

President[®] Air Motors

306982ZAD

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For use with Graco fluid handling pumps.

See your pump instruction manual for Maximum Working Pressure.

Model 205647, Series M

For **in-line** mounting, medium-pressure oil pump

Model 206078, Series M

For **in-line** mounting, high-pressure grease pump

Model 205038, Series N

For **stanchion tube** mounting

Model 207352, Series G

For **divorced** mounting

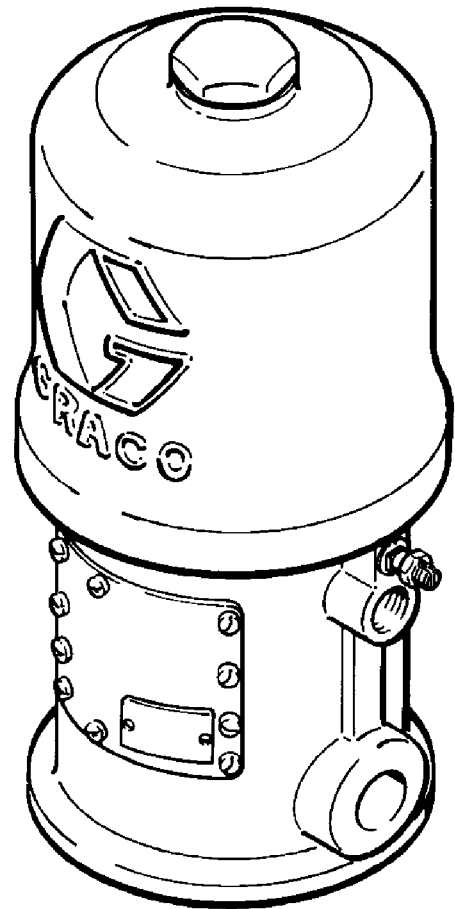
Model 222772, Series G

For **divorced** mounting



Important Safety Instructions

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



Model 207352 Shown

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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



INSTRUCTIONS

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.
- 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.
- **Never** exceed 180 psi (1.2 MPa, 12 bar) air pressure to the motor, and **never** exceed the stated maximum working pressure of the pump or the lowest rated component in your system. Refer to your separate pump instruction manual.
- Be sure that all spray/dispensing equipment and accessories are rated to withstand the maximum air and fluid working pressures of this system. **Do not** exceed the maximum working pressure of any component or accessory used in the system.

⚠ WARNING



SKIN INJECTION HAZARD

Spray from the gun, 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.
- Use only extensions and no-drip tips 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 6 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 sprayed. Refer to **Grounding** on page 5.
- If there is any static sparking or you feel an electric shock while using this equipment, **stop spraying 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 sprayed.
- Keep the spray area free of debris, including solvent, rags, and gasoline.
- Before operating this equipment, electrically disconnect all equipment in the spray area.
- Before operating this equipment, extinguish all open flames or pilot lights in the spray area.
- Do not smoke in the spray area.
- Do not turn on or off any light switch in the spray area while spraying or while operating if fumes are present.
- Do not operate a gasoline engine in the spray area.



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.

- Be sure that all fluids and solvents used are chemically compatible with the wetted parts shown in the **Technical Data** section of your pump manual. Always read the manufacturer's literature before using fluid or solvent in your pump.
- 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.

United States Government safety standards have been adopted under the Occupational Safety and Health Act. You should consult these standards – particularly the General Standards, Part 1910, and the Construction Standards, Part 1926.

Installation

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.

- **Pump:** Use a ground wire and clamp as shown in Fig. 1. Loosen the grounding lug locknut (A) and washer (B). Insert one end of a 12 ga (1.5 mm²) minimum ground wire (C) into the slot in lug (D) and tighten the locknut securely. Connect the other end of the wire to a true earth ground.

Model No. 206078: Remove the ground screw (Z) and insert through the eye of the ring terminal at end of ground wire (Y). Fasten the ground screw back onto the pump and tighten securely. Connect the other end of the ground wire to a true earth ground. See Fig. 2. *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.

- **Spray gun and dispensing valve:** Ground through connection to a properly grounded fluid hose and pump.
- **Object being sprayed:** 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 spray gun firmly to the side of a grounded metal pail, then trigger the gun.

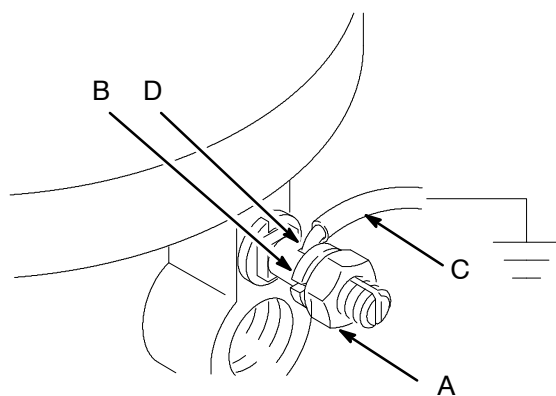


Fig. 1

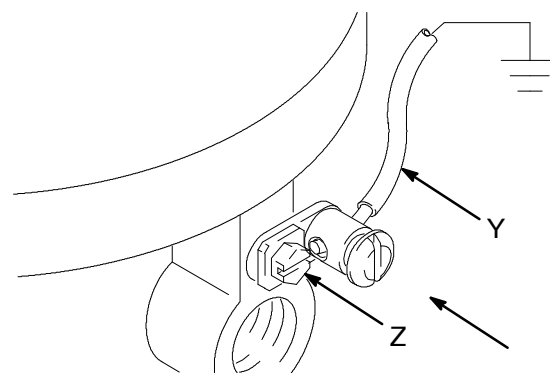
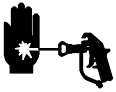


Fig. 2

Installation

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 spraying
- Check or service any of the system equipment
- Install or clean the spray tips

1. Engage the spray gun/dispensing valve safety latch.
2. Shut off the air to the motor.
3. Close the bleed-type master air valve (required in your system).
4. Disengage the gun/valve safety latch.
5. Hold a metal part of the gun/valve firmly to the side of a grounded metal pail, and trigger the gun/valve to relieve pressure.
6. Engage the gun/valve safety latch.
7. Open the pump drain valve (required in your system), having a container ready to catch the drainage.
8. Leave the drain valve open until you are ready to spray/dispense again.

*If you suspect that the spray tip/nozzle or hose is completely clogged, or that pressure has not been fully relieved after following the steps above, **very slowly** loosen the tip guard retaining nut or hose end coupling and relieve pressure gradually, then loosen completely, then clear the tip/nozzle or hose.*

WARNING

A bleed-type master air valve is required in your system to reduce the risk of serious bodily injury from moving parts if you are adjusting or repairing the air motor.

The bleed-type master air valve relieves air trapped between this valve and the motor after the air regulator is shut off. Trapped air can cause the motor and pump to cycle unexpectedly. Install the valve between the pump air inlet and the air regulator within easy reach of the pump.

WARNING

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. See **Moving Parts Hazard** on page 3.

Operation

NOTE: See your separate pump manual for detailed operation instructions.

Restarting a Stalled Air Motor

CAUTION

Never exceed 180 psi (1.2 MPa, 12 bar) air supply pressure to the air motor. Exceeding this pressure may cause the air motor to stall with the air transfer valves stuck at mid position, making the air motor inoperative.

