

Instructions – Parts List



75:1 Fire-Ball® 425 Pumps

308777H

For pumping non-corrosive and non-abrasive greases and lubricants only.

*100 psi (0.7 MPa, 7 bar) Maximum Air Input Pressure
7500 psi (52 MPa, 517 bar) Maximum Working Pressure*

Model No. 239729, Series B

120 lb (55 kg) drum length

Model No. 239730, Series B

400 lb (180 kg) drum length

Model No. 239731, Series B

stubby length

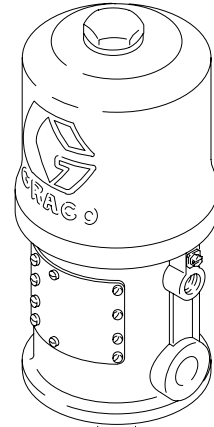


Important Safety instructions

Read all warnings and instructions in this manual.
Save these instructions.

! WARNING

This pump is designed to be used only in pumping non-corrosive and non-abrasive oils and lubricants. Any other use of the pump can cause unsafe operating conditions and component rupture, which can result in fluid injection, other serious injury, or fire or explosion.



Model 239730 Shown



06306B

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Symbols

Warning Symbol



This symbol alerts you to the possibility of serious injury or death if you do not follow the instructions.

Caution Symbol



This symbol alerts you to the possibility of damage to or destruction of equipment if you do not follow the instructions.

WARNING



EQUIPMENT MISUSE HAZARD

Equipment misuse can cause the equipment to rupture or malfunction and result in serious injury.

- This equipment is for professional use only.
- Read all instruction manuals, tags, and labels before operating the equipment.
- Use the equipment only for its intended purpose. If you are not sure, call your Graco distributor.
- Do not alter or modify this equipment. Use only genuine Graco parts and accessories.
- Check equipment daily. Repair or replace worn or damaged parts immediately.
- Do not exceed the maximum working pressure stated on the equipment or in the **Technical Data** for your equipment. Do not exceed the maximum working pressure of the lowest rated component in your system.
- Use fluids and solvents which are compatible with the equipment wetted parts. Refer to the **Technical Data** section of all equipment manuals. Read the fluid and solvent manufacturer's warnings.
- Handle hoses carefully. Do not pull on hoses to move equipment.
- Route hoses away from traffic areas, sharp edges, moving parts, and hot surfaces. Do not expose Graco hoses to temperatures above 66°C (150°F) or below -40°C (-40°F).
- Wear hearing protection when operating this equipment.
- Do not move or lift pressurized equipment.
- Comply with all applicable local, state, and national fire, electrical, and safety regulations.

⚠ WARNING



SKIN INJECTION HAZARD

Fluid from the valve, leaks, or ruptured components can inject fluid into your body and cause extremely serious injury, including the need for amputation. Fluid splashed in the eyes or on the skin can also cause serious injury.

- Fluid injected into the skin is a serious injury. The injury may look like just a cut, but it is a serious injury. **Get immediate surgical treatment.**
- Do not point the dispensing valve at anyone or any part of the body.
- Do not put your hand or fingers over the end of the dispensing valve.
- Do not stop or deflect leaks with your hand, body, glove or rag.
- Do not “blow back” fluid; this is not an air spray system.
- Follow the **Pressure Relief Procedure** on page 8 before you clean, check, or service the equipment.
- Use only extensions and nozzles that are designed for use with your dispensing valve.
- Tighten all fluid connections before operating the equipment.
- Check the hoses, tubes, and couplings daily. Replace worn or damaged parts immediately. Do not repair high pressure couplings; you must replace the entire hose.



MOVING PARTS HAZARD

Moving parts can pinch or amputate your fingers.

- Keep clear of all moving parts when starting or operating the pump.
- Before checking or servicing the equipment, follow the **Pressure Relief Procedure** on page 8 to prevent the equipment from starting unexpectedly.

WARNING



FIRE AND EXPLOSION HAZARD

Improper grounding, poor ventilation, open flames or sparks can cause a hazardous condition and result in a fire or explosion and serious injury.

- Ground the equipment and the object being dispensed to. See **Grounding** on page 6.
- If there is any static sparking or you feel an electric shock while using this equipment, **stop dispensing immediately**. Do not use the equipment until you identify and correct the problem.
- Provide fresh air ventilation to avoid the buildup of flammable fumes from solvents or the fluid being dispensed.
- Keep the dispensing area free of debris, including solvent, rags, and gasoline.
- Do not smoke in the dispensing area.
- Never use 1.1.1-trichloroethane, methylene chloride, other halogenated hydrocarbon solvents or fluids containing such solvents in pressurized aluminum equipment. Such use could result in a chemical reaction, with the possibility of explosion.



TOXIC FLUID HAZARD

Hazardous fluid or toxic fumes can cause serious injury or death if splashed in the eyes or on the skin, inhaled, or swallowed.

- Know the specific hazards of the fluid you are using.
- Store hazardous fluid in an approved container. Dispose of hazardous fluid according to all local, state and national guidelines.
- Always wear protective eyewear, gloves, clothing and respirator as recommended by the fluid and solvent manufacturer.
- The air motor exhausts any fluids added to the input air.
- Graco does not manufacture or supply the reactive chemical components that may be used in this equipment and is not responsible for injury or property loss, damage, expense or claims (direct or consequential) that arise from the use of such chemical components.

Installation

Mounting the Pump

- Select a convenient location for the equipment to ensure easy operator access to the pump air controls, sufficient room to change supply containers, and a secure mounting platform.
- If you are mounting the pump directly on the supply tank, position the pump so its intake valve is no more than 1 in. (25 mm) from the bottom of the container. Mount the pump to the cover or other suitable mounting device.

WARNING

Mount the pump securely so that it cannot move around during operation. Failure to do so could result in personal injury or equipment damage.

General Information

NOTE: Reference numbers and letters in parentheses in the text refer to the callouts in the figures and the parts drawing.

NOTE: Always use genuine Graco parts and accessories, available from your Graco distributor.

Grounding

WARNING



FIRE AND EXPLOSION HAZARD

Before operating the pump, ground the system as explained below. Also read the section **FIRE OR EXPLOSION HAZARD** on page 4.

To reduce the risk of static sparking, ground the pump. Check your local electrical code for detailed grounding instructions for your area and type of equipment. Be sure to ground all of this equipment:

- *Pump:* Use a ground wire and clamp as shown in Fig. 1. Remove the ground screw (Z) and insert through the eye of the ring terminal at end of ground wire (Y). Fasten the screw back onto the pump and tighten securely. Connect the other end of the wire to a true earth ground. *To order a ground wire and clamp, order Part No. 222011.*
- *Air and fluid hoses:* Use only electrically conductive hoses.
- *Air compressor:* Follow manufacturer's recommendations.
- *Dispensing valve:* Ground through connection to a properly grounded fluid hose and pump.
- *Object being dispensed to:* Follow your local code.
- *Solvent pails used when flushing:* Follow your local code. Use only metal pails, which are conductive, placed on a grounded surface. Do not place the pail on a nonconductive surface, such as paper or cardboard, which interrupts the grounding continuity.
- *To maintain grounding continuity when flushing or relieving pressure,* hold a metal part of the dispensing valve firmly to the side of a grounded *metal* pail, then trigger the gun.

