each end] into the Outlet Body.
  - Tighten the Nipple securely.
5. Screw Electronic Meter (2) onto the Nipple.
  - See **Figure 2** for the proper orientation of the Meter.
  - Tighten the Meter securely.
6. Position the Pump Tube Assembly onto Cover (12) as illustrated in **Figure 2**.
  - Make sure the hole in the cover for Nozzle (17) is properly oriented.

7. Install Nuts (14), Lock Washers (13), and Capscrews (5) that secure the Pump Tube Assembly to the Cover.
  - Tighten the Nuts securely.
8. Screw Material Hose (1) [with thread sealant] into the Electronic Meter.
  - Tighten the Hose securely.

**Priming the Pump**

1. Make sure an adequate supply of oil is in the container.
2. Position the Nozzle above the hole in the Cover.
3. Cycle the Lever until oil is visible at the Nozzle.
 

If the pump assembly does not prime, refer to the **Troubleshooting Chart** for details.
4. Continue to cycle the pump until the oil is free of air.
5. Reset the Electronic Meter to zero.

**Troubleshooting Chart**

Pump Indications	Possible Problems	Solution
Pump does not cycle	Pump tube jammed and/or contains loose components	Rebuild pump tube
Pump will not prime	Pump leaking internally	See <b>Internal Leaks</b>
Pump cycles easily	Product source empty	Replenish product
<b>External Leaks</b>		
Product leakage visible at Packing Nut (18)	1. Worn or damaged O-Ring (19) 2. Damaged Gasket (20)	1. Replace O-Ring (19) 2. Replace Gasket (20)
Product leakage at bottom of Outlet Body (21)	1. Tube (28) not sufficiently tight 2. Damaged Gasket (27)	1. Tighten Tube (28) into Outlet Body (21) 2. Separate Tube (28) from Outlet Body (21) and replace Gasket (27)
<b>Internal Leaks</b>		
Pump does not prime	1. Foreign material between Valve (23) and Plunger Body (24) 2. Foreign material between Foot Valve (29) and Foot Valve Body (30) 3. Worn or damaged Valve (23) 4. Worn or damaged Plunger Body (24) 5. Worn or damaged Foot Valve (29) 6. Worn or damaged Foot Valve Body (30) 7. Worn or damaged O-Ring (25)	Locate and eliminate source of foreign material  Disassemble pump tube, clean, inspect, and replace worn or damaged components

**Changes Since Last Printing**  
Replaced Cotter Pins with Retaining Rings