To reseat the air transfer valves and restart a stalled air motor, relieve the air supply pressure to the motor by closing the bleed-type master air valve. If the air transfer valves fail to reseat, screw the cap nut (F) out of the cylinder (G), pull up on the trip rod (H) and screw the cap nut back into the cylinder. See Fig. 2. Be sure the air supply pressure is less than 180 psi (1.2 MPa, 12 bar) before opening the bleed-type master air valve.

Service

Servicing the Air Motor

Before you Start

- Be sure you have all necessary parts on hand. **Air Motor Repair Kit 207385** includes repair parts for the motor. Use all the parts in the kit for best results. Parts included in the air motor kit are marked with double asterisks (**) in text and drawings. See the parts list and drawing for your pump (pages 14 to 22) 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 (F) from the cylinder (G). Pull up on the cap nut. Grip the trip rod (H) with padded pliers 207579 and screw the cap nut off the trip rod. See Fig. 2.

4. Remove the eight screws (Z) holding the cylinder (G) to the base (J). Carefully pull the cylinder *straight up* off the piston. See Fig. 2.

⚠ 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 (E), to avoid pinching or amputating them. See Fig. 3.

5. Use a screwdriver to push down on the trip rod yoke (K) and snap the toggle assemblies (E) down. See Fig. 3. Remove the lockwires (L) from the adjusting nuts (M and Q) of the transfer valves (N). Screw the top nuts (M) off. Screw the valve stems (O) out of the grommets (P) and lower adjusting nuts (Q). Take the valve poppets (R) off the stems and squeeze them firmly to check for cracks.

⚠ 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.

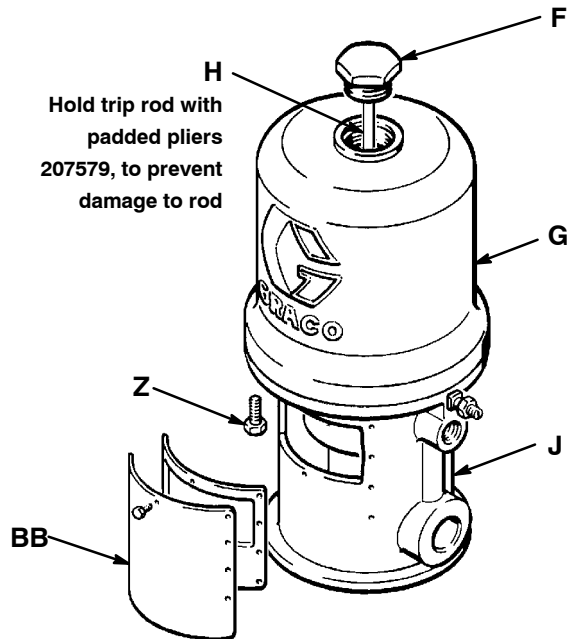


Fig. 2

Service

6. Grip the toggle rockers (S) with a pliers. Compress the springs (T) and swing the toggle assembly (E) up and away from the piston lugs (U), and remove the parts. Check that the valve actuator (V) is supported by the spring clips (W), but slides easily into them. See Fig. 3.
7. Remove the trip rod yoke (K), valve actuator (V) and trip rod (H). Check the exhaust valve poppets (X) for cracks.

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

8. Pull the piston (Y) up out of the base (J) and inspect the piston o-ring (AA) and the o-ring in the base casting.

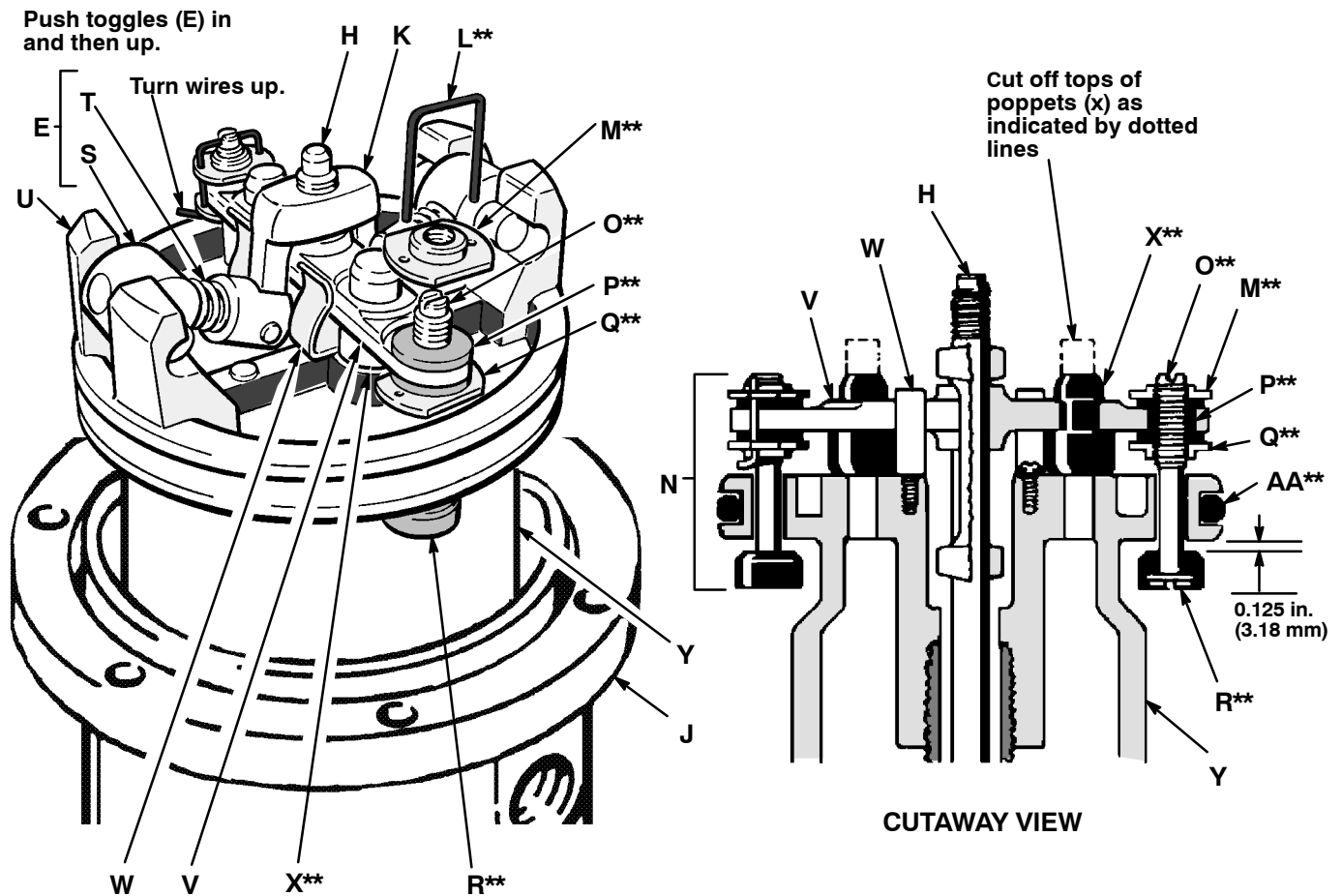


Fig. 3

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 (Y) into the air motor base (J).
5. Pull the exhaust valve poppets (X**) into the valve actuator (V) and clip off the top part shown with dotted lines. See Fig. 3.
6. Install the transfer valve poppets (R**) onto the valve stems (O**), then reassemble the valve stems (O**), bottom adjusting nuts (Q**), grommets (P**), and top adjusting nuts (M**) on the piston (Y). Assemble the trip rod (H), valve actuator (V), trip rod yoke (K) and toggle assemblies (E) on the piston. See Fig. 3.
7. Set gap on inlet valve (N) using the .125 in. (3.18 mm) side of gauge 171818. Rotate valve stem (O**) until snug against gauge, then back off until valve stem slot is lined up with wire holes in valve nut (M**) (do not back off more than 1/2 turn). See Fig. 3. Install lockwires (L**) in the adjusting nuts M** and Q**).
8. Snap the toggle assemblies (E) to the *up* position. Reinstall the cylinder (G) and hold the trip rod (H) in place with tool 207579. Apply a medium strength thread locking compound to the threads of the trip rod (H) and assemble the cap nut (F) to the trip rod (H). Torque the cap nut (F) to 60 lb-in (6.8 N-m). Install cap nut (F) into cylinder (G).
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.

