Instructions - Parts

2K-WR Proportioner

3A4527B

EN

Proportioner for the application of two-component, water-based adhesive resin. For professional use only.

For use with Models:

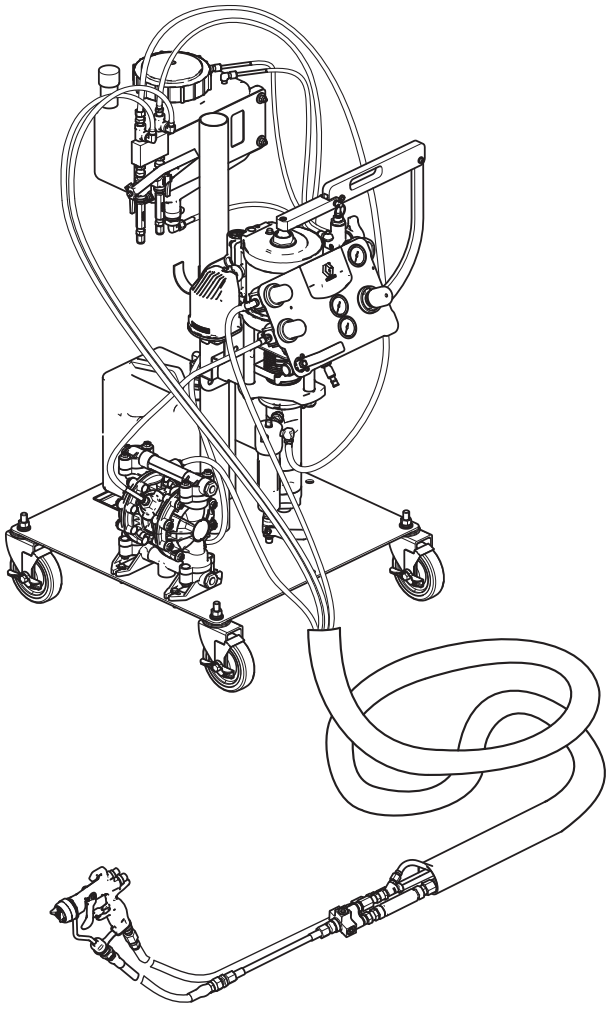
25C410 (Cart Only)
25C384 (Cart with Boom)

1300 psi (9 MPa, 90 bar) Maximum Working Pressure

See page 3 for model information.

Important Safety Instructions

Read all warnings and instructions in this manual and all component manuals. Save all instructions.



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Contents

Related Manuals

Manuals are available at www.graco.com. These component manuals are in English:

Manual	Description
3A2313	U-Cup Displacement Pump
3A2315	NXT® Air Motor
308981	Air Operated Diaphragm Pumps
313541	DataTrak™ Conversion Kit Instructions
307273	Fluid Outlet Filter
407019	Chop Cart Legs Kit

Manual	Description
407023	5 Gallon Catalyst Reservoir Kit
407024	Boom Kit
407025	DataTrak™ Upgrade Kit
407028	Resin Pump Connecting Kit
407031	Diaphragm Pump Solvent Flush Kit
3A2801	Mix Manifold Kit
3A0149	G15/G40 Spray Gun
406739	Desiccant Kits

Models

Pressure Ratio	Maximum Working Pressure	Cart		Cart and Boom	
		Part No.	Hose Length ft (m)	Part No.	Hose Length ft (m)
17:1	1300 psi (9 MPa, 90 bar)	25C410	25 (7.6)	25C384	25 (7.6)

Overview

The 2K-WR is designed for using two-component, water-based adhesive resins. It dispenses at a 100 parts A to 5.5 parts B adhesive for the bonding of PVC-foil, carpet and textile to molded body parts with ABS, fiber, GRP, SMC, Wood, etc.

This system is available in a cart-only configuration and an optional cart and boom configuration.

Typical Applications

The 2K-WR is intended for applications such as:

- Car roofs
- Door trims
- Parcel shelves
- Pillar trims

Accessories

The following items can be purchased separately from the system to gain additional functions. Some of the items require user installation; refer to the **Setup** section beginning on page **14**.

