

# Instructions – Parts List



FOR 55 GALLON (200 LITER) RAM

308579 rev. F

## 237999 Air Control Conversion Kit

**Converts Model 207279 Ram to the  
113896 Air Control Assembly.**

*150 psi (100 kPa, 10 bar) Maximum Air Inlet Pressure*

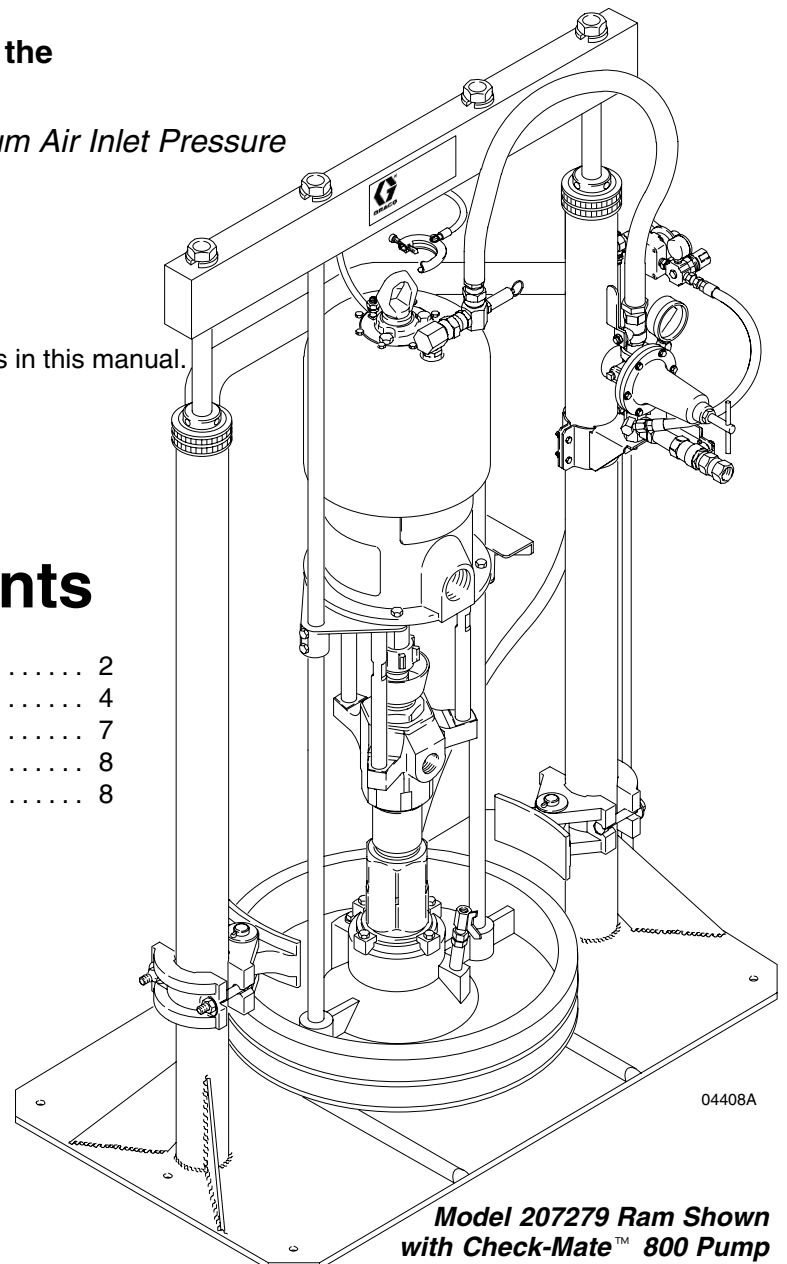


### **Important Safety Instructions**

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

## Table of Contents

Installation .....	2
Operation .....	4
Parts .....	7
Graco Warranty .....	8
Toll-Free Graco Phone Number .....	8



04408A

**Model 207279 Ram Shown  
with Check-Mate™ 800 Pump**

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# Installation

**NOTE:** Reference numbers and letters in parentheses in the text refer to the callouts in the Figures and the parts drawing on page 7. Read this entire manual before assembling the kit.