Service

Throat Packing Service for In-Line Pump Model 205647

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.

NOTE: See Fig. 4 on page 12 and the **Parts Drawing** on page 14.

1. Clamp the pump in a vise and unscrew the displacement cylinder (CC) from the air motor base (J). Pull the displacement cylinder away from the air motor until the cotter pin (DD) which secures the displacement pump connecting rod to the air motor piston rod (FF) is visible. See Fig. 4.
2. Remove the cotter pin (DD) and unscrew the pump connecting rod (EE) from the air motor piston rod (FF). See Fig. 4. Remove the cylinder (G) from the air motor base (J) as described under **Disassembly** on page 8.

3. Remove one louvered air exhaust plate (BB) and unscrew the throat packing nut (HH), using a spanner wrench or a 0.22 in. (5.6 mm) diameter rod. See Fig. 4. Remove the spacer and packing from the base and packing nut. Clean the throat packing area in the base and the packing nut. Clean and inspect all parts and replace as necessary.
4. Lubricate the packings, piston rod and piston flange with a light waterproof grease. Reinstall the spacer and packing in the base and packing nut. Be sure the lips of the v-packings face down. See Detail B. Screw the packing nut loosely into the base. Carefully slide the piston rod down through the throat packing and lower the piston into the base. Tighten the packing nut securely. Reinstall the plate (BB) and cylinder (G). Reassemble the air motor to the displacement pump.

CAUTION

When reinstalling cotter pin (DD), **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. 4.

Service

In-Line Pump Models 205647 and 206078

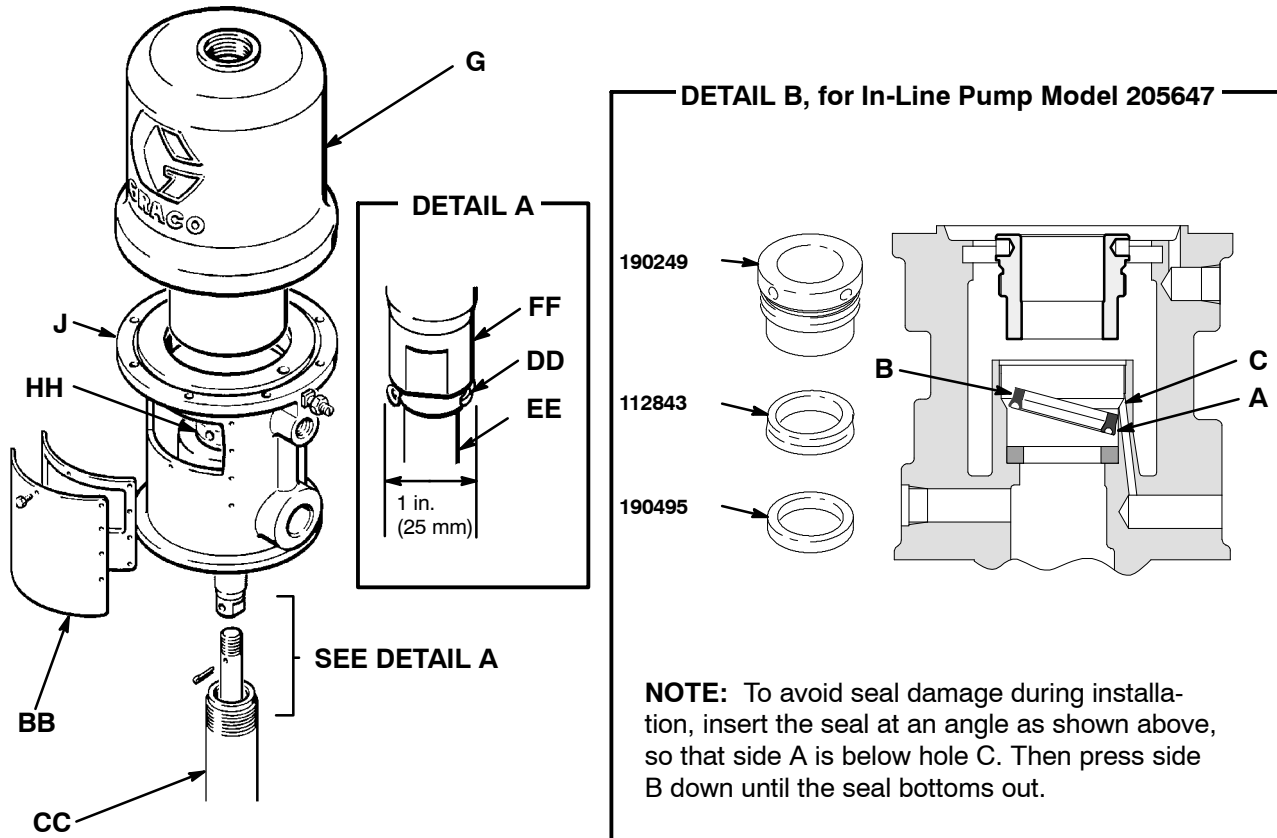


Fig. 4

NOTE: To avoid seal damage during installation, insert the seal at an angle as shown above, so that side A is below hole C. Then press side B down until the seal bottoms out.

Service

Throat Packing Service for In-Line Pump Model 206078

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. 4 on page 12 and the **Parts Drawing** on page 16.