Solvent Flush Diaphragm Pumps	
Part	**Description**
16M560	2 Gallon Solvent Flush Diaphragm Pump
16M561	5 Gallon Solvent Flush Diaphragm Pump
Solvent Flush Pressure Pots	
Part	**Description**
16M874	2 Gallon, ASME and CE-approved, Solvent Flush Pressure Pot
16M875	5 Gallon, ASME and CE-approved, Solvent Flush Pressure Pot
16M893	2 Gallon, ASME Solvent Flush Pressure Pot
16M894	5 Gallon, ASME Solvent Flush Pressure Pot
55 Gallon Barrel Carts	
Part	**Description**
16M896	55 Gallon Barrel Cart
DataTrak Upgrade	
Part	**Description**
16M881	DataTrak Upgrade Kit
5 Gallon Catalyst Reservoir	
Part	**Description**
24M501	5 Gallon Catalyst Reservoir Kit
Pump Connecting Kits	
Part	**Description**
16N242	17:1 Pump Connecting Kit

Warnings

The following warnings are for the setup, use, grounding, maintenance, and repair of this equipment. The exclamation point symbol alerts you to a general warning and the hazard symbols refer to procedure-specific risks. When these symbols appear in the body of this manual or on warning labels, refer back to these Warnings. Product-specific hazard symbols and warnings not covered in this section may appear throughout the body of this manual where applicable.

⚠WARNING

FIRE AND EXPLOSION HAZARD

Flammable fumes, such as solvent and paint fumes, in **work area** can ignite or explode. Paint or solvent flowing through the equipment can cause static sparking. To help prevent fire and explosion:

- Use equipment only in well ventilated area.
- Eliminate all ignition sources; such as pilot lights, cigarettes, portable electric lamps, and plastic drop cloths (potential static sparking).
- Ground all equipment in the work area. See **Grounding** instructions.
- Never spray or flush solvent at high pressure.
- Keep work area free of debris, including solvent, rags and gasoline.
- Do not plug or unplug power cords, or turn power or light switches on or off when flammable fumes are present.
- Use only grounded hoses.
- Hold gun firmly to side of grounded pail when triggering into pail. Do not use pail liners unless they are anti-static or conductive.
- **Stop operation immediately** if static sparking occurs or you feel a shock**.** Do not use equipment until you identify and correct the problem.
- Keep a working fire extinguisher in the work area.

SKIN INJECTION HAZARD

High-pressure fluid from dispensing device, hose leaks, or ruptured components will pierce skin. This may look like just a cut, but it is a serious injury that can result in amputation. **Get immediate surgical treatment.**

- Do not point the dispensing device at anyone or at any part of the body.
- Do not put your hand over the fluid outlet.
- Do not stop or deflect leaks with your hand, body, glove, or rag.
- Follow the **Pressure Relief Procedure** when you stop dispensing and before cleaning, checking, or servicing equipment.
- Tighten all fluid connections before operating the equipment.
- Check hoses and couplings daily. Replace worn or damaged parts immediately.

⚠WARNING

TOXIC FLUID OR FUMES HAZARD

Toxic fluids or fumes can cause serious injury or death if splashed in the eyes or on skin, inhaled, or swallowed.

- Read Safety Data Sheet (SDS) for handling instructions and to know the specific hazards of the fluids you are using, including the effects of long-term exposure.
- When spraying, servicing equipment, or when in the work area, always keep work area well ventilated and always wear appropriate personal protective equipment. See **Personal Protective Equipment** warnings in this manual.
- Store hazardous fluid in approved containers, and dispose of it according to applicable guidelines.

PERSONAL PROTECTIVE EQUIPMENT

Always wear appropriate personal protective equipment and cover all skin when spraying, servicing equipment, or when in the work area. Protective equipment helps prevent serious injury, including long-term exposure; inhalation of toxic fumes, mists, or vapors; allergic reaction; burns; eye injury and hearing loss. This protective equipment includes but is not limited to:

- A properly fitting respirator, which may include a supplied-air respirator, chemically impermeable gloves, protective clothing and foot coverings as recommended by the fluid manufacturer and local regulatory authority.
- Protective eyewear, and hearing protection.

MOVING PARTS HAZARD

Moving parts can pinch, cut or amputate fingers and other body parts.