## Disassembling the Air Controls from the Ram

### 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 and ram manuals.

1. Relieve the pressure.
2. Disconnect the air assist hose (A) from the swivel (B). Leave the other end of this hose attached to the ram plate (C). See Fig. 1.
3. Disconnect the air tube (D) and coupling (E) from the port (F) at the base of the ram. Unscrew the other end of the tube from the air director valve (G). Discard the tube and coupling.

4. Disassemble the air director valve (G), air regulator (H), and connecting parts from the ram (J). Discard these parts.

## Installing the 237999 Conversion Kit

1. Install the air control valve assembly (7) onto the air inlet (K) of the ram. See Fig. 2.
2. Remove the plug (W) from the air regulator (18); install the gauge (19) in its place, and reinstall the plug in the opposite port. Screw the air regulator onto the check valve (29) of the air director valve (9), making sure that the arrow on the regulator points toward the director valve.
3. Screw the union adapter (32) into the 3-way control valve (14). Connect the free end of the air assist hose (A) to the union adapter (32).
4. Screw the tube connector (2) into the port (F) at the base of the ram. Connect the tube (1) between the tube connector and the tube fitting (13) of the air control assembly.

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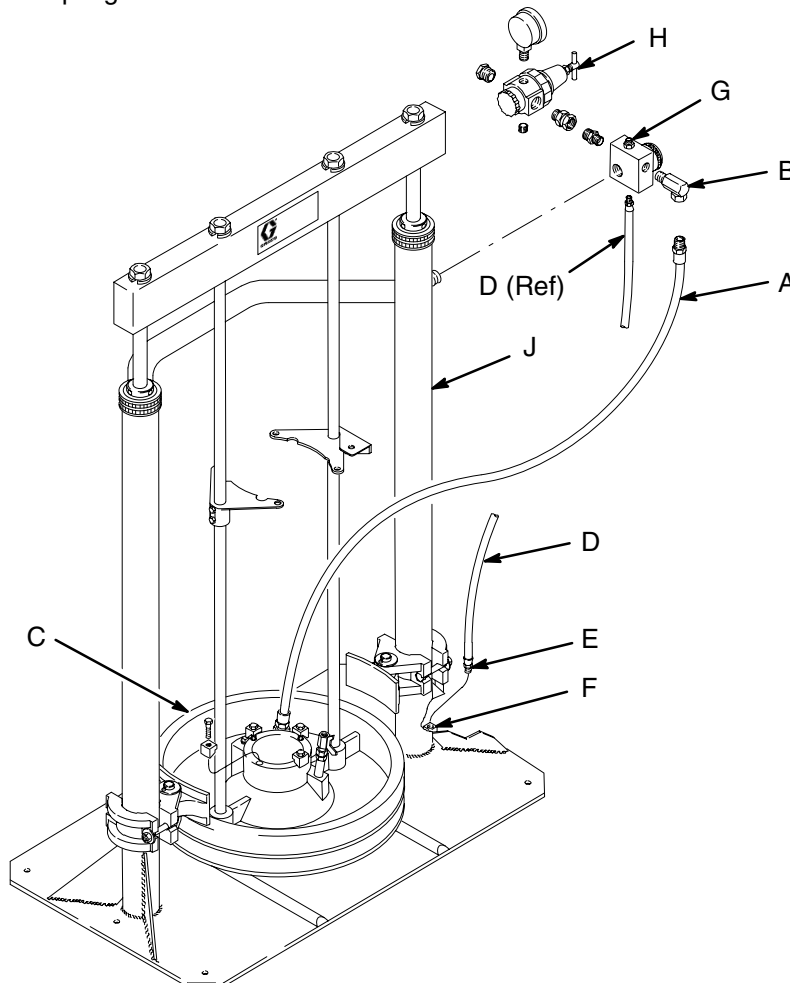