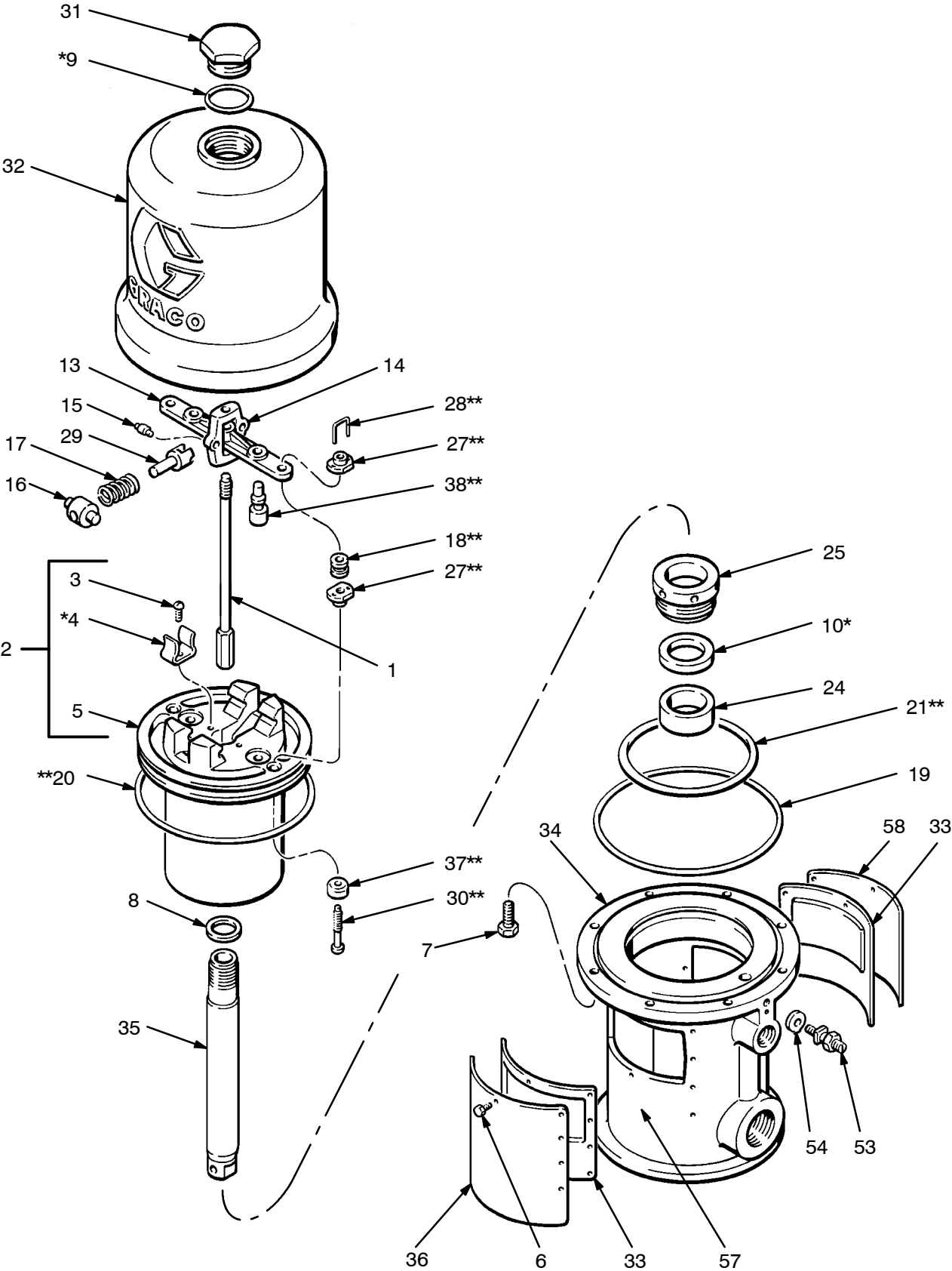
1. Clamp the pump in a vise and unscrew the displacement cylinder (CC) from the air motor base (J). Pull the displacement cylinder away from the air motor until the cotter pin (DD) which secures the displacement pump connecting rod to the air motor piston rod (FF) is visible. See Fig. 4.
 2. Remove the cotter pin (DD) and unscrew the pump connecting rod (EE) from the air motor piston rod (FF). See Fig. 4. Remove the cylinder (G) from the air motor base (J) as described under **Disassembly** on page 8.
 3. Remove one louvered air exhaust plate (BB) and unscrew the throat packing nut (HH), using a spanner wrench or a 0.22 in. (5.6 mm) diameter rod. See Fig. 4.
 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†).
 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 (FF) down through the throat packing, and lower the piston into the base. Reinstall the plate (BB) and cylinder (G). 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 (DD), **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. 4.

