INSTRUCTIONS-PARTS LIST

GRACO

307-716

Rev. A

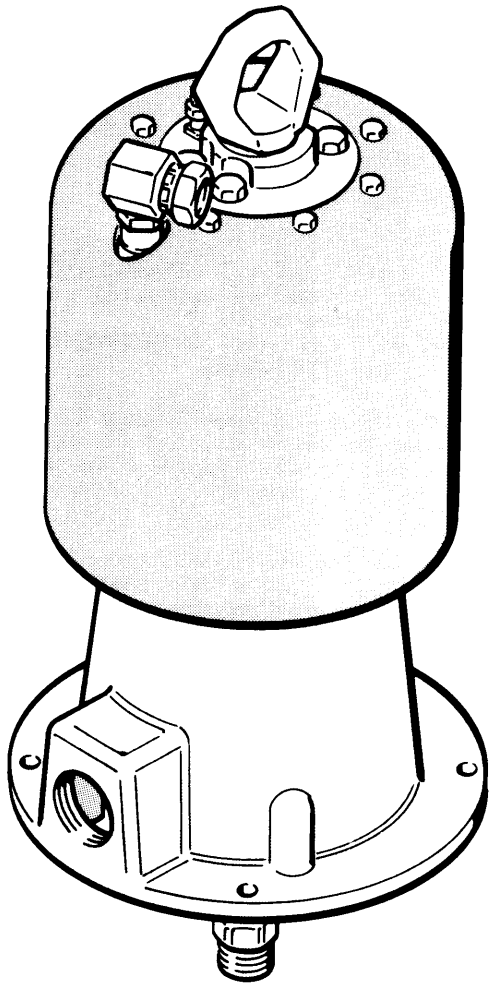
This manual contains **IMPORTANT WARNINGS** and **INSTRUCTIONS**
READ AND RETAIN FOR REFERENCE

5.5 INCH EFFECTIVE DIAMETER

SENATOR II AIR MOTOR

100 psi (6.9 bar) MAXIMUM WORKING PRESSURE

Model 218-580 Series A



☐ ACCESSORIES on back page.

☐ TECHNICAL DATA on back page.

GRACO INC. P.O. BOX 1441 MINNEAPOLIS, MN 55440-1444

WARNING

HIGH PRESSURE SPRAY CAN CAUSE SERIOUS INJURY.
FOR PROFESSIONAL USE ONLY. OBSERVE ALL WARNINGS.
Read and understand all instruction manuals before operating equipment.

FLUID INJECTION HAZARD

General Safety

This equipment generates very high fluid pressure. Spray from the gun, leaks or ruptured components can inject fluid through your skin and into your body and cause extremely serious bodily injury, including the need for amputation. Also, fluid injected or splashed into the eyes can cause serious damage.

NEVER point the spray gun or dispensing valve at anyone or at any part of the body. NEVER put hand or fingers over the spray tip.

ALWAYS have the tip guard in place on the spray gun when spraying.

ALWAYS follow the **Pressure Relief Procedure,** below, *before* cleaning or removing the spray tip or nozzle or servicing any system equipment.

NEVER try to stop or deflect leaks with your hand or body.

Be sure equipment safety devices are operating properly before each use.

Medical Treatment

If any fluid appears to penetrate your skin, get
EMERGENCY MEDICAL CARE AT ONCE.
DO NOT TREAT AS A SIMPLE CUT.
Tell the doctor exactly what fluid was injected. For treatment instructions, have your doctor call the
NATIONAL POISON CENTER NETWORK
(412)681-6669

Spray Gun and Dispensing Valve Safety Devices

Be sure all gun safety devices are operating properly before each use. Do not remove or modify any part of the gun; this can cause a malfunction and result in serious bodily injury.

Safety Latch
Whenever you stop spraying, even for a moment, always set the gun safety latch in the closed or "safe" position, making the gun inoperative. Failure to set the safety latch can result in accidental triggering of the gun.

Diffuser (on Spray Guns)
The gun diffuser breaks up spray and reduces the risk of injection when the tip is not installed. Check diffuser operation regularly. Follow the **Pressure Relief Procedure,** below, then remove the spray tip. Aim the gun into a metal pail, holding the gun firmly to the pail. Using the lowest possible pressure, trigger the gun. If the fluid emitted *is not* diffused into an irregular stream, replace the diffuser immediately.

Tip Guard (on Spray Guns)
ALWAYS have the tip guard in place on the spray gun while spraying. The tip guard alerts you to the injection hazard and helps prevent accidentally placing your fingers or any part of your body close to the spray tip.

Trigger Guard
Never operate the gun with the trigger guard removed. This guard helps prevent the gun from triggering accidentally if it is dropped or bumped.

Spray Tip and Nozzle Safety

Use extreme caution when cleaning or changing spray tips or nozzles. If the spray tip or nozzle clogs while spraying, engage the gun safety latch immediately. ALWAYS follow the **Pressure Relief Procedure** and then remove the spray tip or nozzle to clean it.

NEVER wipe off build-up around the spray tip or nozzle until pressure is fully relieved and the gun safety latch is engaged.

Pressure Relief Procedure

To reduce the risk of serious bodily injury, including injection, always follow this procedure whenever you shut off the pump, when checking or servicing any part of the system, when installing or changing spray tips, and whenever you stop spraying.

