



INSTRUCTIONS

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

19 LITER (5 GALLON) PAIL SIZE

Pneumatic Elevator Cart

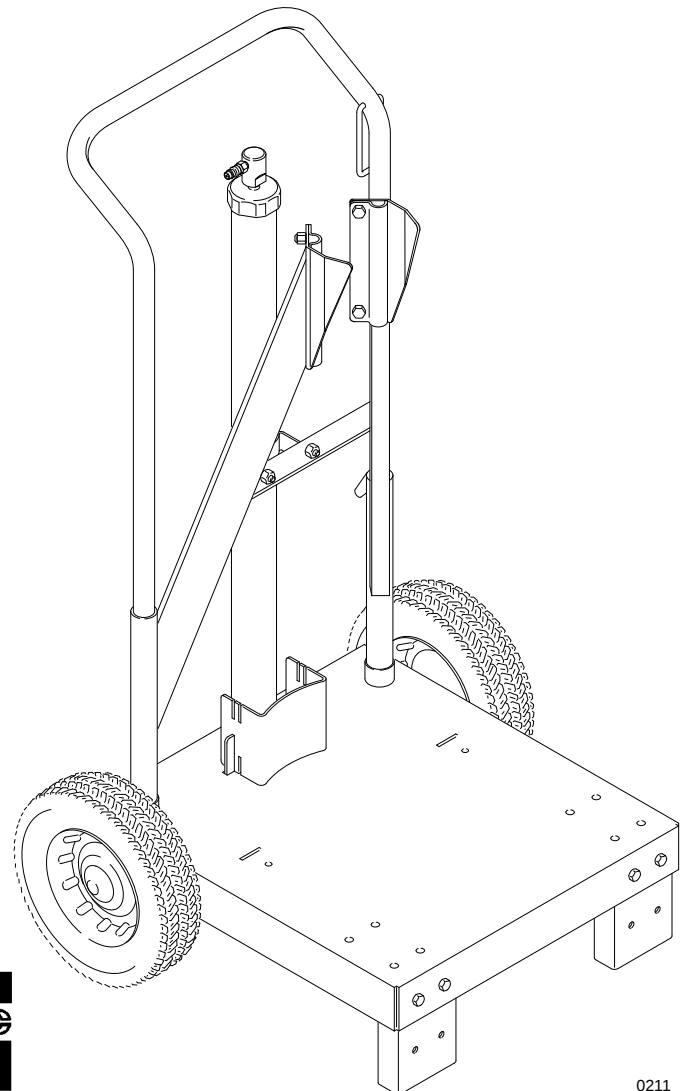
FOR CHECK-MATE™ 200 AND CHECK-MATE™ 450 PUMPS

Model 224-137, Series A

14 bar (200 psi) Maximum Air Input Pressure

Table of Contents

Warnings	2
Setup	3
Operation	4
Troubleshooting	6
Service	6
Parts	8
Accessories	10
Dimensions	11
Technical Data	11
Warranty	12
Graco Toll-Free Phone Number	12



0211

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 14 bar (200 psi) maximum air input pressure to the elevator cart.
- Do not use hoses to pull equipment.
- Route hoses away from traffic areas, sharp edges, moving parts, and hot surfaces. Do not expose Graco hoses to temperatures above 82°C (180°F) or below -40°C (-40°F).
- Wear hearing protection when operating this equipment.
- Comply with all applicable local, state, and national fire, electrical, and safety regulations.



MOVING PARTS HAZARD

Moving parts, such as the elevator tube and frame slides, can pinch or amputate your fingers.

- Keep clear of all moving parts when starting or operating the equipment.
- Keep clear of the elevator tube, frame slides, and the frame of the cart when operating the equipment.
- Keep clear of the wiper plate and the lip of the fluid container when operating the equipment.
- Before servicing the equipment, follow the **Pressure Relief Procedure** in your separate pump manual to prevent the equipment from starting unexpectedly.

Setup

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

See page 10 for accessories available from Graco. If you supply your own accessories, be sure they are adequately sized and pressure-rated to meet the system's requirements.

Mounting the Pump on the Cart

CAUTION

To avoid tip-over, the cart must be on a flat and level surface. Failure to follow this caution could result in injury or equipment damage.

Refer to Fig. 1. The pail stop (15) and the clamps (13), screws (14) and nuts (7) used to mount the pump are shipped loose.

1. Slide the pail stop (15) onto the uprights (A) at the rear of the cart. Adjust the stop to the desired position.
2. Set the pump (B) onto the cart so the baseplate of the air motor rests on the pump supports (C). Orient the pump fluid outlet (D) as shown in Fig. 1. Two of the pump tie rods (E) will rest against the pump supports (C). Hold the pump in this position to keep it from tipping.
3. Fasten the clamps (13) around the two tie rods. Insert the four screws (14) through the clamps from the front, and secure from the rear using the four nuts (7).
4. Install Wiper Plate 222-812 (carbon steel) or 222-909 (stainless steel) on the pump as explained in separate instruction manual 308-049.
5. Install Cart Accessory Kit 224-376 as explained in separate manual 308-087 or 308-199.

