



LIQUID DYNAMICS™

60:1, 80:1 AND 90:1 RATIO AIR OPERATED GREASE PUMPS

Instruction & Parts Manual

This manual covers the following model pumps

**P/N 11148T
P/N 11174T
P/N 11195T**



**P/N 11348
P/N 11374
P/N 11395**



P/N 11448



This manual contains important warnings and information. READ AND KEEP FOR REFERENCE.

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WARNING

This symbol indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



CAUTION

This symbol indicates a potentially hazardous situation which, if not avoided, may result in injury or damage to equipment.

Introduction:

Liquidynamics air operated grease pumps are suitable for dispensing thick oils and NLGI grades #1,2 and 3 greases over short and long distances. Please contact Liquidynamics for assistance in determining which pump would be best for your specific application, keeping in mind variables such as type of grease, ambient temperature, distance to be pumped, size of plumbing and line restrictions.

Service and Warranty:

Liquidynamics grease pumps are covered by a limited two year warranty. For parts or service information, call your local distributor or Liquidynamics at 800 894 3572. Please be ready to provide model number and serial number or date of manufacture found on the Liquidynamics model number decal on each pump.

Reference the exploded parts drawings found in this manual for specific repair part numbers required.

Technical Data:

| Part Number | 11148T | 11174T | 11195T | 11348 | 11374 | 11395 | 11448 |
|--------------------------|--------|--------|--------|--------|--------|--------|--------|
| Pump Ratio | 60:1 | 60:1 | 60:1 | 80:1 | 80:1 | 80:1 | 90:1 |
| Delivery Rate (oz/min) | 48 | 48 | 48 | 126 | 126 | 126 | 26 |
| Working Pressure PSI | 80-120 | 80-120 | 80-120 | 80-120 | 80-120 | 80-120 | 80-120 |
| Air Inlet (NPTF) | 1/4" | 1/4" | 1/4" | 3/8" | 3/8" | 3/8" | 1/4" |
| Grease Outlet (NPTF) | 1/4"* | 1/4"* | 1/4"* | 3/4" | 3/4" | 3/4" | 1/4" |
| Air Consumption (cfm) | 12 | 12 | 12 | 20 | 20 | 20 | 11 |
| Noise (dB) | 79 | 79 | 79 | 79 | 79 | 79 | 79 |
| Drum Size (lb) | 30/60 | 120 | 420 | 30/60 | 120 | 420 | 30/60 |
| Dia., Suction Tube (in) | 1.26 | 1.26 | 1.26 | 1.42 | 1.42 | 1.42 | 1.26 |
| Length Suction Tube (in) | 19.75 | 29.50 | 37.50 | 19.75 | 29.50 | 37.50 | 19.75 |
| Shipping Weight (lb) | 12 | 14 | 16 | 20 | 22 | 24 | 13 |

Note: For longer pump life and efficiency, we recommend the use of dried air or an air filter. As with any pneumatic equipment, you can expect longer trouble free operation with the use of clean, dry air. The use of an air drier, separator (filter), or minimally an air filter is advantageous. See Liquidynamic catalog for selection of air regulators, separators (filter) and dryers.

*Available with 3/8" outlet fitting.

General

Liquidynamics grease pumps are supplied completely assembled and ready to use. However, since grease is typically provided in open head drums, covers are available to allow the pump to be secured in place during operation. Standard sizes to fit 35-60 lb. pails (5 gal.), 120 lb. drums (16 gal.) and 420 lb. (55 gal.) are available. Additionally, for all non-self leveling greases it is highly recommended that a follower plate be used to ensure positive feed of grease

to the pump (prevents pump cavitation) during operation.

The use of an air filter/regulator (fig. 1) is also recommended to control pump speed and ensure a clean air supply. Consult your Liquidynamics catalog or call 800-894-3572 for specific recommendations and part numbers.

Fig. 1



As a convenience to our customers, the majority of grease systems provided by Liquidynamics are supplied with pump, cover, follower plate and typically include an air filter/regulator, discharge hose and grease control handle with 'Z' swivel.

These grease pumps typically operate in the pressure range of 60-120 PSI. Actual operating pressure is determined by the type of grease to be pumped, grease temperature, pumping distance, plumbing size, plumbing restrictions and desired flow rate.