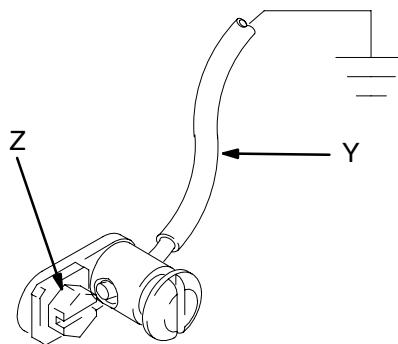


Fig. 1

TI1052

Installation

Mount the pump to suit the type of installation planned. Very heavy lubricants may require an inductor plate. See **Dimensions** on page 18 and **Mounting Hole Layout** on page 19.

Install the air line accessories in the approximate order shown in Fig. 2. Install a bleed-type master air valve (B) within easy reach of the pump, upstream from the air regulator (E). Install an air filter (C) to remove harmful dirt and moisture from your compressed air supply. For automatic air motor lubrication, install an air line oiler (D) close to the pump air inlet. Install an air regulator (E) to control pump speed.

The installations shown in Fig. 2 is only a guide for selecting and installing system components and accessories. Contact your Graco distributor for assistance in designing a system to suit your particular needs.

If you supply your own accessories, be sure they are adequately sized and pressure-rated to meet the system requirements.

WARNING

A bleed-type master air valve (B) is required to shut off and relieve air pressure that may be trapped in the air motor. Trapped air could cause the pump to cycle unexpectedly and cause serious bodily injury, including amputation.

Be sure the air hose is properly sized to deliver an adequate supply of air to the motor. See **Technical Data** on page 19.

Connect a grounded dispensing hose (F) to the 3/8 npt(f) pump outlet. Install an appropriate gun or dispensing valve (G) to the hose.

Ground the pump as explained in **Grounding** on page 6.

Typical Installation

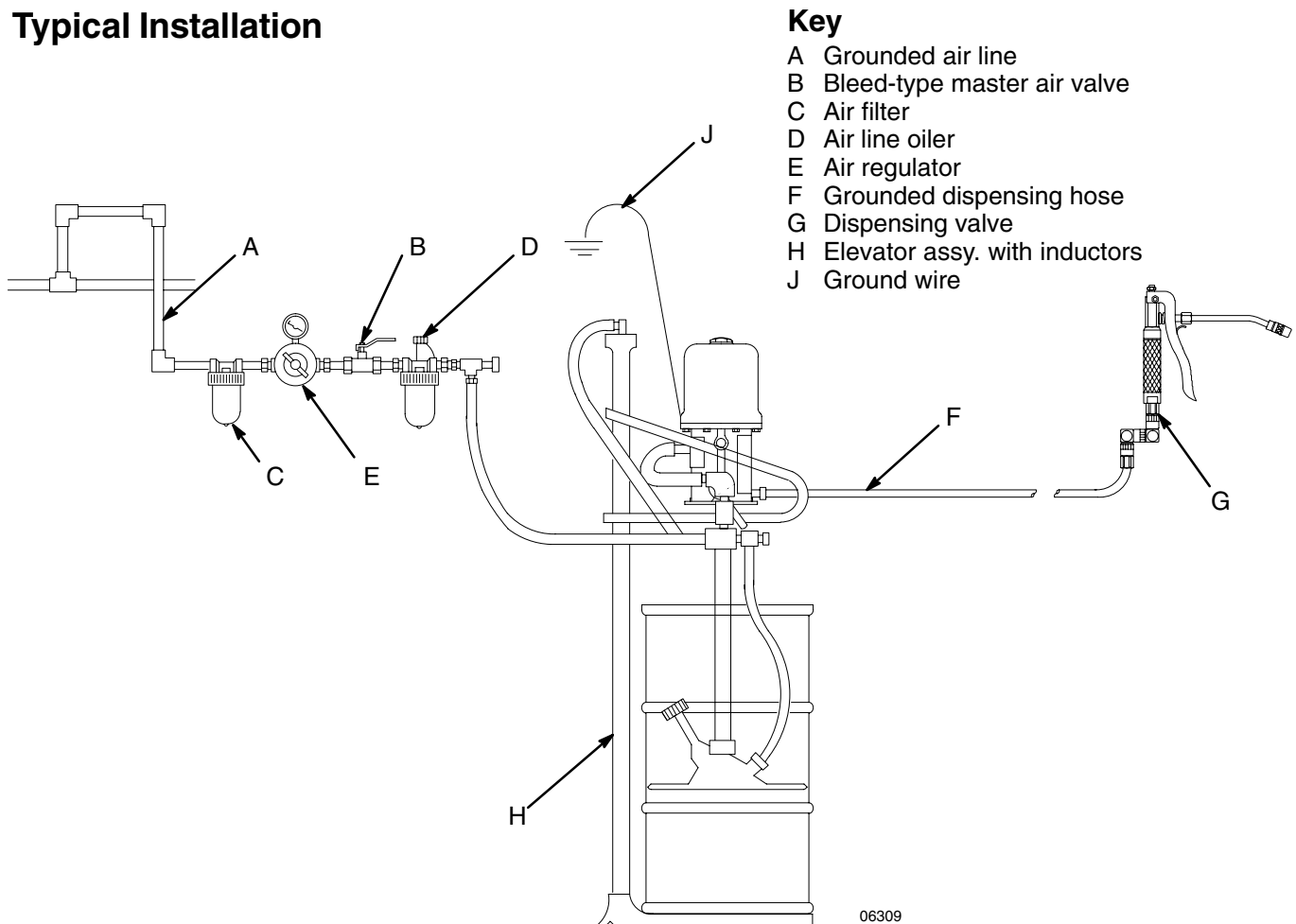


Fig. 2

Operation

⚠ WARNING

- This pump is designed to be used **ONLY** in pumping non-corrosive and non-abrasive lubricants and greases. Any other use of this pump can cause unsafe operating conditions and result in component rupture, fire, or explosion, which can cause serious bodily injury, including injection.
- Moving parts can pinch or amputate your fingers or other body parts. When the pump is operating, the priming piston (located at the pump intake) and the air motor piston (located behind the air motor plates) move. **Never** operate the pump with the air motor plates removed, and keep your fingers and hands away from the priming piston.

Pressure Relief Procedure

⚠ WARNING



SKIN INJECTION HAZARD

Fluid under high pressure can be injected through the skin and cause serious injury. To reduce the risk of an injury from injection, splashing fluid, or moving parts, follow the **Pressure Relief Procedure** whenever you

- Are instructed to relieve the pressure
- Stop dispensing
- Check or service any of the system equipment
- Install or clean the dispense valve tip

1. Close the air regulators.
2. Close the supply pump's bleed-type master air valve (required in this system).
3. Open the dispensing valve until pressure is fully relieved.