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

If the spray tip or hose is clogged, VERY SLOWLY loosen the tip guard or hose end coupling and allow pressure to be relieved gradually, then remove completely. Now clear the tip or hose.

EQUIPMENT MISUSE HAZARD

General Safety

Any misuse of the spray equipment or accessories, such as overpressurizing, modifying parts, using incompatible chemicals and materials, or using worn or damaged parts, can cause them to rupture and result in injection or other serious bodily injury, fire, explosion or property damage.

NEVER alter or modify any part of this equipment; doing so could cause it to malfunction.

CHECK all spray equipment regularly and repair or replace worn or damaged parts immediately.

ALWAYS read and follow the fluid and solvent manufacturer's recommendations regarding the use of protective clothing and equipment.

System Pressure

NEVER exceed 100 psi (6.9 bar) air pressure to the motor, and *NEVER* exceed the stated maximum working pressure of the pump. Refer to your separate pump instruction manual.

Be sure that all accessories you add to the spray system are properly rated to withstand the maximum air and fluid working pressures of this system.

Material Compatibility

BE SURE that all materials and solvents used are chemically compatible with the wetted parts shown in the Technical Data on the back cover. Always read the material and solvent manufacturer's literature before using them in this sprayer.

HOSE SAFETY

High pressure fluid in the hoses can be very dangerous. If the hose develops a pinhole leak, split or rupture due to any kind of wear, damage or misuse, the high pressure spray emitted from it can cause an injection injury or other serious bodily injury or property damage.

ALL FLUID SPRAY HOSES MUST HAVE SPRING GUARDS! The spring guards help protect the hose from kinks or bends at or close to the coupling which can result in hose rupture.

TIGHTEN all fluid connections securely before each use. High pressure fluid can dislodge a loose coupling or allow high pressure spray to be emitted from the coupling.

NEVER use a damaged hose. Before each use, check entire hose for cuts, leaks, abrasion, bulging cover, or damage or movement of the hose couplings. If any of these conditions exist, replace the hose immediately. DO NOT try to recouple high pressure hose or mend it with tape or any other device. A repaired hose cannot contain the high pressure fluid.

HANDLE AND ROUTE HOSES CAREFULLY. Do not pull on hoses to move equipment. Do not use materials or solvents which are not compatible with the inner tube and cover of the hose. DO NOT expose the hose to temperatures above 180°F (82°C) or below -40°F (-40°C).

Hose Grounding Continuity

Proper hose grounding continuity is essential to maintaining a grounded spray system. Check the electrical resistance of your air and fluid hoses at least once a week. If your hose does not have a tag on it which specifies the maximum electrical resistance, contact the hose supplier or manufacturer for the maximum resistance limits. Use a voltage meter in the appropriate range for your hose to check the resistance. If the resistance exceeds the recommended limits, replace it immediately. An ungrounded or poorly grounded hose can make your system hazardous. Also, read FIRE OR EXPLOSION HAZARD, at the right.

MOVING PARTS HAZARD

Moving parts can pinch or amputate your fingers or other body parts. KEEP CLEAR of moving parts when starting or operating the pump. Follow the **Pressure Relief Procedure** before checking or servicing the sprayer to prevent it from starting accidentally. Never operate the pump or air motor with any parts removed.

FIRE OR EXPLOSION HAZARD

Static electricity is created by the high velocity flow of fluid through the pump and hose. If every part of the spray equipment is not properly grounded, sparking may occur, and the system may become hazardous. Sparking may also occur when plugging in or unplugging a power supply cord. Sparks can ignite fumes from solvents and the fluid being sprayed, dust particles and other flammable substances, whether you are spraying indoors or outdoors, and can cause a fire or explosion and serious bodily injury and property damage. Do not plug in or unplug any power supply cords in the spray area when there is any chance of igniting fumes still in the air.

If you experience any static sparking or even a slight shock while using this equipment, STOP SPRAYING IMMEDIATELY. Check the entire system for positive grounding. Do not use the system again until the problem has been identified and corrected.

Grounding

To reduce the risk of static sparking, ground the pump and all other spray equipment used or located in the spray area. CHECK your local electrical code for detailed grounding instructions for your area and type of equipment. BE SURE to ground all of this spray equipment:

1. *Pump:* use a ground wire and clamp as instructed on page 4.
2. *Air hoses:* use only grounded air hoses.
3. *Fluid hoses:* use only grounded fluid hoses.
4. *Air compressor:* follow manufacturer's recommendations.
5. *Spray gun or dispensing valve:* grounding is obtained through connection to a properly grounded fluid hose and pump.
6. *Object being sprayed:* according to your local code.
7. *All solvent pails* used when flushing, according to 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.
8. *To maintain grounding continuity when flushing or relieving pressure,* always hold a metal part of the gun firmly to the side of a *metal* pail, then trigger the gun.

Flushing Safety

Reduce the risk of injection injury, static sparking, or splashing by following the specific flushing procedure given in your separate pump instruction manual. Follow the **Pressure Relief Procedure** on page 2, and *remove the spray tip (spray guns only) before flushing.* Hold a metal part of the gun firmly to the side of a grounded *metal* pail and use the lowest possible fluid pressure during flushing.

IMPORTANT

United States Government safety standards have been adopted under the Occupational Safety and Health Act. These standards—particularly the General Standards, Part 1910, and the Construction Standards, Part 1926—should be consulted.