- Keep clear of moving parts.
- Do not operate equipment with protective guards or covers removed.
- Pressurized equipment can start without warning. Before checking, moving, or servicing equipment, follow the **Pressure Relief Procedure** and disconnect all power sources.

EQUIPMENT MISUSE HAZARD

Misuse can cause death or serious injury.

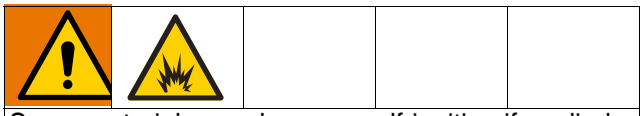
- Do not operate the unit when fatigued or under the influence of drugs or alcohol.
- Do not exceed the maximum working pressure or temperature rating of the lowest rated system component. See **Technical Data** in all equipment manuals.
- Use fluids and solvents that are compatible with equipment wetted parts. See **Technical Data** in all equipment manuals. Read fluid and solvent manufacturer's warnings. For complete information about your material, request Safety Data Sheet (SDS) from distributor or retailer.
- Do not leave the work area while equipment is energized or under pressure.
- Turn off all equipment and follow the **Pressure Relief Procedure** when equipment is not in use.
- Check equipment daily. Repair or replace worn or damaged parts immediately with genuine manufacturer's replacement parts only.
- Do not alter or modify equipment. Alterations or modifications may void agency approvals and create safety hazards.
- Make sure all equipment is rated and approved for the environment in which you are using it.
- Use equipment only for its intended purpose. Call your distributor for information.
- Route hoses and cables away from traffic areas, sharp edges, moving parts, and hot surfaces.
- Do not kink or over bend hoses or use hoses to pull equipment.
- Keep children and animals away from work area.
- Comply with all applicable safety regulations.

Important Isocyanate (ISO) Information

Spraying or dispensing fluids that contain isocyanates creates potentially harmful mists, vapors, and atomized particulates.

- Read and understand the fluid manufacturer's warnings and Safety Data Sheet (SDS) to know specific hazards and precautions related to isocyanates.
- Use of isocyanates involves potentially hazardous procedures. Do not spray with this equipment unless you are trained, qualified, and have read and understood the information in this manual and in the fluid manufacturer's application instructions and SDS.
- Use of incorrectly maintained or mis-adjusted equipment may result in improperly cured material. Equipment must be carefully maintained and adjusted according to instructions in the manual.
- To prevent inhalation of isocyanate mists, vapors, and atomized particulates, everyone in the work area must wear appropriate respiratory protection. Always wear a properly fitting respirator, which may include a supplied-air respirator. Ventilate the work area according to instructions in the fluid manufacturer's SDS.
- Avoid all skin contact with isocyanates. Everyone in the work area must wear chemically impermeable gloves, protective clothing and foot coverings as recommended by the fluid manufacturer and local regulatory authority. Follow all fluid manufacturer recommendations, including those regarding handling of contaminated clothing. After spraying, wash hands and face before eating or drinking.

Material Self-ignition



Some materials may become self-igniting if applied too thick. Read material manufacturer's warnings and Safety Data Sheet (SDS).

Keep Components A and B Separate

Cross-contamination can result in cured material in fluid lines which could cause serious injury or damage equipment. To prevent cross-contamination:

- **Never** interchange component A and component B wetted parts.
- Never use solvent on one side if it has been contaminated from the other side.

Moisture Sensitivity of Isocyanates

Exposure to moisture (such as humidity) will cause ISO to partially cure, forming small, hard, abrasive crystal that become suspended in the fluid. Eventually a film will form on the surface and the ISO will begin to gel, increasing in viscosity.

NOTICE

Partially cured ISO will reduce performance and the life of all wetted parts.

- Always use a sealed container with a desiccant dryer in the vent, or a nitrogen atmosphere. **Never** store ISO in an open container.
- Keep the ISO pump wet cup or reservoir (if installed) filled with appropriate lubricant. The lubricant creates a barrier between the ISO and the atmosphere.
- Use only moisture-proof hoses compatible with ISO.
- Never use reclaimed solvents, which may contain moisture. Always keep solvent containers closed when not in use.
- Always lubricate threaded parts with an appropriate lubricant when reassembling.