*If you suspect that the dispensing valve, extension, or grease fitting coupler is clogged, or that pressure has not been fully relieved after following the steps above, **very slowly** loosen the coupler or hose end coupling and relieve pressure gradually, then loosen completely, then clear the clog.*

Startup and Adjustment

Open the bleed-type master air valve. Open the dispensing valve and slowly open the air regulator until the pump is running smoothly. After all the air is purged, close the dispensing valve. The pump starts and stops as the valve is opened and closed.

⚠ CAUTION

Never allow the pump to run dry of the fluid being pumped. A dry pump quickly accelerates to a high speed and may damage itself. If your pump accelerates quickly, or is running too fast, stop it immediately and check the fluid supply. If the supply container is empty and air has been pumped into the lines, prime the pump and lines with fluid, or flush the pump and leave it filled with a compatible solvent. Be sure to eliminate all air from the fluid system.

Use the air regulator (E) to control the pump speed and fluid pressure. See Fig. 2. Always use the lowest pressure necessary to obtain the desired results.

When you are done using the pump for the day, always follow the **Pressure Relief Procedure** at left.

Maintenance

The accessory air line oiler (D) provides automatic air motor lubrication. For daily manual lubrication, disconnect the air hose, place about 15 drops of light machine oil in the air inlet, reconnect the hose, and turn on the air supply to blow oil into the motor.

Troubleshooting

WARNING

To reduce the risk of serious injury whenever you are instructed to relieve pressure, always follow the **Pressure Relief Procedure** on page 8.

Before servicing this equipment always make sure to **Relieve the Pressure**.

Note: Check all possible problems and solutions before disassembling the pump.

| Problem | Cause | Solution |
|---|--|------------------------------|
| Pump fails to operate. | Inadequate air supply pressure or restricted air lines | Increase air supply; clear |
| | Closed or clogged valves | Open; clean |
| | Clogged fluid lines, hoses, valves, etc. | Clear* |
| | Damaged air motor | Service air motor |
| | Exhausted fluid supply | Refill and reprime, or flush |
| Continuous air exhaust | Worn or damaged air motor gasket, packing, seal, etc. | Service air motor |
| Erratic pump operation | Exhausted fluid supply | Refill and reprime, or flush |
| | Held open, or worn intake valve or piston packings | Clear; service |
| Pump operates, but output low on upstroke | Held open, or worn piston or packings | Clear; service |
| Pump operates, but output low on downstroke | Held open or worn intake valve | Clear; service |
| Pump operates, but output low on both strokes | Inadequate air supply or restricted air lines | Increase air supply; clear |
| | Closed or clogged valves | Open; clean |
| | Exhausted fluid supply | Refill and reprime, or flush |
| | Clogged fluid lines, hoses, valves, etc. | Clear* |
| | Packing nut too tight | Loosen |
| | Loose packing nut or worn packings | Tighten; replace |

* Follow the **Pressure Relief Procedure**, and disconnect the fluid line. If the pump starts when the air is turned back on, the fluid line, hose, valve, etc., was clogged.

Displacement Pump Service

- △ 1 Lips of v-packings must face up.
- △ 2 Torque to 50 to 70 ft-lb (68 to 95 N•m).
- ‡ Included in Repair Kit 239734, which may be purchased separately.

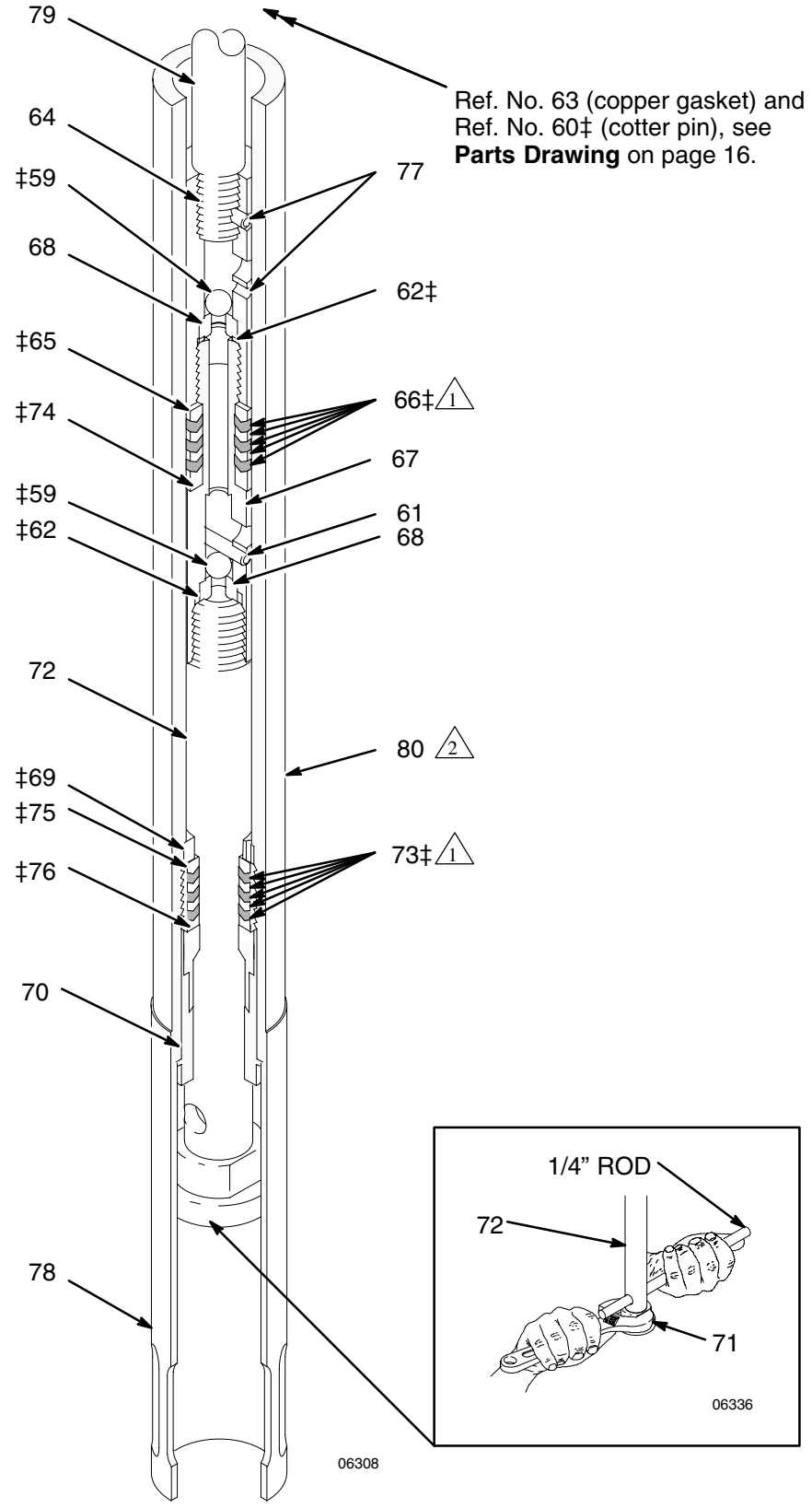


Fig. 3

Displacement Pump Service

WARNING

To reduce the risk of serious injury whenever you are instructed to relieve pressure, always follow the **Pressure Relief Procedure** on page 8.