TROUBLESHOOTING THE SENATOR AIR MOTOR

To re-start a stalled motor, screw the lift ring (16) out of the detent housing (36) and use a screwdriver to push the valve housing (29) down. See Fig 3, page 5.

WARNING

Keep fingers out of detent housing (36) to avoid pinching or amputating them.

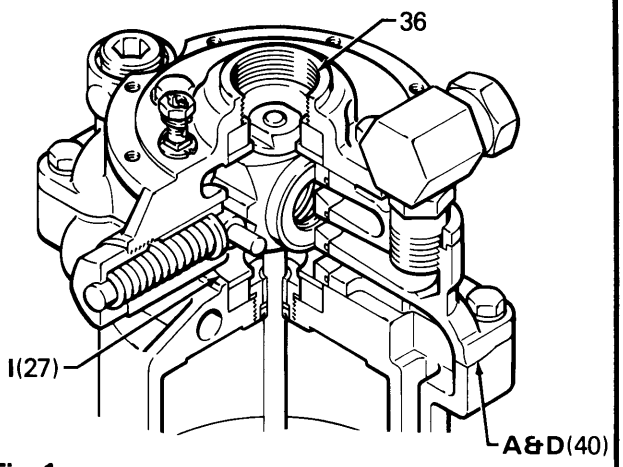


Fig 1

CHECK CHART			
Stroke Position	Fig. Ref. Points	Checking Method	Cause of Leakage
UP only (air valve housing down)	A	By feel	Blown air manifold gaskets (40)
	B	By feel	Blown air cylinder gasket (17)
	C	Squirt oil around wiper seal (23)	Worn throat packings (20)
DOWN only (air valve housing up)	D	By feel	Blown air manifold gaskets (40)
	E	By feel	Damaged conn. tube seal (23)
	F	Squirt oil around bearing	Worn trip rod packing (19)
	G	Squirt oil around bearing	Damaged trip rod bearing gasket (14)
BOTH	H	Squirt oil around air valve (39)	Worn air valves (39) or their packings (15)
	I	Hold paper strip over exh. holes	Worn air piston packing (27)

Locating Air Leaks

To locate where air is leaking, shut off the air supply and disconnect hose. Screw the inlet union (49) out of the air manifold (43), remove the shield (35), then screw the union back into the manifold. See Fig 3. Connect the air hose and turn the air on, then use the checking methods listed in the Check Chart, above, to find where air is leaking.

Grounding

WARNING

A properly grounded pump, air and fluid hoses, air compressor, spray gun or dispensing valve, and the object being sprayed are essential to avoid shock, fire or explosion which can result in serious bodily injury and property damage. When static sparks are discharged, fumes from the material being sprayed, solvents, dust particles, etc. can be ignited. Always check your local code for detailed grounding instructions.

To ground the air motor, use a grounding wire and clamp as shown in Fig 2. Loosen the grounding lug locknut (J) and washer (K). Insert one end of the ground wire (12 ga minimum) (L) into the slot in lug (52) and tighten the locknut securely.

Connect the other end of the wire to a *true* earth ground. Always check your local code. See ACCESSORIES for an available ground wire and clamp.