NOTE: The amount of film formation and rate of crystallization varies depending on the blend of ISO, the humidity, and the temperature.

Changing Materials

NOTICE

Changing the material types used in your equipment requires special attention to avoid equipment damage and downtime.

- When changing materials, flush the equipment multiple times to ensure it is thoroughly clean.
- Always clean the fluid inlet strainers after flushing.
- Check with your material manufacturer for chemical compatibility.

System Component Identification

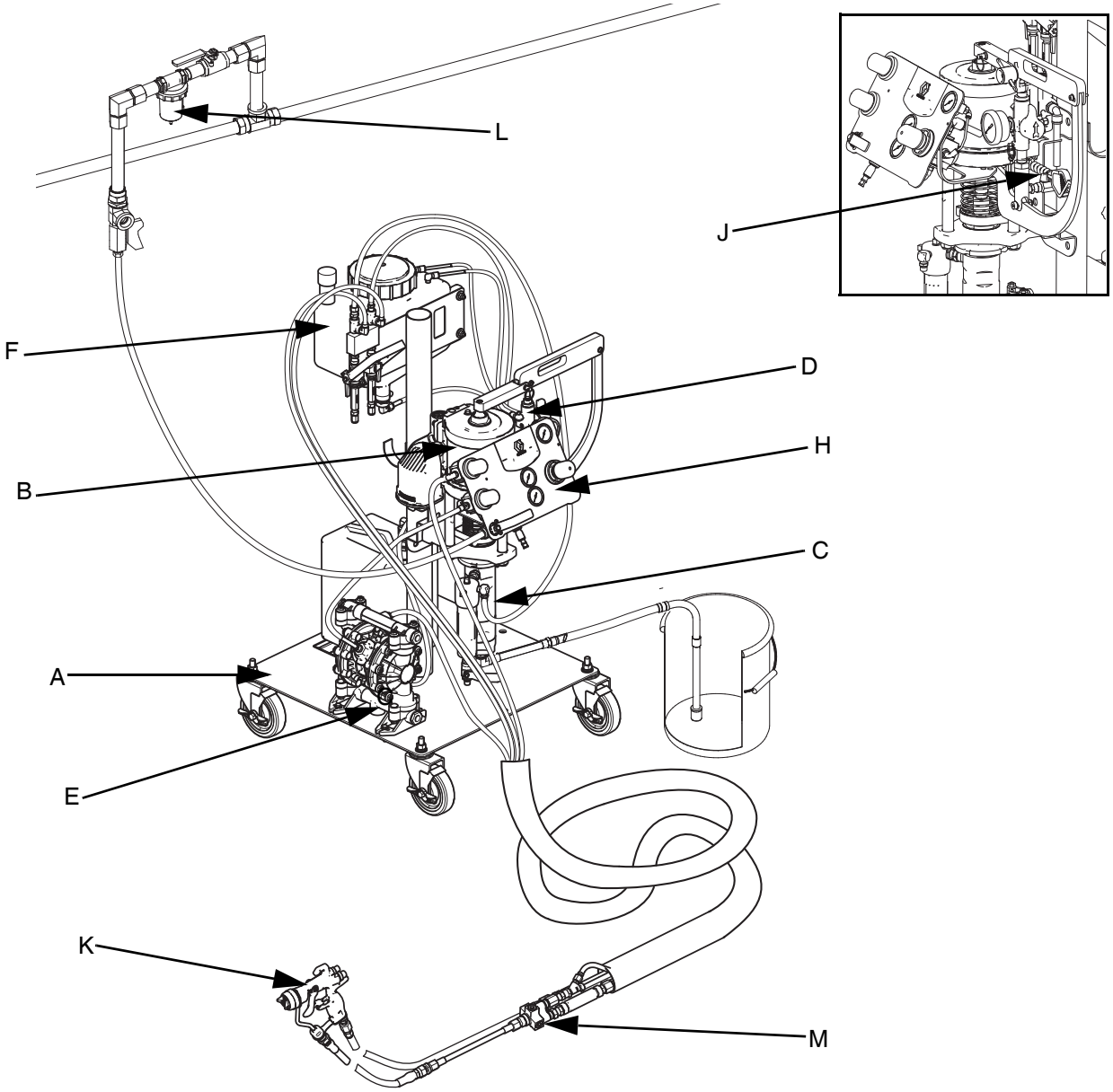


FIG. 1: 2K-WR Component Identification

Key:

A Cart
B Air Motor
C Resin Displacement Pump
D Catalyst Pump
E Solvent Flush (Diaphragm Pump Option shown, Pressure Pot Options also available)
F Catalyst Reservoir
G Boom (not shown)
H Air control Panel
J Grounding Wire
K Spray Gun
L Air/Water Separator (customer-supplied)
M Mix Manifold

Air Control Panel

Air inlet (AA): from the air line.

Air regulator 1 (AB): controls air to the resin pump.

Air outlet 1 (AC): the air line to the resin pump.

Air pressure gauge 1 (AD): indicates air pressure to the resin pump.

Air regulator 2 (AE): controls solvent flush pressure.

Air outlet 2 (AF): to the solvent pump.

Air pressure gauge 2 (AG): indicates regulator 2 air pressure.

Air regulator 3 (AH): controls the Air Assist Containment™ (AAC™) air to the spray gun.

Air pressure gauge 3 (AJ): indicates AAC air pressure.

Air outlet 3 (AK): AAC air line to the spray gun.

Air Shutoff valve (AL): shuts off air to the entire system.

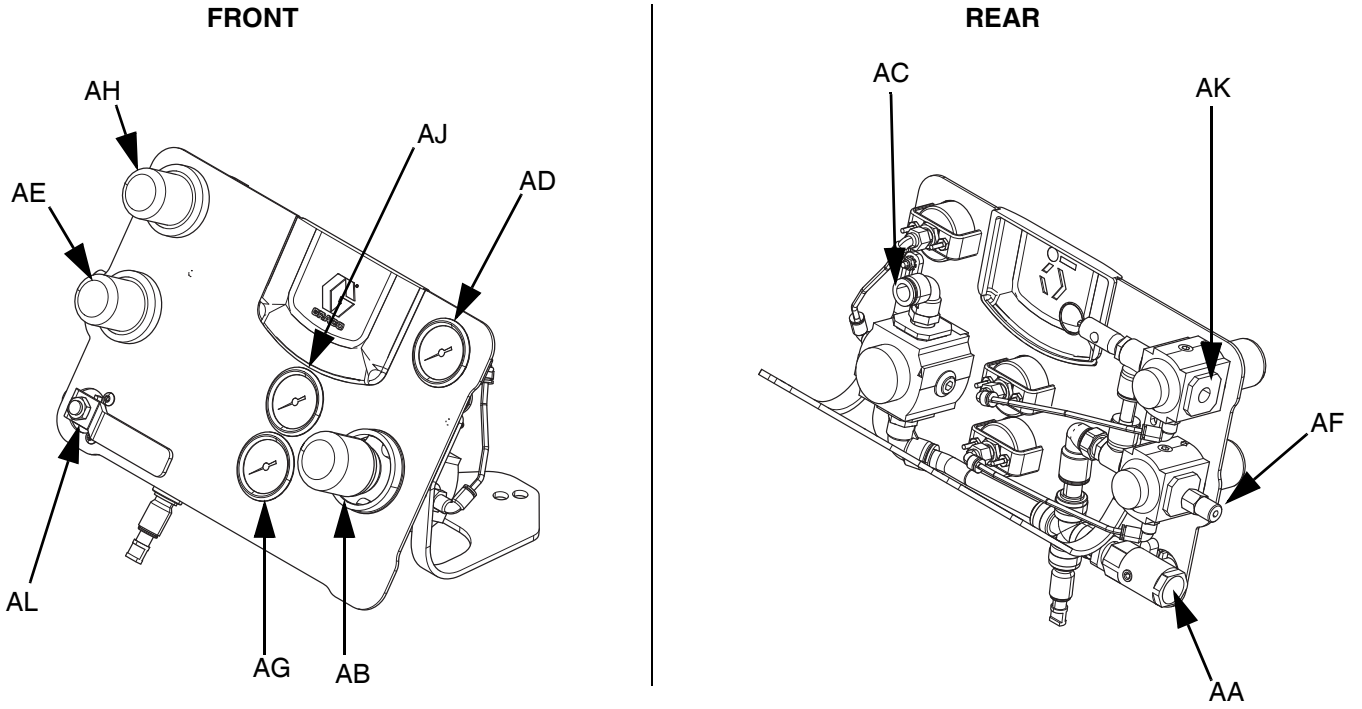


FIG. 2: Air Control Panel Components

Air Outlet Fitting Details	Tubing Size
Air Outlet 2 (AF)	3/8 tube
Air Outlet 3 (AM)	3/8 tube
Air Outlet 4 (AN)	3/8 tube

Resin Pumpline

The resin pumpline consists of two components: the air motor and the resin displacement pump.

The air motor powers the resin displacement pump, which supplies resin to the spray gun.

Air inlet (BA): connect the air hose to the air inlet.

Fluid filter (BB): removes the particles from the fluid.

Pressure relief/recirculation valve (BC): relieves pressure in the hose and gun.