Displacement Pump Repair

Before you start:

- To reduce down time, be sure you have all necessary repair parts available. Recommended spare parts are listed in the parts list with a check mark, for example (61✓)
- Repair kit 239734 is available. If you have a repair kit, use all the new parts for the best results. Parts included in the kit are marked with an dagger (†) for the throat seal parts or with a double dagger (‡) for the pump lower parts.
- The balls (59‡) in the intake and piston valves cannot be resealed on the hardened seats (68).
- Whenever you replace the packings, also replace the glands and bearing.
- When cleaning parts, use a compatible solvent. Inspect parts for wear or damage and replace as necessary. Scoring or irregular surfaces on the priming tube (72) or polished inner wall of the riser tube (80) causes premature packing wear and leaking. Check these parts by rubbing a finger on the surface and by holding the parts up to the light at a slight angle.

Disassembly

1. Flush the pump, if possible. Follow the **Pressure Relief Procedure** on page 8. Disconnect all air and fluid hoses.
2. Clamp the motor base in a vise. Unscrew the priming cylinder (78).
3. Hold the priming tube (72) with a 1/4 in (6mm) diameter rod through the holes in the tube. Grip the flats of the priming piston (71) with a wrench, and unscrew the piston.
4. Loosen the packing housing (70). Unscrew the riser tube (80) from the air motor. Pull the riser tube and connecting rod down to gain access to the cotter pin (60‡). Remove the cotter pin, and unthread the connecting rod (79) from the motor displacement rod.
5. Place the riser tube (80) in a vise, and remove the piston assembly. Remove the packing housing (70) from the riser tube, and remove the packings from the housing.
6. Hold the intake valve housing (67) in a vise, and unscrew the priming tube (72) by inserting a 1/4 in (6 mm) diameter rod through the holes in the tube. Handle the tube carefully to avoid marring the surface. Remove the ball, seat and gasket.
7. Unscrew the piston valve housing (64) from the intake valve housing (67). Remove the ball and packings.
8. Clean all parts thoroughly. Grease all parts, except threads when reassembling.

Reassembly

1. Hold the intake housing (67) upright in a vise. One at a time, place the female gland (74‡), four leather v-packings (66‡) *with the lips of the packings facing up*, and the male gland (65‡) on the intake housing. Place the gasket (62‡), seat (68), and ball (59‡) on the housing (67).
2. If the pins (77) were removed from the piston valve housing (64), replace them. Screw the piston valve onto the intake valve housing.
3. Place a gasket (62‡), seat (68) and ball (59‡) on the priming tube (72). Holding the piston valve housing (67) with a wrench, screw the priming tube into it, using a 1/4 in. diameter rod through the tube for leverage.
4. One at a time, place the female gland (76‡), four leather v-packings (73‡) *with lips of packings facing up*, a male gland (75‡), and a bearing (69‡) in the packing housing (70). Screw the housing firmly into the riser tube (80).
5. Guide the piston assembly into the riser tube (80). Screw the riser tube into the motor base, making sure the gasket 63) is in place. Install the cotter pin (60‡). Torque the riser tube to 50 to 70 ft-lb (68 to 95 N•m).
6. Screw the priming piston (71) firmly onto the priming tube (72). Screw the intake cylinder (78) firmly onto the riser tube.
7. Reconnect the ground wire if it was disconnected during repair.

Air Motor and Throat Service

Before you Start

- Be sure you have all necessary parts on hand. **Air Motor Repair Kit 207385** includes repair parts for the motor. **Pump Repair Kit 239734** includes repair parts for the pump and the air motor throat area. Use all the parts in the kits for the best results. Parts included in the kits are marked with an asterisk (*), a dagger (†), or a double dagger (‡) in text and drawings. See the parts drawing and list (pages 16 and 17) for further information.
- Two accessory tools should be used. **Padded pliers, 207579** is used to grip the trip rod without damaging its surface. **Gauge, 171818**, is used to ensure the proper clearance between the poppets and seat of the transfer valve.

Disassembly

1. Flush the pump. Follow the **Pressure Relief Procedure Warning**, at left, before proceeding.
2. Disconnect the air hose from the motor. If necessary, disconnect the motor from the pump. Clamp the air motor base in a vise.
3. Manually push up on the piston rod to move the piston assembly to the top of its stroke. Unscrew the cylinder cap nut (31) from the cylinder (32). Pull up on the cap nut. Grip the trip rod (1) with padded pliers 207579 and screw the cap nut off the trip rod. See Fig. 4.

⚠ CAUTION

Do not damage the plated surface of the trip rod. Damaging the surface of the trip rod can result in erratic air motor operation. Use the special padded pliers, 207579, to grasp the rod.

4. Remove the eight screws (7) holding the cylinder (32) to the base (56). Carefully pull the cylinder *straight up* off the piston. See Fig. 4.

⚠ CAUTION

To avoid damaging the cylinder wall, **ALWAYS** lift the cylinder **straight up** off of the piston. **Never** tilt the cylinder as it is being removed.

⚠ WARNING

Always keep fingers clear of the toggle assemblies (K), to avoid pinching or amputating them. See Fig. 5.

5. Use a screwdriver to push down on the trip rod yoke (14) and snap the toggle assemblies (K) down. See Fig. 5. Remove the lockwires (28*) from the adjusting nuts (27*) of the transfer valves (M). Screw the top adjusting nuts (27*) off. Screw the valve stems (30*) out of the grommets (18*) and lower adjusting nuts (27*). Take the valve poppets (37*) off the stems and squeeze them firmly to check for cracks.

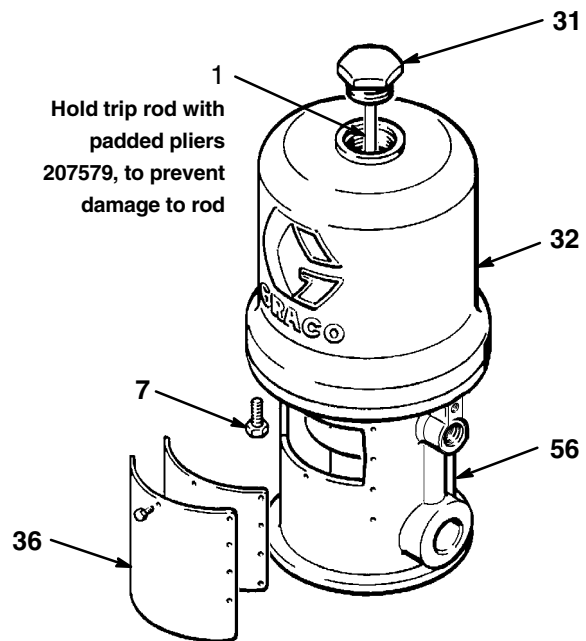


Fig. 4

Air Motor and Throat Service

6. Grip the toggle rockers (16) with a pliers. Compress the springs (17) and swing the toggle assembly (K) up and away from the piston lugs (L), and remove the parts. Check that the valve actuator (13) is supported by the spring clips (4), but slides easily into them. See Fig. 5.
7. Remove the trip rod yoke (14), valve actuator (13) and trip rod (1). Check the exhaust valve poppets (38*) for cracks.