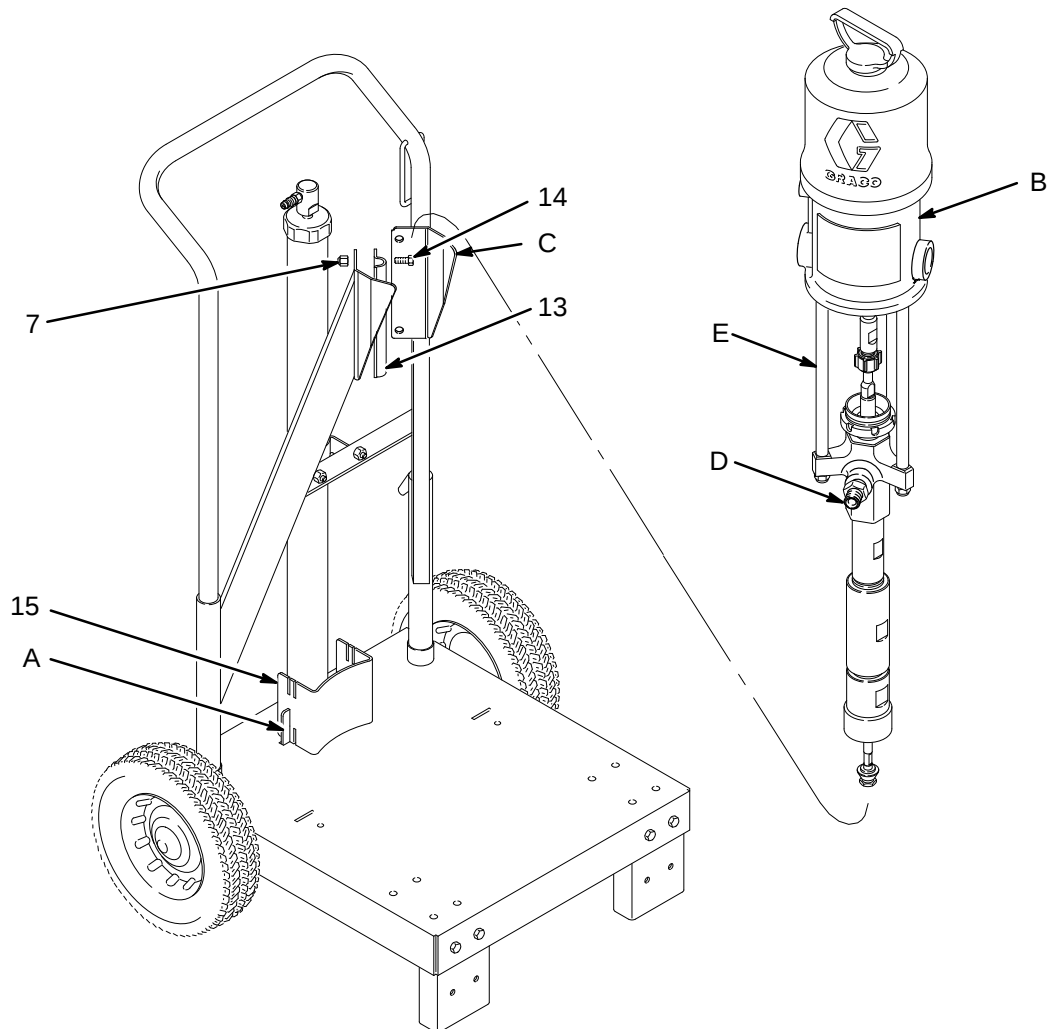


Fig. 1

0256

Operation

WARNING



MOVING PARTS HAZARD

The elevator tube (F) and frame slides (G) move up and down when the elevator is in operation, and can pinch fingers or hands caught between them and the cart frame. Keep your hands away from the elevator tube, frame slides, and the frame of the cart when the elevator is in operation. See Fig. 2.

The wiper plate (K) moves downward as the elevator is lowered, and can pinch or amputate fingers or hands caught between it and the lip of the fluid container. Keep your hands away from the wiper plate and the lip of the fluid container when the elevator is in operation. See Fig. 2.

Wiper Plates 222–812 and 222–909

Wiper plates 222–812 and 222–909 are shipped for use with straight-sided pails on a 19 liter (5 gallon) ram. The plates must be modified for use with this pneumatic elevator cart, or for use with tapered pails. Refer to the separate wiper plate manual 308–049 for details.

Raising the Elevator and Positioning the Pail

NOTE: To ensure smooth operation of the elevator, grease the vertical portions of the cart handle so the frame slides (G) move up and down easily.

1. Disconnect the female quick coupler from the pump air inlet fitting (L) and connect it to the air inlet fitting (3n) on the elevator. Turn on the main air. See Fig. 2.
2. Raise the elevator to its maximum height, so the hanger (H) on the cart handle is below the hook (J) on the elevator frame.
3. Place a 19 liter (5 gallon) pail of fluid on the base of the cart. Slide the pail back against the pail stop (15). The pail stop is adjustable to four positions, to properly align the pail with the wiper plate (K).
4. Make the fluid surface concave by scooping fluid from the center of the pail to the sides.