Parts

Model 205647, Series M
for in-line mounting, medium-pressure oil pump



Parts

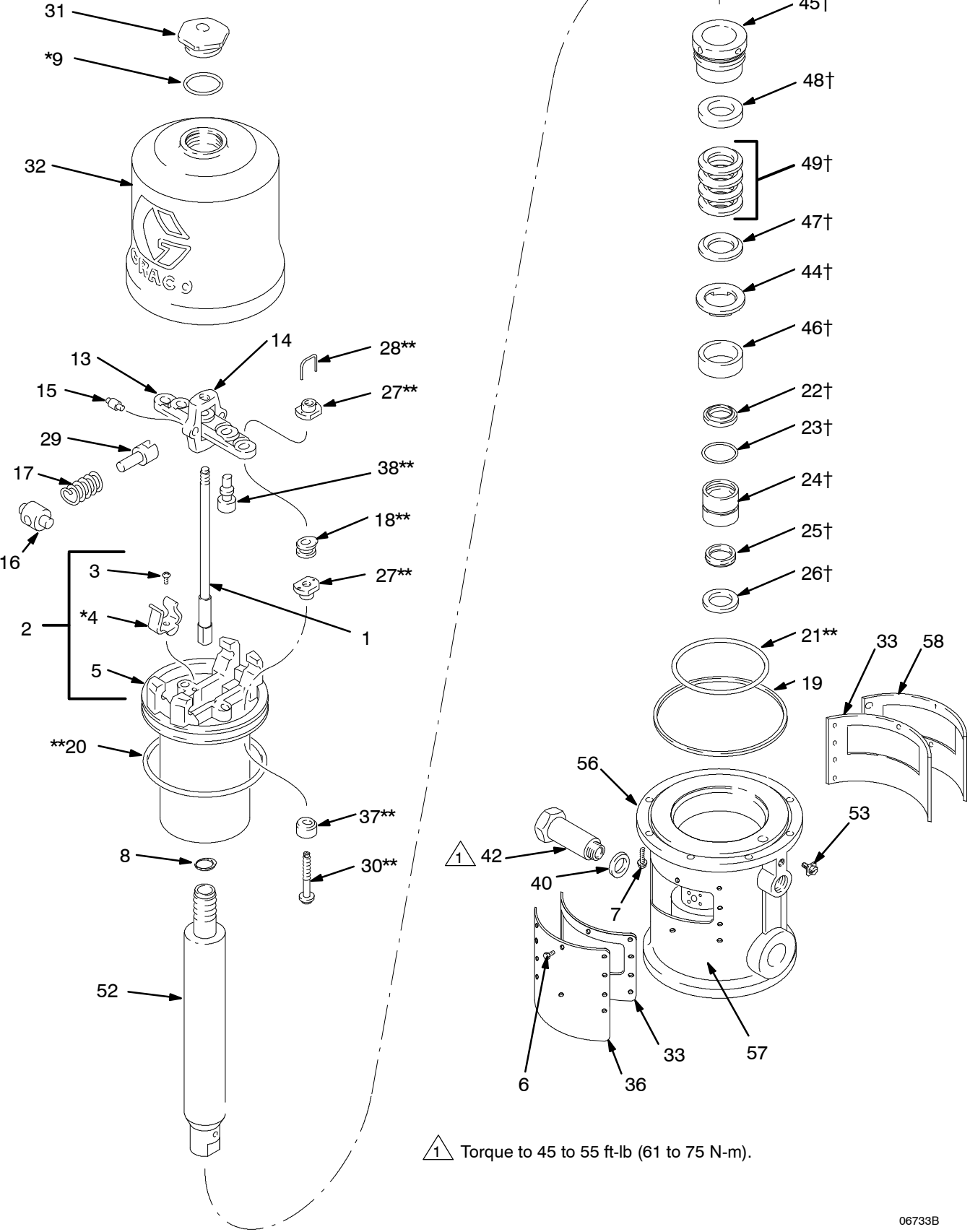
Model 205647, Series M

for in-line mounting, medium-pressure oil pump

Ref No.	Part No.	Description	Qty	Ref No.	Part No.	Description	Qty
1	207150	TRIP ROD	1	30	160896**	STEM, valve	2
2	207391	PISTON <i>includes items 3 to 5 (also includes 207385 repair kit when ordered as a replacement part)</i>	1	31	161435	NUT, cylinder cap	1
3	102975	.SCREW, rd hd mach; 6-32 x 1/4 in.	2	32	162629	CYLINDER, motor, air	1
4	158361*	.CLIP, spring	2	33	178270	PLATE, muffler	2
5		.BARE PISTON <i>(not sold separately)</i>	1	34	164924	BASE, motor, air	1
6	17M262	SCREW, hex head; 8-32 x 3/8 in.	20	35	164925	ROD, piston	1
7	101578	SCREW, hex head Nylock; 8-32 x 3/8 in.	8	36	177844	PLATE, identification	1
8	150647	GASKET; copper	1	37	170708**	POPPET, valve; urethane	2
9	156698*	O-RING; Buna-N	1	38	170709**	POPPET, valve; urethane	2
10	112843*	PACKING, block, V	1	53	104029	LUG, grounding	1
13	158359	ACTUATOR, valve	1	54	104582	WASHER, tab	1
14	158360	YOKE, rod, trip	1	57	180233	LABEL, warning	2
15	158362	PIN, toggle	2	58▲	177843	PLATE, warning	1
16	158364	ROCKER, toggle	2	* Recommended spare parts to keep on hand.			
17	167585	SPRING, helical compression	2	** Included in Repair Kit 207385. Must be purchased separately.			
18	158367**	GROMMET; rubber	2	▲ If users of this equipment do not read English, you may order one of the following labels to apply to your air motor. Apply the label over the matching label on the air motor plate for good visibility. Do not cover the air exhaust holes. Order the labels free of charge directly from Graco. Contact your distributor to order.			
19	158377	SEAL, flat ring; nitrile rubber	1	French		290466	
20	158378**	SEAL, o-ring; nitrile rubber	1	Spanish		290468	
21	158379**	SEAL, o-ring; nitrile rubber	1				
24	190495	SPACER, throat	1				
25	190249	NUT, packing	1				
27	160261**	NUT, adjusting	4				
28	160618**	LOCKWIRE, transfer valve	2				
29	160623	ARM, toggle	2				

Parts

Model 206078, Series M
for in-line mounting, high-pressure grease pump



Parts

Model 206078, Series L

for in-line mounting, high-pressure grease pump

Ref No.	Part No.	Description	Qty	Ref No.	Part No.	Description	Qty
1	207150	TRIP ROD	1	40	150461	GASKET; copper	1
2	207391	PISTON <i>includes items 3 to 5 (also includes 207385 repair kit when ordered as a replacement part)</i>	1	42	621201	ADAPTER, outlet	1
3	102975	.SCREW, rd hd mach; 6-32 x 1/4 in.	2	44†	158697	WASHER, thrust	1
4*	158361	.CLIP, spring	2	45†	159047	NUT, packing	1
5		.BARE PISTON <i>(not sold separately)</i>	1	46†	159048	BEARING, brass	1
6	17M262	SCREW, hex head; 8-32 x 3/8 in.	20	47†	159306	GLAND, male	1
7	101578	SCREW, hex head Nylock; 8-32 x 3/8 in.	8	48†	159307	GLAND, female	1
8	150647	GASKET; copper	1	49†	159308	V-PACKING; nitrile rubber	4
9*	156698	O-RING; Buna-N	1	52	162553	ROD, piston	1
13	158359	ACTUATOR, valve	1	53	116343	SCREW, grounding	1
14	158360	YOKE, rod, trip	1	56	15F570	BASE, motor, air	1
15	158362	PIN, toggle	2	57	180233	LABEL, warning	2
16	158364	ROCKER, toggle	2	58▲	177843	PLATE, warning	1
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	162629	CYLINDER, motor, air	1				
33	178270	PLATE, muffler	2				
36	177844	PLATE, identification	1				
	15E555	for FireBall® 425 models: 205394, 205395,239729, 239730 and 239731					
37**	170708	POPPET, valve; urethane	2				
38**	170709	POPPET, valve; urethane	2				

* Recommended spare parts to keep on hand.

** Included in Repair Kit 207385. Must be purchased separately.

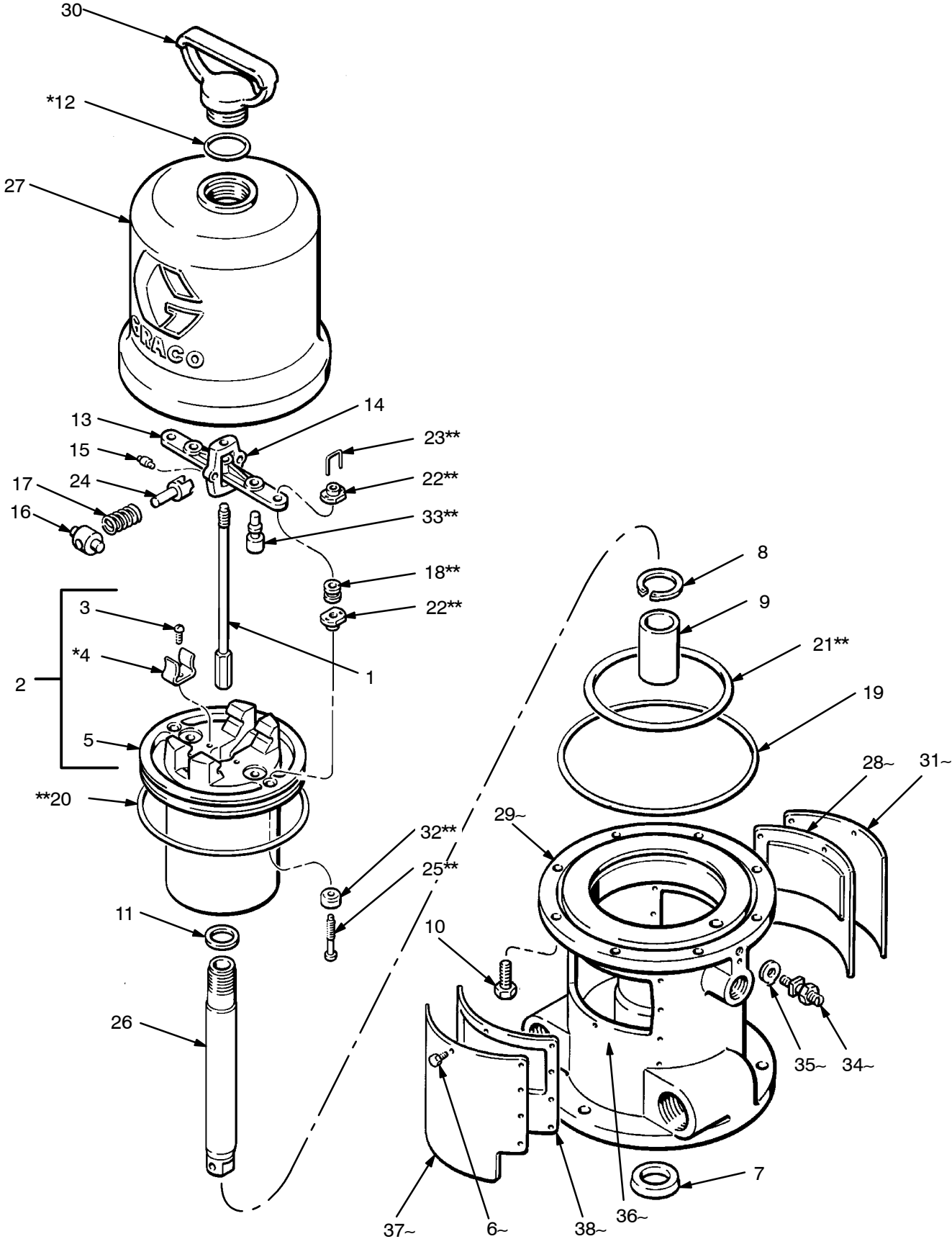
† Service parts for air motor throat packing area. Must be purchased separately.