NOTE: To remove the exhaust valve poppets (38*), stretch them out and cut with a sharp knife.

8. Pull the piston (5) up out of the base (56) and inspect the piston o-ring (20*) and the o-ring in the base casting.

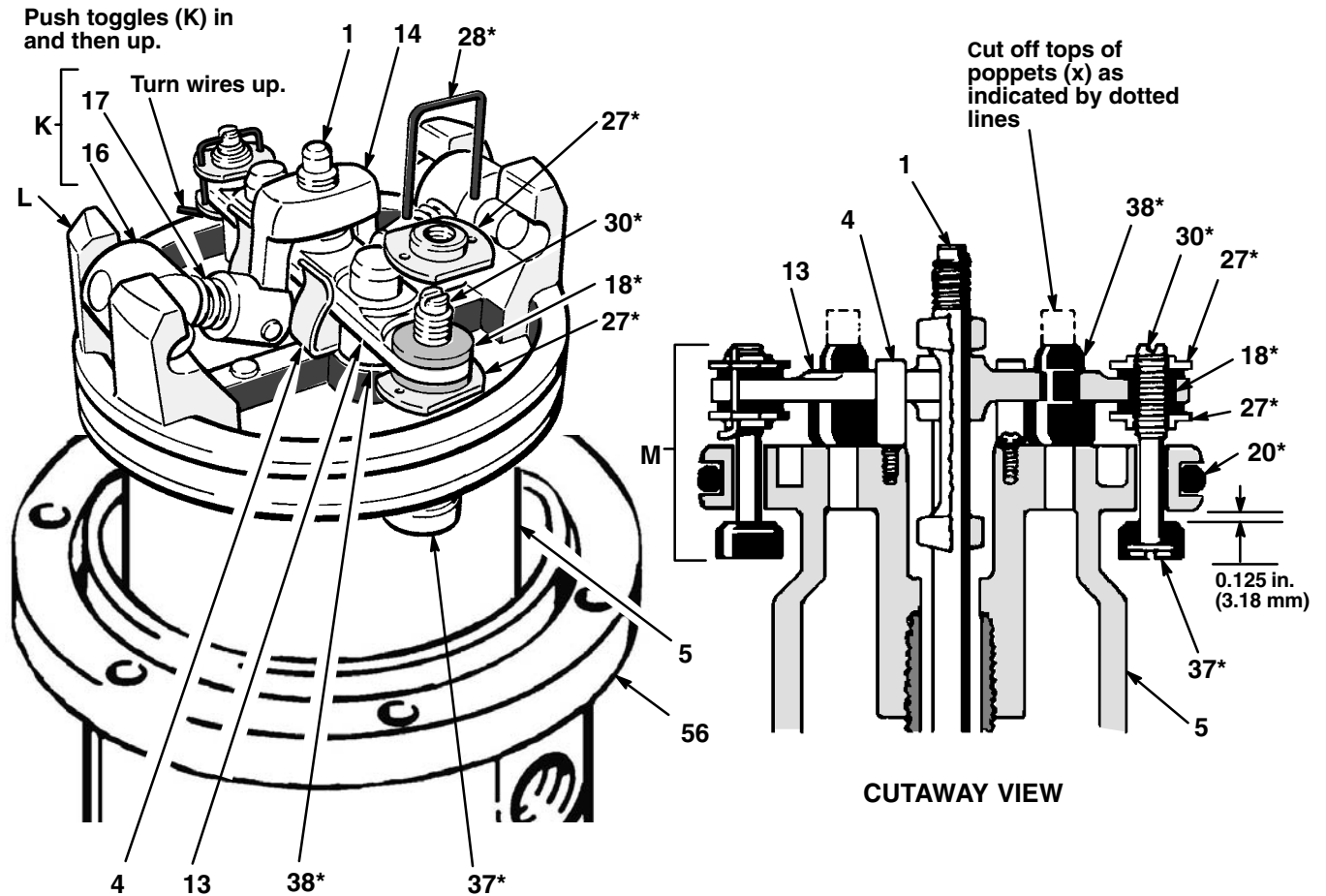


Fig. 5

Air Motor and Throat Service

Reassembly

1. Clean all the parts carefully in a compatible solvent and inspect for wear or damage. Use all the repair kit parts during reassembly and replace other parts as necessary.
2. Check the polished surfaces of the piston, piston rod and cylinder wall for scratches or wear. A scored rod will cause premature packing wear and leaking.
3. Lubricate all parts with a light, waterproof grease.
4. Be sure the o-rings are in place. Slide the piston rod down through the throat bearing and lower the piston (5) into the air motor base (56).
5. Pull the exhaust valve poppets (38*) into the valve actuator (13) and clip off the top part shown with dotted lines. See Fig. 5.
6. Install the transfer valve poppets (37*) onto the valve stems (30*), then reassemble the valve stems (30*), bottom adjusting nuts (27*), grommets (18*), and top adjusting nuts (27*) on the piston (5). Assemble the trip rod (1), valve actuator (13), trip rod yoke (14) and toggle assemblies (K) on the piston. See Fig. 5.
7. Before installing the lockwires (28*) in the adjusting nuts (27*), use the special gauge 171818 to adjust the transfer valve (M) so there is 0.125 in. (3.68 mm) clearance between the poppets (37*) and the piston (5) when the toggle assemblies are in the *down* position. See Fig. 5.
8. Snap the toggle assemblies (K) to the *up* position. Reinstall the cylinder (32) and cap nut (31). Reassemble the air motor to the displacement pump.
9. Before remounting the pump, connect an air hose and run the pump slowly, at about 40 psi (0.28 MPa, 2.8 bar) to ensure that it operates smoothly.
10. Reconnect the ground wire before regular operation of the pump.

Throat Packing Service

WARNING

The piston in the air motor, located behind the air motor plates, moves when air is supplied to the motor. Moving parts can pinch or amputate your fingers or other body parts. Therefore, **never** operate the pump with the air motor plates removed.

See Fig. 6 on page 15 and the parts drawing and list (pages 16 and 17) for further information.

1. Clamp the pump in a vise and unscrew the riser tube (80) from the air motor base (56). Pull the riser tube away from the air motor until the cotter pin (60†) which secures the displacement pump connecting rod to the air motor piston rod (52) is visible. See Fig. 6.
2. Remove the cotter pin (60†) and unscrew the pump connecting rod (79) from the air motor piston rod (52). See Fig. 6. Remove the cylinder (32) from the air motor base (56) as described under **Disassembly** on page 12.
3. Remove one louvered air exhaust plate (36) and unscrew the throat packing nut (45†), using a spanner wrench or a 0.22 in. (5.6 mm) diameter rod. See Fig. 6.
4. Remove the packing nut (45†), male and female glands (47†, 48†), v-packings (49†), washer (44†), bearing (46†), retainer (24†), wiper (22†), o-ring (23†), u-cup (25†), and washer (26†) from the base.
5. Clean the throat packing area in the base and the packing nut. Clean and inspect all parts, and replace as necessary.
6. Lubricate the packings, piston rod and piston flange with a light waterproof grease.
7. Install the washer (26†) into the base. Assemble the packing (25†) and the wiper (22†) into the retainer (24†). Install the o-ring (23†) onto the retainer, and insert the retainer assembly into the base.
NOTE: Make sure the packing (25†) lips face down, and make sure the wiper (22†) lips face up.
8. Insert the bearing (46†) and the washer (44†) into the base. Assemble the female gland (48†), v-packings (49†), and the male gland (47†) into the packing nut (45†).