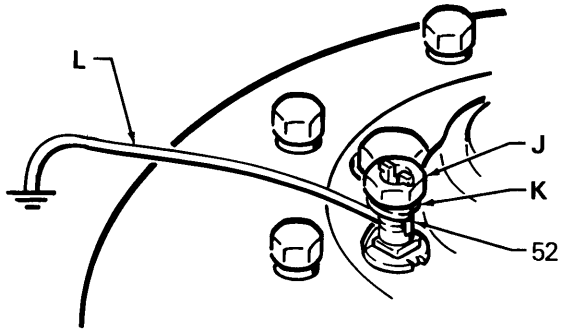


Fig 2

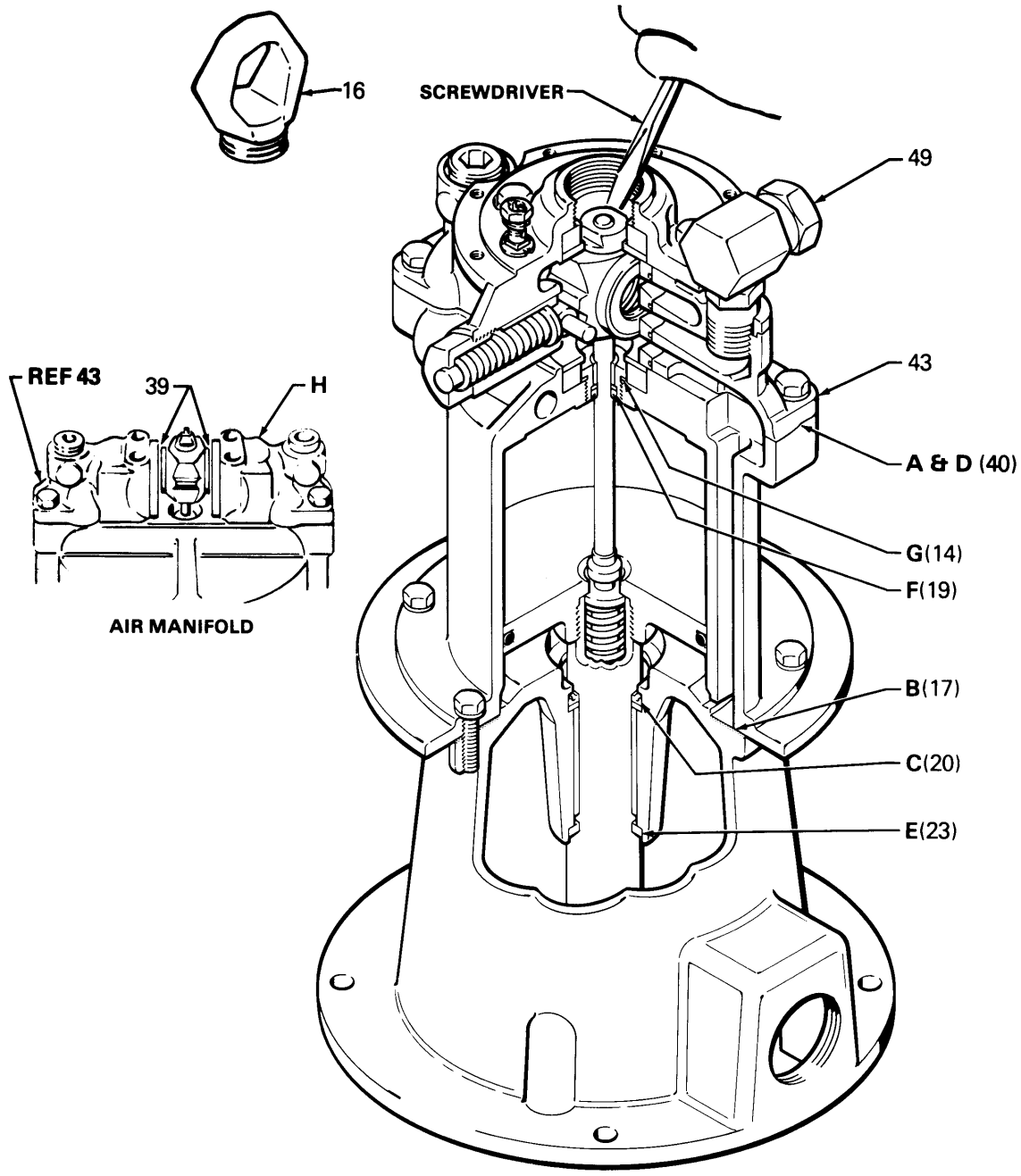


Fig 3

Air Valve Repair (See Fig 4 and the Parts Drawing)

1. Follow the **Pressure Relief Procedure Warning** on page 2.

2. Remove the air inlet fitting (49), disconnect the ground wire, and remove the lift ring (16).

NOTE: A repair kit, part no. 218-122, is available. Use all the new parts in the kit, even if the old ones still look good. Old parts wear faster.

Reference numbers with an asterisk, for example (14*), indicate that this part is included in the repair kit.

3. Remove the screws (6), washers (1) and air motor shield (35).

4. Unscrew each spring retainer (31) and remove the spring (33), guide (32) and plunger (28) from each side of the detent housing (36).

CAUTION

Handle all springs carefully. Nicks and scratches cause extra stress on the weakened points of the springs and may cause them to break during use.

5. Remove the four screws (9) and washers (3) from the detent housing (36). Then carefully lift the housing so the rollers (10) and axles (11) are not dropped or damaged.

6. While holding in the director valves (39), push the motor piston up from the bottom of the base (48). Turn the air valve housing (29) so it rests on the manifolds (43). Remove the spring (24), o-ring (15) and air director valve (39) from each side of the housing.