Fig. 1

# Installation

5. Screw the straight swivel adapter (5) into the air regulator (18). Connect the 18 in. (457 mm) air hose (6) to the swivel adapter. Leave one end free; it will be attached later.
6. Install the brackets (20, 21) onto the right post (L) of the ram using the four screws (22) and nuts (23). Tighten the nuts just enough to hold the brackets in position.
7. Attach an air regulator kit (M) to the bracket (20) with the star washer (27), washer, and nut (N).
8. Connect the nipple (24) to the air manifold (P) swivel inlet. Screw the red-handled air bleed valve (25) onto the nipple, then screw the rigid end of the adapter (26) onto the valve.
9. Screw the 90° swivel adapter (4) into the optional port of the air manifold (P). Connect the free end of the air hose (6) to the swivel adapter (4). Adjust the position of the brackets (20, 21) as necessary, then tighten the nuts (23) securely.
10. Install the union adapter (30) in the air inlet (R) of the pump. Install the relief valve (31) in the port of the adapter.
11. Remove the air hose supplied with the air regulation kit and discard it. Replace it with the 54 in. (1372 mm) hose (3). Connect the free end of the hose to the adapter (30).
12. Return the ram to service. The new air control operates differently from the old. Refer to **Operation** on page 4.

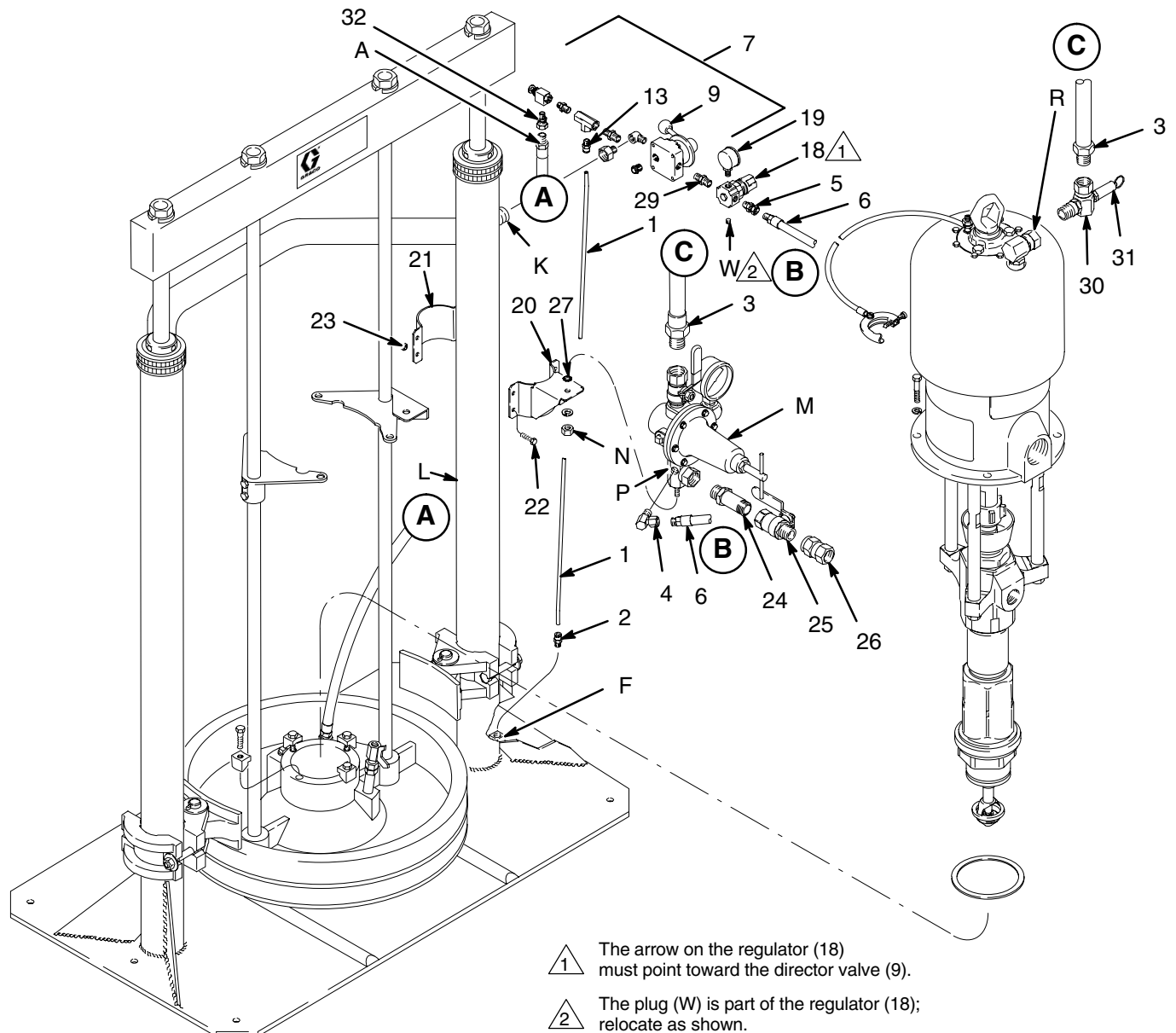


Fig. 2