Air Motor and Throat Service

9. Reinstall the spacer and packing in the base and packing nut (45†). Screw the packing nut into the base, and tighten it securely. Carefully slide the piston rod (52) down through the throat packing, and lower the piston into the base. Reinstall the plate (36) and cylinder (32). Reassemble the air motor to the displacement pump.
10. Torque the outlet adapter (42) to 45 to 55 ft-lb (61 to 75 N-m).

⚠ CAUTION

When reinstalling cotter pin (60†), **always** spread and flatten the pin (both the head and prongs) around the rod to within a 1 in. (25 mm) total diameter. See Detail A of Fig. 6.

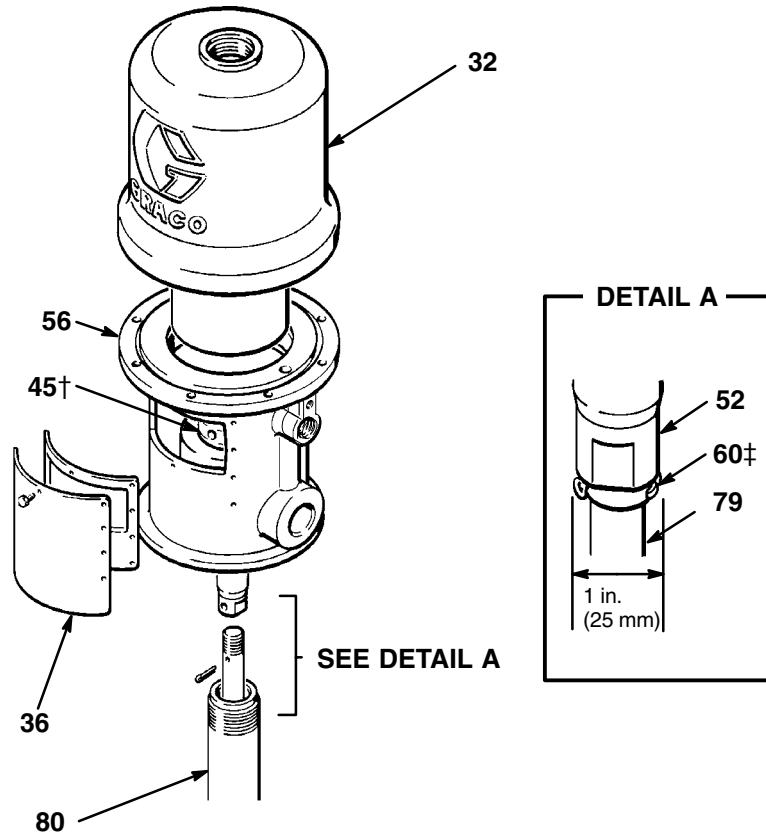
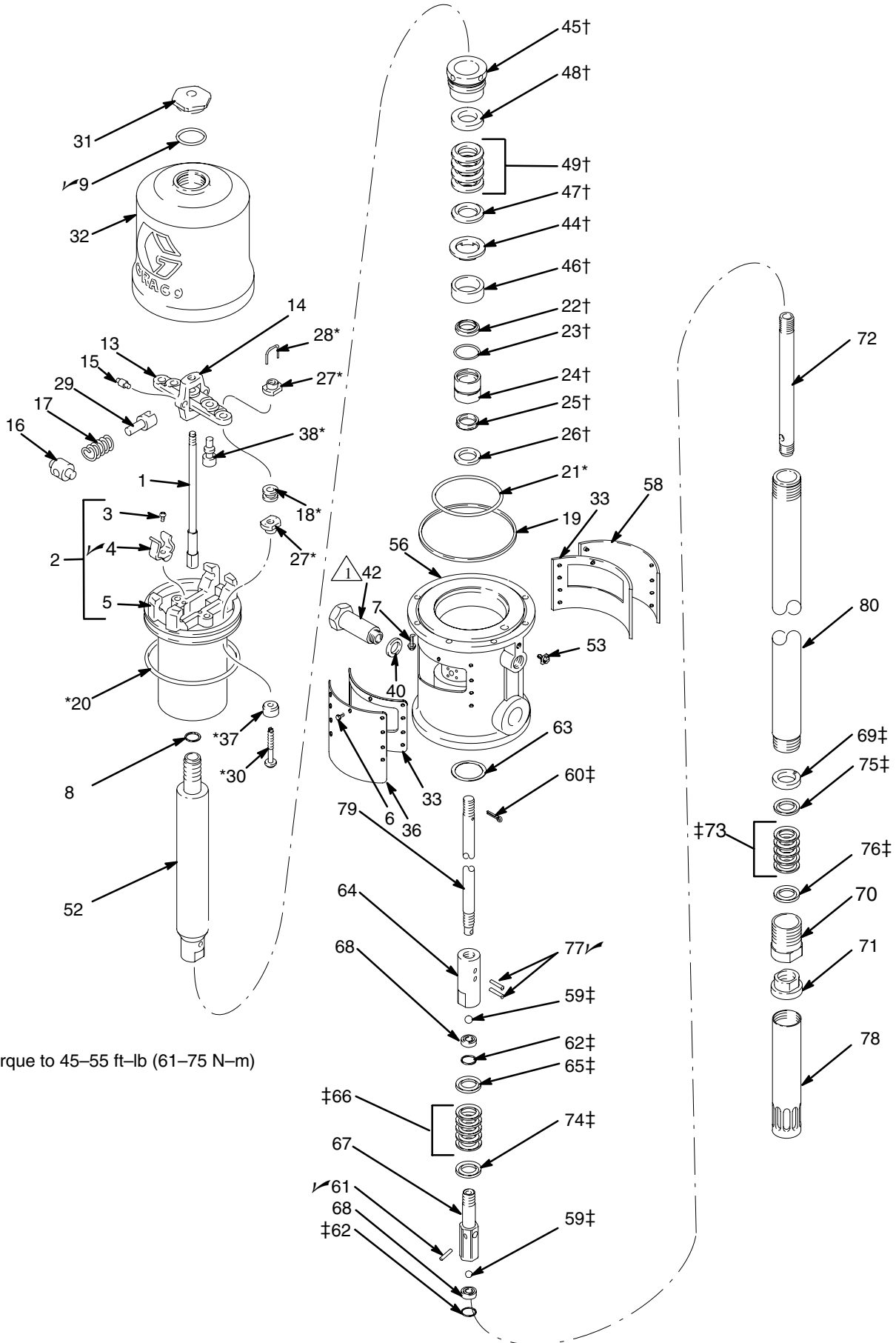