Lowering the Elevator

1. Pull the hanger (H) upward and hold it firmly against the handle of the cart. Disconnect the female quick coupler from the elevator air inlet fitting (3n) and connect it to the pump air inlet fitting (L). After a short delay, the weight of the pump will cause the elevator to move downward. Continue to hold the hanger (H) against the cart handle until the hook (J) on the frame is low enough to prevent it from engaging the hanger. See Fig. 2.
2. If necessary, push down on the top of the pump to help the wiper plate (K) enter the pail. When the wiper plate enters the pail, open the wiper plate vent (M) and leave it open until fluid appears at the vent hole. Close the vent.
3. Start the pump as explained in the separate pump manual.
4. When the pail is empty, change pails as follows.

Changing Pails

To raise the pump out of an empty pail:

WARNING

To reduce the risk of serious injury whenever you are instructed to relieve pressure, always follow the **Pressure Relief Procedure** in your separate pump manual.

1. Stop the pump. **Relieve the pressure.**
2. Set the air release toggle valve (N) to the open position (down). The toggle valve directs air under the wiper plate, making it easier to pull the plate out of the pail. See Fig. 2.
3. **For Stainless Steel Wiper Plate 222–909 only:** Rotate the long handle (P) in the wiper plate housing 45° **clockwise** and pull the handle upward (it should travel about 1/2 inch up and down). This opens a passage for air to assist in getting the plate out of the pail. See the Detail in Fig. 2.
4. Disconnect the female quick coupler from the pump air inlet fitting (L), and connect it to the elevator air inlet fitting (3n). After a short delay, the elevator will begin to raise the pump from the pail.

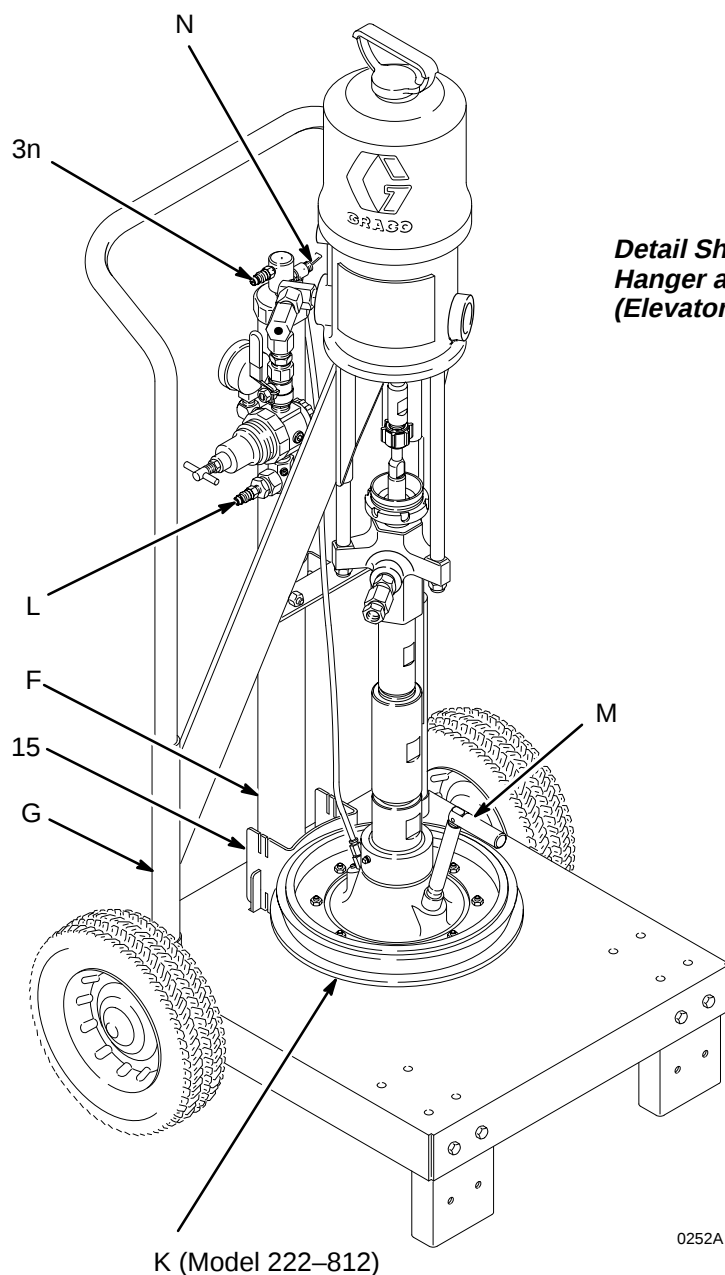
Operation

- As the wiper plate (K) nears the top of the pail, the seal between the wiper and pail will decrease and the plate may not come completely out of the pail.
If you are using Stainless Steel Wiper Plate 222-909, push the long handle (P) back down and rotate it 45° **counterclockwise** to lock it.