# Operation

## Pressure Relief Procedure

### WARNING



#### SKIN INJECTION HAZARD

The system pressure must be manually relieved to prevent the system from starting or spraying accidentally. 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/dispensing,
- check or service any of the system equipment,
- or install or clean the spray tip/nozzle.

1. Lock the gun/valve trigger safety.
2. Close the pump air bleed valve (S, required in your system). Refer to Fig. 3.
3. Shut off the red-handled main air bleed valve (25, required in your system). Set the ram director valve (9) to DOWN. The ram will slowly drop.
4. Unlock the gun/valve trigger safety.
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. Lock the gun/valve trigger safety.
7. Open the drain valve (required in your system) and/or the pump bleeder valve (T), having a container ready to catch the drainage.
8. Leave the drain valve open until you are ready to spray 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. Now clear the tip/nozzle or hose.*

## Starting and Adjusting the Ram

1. Refer to Fig. 3. Close all air regulators and air valves.
2. Open the red-handled main air bleed valve (25) and set the ram air regulator (18) to 40 psi (280 kPa, 2.8 bar). Pull up on the director valve (9) handle so the arrow points to UP, and let the ram rise to its full height.
3. Set a full drum of fluid on the ram base, slide it back against the tube stop, and center it under the ram plate (C). Use the drum clamps (U) to center, hold, and properly align the drum with the ram. Then remove the drum cover and smooth the surface of the fluid with a straightedge.