Fig. 6

Parts Drawing



 Torque to 45–55 ft-lb (61–75 N-m)

Parts List

Model 239729, Series B 120-lb (55 kg) drum length
Model 239730, Series B 400-lb (180 kg) drum length
Model 239731, Series B stubby length

Air Motor

| Ref No. | Part No. | Description | Qty. |
|---------|----------|--|------|
| 1 | 207150 | TRIP ROD | 1 |
| 2 | 207391 | PISTON <i>includes items 3 to 5 (also includes 207385 repair kit (** items) when ordered as a replacement part)</i> | 1 |
| 3 | 102975 | .SCREW, rd hd mach; 6–32 x 1/4 in. | 2 |
| 4✓ | 158361 | .CLIP, spring | 2 |
| 5 | | .BARE PISTON (<i>not sold separately</i>) | 1 |
| 6 | 100078 | SCREW, hex head; 8–32 x 3/8 in. | 20 |
| 7 | 101578 | SCREW, hex head Nylock; 8–32 x 3/8 in. | 8 |
| 8 | 150647 | GASKET; copper | 1 |
| 9✓ | 156698 | O-RING; Buna-N | 1 |
| 13 | 158359 | ACTUATOR, valve | 1 |
| 14 | 158360 | YOKE, rod, trip | 1 |
| 15 | 158362 | PIN, toggle | 2 |
| 16 | 158364 | ROCKER, toggle | 2 |
| 17 | 167585 | SPRING, helical compression | 2 |
| 18* | 158367 | GROMMET; rubber | 2 |
| 19 | 158377 | SEAL, flat ring; nitrile rubber | 1 |
| 20* | 158378 | SEAL, o-ring; nitrile rubber | 1 |
| 21* | 158379 | SEAL, o-ring; nitrile rubber | 1 |
| 22† | 113935 | WIPER, rod | 1 |
| 23† | 113944 | PACKING, o-ring | 1 |
| 24† | 192172 | RETAINER, packing | 1 |
| 25† | 113936 | PACKING, u-cup | 1 |
| 26† | 192173 | WASHER, packing | 1 |
| 27* | 160261 | NUT, adjusting | 4 |
| 28* | 160618 | LOCKWIRE, transfer valve | 2 |
| 29 | 160623 | ARM, toggle | 2 |
| 30* | 160896 | STEM, valve | 2 |
| 31 | 161435 | NUT, cylinder cap | 1 |
| 32 | 15E954 | CYLINDER, motor, air | 1 |
| 33 | 178270 | PLATE, muffler | 2 |
| 36 | 15E555 | PLATE, identification | 1 |
| 37* | 170708 | POPPET, valve; urethane | 2 |
| 38* | 170709 | POPPET, valve; urethane | 2 |
| 40 | 150461 | GASKET; copper | 1 |
| 42 | 158409 | ADAPTER, outlet | 1 |
| 44† | 158697 | WASHER, thrust | 1 |
| 45† | 159047 | NUT, packing | 1 |
| 46† | 159048 | BEARING, brass | 1 |
| 47† | 159306 | GLAND, male | 1 |
| 48† | 159307 | GLAND, female | 1 |
| 49† | 159308 | V-PACKING; nitrile rubber | 4 |
| 52 | 162553 | ROD, piston | 1 |
| 53 | 116343 | SCREW, grounding | 1 |
| 56 | 165362 | BASE, motor, air | 1 |
| 58 | 177843 | PLATE, warning | 1 |

Pump

| Ref No. | Part No. | Description | Qty. |
|---------|----------|---|------|
| 59‡ | 100170 | BALL, steel; 3/8" dia. | 2 |
| 60‡ | 100579 | PIN, cotter; 7/64" dia.; 1" long | 1 |
| 61✓ | 108513 | PIN, roll; 0.135" dia.; 7/8" long | 1 |
| 62‡ | 150451 | GASKET, copper | 2 |
| 63 | 158314 | GASKET, copper | 1 |
| 64 | 162555 | HOUSING, piston valve | 1 |
| 65‡ | 192423 | GLAND, male | 1 |
| 66‡ | 114115 | V-PACKING, leather | 5 |
| 67 | 162558 | HOUSING, intake | 1 |
| 68 | 162559 | SEAT, valve | 2 |
| 69‡ | 192421 | BEARING, brass | 1 |
| 70 | 192410 | HOUSING, packing | 1 |
| 71 | 162562 | PISTON, priming | 1 |
| 72 | 192424 | TUBE, priming | 1 |
| 73‡ | 114116 | V-PACKING, leather | 5 |
| 74‡ | 192425 | GLAND, female | 1 |
| 75‡ | 192426 | GLAND, male | 1 |
| 76‡ | 192427 | GLAND, female | 1 |
| 77✓ | 102180 | PIN, roll; 0.135" dia.; 1" long | 2 |
| 78 | 164233 | CYLINDER, intake primer | 1 |
| 79 | 164234 | ROD, connecting; 12.47" (317 mm) long for Model 239729 | 1 |
| | 164231 | ROD, connecting; 19–13/32" (493 mm) long for Model 239730 | 1 |
| | 192422 | ROD, connecting; 3–9/32" (83 mm) long for Model 239731 | 1 |
| 80 | 192428 | TUBE, riser; 21.31" (541 mm) long for Model 239729 | 1 |
| | 192429 | TUBE, riser; 28.25" (718 mm) long for Model 239730 | 1 |
| | 192430 | TUBE, riser; 12.13" (308 mm) long for Model 239731 | 1 |

* Included in Air Motor Repair Kit 207385, which may be purchased separately.

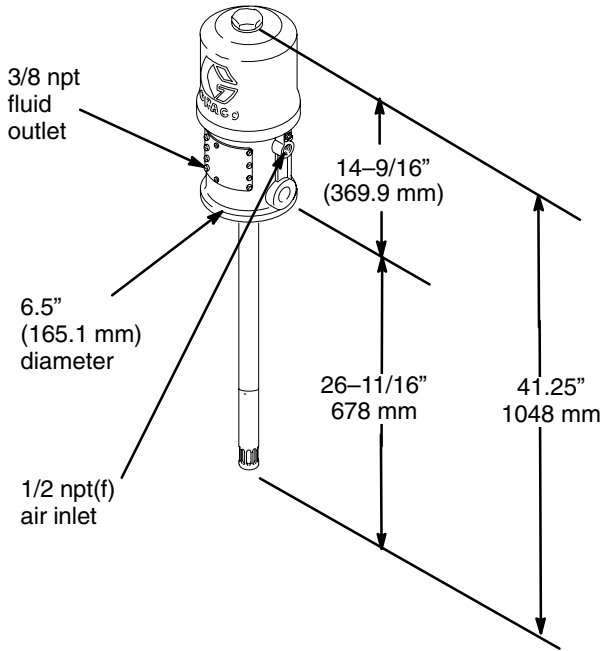
Repair Kit 239734, which may be purchased separately, includes parts to service the air motor throat area and the pump lower.