▲ If users of this equipment do not read English, you may order one of the following labels to apply to your air motor. Apply the label over the matching label on the air motor plate for good visibility. Do not cover the air exhaust holes. Order the labels free of charge directly from Graco. Contact your distributor to order.

German	290467
French	290466
Spanish	290468

Parts

Model 205038, Series N
for stanchion tube mountings



Parts

Model 205038, Series N

for stanchion tube mountings

Ref No.	Part No.	Description	Qty	Ref No.	Part No.	Description	Qty
1	207150	TRIP ROD	1	26	162628	ROD, piston	1
2	207391	PISTON		27	162629	CYLINDER, motor, air	1
		<i>includes items 3 to 5 (also includes 207385 repair kit when ordered as a replacement part)</i>		28	178270~	PLATE, muffler	1
3	102975	.SCREW, rd hd mach; 6-32 x 1/4 in.	2	29	162663~	BASE, motor, air	1
4	158361*	.CLIP, spring	2	30	164704	NUT, cylinder cap	1
5		.BARE PISTON <i>(not sold separately)</i>	1	31	177844~	PLATE, identification	1
6	17M262~	SCREW, hex head; 8-32 x 3/8 in.	20	32	170708**	POPPET, valve; urethane	2
7	16H224*	SEAL, wiper; polyurethane	1	33	170709**	POPPET, valve; urethane	2
8	101525	RING, retainer	1	34	104029~	LUG, grounding	1
9	101526	BEARING; bronze	1	35	104582~	WASHER, tab	1
10	101578	SCREW, hex head Nylock; 8-32 x 3/8 in.	8	36	180233~	LABEL, warning	2
11	150647	GASKET; copper	1	37▲	177841~	PLATE, warning	1
12	156698*	O-RING; Buna-N	1	38	178269~	PLATE, muffler	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	160261**	NUT, adjusting	4				
23	160618**	LOCKWIRE, transfer valve	2				
24	160623	ARM, toggle	2				
25	160896**	STEM, valve	2				

* Recommended spare parts to keep on hand.

~ Included in Air Motor Base Replacement Kit 24F303. Must be purchased separately.

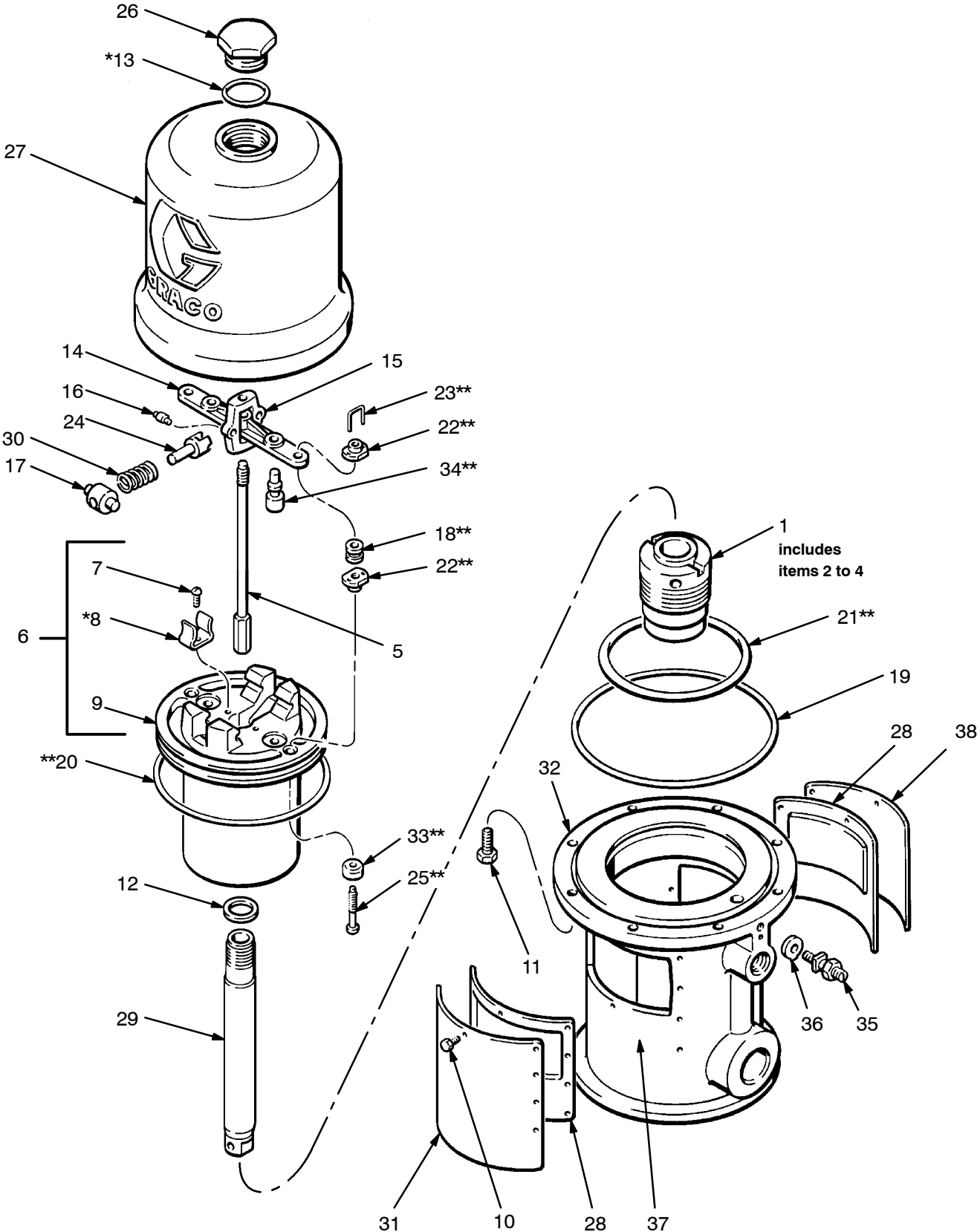
** Included in Repair Kit 207385. Must be purchased separately.

▲ If users of this equipment do not read English, you may order one of the following labels to apply to your air motor. Apply the label over the matching label on the air motor plate for good visibility. Do not cover the air exhaust holes. Order the labels free of charge directly from Graco. Contact your distributor to order.