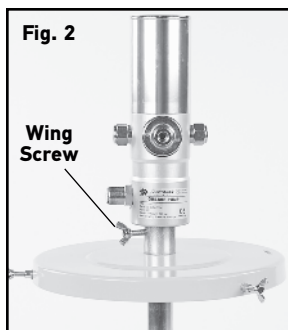
Operating air pressure in excess of 120 PSI may cause pump damage and/or reduce pump life.

Installation

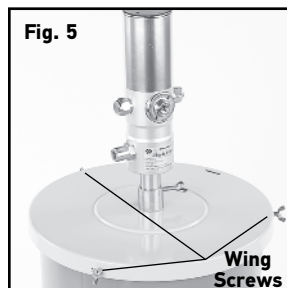
These air operated pumps are supplied complete and ready to use. Accessories such as grease hose, control handle, cover or follower plate are available as required and may have been supplied if you purchased a complete kit.

Note: Use an appropriately rated thread sealant such as Loctite 545 to ensure a leak free connection. Allow thread sealant to cure a minimum of 6 hours prior to pressurizing system.

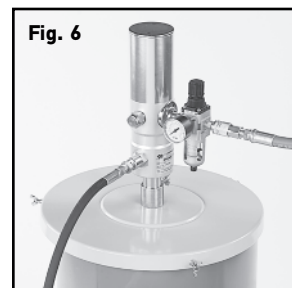
- a. If pump is being used with a cover, slide the cover onto the pump shaft as shown in fig. 2, secure cover onto pump shaft with the wing screw provided.
- b. If pump is being used with a follower plate, push the follower plate evenly into the grease drum far enough to contact the grease surface, as viewed through the center opening of the follower plate, fig 3.



- c. Insert pump and cover assembly through the center follower plate hole, fig. 4, and secure the cover to drum with the three wing screws provided at the outside edge of cover, fig. 5.



- d. Loosen the wing nut securing the pump to the cover and allow the pump to slide to the bottom of drum, fig. 5, raise pump off the bottom slightly and tighten wing nut securing pump in position.
- e. Attach any air inlet hoses/fittings and grease discharge hoses, fittings and accessories as required for your system, fig. 6.



If drum has a plastic liner, raise the pump a minimum of approximately 1" off the bottom to prevent the liner from being sucked into the pump.

Operation Notes

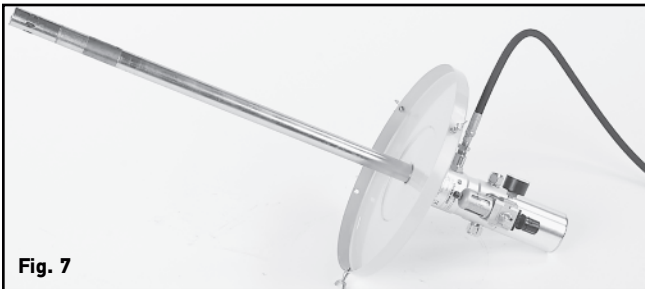
- a. Pump priming
Liquidynamics grease pumps have been primed and tested at the factory and therefore do not require any special priming during normal installations. To ensure that the newly installed system starts properly, take care to start the pump at a lower than normal air pressure and then slowly increase air pressure until the system is filled with grease and stops. This procedure will ensure that the pump does not operate too quickly causing it to cavitate as it is initially filling the system with grease.

CAUTION

When changing grease drums, care should be taken to not place the grease pump on any surface that may cause ingestion of foreign particles which could contaminate the grease and possibly damage pump seals or piston rod.

b. Changing Empty Grease Drums

1. Loosen the three wing nuts on the drum cover and remove the pump and cover as an assembly and place on a work table or floor, fig. 7, with the pump head down so as not to contaminate the pump suction shaft.



2. Remove the follower plate from the empty drum by pulling up on the handle provided for this purpose, fig. 8.
3. Follow installation instructions found on page 3.



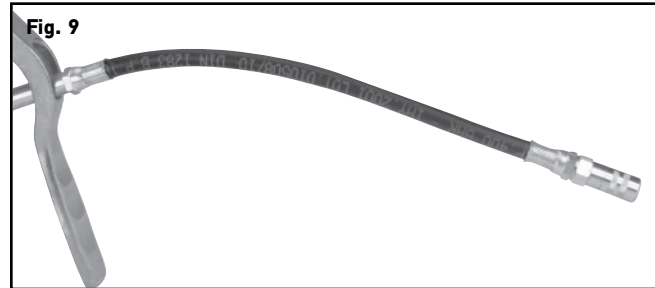
CAUTION

Disconnect air supply when the system is left unattended to prevent grease spill in case of line leak or break.