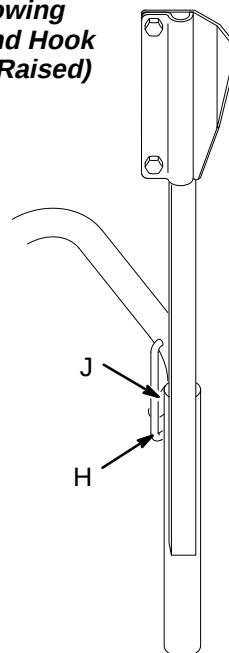
The elevator will lift the pump and pail together. Let the elevator rise to its maximum height, so the hanger (H) on the cart handle is below the hook (J) on the elevator frame, then just pull the pail off the plate.

NOTE: If the plate is stuck at the bottom of the pail and doesn't come out at all, the elevator will pull the pail up along with the plate. If this happens, allow the elevator to rise to its full height, then open the wiper plate vent (M). This will make it possible to pull the pail off the plate. Check for a blockage in the air release line, as explained on page 6.

- Place the full pail on the cart base and position as explained at left.

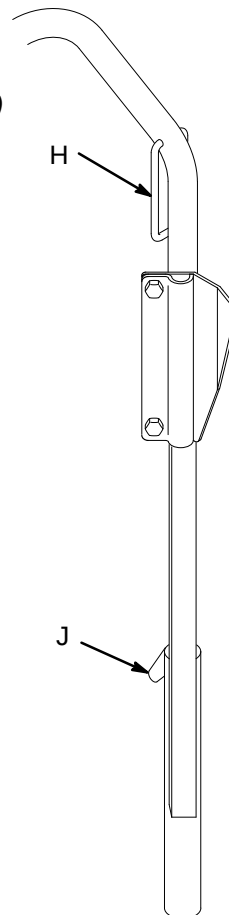


**Detail Showing
Hanger and Hook
(Elevator Raised)**



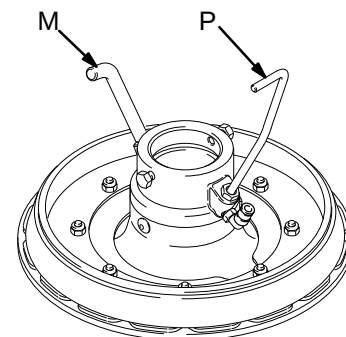
0258

**Detail Showing
Hanger and Hook
(Elevator Lowered)**



0259

**Detail Showing
Stainless Steel Wiper Plate
222-909**



01115

Fig. 2

Troubleshooting

Problem	Cause	Solution
Elevator won't raise the pump.	Worn cup packing in the elevator tube.	Apply air to the elevator and check if air is escaping at the bottom of the outer elevator tube (3c). Replace the packing.
	Clogged or dirty air valve housing.	Inspect; clean.
Elevator won't pull the wiper plate out of the pail.	Clogged air release line or defective air release toggle valve.	With the pail removed from the wiper plate, apply air to the elevator. Set the air release toggle valve to the open position (down). Listen for air on the underside of the wiper plate. If no air is heard, the air release toggle valve or tube is clogged. Clean or replace. See manual 308–087 or 308–199 for parts.
	Clogged air assist check valve on the wiper plate.	Clean. See manual 308–049.