German	290464
French	290463
Spanish	290465

Parts

Model 207352, Series G
for divorced mountings



Parts

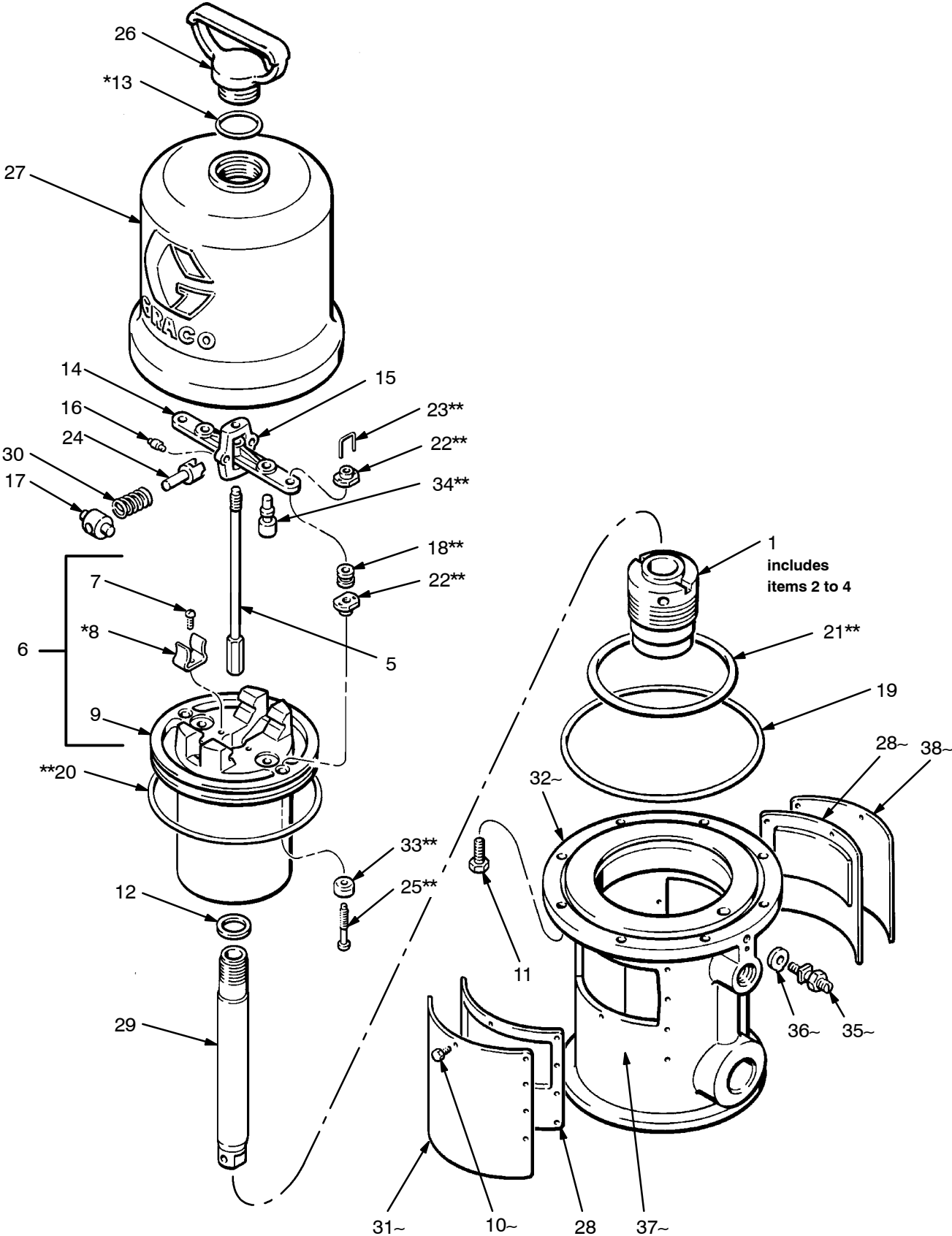
Model 207352, Series G

for divorced mountings

Ref No.	Part No.	Description	Qty	Ref No.	Part No.	Description	Qty
1	205529	PACKING NUT <i>includes items 2 to 4</i>	1	26	161435	NUT, cylinder cap	1
2	16H224*	.SEAL, wiper; polyurethane	1	27	162629	CYLINDER, motor, air	1
3	101526	.BEARING; bronze	1	28	178270	PLATE, muffler	2
4	164701	.NUT, packing	1	29	166235	ROD, piston	1
5	207150	TRIP ROD	1	30	167585	SPRING, helical compression	2
6	207391	PISTON <i>includes items 7 to 9 (also includes 207385 repair kit when ordered as a replacement part)</i>	1	31	177844	PLATE, identification	1
7	102975	.SCREW, rd hd mach; 6-32 x 1/4 in.	2	32	168656	BASE, motor, air	1
8	158361*	.CLIP, spring	2	33	170708**	POPPET, valve; urethane	2
9		.BARE PISTON <i>(not sold separately)</i>	1	34	170709**	POPPET, valve; urethane	2
10	17M262	SCREW, hex head; 8-32 x 3/8 in.	20	35	104029	LUG, grounding	1
11	101578	SCREW, hex head Nylock; 8-32 x 3/8 in.	8	36	104582	WASHER, tab	1
12	150647	GASKET; copper	1	37	180233	LABEL, warning	2
13	156698*	O-RING; Buna-N	1	38▲	177843	PLATE, warning	1
14	158359	ACTUATOR, valve	1	* Recommended spare parts to keep on hand.			
15	158360	YOKE, rod, trip	1	** Included in Repair Kit 207385. Must be purchased separately.			
16	158362	PIN, toggle	2	▲ If users of this equipment do not read English, you may order one of the following labels to apply to your air motor. Apply the label over the matching label on the air motor plate for good visibility. Do not cover the air exhaust holes. Order the labels free of charge directly from Graco. Contact your distributor to order.			
17	158364	ROCKER, toggle	2	German	290467		
18	158367**	GROMMET; rubber	2	French	290466		
19	158377	SEAL, flat ring; nitrile rubber	1	Spanish	290468		
20	158378**	SEAL, o-ring; nitrile rubber	1				
21	158379**	SEAL, o-ring; nitrile rubber	1				
22	160261**	NUT, adjusting	4				
23	160618**	LOCKWIRE, transfer valve	2				
24	160623	ARM, toggle	2				
25	160896**	STEM, valve	2				