### WARNING



#### MOVING PARTS HAZARD

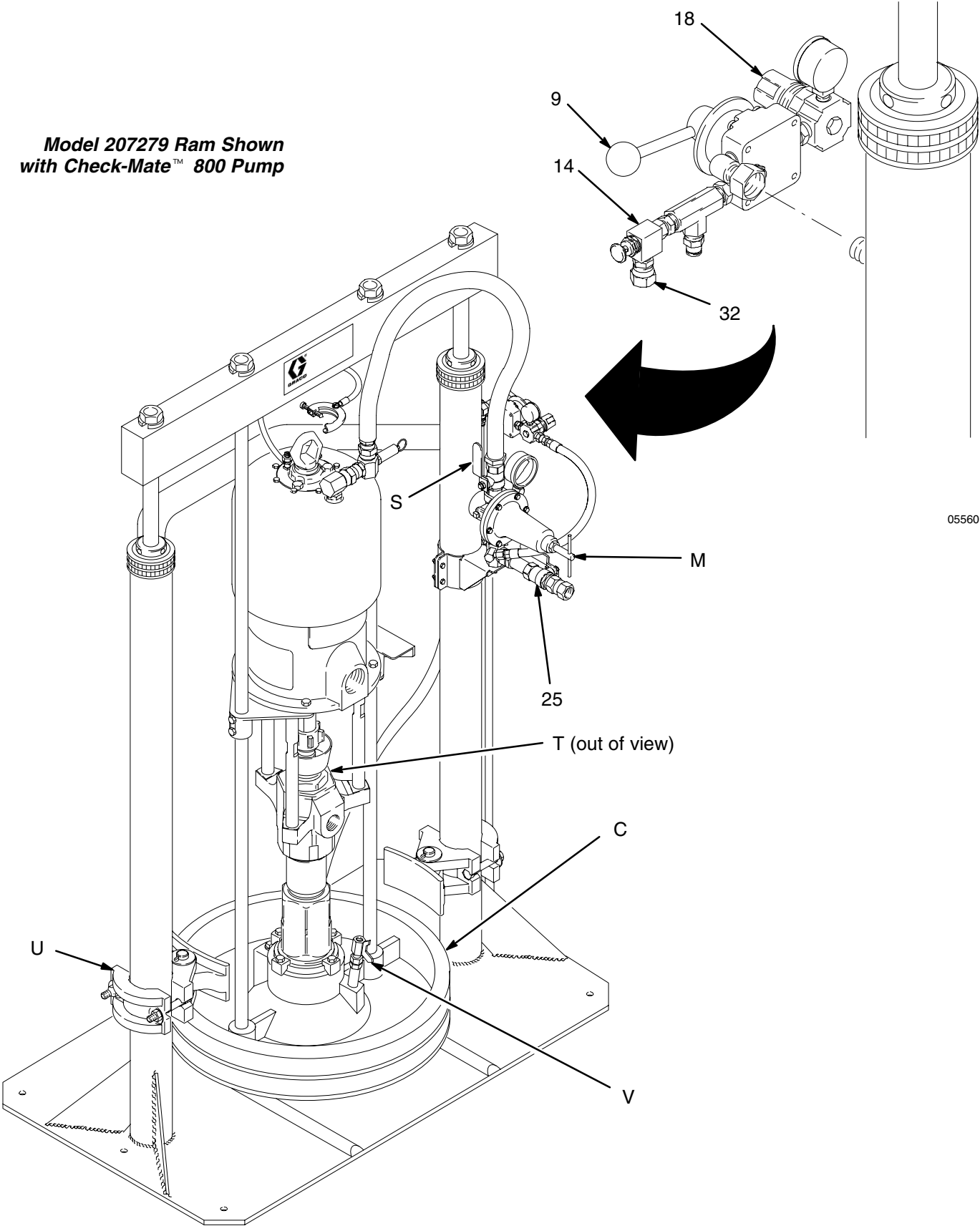
Moving parts can pinch or amputate your fingers. When the pump is operating and when raising or lowering the ram, keep your fingers and hands away from the pump intake, ram plate, and lip of the drum.

**NOTE:** Do not use drums that have side bungs or large dents with this ram. Rough bung openings or large dents will damage the wipers or stop the ram plate, resulting in a runaway pump.

4. Push down on the director valve (9) handle so the arrow points to DOWN, and lower the ram until the ram plate is just ready to enter the drum, then set the valve to neutral. Reposition the drum as necessary so the wipers will not hit the drum lip, then open the vent valve (V) on the ram plate.
5. Set the director valve (9) to DOWN and continue to lower the ram until fluid appears at the vent valve (V). Set the director valve to neutral and close the vent valve.

# Operation

*Model 207279 Ram Shown  
with Check-Mate™ 800 Pump*



05560

**Fig. 3**

04408A

# Operation

## Starting and Adjusting the Pump

1. Be sure the pump air regulator (M) is closed. Then set the ram air regulator (18) to about 50 psi (350 kPa, 3.5 bar). Set the director valve (9) to DOWN. See Fig. 3.
2. Start the pump as explained in the separate pump instruction manual.
3. Keep the director valve (9) set to DOWN while the pump is operating.

**NOTE:** Increase air pressure to the ram if the pump does not prime properly with heavier fluids. If fluid is forced out around the top wiper, ram pressure is too high and the air pressure should be decreased.

## Changing Drums

### **WARNING**



#### **MOVING PARTS HAZARD**

Moving parts can pinch or amputate your fingers. When the pump is operating and when raising or lowering the ram, keep your fingers and hands away from the pump intake, wiper plate, and lip of the fluid container.