Service

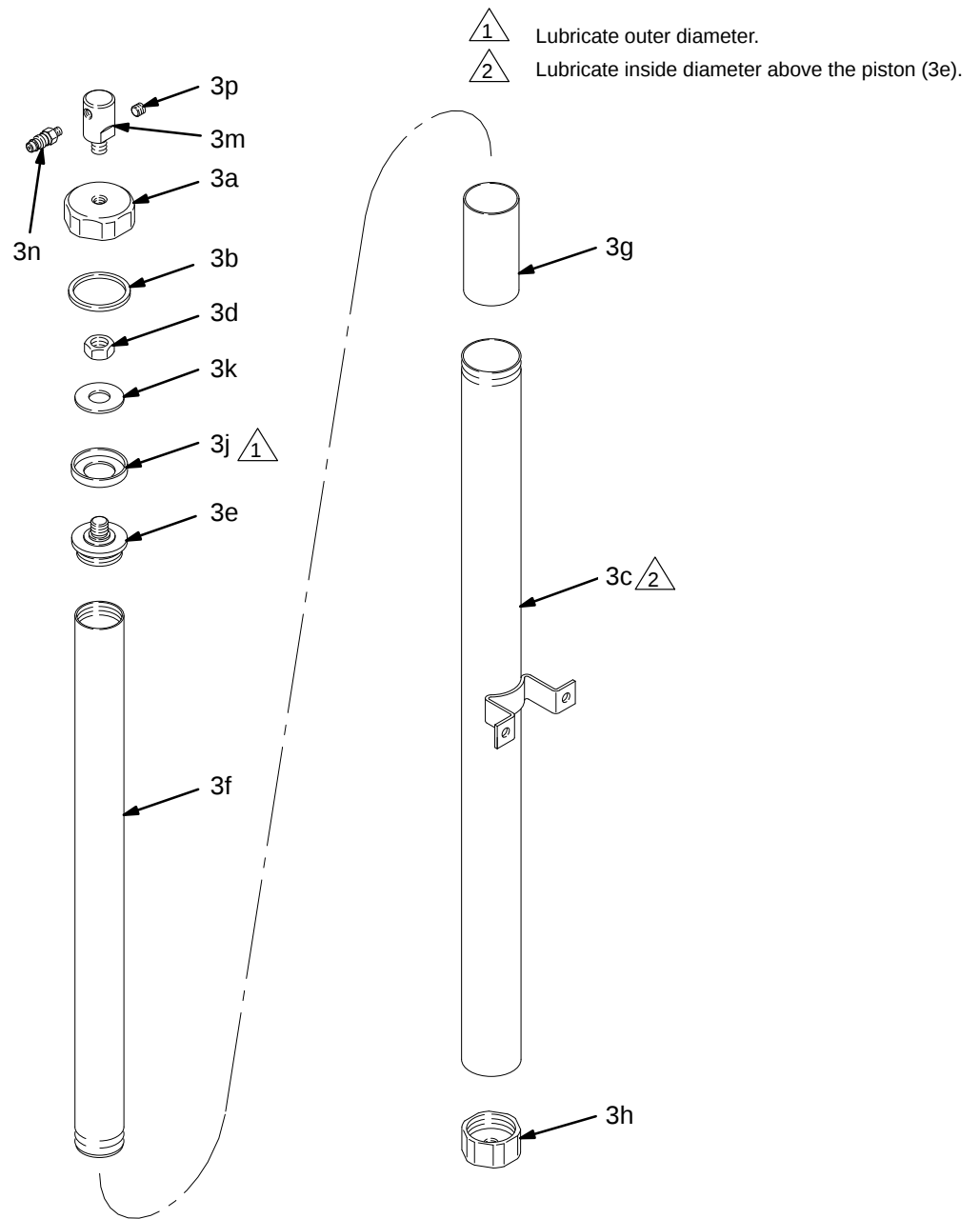
WARNING

To reduce the risk of serious injury whenever you are instructed to relieve pressure, always follow the **Pressure Relief Procedure** in your separate pump manual.

- Before servicing any part of the system, **relieve the pressure**.
- Lower the elevator as explained on page 4. Remove the air release toggle valve (N). See Fig. 2.
- Remove the screws, nuts and washers holding the elevator (3) to the cart base plate (10) and frame (12). Refer to the parts drawing on page 8.
- Unscrew the air valve housing (3m). See Fig. 3. If clogged or dirty, clean.
- Unscrew the top and bottom caps (3a and 3h). Remove and inspect the gasket (3b) inside the top cap.
- Push the elevator tube (3f) up and pull it out the top of the outer elevator tube (3c). Slide the spacer (3g) off the bottom of the elevator tube (3f).
- Unscrew the piston (3e) from the tube (3f). Disassemble the piston assembly.
- Replace the leather cup packing (3j) if it is worn. Lubricate the outer diameter of the packing. Reassemble the piston.
- Screw the piston (3e) into the elevator tube (3f). Slide the spacer (3g) onto the bottom of the elevator tube (3f). Slide the tube down into the outer elevator tube (3c) until its bottom threads protrude. Screw the bottom cap onto the tube (3f).
- Place the gasket (3b) into the inner groove of the top cap (3a). Screw the top cap onto the outer elevator tube (3c).
- Screw the air valve housing (3m) into the top cap (3a). Install elevator onto cart base (10) and frame (12), using screws, nuts and washers. Reinstall the air release toggle valve (N). See Fig. 2.