† Parts marked with a dagger are for the air motor throat area.

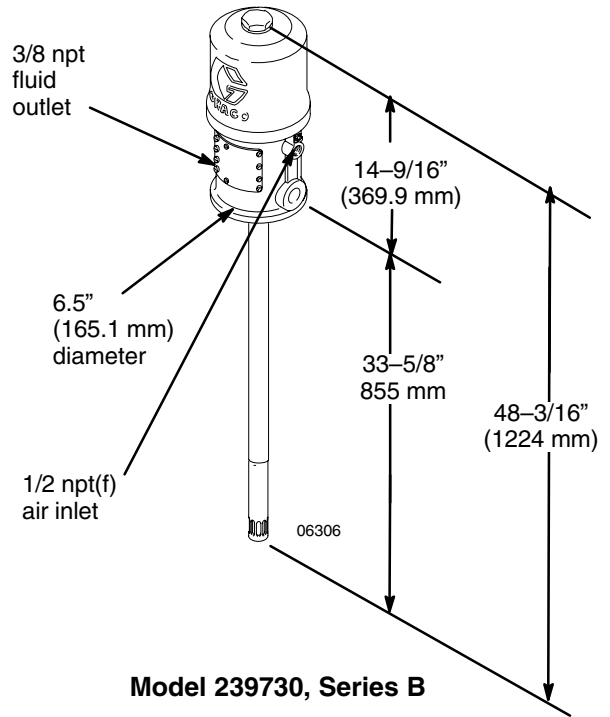
‡ Parts marked with a double dagger are for the pump lower.

✓ Recommended "tool box" spare parts. Keep on hand to reduce down time.

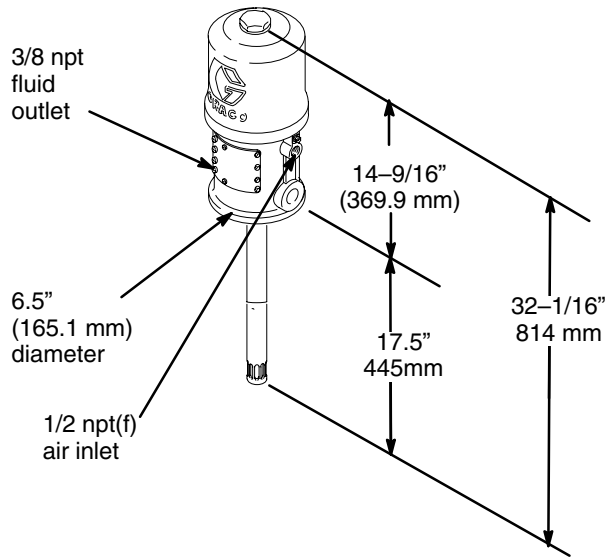
Dimensions



Model 239729, Series B

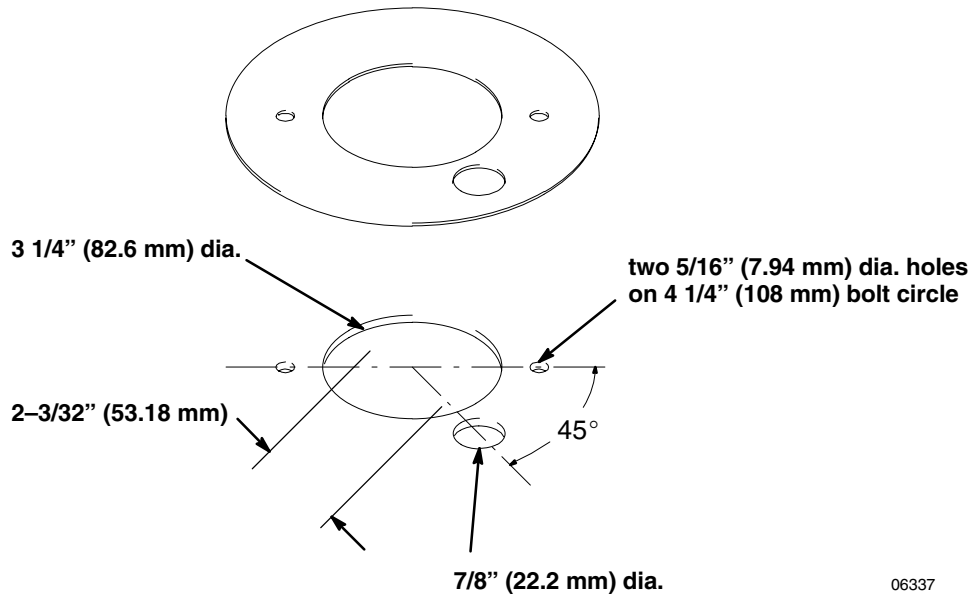


Model 239730, Series B



Model 239731, Series B

Mounting Hole Layout



Technical Data

| | |
|--------------------------------|--|
| Fluid pressure ratio | 75:1 |
| Air pressure operating range | 40 to 100 psi (0.3 to 0.7 MPa, 2.8 to 7 bar) |
| Maximum working pressure | 7500 psi (52 MPa, 517 bar) |
| Maximum delivery | 0.33 gpm (1.3 lpm) |
| Cycles per gallon (liter) | 165 (42) |
| Maximum recommended pump speed | 60 cycles/min |
| Air motor effective diameter | 4.25 in (108 mm) |
| Stroke | 4 in. (102 mm) |
| Air consumption | approximately 26 cfm (0.72 m ³ /min), at 1 gpm (3.8 lpm), at 70 psi (0.5 MPa, 4.8 bar) |
| Wetted parts | steel, brass, aluminum, leather |
| Weight | |
| Model 239729 | 34 lb (15 kg) |
| Model 239730 | 37 lb (17 kg) |
| Model 239731 | 30 lb (14 kg) |

Sound Pressure Level (measured at 1 meter from unit)

| Input Air Pressures at 15 cycles per minute | | |
|---|----------------------------|--------------------------|
| 40 psi (0.28 MPa, 2.8 bar) | 70 psi (0.48 MPa, 4.8 bar) | 100 psi (0.7 MPa, 7 bar) |
| 73.6 dB(A) | 78.34 dB(A) | 80.85 dB(A) |

Sound Power Level (tested in accordance with ISO 9614-2)

| Input Air Pressures at 15 cycles per minute | | |
|---|----------------------------|--------------------------|
| 40 psi (0.28 MPa, 2.8 bar) | 70 psi (0.48 MPa, 4.8 bar) | 100 psi (0.7 MPa, 7 bar) |
| 87.4 dB(A) | 92.09 dB(A) | 94.62 dB(A) |

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Graco warrants all equipment manufactured by Graco and bearing its name to be free from defects in material and workmanship on the date of sale to the original purchaser for use. With the exception of any special, extended, or limited warranty published by Graco, Graco will, for a period of twelve months from the date of sale, repair or replace any part of the equipment determined by Graco to be defective. This warranty applies only when the equipment is installed, operated and maintained in accordance with Graco's written recommendations.

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1-800-533-9655 Toll Free

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