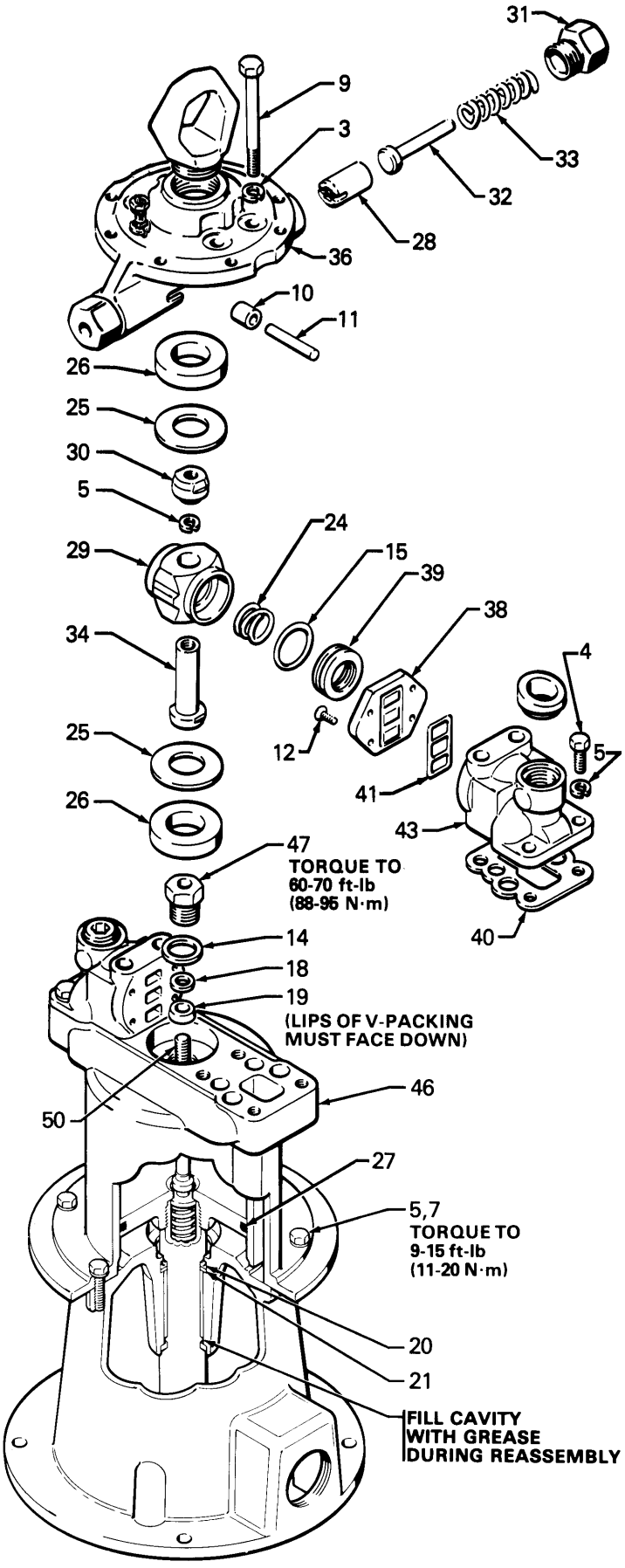


Fig 4

7. Pull the trip rod (50) up as far as possible and grasp it with the special locking pliers (order part no. 207-579). Hold the flats of the air valve housing with a wrench, screw off the trip rod nut (30) and remove the lockwasher (5). Remove the air valve housing (29). Screw off the hub (34). Now release the pliers.

CAUTION

Be careful not to damage the surface of the rod.

8. Remove the two screws (4) and lockwashers (5) from each air manifold (43). Remove the manifold gaskets (40) from the cylinder (46).

WARNING

The openings in the valve plates (38) are razor sharp! Be careful not to cut yourself when handling them.

9. Check the valve plates (38) and seals (41) and replace them if they are worn or damaged.

10. Clean the mating surfaces of the valve plates and manifolds, then reassemble using the screws (12).

NOTE: If no further service is needed, skip to **Reassembly** Step 7.

If you plan to service the piston, continue as follows.

Piston Repair (See Fig 4)

11. Remove the screws (7) and lockwashers (5) and pull the cylinder (46) *straight up* off the piston.

12. Remove the trip rod bearing (47), using a 1 in. socket wrench. Remove the gasket (14), washer (18) and packing (19) from the bearing.

13. Pull the piston (2) and trip rod (50) up out of the base (48). Remove the o-ring (27) from the piston. Unscrew the adapter (37) from the piston shaft (2).

NOTE: A damaged trip rod cannot be repaired; use a new one, if necessary.

14. Remove the trip rod (50) from the piston (2).

NOTE: Be sure the clearance between the shoulders of the trip rod spring guides is EXACTLY 5.5 in. (139.7 mm) whenever you install a new or used trip rod. If the clearance is different, replace the trip rod; do not attempt to adjust it. See Fig 5.

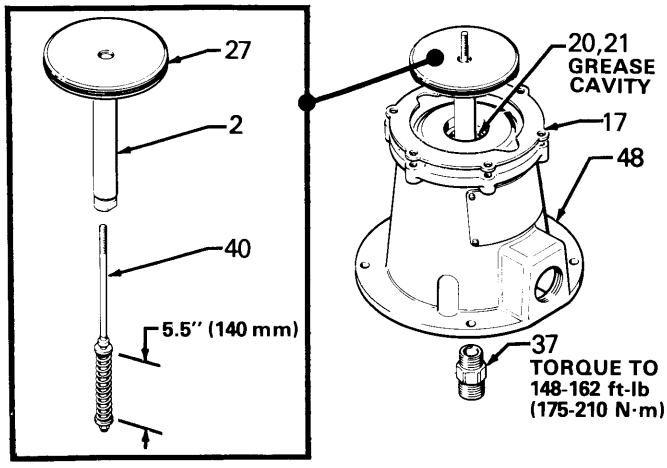


Fig 5

Reassembly (See Fig 4 except where noted)

1. Clean all parts thoroughly and inspect for wear or damage. Replace parts as necessary.

2. Grease the trip rod (50) and install it in the piston (2). Screw the adapter (37) into the piston and torque to 148-162 ft-lb (175-210 N·m).

3. Grease the cavity in the base (48) and install a washer (21*) and a v-packing (20*) so the lips of the v-packing *face up* in the base. See Fig 5.

4. Grease the piston (2), o-ring (27*), and cylinder (46). Place the cylinder upside down on a flat surface. Place the o-ring around the piston; the o-ring is larger than the piston groove. Install the piston in the cylinder so the excess of the o-ring fits into the one of the notches on the flange of the cylinder. Use your fingers to push the o-ring out of the notch and seat it in the piston groove. Push the piston into the cylinder to hold the o-ring in place.

5. Regrease the inside of the cylinder (46) and the trip rod (50). Be sure the gasket (17) is properly located on the base (48).

6. Guide the piston assembly and cylinder into the base, aligning the cylinder and base correctly. Install the lockwashers (5) and screws (7) snugly.