Service

Ref. No. 3 Includes
Items 3a–3p



0215

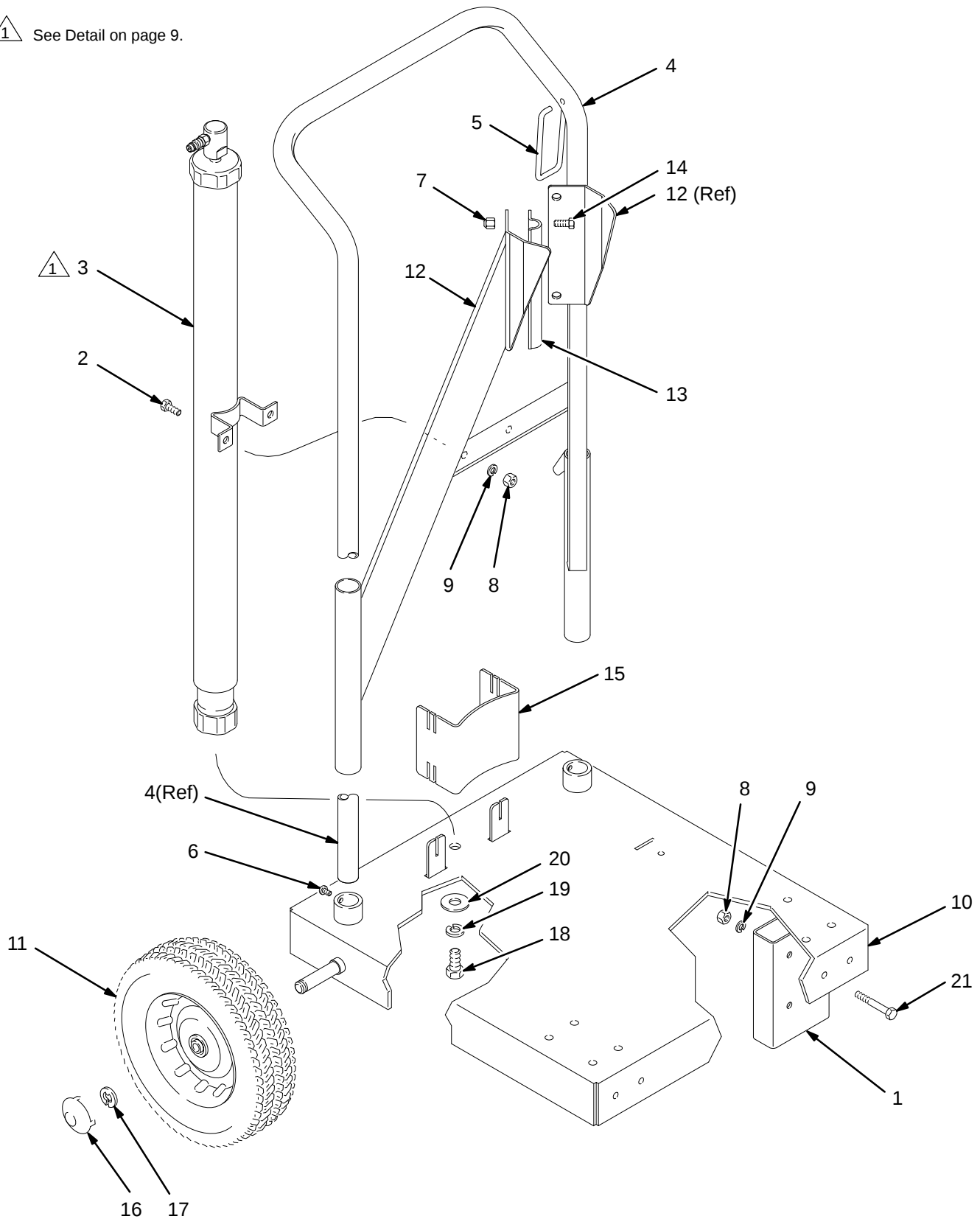
Fig. 3

Parts

Model 224-137, Series A

Includes items 1-21

 See Detail on page 9.