Maintenance

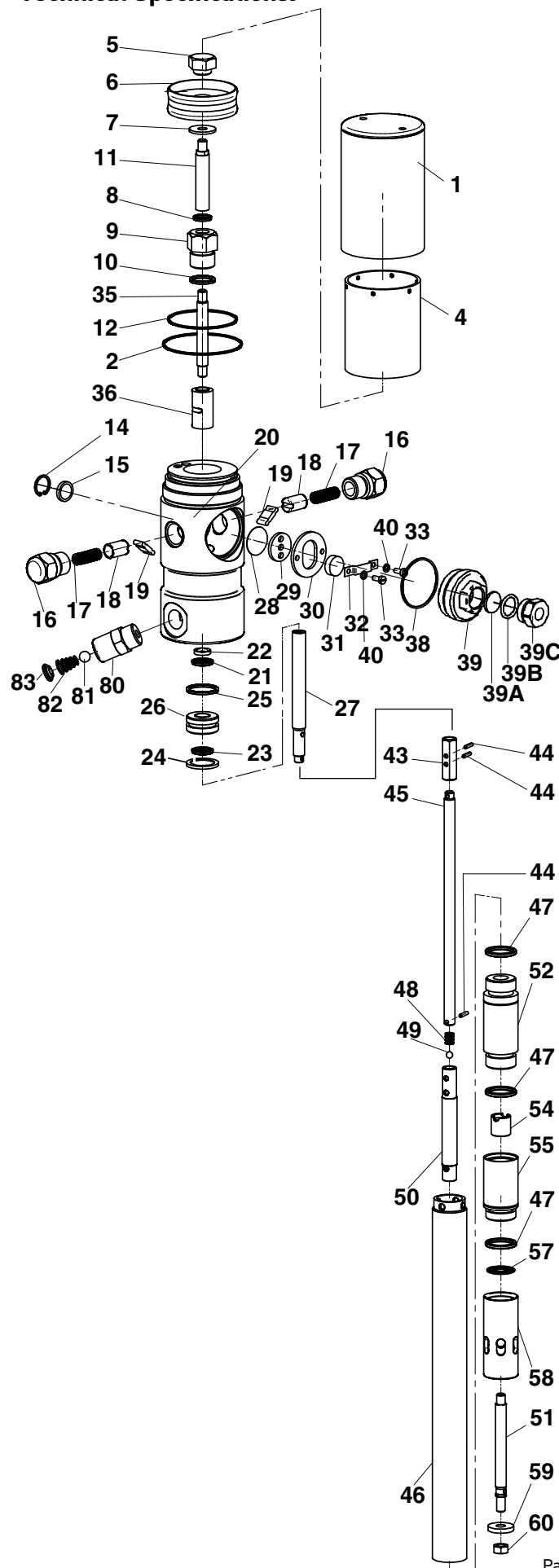
WARNING

These grease pumps can generate up to 10,000 PSI of pressure and therefore constitute an injection hazard. Prior to each use take care to inspect all hoses and fittings to ensure there are no leaks, frayed or damaged hoses. Replace any hoses or fittings that are leaking or show signs of wear. Pay particular attention to condition of flex hose, fig. 9, installed on grease control handle (if applicable) since these hoses endure considerable wear and tear. Replace flex hose as soon as any sign of wear, tearing, fraying or other damage is evident.



- a. On a day to day basis these pumps are maintenance free. For your future reference regarding replacement of components, please refer to the appropriate exploded parts diagram.
- b. Please contact Liquidynamics at 800 894 3572, or your local distributor for repair components and kits.

Technical Specifications:



Exploded Parts Items – 60:1 Grease Pumps Models 11148T, 11174T and 11195T

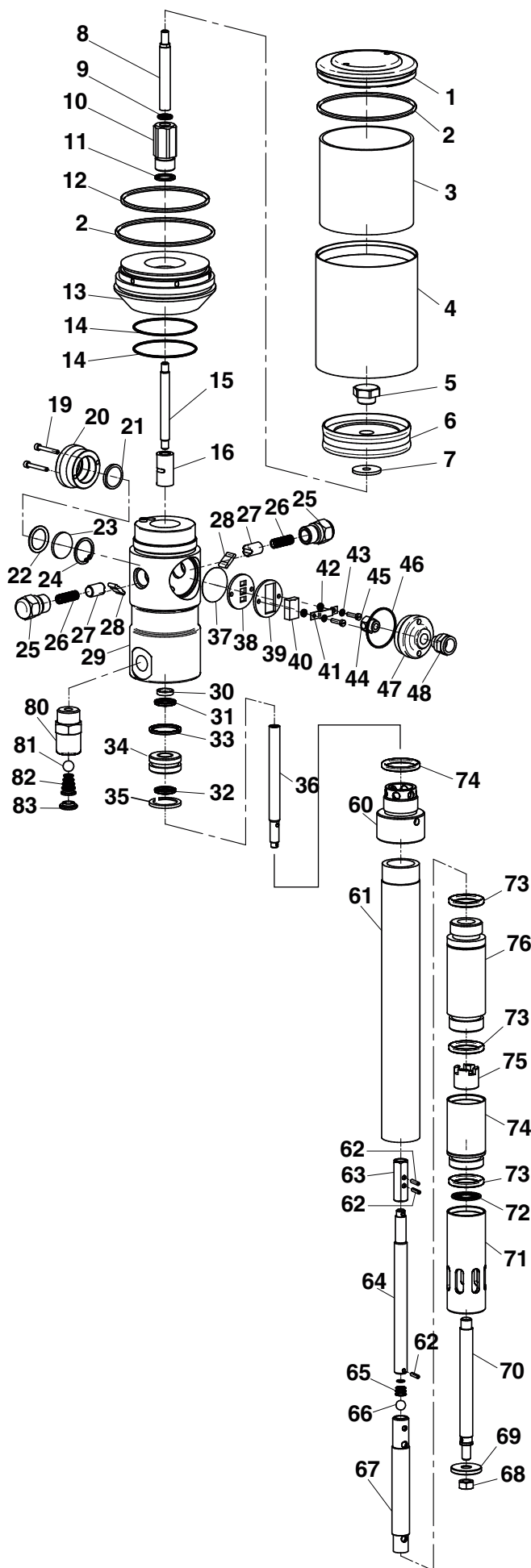
Repair Kits:

| | |
|--------------|--|
| P/N S3640 | Air Motor Seal and Slide Kit 2, 6, 8, 10, 12, 21, 22, 23, 25, 28, 29, 31, 32, 33, 38, 40 |
| P/N S3640-20 | Same as S3640 but for use with pumps built prior to S/N D04. |
| P/N S3642 | Shuttle Kit 17, 18, 19 (2 ea.) |
| P/N S3641 | Discharge Ball Kit 81, 82, 83 |
| P/N S3811 | Pumping Piston, Cylinder & Seal Kit 44, 47, 48, 49, 50, 51, 52, 54, 57, 59, 60 |

Individual Repair Components:

| | | |
|------|---------------|------------------------------|
| 1. | P/N S3612-03 | Cylinder, Outer |
| 4. | P/N S3612-04 | Cylinder, Inner |
| 5. | P/N S3612-05 | Nut, Cap |
| 7. | P/N S3612-07 | Washer |
| 9. | P/N S3612-09 | Connector |
| 11. | P/N S3612-11 | Rod, Upper |
| 14. | P/N S3612-14a | Retainer, Muffer |
| 15. | P/N S3612-15a | Muffer |
| 16. | P/N S3612-16 | Screw Cap |
| 20. | P/N S3612-20 | Body, Air Motor |
| 24. | P/N S3612-45 | Retaining Clip |
| 26. | P/N S3612-26 | Seal, Guide |
| 27. | P/N S3612-27 | Shaft |
| 30. | P/N S3612-30 | Guide, Slide |
| 35. | P/N S3612-35 | Rod, Lower |
| 36. | P/N S3612-36 | Body, Toggle |
| 39. | P/N S3612-39 | Cap Screw, Air Inlet |
| 39a | P/N S3612-13a | Filter, air |
| 39b | P/N S3612-13b | O Ring |
| 39c | P/N S3612-13c | Adapter, 1/4" |
| 43. | P/N S3612-43 | Coupler |
| 45. | P/N S3828-45 | Shaft, 11148T |
| 45a. | P/N S3828-45a | Shaft, 11174T |
| 45b. | P/N S3828-45b | Shaft, 11195T |
| 46. | P/N S3828-46 | Tube, 11148T |
| 46a. | P/N S3828-46a | Tube, 11174T |
| 46b. | P/N S3828-46b | Tube, 11195T |
| 55. | P/N S3828-55 | Cylinder, Inlet |
| 58. | P/N S3828-58 | Fitting, Grease Inlet |
| 80. | P/N S3828-80 | Fitting, discharge 3/8" NPTF |