7. Install a backup washer (18*) and v-packing (19*) in the bearing (47) so the lips of the v-packing *face down* in the cylinder. Install the gasket (14*) on the bearing. Install the bearing in the cylinder throat. Use a 1 in. socket wrench to tighten the bearing to 65-70 ft-lb (88-95 N·m).

8. Install the dampener pad (26) and washer (25) in cylinder throat.

9. Place the air valve spacer tool (order part no. 168-513) on the cylinder. Position the gaskets (40*) and manifolds (43) on the cylinder. Install the screws (4) and washers (5). See Fig 6. Remove the tool.

NOTE: The air valve spacer tool ensures a proper clearance and makes reassembly easier.

10. Slide the hub (34) onto the rod, then grasp the rod below the hub with the special locking pliers. Screw the hub down as far as possible.

11. Install the air valve housing (29), washer (5) and trip rod nut (30). Hold the flats of the valve housing with a wrench and with another wrench, tighten the trip rod nut so there is a 0.31 in. (0.8 mm) clearance between the top of the rod and the top of the nut and the nut is torqued to 21-25 ft-lb (28-35 N·m). See Fig 7. Turn the valve housing so it rests on the manifolds, then release the pliers.

12. Install an o-ring (15*) on each director valve (39). Grease the director valves and springs (24) and place in each side of the air valve housing. Hold the parts in at the top and carefully rotate the valve housing until it slides down between the manifolds. ***Be very careful not to pinch your fingers!***

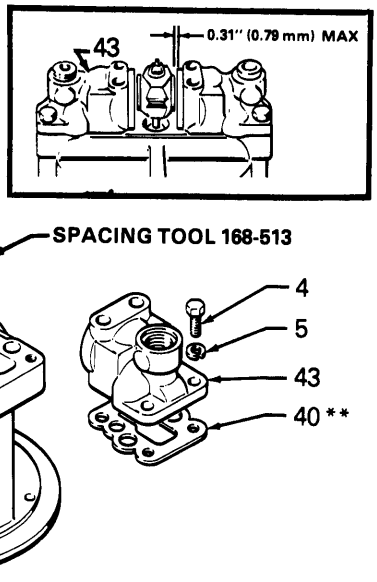
13. Recheck the clearance by holding the air valve spacer tool up close to the manifolds. Refer to Fig 6.

14. Grease the plunger (28) and guide (32) and install them with the spring (33) into each side of the detent housing (36). *Loosely* screw a retainer (31) into each side of the housing.

15. Install the dampener pad (26) and washer (25) in the bottom of the detent housing. Grease and assemble the axles (85) and rollers (86) and install them in the detent housing.

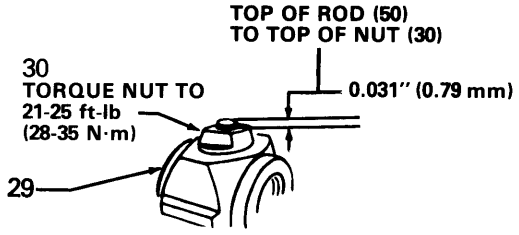
16. Position the detent housing on the manifolds and loosely install the washers (9) and screws (3). Now finish tightening the retainers (31) simultaneously. Finally, tighten the screws (3) firmly.