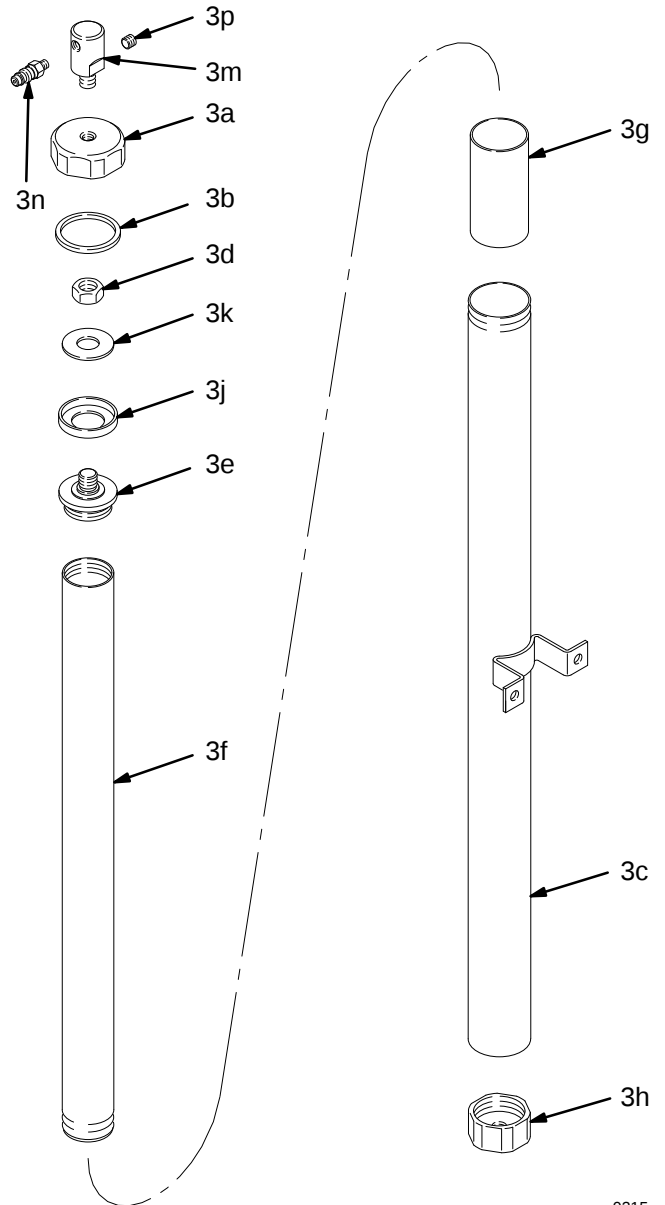
0216

Parts

Model 224-137, Series A

Includes items 1-21

Ref. No.	Part No.	Description	Qty.	Ref. No. 3 Includes Items 3a-3p
1	186-799	CHANNEL, foot	2	
2	100-057	SCREW, cap, hex hd; 5/16-18 unc-2a; 3/4" (19 mm) long	2	
3	224-138	ELEVATOR (includes items 3a-3p; see detail at right)	1	
3a	186-794	. CAP, elevator, top	1	
3b	158-109	. GASKET, rubber	1	
3c	224-139	. TUBE, elevator	1	
3d	100-155	. NUT, jam, hex; 5/8-16	1	
3e	164-249	. PISTON	1	
3f	164-247	. TUBE, guide, elevator	1	
3g	164-248	. SPACER	1	
3h	186-793	. CAP, elevator, bottom	1	
3j	150-179	. PACKING, cup; leather	1	
3k	156-306	. WASHER, flat	1	
3m	187-025	. HOUSING, valve, air	1	
3n	169-969	. FITTING, quick disconnect; 1/8 npt(m)	1	
3p	100-139	. PLUG, pipe; 1/8 npt	1	
4	186-863	HANDLE, cart	1	
5	186-865	HANGER	1	
6	100-609	SCREW, machine, pan hd; 1/4-20 unc-2a; 3/8" (10 mm) long	2	
7	101-566	LOCKNUT, with nylon insert; 3/8-16	4	
8	111-303	NUT, hex; 5/16-18 unc-2b	6	
9	100-214	LOCKWASHER, spring; 5/16" size	6	
10	224-141	BASE, cart	1	
11	106-062	WHEEL, semi-pneumatic	2	
12	224-140	FRAME, elevator	1	
13	186-796	CLAMP	2	
14	100-680	SCREW, cap, hex hd; 3/8-16 unc-2a; 7/8" (22 mm) long	4	
15	186-798	STOP, pail	1	
16	104-811	HUB CAP	2	
17	101-242	RING, retaining	2	
18	100-049	SCREW, cap, hex hd; 1/2-13 unc-2a; 1" (25 mm) long	1	
19	100-018	LOCKWASHER, spring; 1/2" size	1	
20	101-044	WASHER, plain; 1/2" size	1	
21	111-302	SCREW, cap, hex hd; 5/16-18 unc-2a; 2" (51 mm) long	4	



0215

Accessories

Use Only Genuine Graco Parts and Accessories

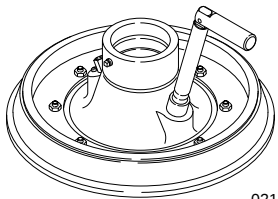
Cart Accessory Kit 224-376

Includes fittings and hoses required to use the cart with a Check-Mate™ pump and 222-812 or 222-909 Wiper Plates. Refer to Instruction Manuals 308-087 or 308-199.

19 Liter (5 Gal.) Carbon Steel Wiper Plate, Model 222-812, with buna-N and polyethylene wipers

PATENT PENDING

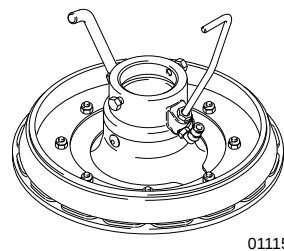
Can be used with both straight-sided and tapered pails. Applies pressure on surface of highly viscous fluids, to force fluid into the pump intake and assist priming. Refer to Instruction Manual 308-049.