Technical Specifications:



Exploded Parts Items – 80:1 Grease Pump Models 11348, 11374 and 11395

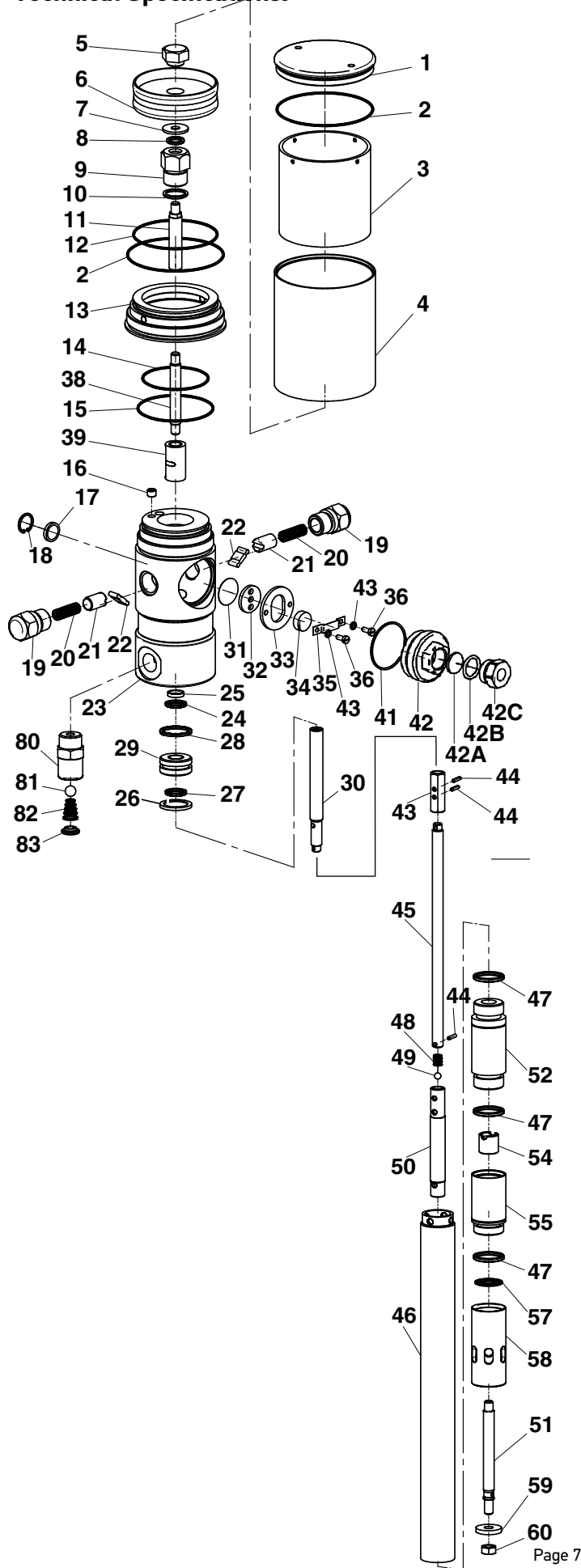
Repair Kits:

| | |
|-----------|--|
| P/N S3663 | Air Motor Seal and Slide Kit 2, 6, 9, 11, 14, 30, 31, 32, 33, 37, 38, 40, 42, 43, 45, 46 |
| P/N S3812 | Discharge Ball Check Kit 81, 82, 83 |
| P/N S3642 | Shuttle Kit 26, 27, 28 (2 ea.) |
| P/N S3844 | Pumping Piston, Cylinder & Seal Kit 62, 65, 66, 67, 68, 69, 70, 72, 73, 75, 76 |