To reduce risk of injury or damage to equipment, take care when adjusting air release valve pressure. Too much pressure can cause the ram plate to rise very quickly or burst the drum. Too little pressure can cause the ram to lift the entire drum from the ground.

When the drum is empty, follow this procedure to load a new pail of material.

1. Stop the pump (A) by closing the pump air bleed valve (G).

2. Before raising the ram plate, locate the pushbutton on the air release valve (14).
3. Raise the ram plate out of the drum.
  - a. Set the ram air regulator (T) to 0.07 to 0.10 MPa (0.7–1.0 bar) (10–15 psi).
  - b. Set the director valve (U) to UP to raise the ram plate. At the same time, carefully equalize pressure in the drum by operating the air release valve (14) open and closed.
4. Raise the ram plate until it is completely out of the drum.
5. Remove the empty drum.
6. Inspect the ram plate and, if necessary, remove any remaining material or material build-up.
7. Place the full drum on the ram base.
8. Lower the ram and adjust the position of the drum relative to the ram plate (C), as explained under “Starting and Adjusting the Ram” on page 4.

## Shutdown and Care of the Pump

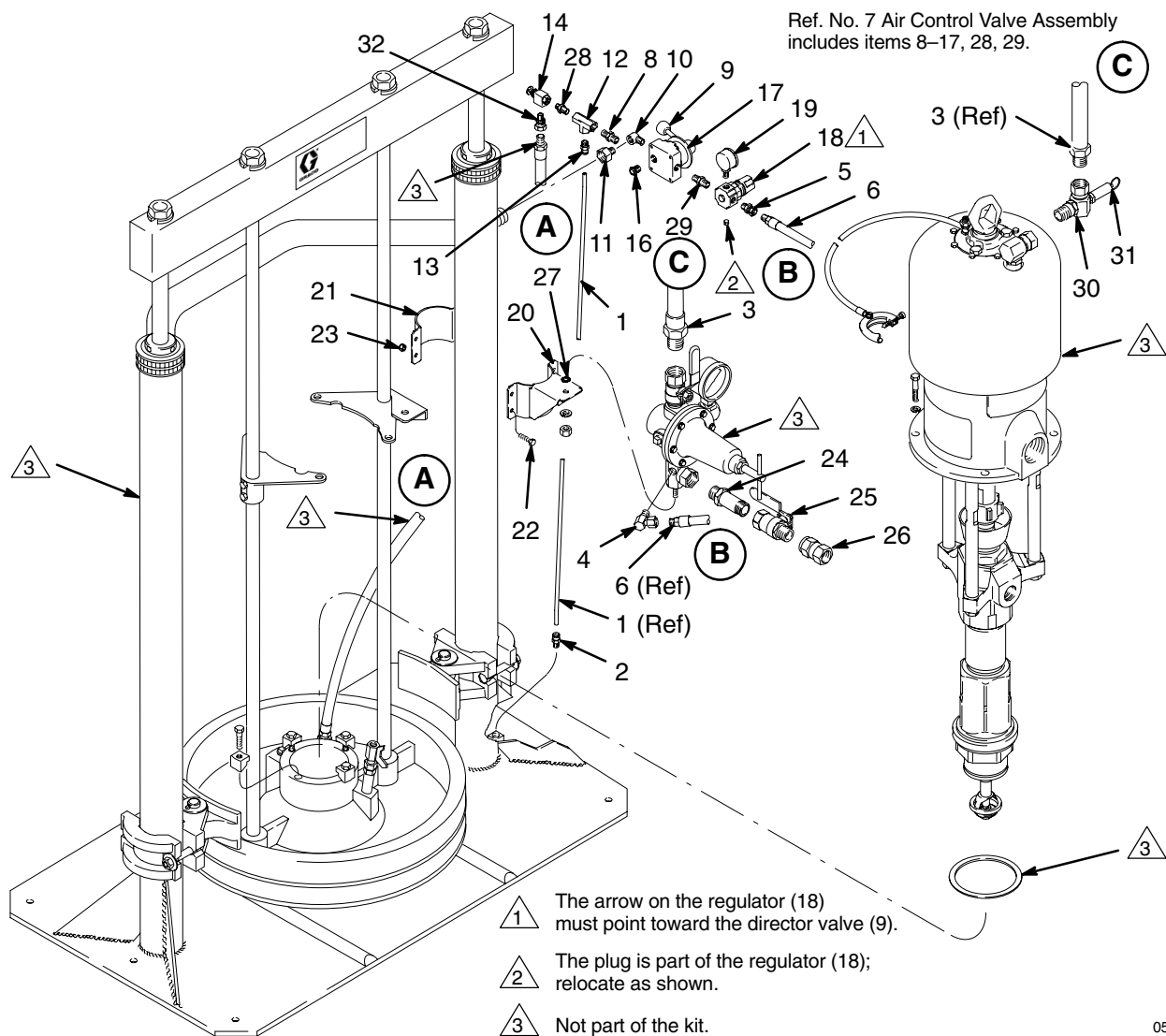
1. Set the director valve (9) to neutral.