17. Install the air motor shield, washers and screws, and the air inlet fitting. Reconnect the ground wire.



AIR MANIFOLD CLEARANCE

Fig 6

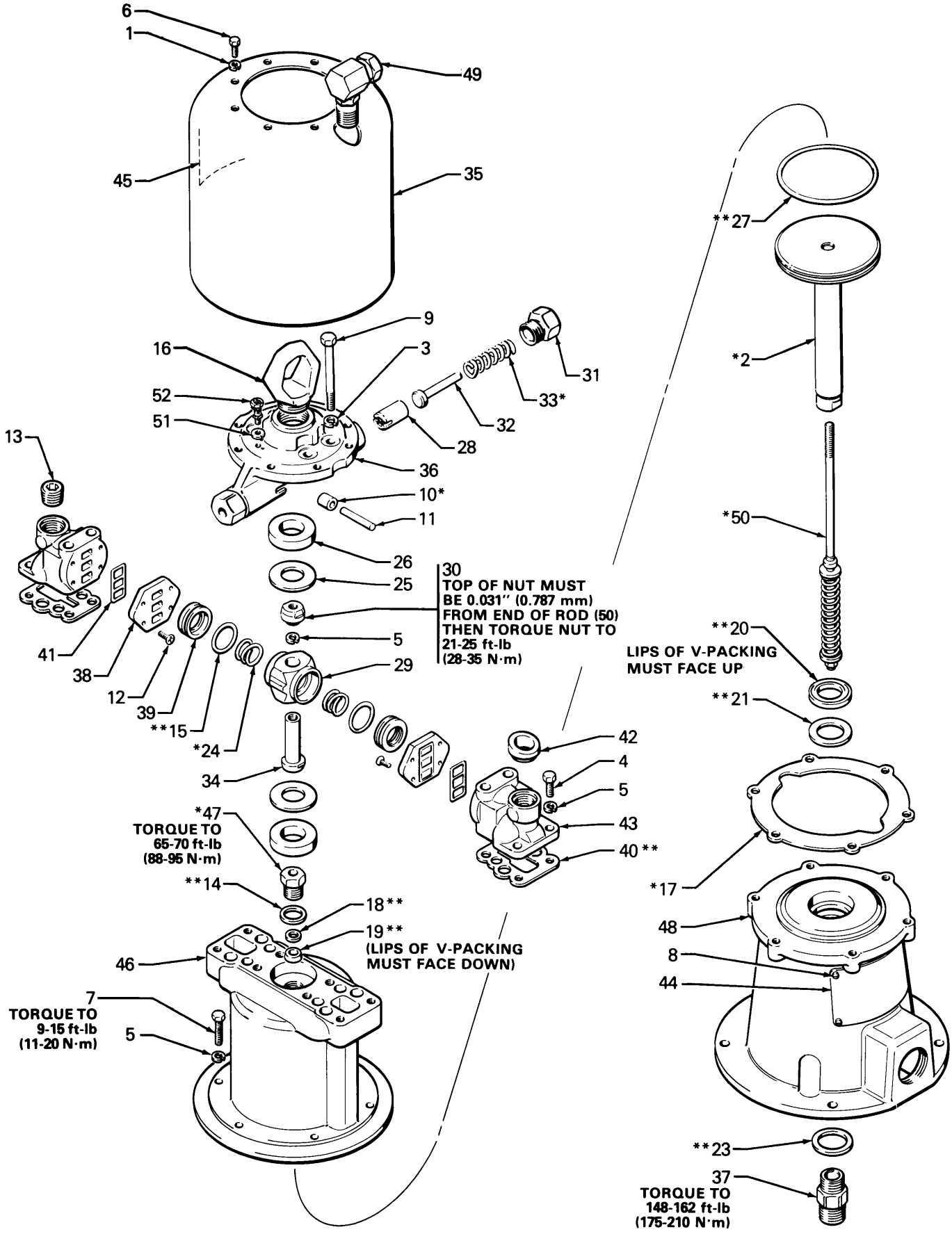


VALVE HOUSING CLEARANCE

Fig 7

PARTS DRAWING

Model 218-580 Series A
Includes items 1-52



PARTS LIST

REF NO.	PART NO.	DESCRIPTION	QTY
1	100-016	LOCKWASHER, spring, 1/4"	8
2	**218-995	PISTON, air and connecting tube	1
3	100-052	LOCKWASHER, spring, 7/16"	4
4	100-101	SCREW, hex hd cap; 3/8-16 x 1"	4
5	100-133	LOCKWASHER, spring, 3/8"	11
6	100-333	SCREW, hex hd cap; 1/4-20 x 1/2"	8
7	100-004	SCREW, hex hd cap; 3/8-16 x 1-1/4"	6
8	100-884	SCREW, type "f" self tap; no. 6-32 x 1/4"	4
9	101-713	SCREW, hex hd cap; 7/16-14 x 3-1/2"	4
10	**169-585	ROLLER, axle	2
11	169-586	AXLE, detent	2
12	101-716	SCREW, flat head mach; no. 10-24 x 1/2"	8
13	102-726	PLUG, pipe; soc hd; 3/4 npt	1
14	*150-647	GASKET	1
15	*156-698	PACKING, o-ring	2
16	180-952	RING, lift	1
17	**178-907	GASKET, fiber	1
18	*161-559	WASHER, backup	1
19	*161-560	V-PACKING	1
20	*161-562	PACKING, v-block	1
21	*161-563	WASHER, backup	1
23	*161-569	SEAL	1
24	**161-575	SPRING, compression	2
25	161-576	WASHER, flat	2
26	161-577	PAD, dampening	2
27	*107-082	PACKING, o-ring	1
28	169-583	PLUNGER, detent	2
29	161-585	HOUSING, air valve	1
30	161-586	NUT; 3/8-24"	1
31	161-587	RETAINER, detent spring	2
32	161-588	GUIDE, spring	2
33	**161-589	SPRING, compression	2
34	161-590	HUB, valve housing	1
35	180-631	SHIELD, air motor; 1 npt(f) exhaust connection	1
36	177-664	HOUSING detent	1
37	168-180	STUD, connecting rod	1
38	169-584	PLATE, valve	2
39	168-182	VALVE, air director	2
40	*168-183	GASKET, air manifold	2
41	168-184	SEAL, valve plate	2
42	168-185	GROMMET	1
43	168-187	MANIFOLD, air	2
44	172-476	PLATE, instruction	1
45	168-491	DECAL, "Graco"	1
46	180-633	CYLINDER, air motor	1
47	**204-649	BEARING	1
48	218-961	BASE, air motor	1
49	207-648	UNION, 90°, adapter; 3/4 npt(m) x 3/4 npsm(f) swivel	1
50	**218-626	ROD, trip	1
51	104-582	WASHER, tab	1
52	104-029	LUG, grounding	1

**Included in repair kit 218-122.*

***Recommended "tool box" spare parts. Keep on hand to reduced down time.*

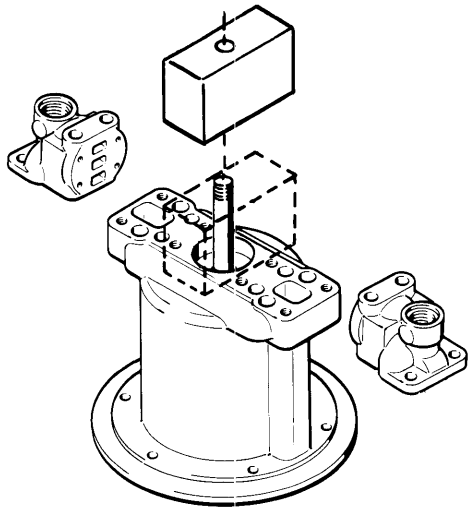
Order parts by name and number. Always give the model number and series letter of the assembly for which you are ordering.