19 Liter (5 Gal.) Stainless Steel Wiper Plate, Model 222-909, with Teflon® coated and polyethylene wipers

PATENT PENDING

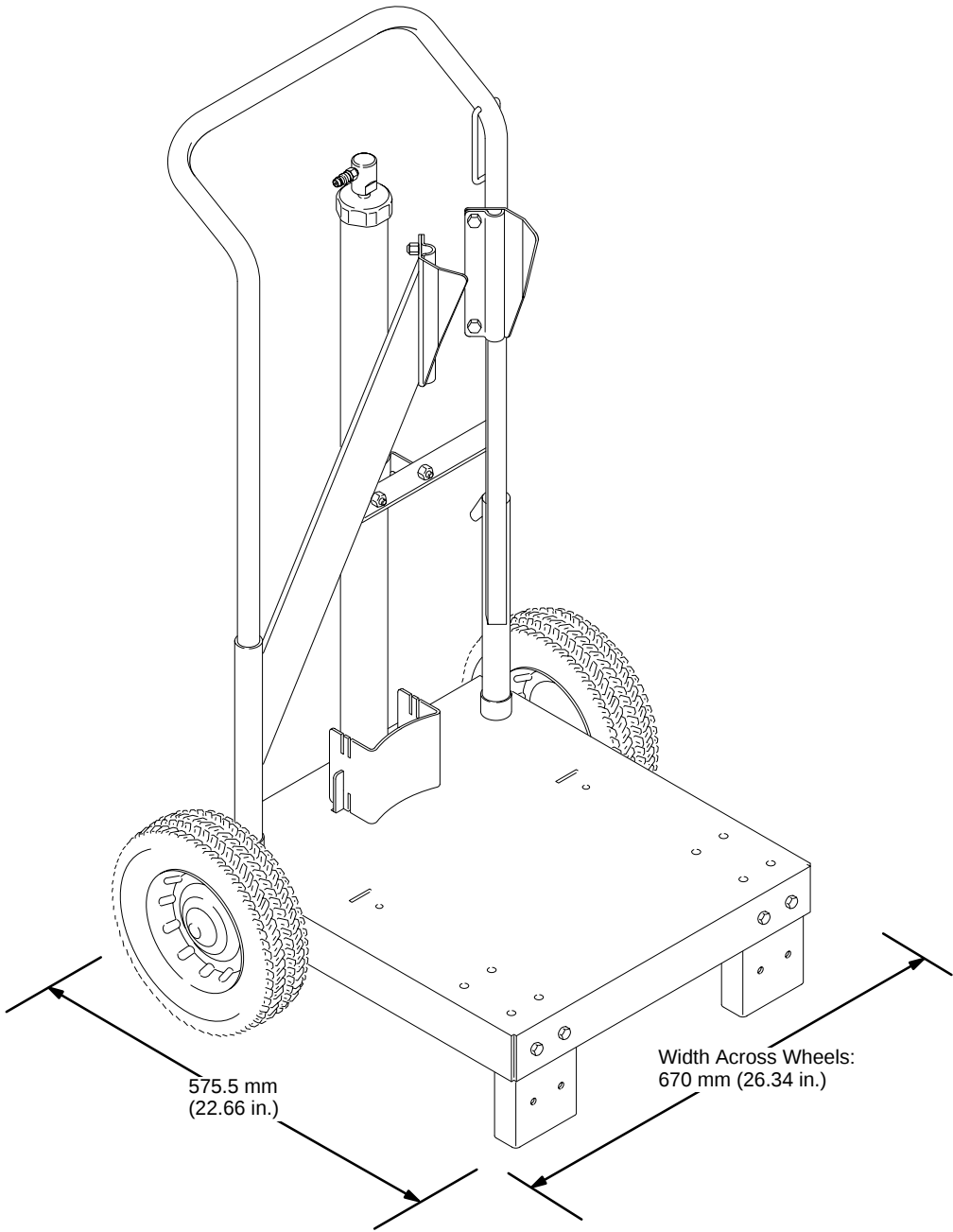
Can be used with both straight-sided and tapered pails. Applies pressure on surface of highly viscous fluids, to force fluid into the pump intake and assist priming. Refer to Instruction Manual 308-049.



Manual Change Summary

The manual has been generally updated.

Dimensions



0211

Technical Data

Maximum air input pressure	14 bar (200 psi)
Weight	34 kg (75 lb)

Graco Warranty and Limitation of Liability

WARRANTY

Graco warrants all equipment listed in this manual which is manufactured by Graco 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. 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.

THIS WARRANTY IS EXCLUSIVE, AND IS IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO WARRANTY OF MERCHANTABILITY OR WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE.

Graco's sole obligation and buyer's sole remedy for any breach of warranty shall be as set forth above. The buyer agrees that no other remedy (including, but not limited to, incidental or consequential damages for lost profits, lost sales, injury to person or property, or any other incidental or consequential loss) shall be available. Any action for breach of warranty must be brought within two (2) years of the date of sale.

GRACO MAKES NO WARRANTY, AND DISCLAIMS ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE IN CONNECTION WITH ACCESSORIES, EQUIPMENT, MATERIALS, OR COMPONENTS SOLD BUT NOT MANUFACTURED BY GRACO. These items sold, but not manufactured by Graco (such as electric motors, 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.

For Sales to Canadian Customers:

Except as expressly stated herein, Graco makes no representations, warranties or conditions, express, implied or collateral, concerning any goods or services sold, and **GRACO SHALL NOT BE LIABLE IN ANY MANNER FOR** any other representation, warranty or condition of any kind, whether arising by operation of law or otherwise, including but not limited to, **WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.**

LIMITATION OF LIABILITY

In no event will Graco be liable for indirect, incidental, special or consequential damages resulting from Graco supplying equipment hereunder, or for the furnishing, performance, or use of any products or other goods sold hereto, whether due to a breach of contract, breach of warranty, the negligence of Graco, or otherwise.

Graco Phone Number

TO PLACE AN ORDER, contact your Graco distributor, or call this number to identify the distributor closest to you:
1-800-367-4023 Toll Free

Sales Offices: Atlanta, Chicago, Detroit, Los Angeles
Foreign Offices: Belgium, Canada, England, Korea, Switzerland, France, Germany, Hong Kong, Japan

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

PRINTED IN U.S.A. 308-092 January 1991 Revised March 1996