Individual Repair Components:

| | | |
|-----|---------------|---------------------------|
| 1 | P/N S3665-01 | Cap |
| 3 | P/N S3668-03 | Cylinder, Inner |
| 4 | P/N S3668-04 | Cylinder, Outer |
| 5 | P/N S3612-05 | Nut, Cap |
| 7 | P/N S3612-07 | Washer |
| 8 | P/N S3665-08 | Rod, Upper |
| 10 | P/N S3668-10 | Connector |
| 13 | P/N S3665-13 | Adapter, Body 5:1 |
| 15 | P/N S3665-15 | Rod, Lower |
| 16 | P/N S3612-36 | Toggle |
| 19 | P/N S3668-19 | Screw, Retainer |
| 20 | P/N S3668-20 | Housing, Muffler |
| 21 | P/N S3668-21 | Muffler, Bronz |
| 22 | P/N S3668-22 | Spacer, 'O' Ring |
| 23 | P/N S3668-23 | Muffler, Wire |
| 24 | P/N S3668-24 | Retainer, 'C' Clip |
| 25 | P/N S3612-16 | Screw, Cap |
| 29 | P/N S3665-29 | Body, Air Motor |
| 34 | P/N S3612-26 | Seal, Guide |
| 35 | P/N S3612-45 | Retaining Clip |
| 36 | P/N S3665-41 | Shaft, Air Motor |
| 39 | P/N S3668-39 | Guide, Slide |
| 44 | P/N S3612-37 | Diverter |
| 47 | P/N S3665-47 | Cap Screw, Air Inlet |
| 48 | P/N S3668-48 | Air Inlet Fitting |
| 60 | P/N S3840-60 | Adapter, Inlet |
| 61 | P/N S3840-61 | Tube, Inlet for 11348 |
| 61a | P/N S3840-61a | Tube, Inlet for 11374 |
| 61b | P/N S3840-61b | Tube, Inlet for 11395 |
| 63 | P/N S3612-43 | Coupler |
| 64 | P/N S3840-64 | Shaft for 11348 |
| 64a | P/N S3840-64a | Shaft for 11374 |
| 64b | P/N S3840-64b | Shaft for 11395 |
| 67 | P/N S3840-67 | Shaft, Connection |
| 71 | P/N S3840-71 | Fitting, Grease Inlet |
| 74 | P/N S3840-74 | Cylinder, Inlet |
| 80 | P/N S3840-80 | Fitting, Grease Discharge |

Technical Specifications:



Exploded Parts Items – 90:1 Grease Pump Model 11448

Repair Kits:

| | |
|-----------|--|
| P/N S3644 | Air Motor Seal and Slide Kit 2, 6, 8, 10, 12, 14, 15, 24, 25, 27, 28, 31, 32, 34, 35, 36, 41, 43 |
| P/N S3642 | Shuttle Kit 20, 21, 22 (2 ea.) |
| P/N S3641 | Discharge Ball Check Kit 81, 82, 83 |
| P/N S3811 | Pumping Piston, Cylinder & Seal Kit 44, 47, 48, 49, 50, 51, 52, 54, 57, 59, 60 |

Individual Repair Components:

| | | |
|-----|---------------|------------------------------|
| 1 | P/N S3620-01 | Cap |
| 3 | P/N S3620-03 | Cylinder, Inner |
| 4 | P/N S3620-04 | Cylinder, Outer |
| 5 | P/N S3612-05 | Nut, Cap |
| 7 | P/N S3612-07 | Washer |
| 9 | P/N S3612-09 | Connector |
| 11 | P/N S3612-11 | Rod, Upper |
| 13 | P/N S3620-13 | Adapter, Body 5:1 |
| 16 | P/N S3620-16 | Plug |
| 17 | P/N S3612-15a | Muffler |
| 18 | P/N S3612-14a | Retainer, Muffler |
| 19 | P/N S3612-16 | Screw, Cap |
| 23 | P/N S3612-20 | Body, Air Motor |
| 26 | P/N S3612-45 | Retaining Clip |
| 29 | P/N S3612-26 | Seal, Guide |
| 30 | P/N S3612-27 | Shaft |
| 33 | P/N S3612-30 | Guide, Slide |
| 38 | P/N S3612-35 | Rod, Lower |
| 39 | P/N S3612-36 | Body, Toggle |
| 42 | P/N S3612-39 | Cap Screw, Air Inlet |
| 42a | P/N S3612-13a | Filter, air |
| 42b | P/N S3612-13b | O Ring |
| 42c | P/N S3612-13c | Adapter, 1/4" |
| 43 | P/N S3612-43 | Coupler |
| 45 | P/N S3828-45 | Shaft, 11148T |
| 46 | P/N S3828-46 | Tube, 11148T |
| 50 | P/N S3828-50 | Shaft, Connection |
| 55 | P/N S3828-55 | Cylinder, Inlet |
| 58 | P/N S3828-58 | Fitting, Grease Inlet |
| 80 | P/N S3828-80 | Fitting, discharge 3/8" NPTF |



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