REPAIR KIT 218-122
(Must be purchased separately)
Includes

REF. NO.	QTY.
14	1
15	2
18	1
19	1
20	1
21	1
23	1
27	1
40	2

ACCESSORIES (Must be purchased separately)

ALIGNMENT TOOL 168-513
For correctly aligning and spacing air manifolds.

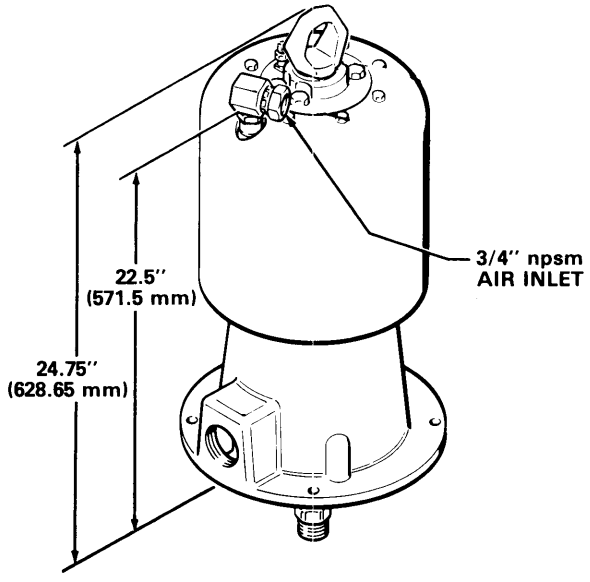


Position tool on trip rod as shown.
Install manifolds loosely.
Hold manifolds against block and tighten.
Remove block and complete assembly of pump.

TECHNICAL DATA

Effective piston area	: 24 sq. in. (154 cm^2)
Effective diameter	: 5.5 in. (140 mm)
Stroke	: 8.0 in. (203 mm)
Air valves	: Dual, slide type
Valve housing	: Balanced, opposing seals and detent rollers

DIMENSIONAL DRAWING

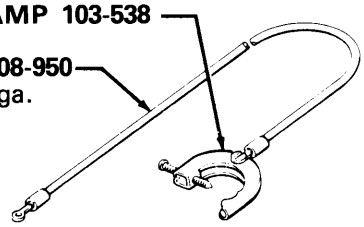


AIR LINE FILTER 106-150
300 psi (21 bar) MAXIMUM WORKING PRESSURE
3/4" npt Inlet and Outlet
40 Micron Element

AIR LINE OILER 214-849
250 psi (18 bar) MAXIMUM WORKING PRESSURE
See Instruction manual 307-316
3/4 npt Inlet and Outlet

GROUNDING CLAMP 103-538

GROUND WIRE 208-950
25 ft (7.6 m) lg, 12 ga.



PADDED LOCKING PLIERS 207-579
For holding trip rod.

THE GRACO WARRANTY AND DISCLAIMERS

WARRANTY
Graco warrants all equipment manufactured by it and bearing its name to be free from defects in material and workmanship [on the date of sale by an authorized Graco distributor to the original purchaser for use]. As purchaser's sole remedy for breach of this warranty, Graco will, for a period of twelve months from the date of sale, repair or replace any part of the equipment proven 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, 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 with Graco equipment of 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 for examination by Graco to verify 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 the costs of parts, labor and transportation.

DISCLAIMERS AND LIMITATIONS
THE TERMS OF THIS WARRANTY CONSTITUTE PURCHASER'S SOLE AND EXCLUSIVE REMEDY AND ARE IN LIEU OF ANY OTHER WARRANTIES (EXPRESS OR IMPLIED), INCLUDING WARRANTY OF MERCHANTABILITY OR WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, ANY OF ANY NON-CONTRACTUAL LIABILITIES, INCLUDING PRODUCT LIABILITIES, BASED ON NEGLIGENCE OR STRICT LIABILITY. EVERY FORM OF LIABILITY FOR DIRECT, SPECIAL OR CONSEQUENTIAL DAMAGES OR LOSS IS EXPRESSLY EXCLUDED AND DENIED. IN NO CASE SHALL GRACO'S LIABILITY EXCEED THE AMOUNT OF THE PURCHASE PRICE: ANY ACTION FOR BREACH OF WARRANTY MUST BE BROUGHT WITHIN TWO (2) YEARS OF THE DATE OF SALE.

EQUIPMENT NOT COVERED BY GRACO WARRANTY
GRACO MAKES NO WARRANTY, AND DISCLAIMS ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, WITH RESPECT TO ACCESSORIES, EQUIPMENT, MATERIALS, OR COMPONENTS SOLD BUT NOT MANUFACTURED BY GRACO. These items sold, but not manufactured by Graco (such as electric motor, switches, hose, etc.), are subject to the warranty, if any, of their manufacturer. Graco will provide purchaser with reasonable assistance in making any claim for breach of these warranties.

Factory Branches: Atlanta, Dallas, Detroit, Los Angeles, West Caldwell (N.J.)
Subsidiary and Affiliate Companies: Canada; England; Switzerland; France; Germany; Hong Kong; Japan
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