Parts

Model 222772, Series G
for divorced mountings



Parts

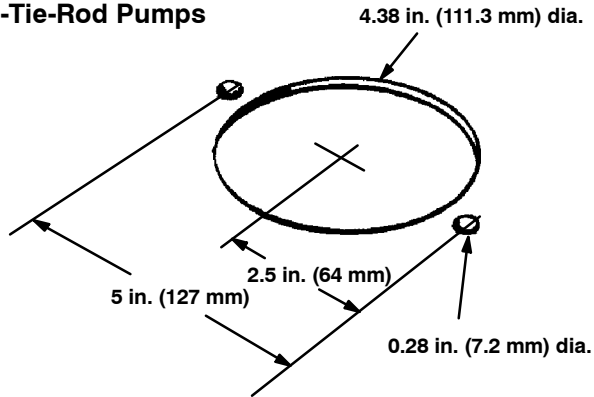
Model 222772, Series G

for divorced mountings

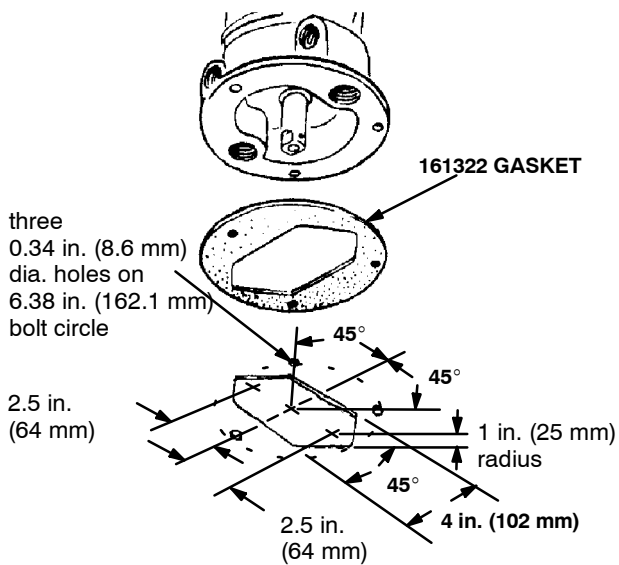
Ref No.	Part No.	Description	Qty	Ref No.	Part No.	Description	Qty
1	205529	PACKING NUT <i>includes items 2 to 4</i>	1	26	164704	NUT, cylinder cap	1
2	16H224*	.SEAL, wiper; polyurethane	1	27	162629	CYLINDER, motor, air	1
3	101526	.BEARING; bronze	1	28	178270~	PLATE, muffler	2
4	164701	.NUT, packing	1	29	166235	ROD, piston	1
5	207150	TRIP ROD	1	30	167585	SPRING, helical compression	2
6	207391	PISTON <i>includes items 7 to 9 (also includes 207385 repair kit when ordered as a replacement part)</i>	1	31	177844~	PLATE, identification	1
7	102975	.SCREW, rd hd mach; 6-32 x 1/4 in.	2	32	184120~	BASE, motor, air	1
8	158361*	.CLIP, spring	2	33	170708**	POPPET, valve; urethane	2
9		.BARE PISTON <i>(not sold separately)</i>	1	34	170709**	POPPET, valve; urethane	2
10	17M262~	SCREW, hex head; 8-32 x 3/8 in.	20	35	104029~	LUG, grounding	1
11	101578	SCREW, hex head Nylock; 8-32 x 3/8 in.	8	36	104582~	WASHER, tab	1
12	150647	GASKET; copper	1	37	180233~	LABEL, warning	2
13	156698*	O-RING; Buna-N	1	38▲	177843~	PLATE, warning	1
14	158359	ACTUATOR, valve	1	* Recommended spare parts to keep on hand.			
15	158360	YOKE, rod, trip	1	** Included in Repair Kit 207385. Must be purchased separately.			
16	158362	PIN, toggle	2	~ Included in Air Motor Base Replacement Kit 26D118. Must be purchased separately.			
17	158364	ROCKER, toggle	2	▲ If users of this equipment do not read English, you may order one of the following labels to apply to your air motor. Apply the label over the matching label on the air motor plate for good visibility. Do not cover the air exhaust holes. Order the labels free of charge directly from Graco. Contact your distributor to order.			
18	158367**	GROMMET; rubber	2	German	290467		
19	158377	SEAL, flat ring; nitrile rubber	1	French	290466		
20	158378**	SEAL, o-ring; nitrile rubber	1	Spanish	290468		
21	158379**	SEAL, o-ring; nitrile rubber	1				
22	160261**	NUT, adjusting	4				
23	160618**	LOCKWIRE, transfer valve	2				
24	160623	ARM, toggle	2				
25	160896**	STEM, valve	2				

Mounting Hole Layouts

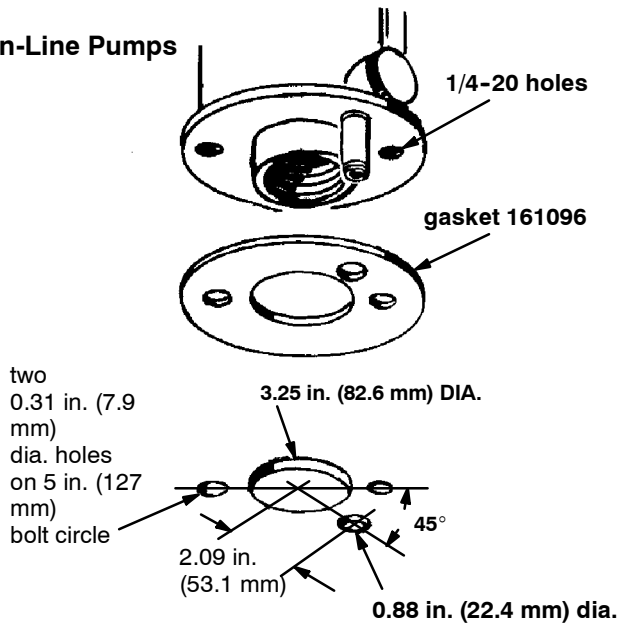
3-Tie-Rod Pumps



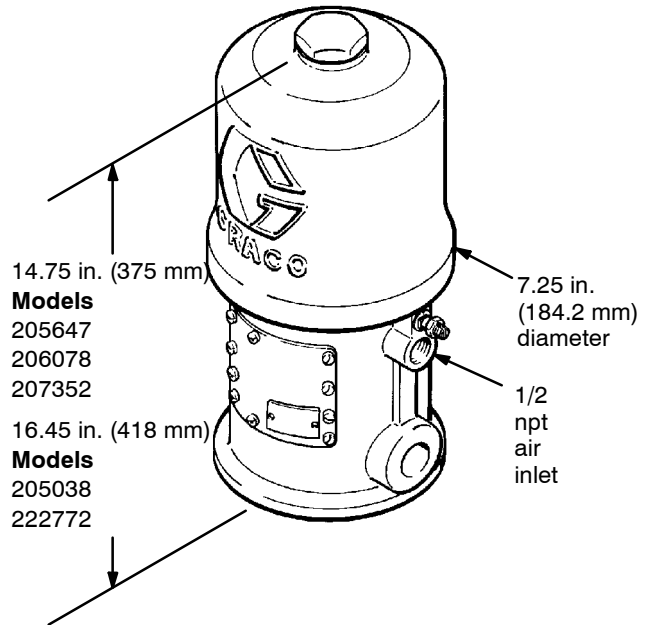
2-Stanchion-Tube Pumps



In-Line Pumps



Dimensional Drawing



Technical Data

Maximum inbound air pressure	180 psi (1.2 MPa, 12 bar)
Effective piston area	14 sq. in. (90 cm ²)
Effective piston diameter	4.25 in. (108 mm)
Stroke	4 in. (102 mm)
Air valves	<i>Transfer:</i> nitrile rubber <i>Exhaust:</i> urethane
Valve mechanism	balanced, detented
Seal	Nitrile rubber
Weight	approx. 19 lb (8.6 kg)
* Sound level at 180 psi (1.2 MPa, 12 bar), 25 cycles per minute	98 dBa
* Sound power level at 180 psi (1.2 MPa, 12 bar), 25 cycles per minute	113 dBa

* *Tested in accordance with ISO 3744.*

Graco Standard Warranty

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.

This warranty does not cover, and Graco shall not be liable for general wear and tear, or any malfunction, damage or wear caused by faulty installation, misapplication, abrasion, corrosion, inadequate or improper maintenance, negligence, accident, tampering, or substitution of non-Graco component parts. Nor shall Graco be liable for malfunction, damage or wear caused by the incompatibility of Graco equipment with structures, accessories, equipment or materials not supplied by Graco, or the improper design, manufacture, installation, operation or maintenance of structures, accessories, equipment or materials not supplied by Graco.

This warranty is conditioned upon the prepaid return of the equipment claimed to be defective to an authorized Graco distributor for verification of the claimed defect. If the claimed defect is verified, Graco will repair or replace free of charge any defective parts. The equipment will be returned to the original purchaser transportation prepaid. If inspection of the equipment does not disclose any defect in material or workmanship, repairs will be made at a reasonable charge, which charges may include the costs of parts, labor, and transportation.

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TO PLACE AN ORDER, contact your Graco distributor, or call one of the following numbers to identify the distributor closest to you:

1-800-328-0211 Toll Free
612-623-6921
612-378-3505 Fax

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Original instructions. This manual contains English. MM 306982

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