### **WARNING**

To reduce the risk of serious injury whenever you are instructed to relieve pressure, always follow the **Pressure Relief Procedure** on page 4.

2. Relieve the pressure.
3. Follow the pump shutdown instructions in your separate pump manual.

# Parts



05540A

Ref. No.	Part No.	Description	Qty.	Ref. No.	Part No.	Description	Qty.
1	Purchase Locally	TUBE, nylon; 1/4 in. (6.4 mm) OD, 250 psi (1.7 MPa, 17 bar) Maximum Working Pressure 3.6 ft (1.1 m)		16	113037	. MUFFLER; 1/4 npt(m)	1
2	113208	CONNECTOR, tube; 1/4 in. OD tube x 1/8 npt(m)	1	17	290073	. LABEL, orientation	1
3	C12034	HOSE, air; buna-N; 3/4 in. (19 mm) ID; 3/4 npt (mbe); 54 in. (1372 mm) long	1	18	110318	AIR REGULATOR	
4	155541	ADAPTER, swivel, 90°; 1/4 npt(m) x 1/4 npsm(f) swivel	1	19	110319	GAUGE, air pressure	1
5	156823	ADAPTER, swivel, straight; 1/4 npt(m) x 1/4 npsm(f) swivel	1	20	237962	BRACKET	1
6	109123	HOSE, air; buna-N; 1/4 in. (6 mm) ID; 1/4 npt (mbe); 18 in. (457 mm)	1	21	190747	BRACKET	1
7	113896	AIR CONTROL VALVE ASSY Includes items 8-17, 28, 29	1	22	100021	CAPSCREW; 1/4-20 unc-2a; 1 in. (25 mm) long	4
8	113029	. NIPPLE; 1/4 npt	1	23	102040	NUT, hex, locking; 1/4-20 unc-3b	4
9	113030	. VALVE, air director	1	24	157129	NIPPLE; 3/4 npt; 3.25 in. (82 mm) long	1
10	113031	. ELBOW; 1/4 npt (m x f)	1	25	113218	AIR VALVE, bleed-type, red-handled; 3/4 npt(m x f)	1
11	113032	. ADAPTER; 1/4 npt(m) x 1/2 npt(f)	1	26	156172	ADAPTER, swivel, straight; 3/4 npt(f) x 3/4 npsm(f)	1
12	113914	. TEE, pipe; 1/4 npt	1	27	100322	WASHER, star	1
13	113034	. FITTING, tube; 1/4 in. OD tube x 1/4 npt(m)	1	28	113912	ADAPTER, 1/4 x 1/8 npt	1
14	113913	. VALVE, 3-way control	1	29	114378	CHECK VALVE	1
				30	192171	ADAPTER, union, swivel, 90°	1
				31	103347	VALVE, safety; 1/4 npt(m); 6.9 bar, 0.69 MPa (100 psi)	1
				32	113915	ADAPTER, union	1

# 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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