Pressure relief/recirculation fluid outlet (BD): place a container below the fluid outlet, connect a fluid hose and route it back to the resin container, or install a container below the outlet

Pressurized fluid outlet on filter (BE): connect a fluid hose to the 1/4 npt(f) fluid outlet reducer fitting supplied with Graco hoses.

Fluid inlet (BF): connect a fluid suction hose to the 3/4 npt(m) fluid inlet.

DataTrak (optional): electronic monitoring for material tracking, system diagnostics, and pump runaway control. The DataTrak is located on the air control panel. Refer to the NXT Air Motor manual 3A2315 for details of the DataTrak controls and indicators. See **Related Manuals** on page **3**.

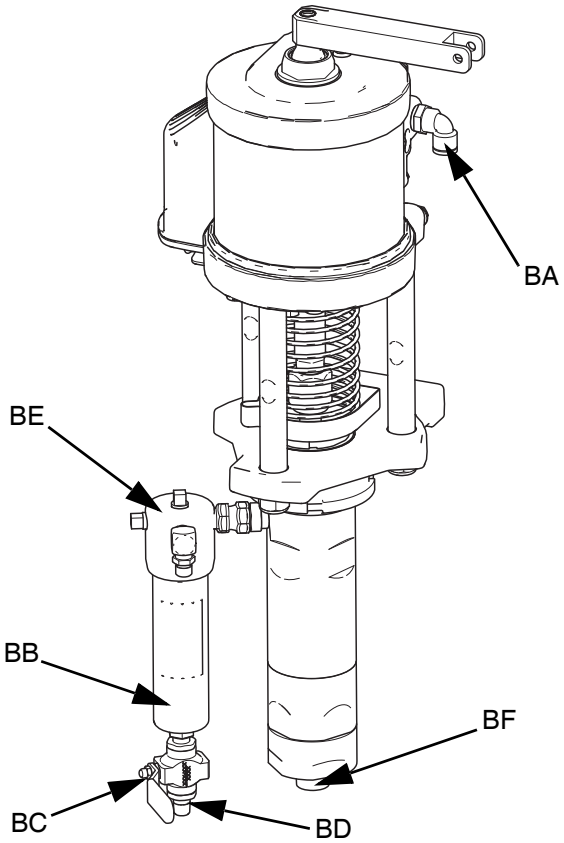


FIG. 3: Air Motor Components

Catalyst Pump

The catalyst pump supplies catalyst to the spray gun.

Pump arm (CA): controls the catalyst flow.

High pressure relief valve (CB): directs the catalyst to the gun or back to the tank to relieve pressure. It also automatically relieves pressure if it exceeds normal working pressure.

Fluid pressure gauge (CC): indicates catalyst fluid pressure.

Fluid inlet (CD): fluid inlet from the catalyst reservoir.

Fluid Inlet Ball Valve (CE): controls the flow of catalyst to the catalyst pump.

Weep line (CF): In the event of a throat seal failure, the fluid will flow into the weep line and back to the catalyst reservoir.

Fluid outlet (CG): fluid out to the gun.

Fluid recirculation/high pressure relief (CH): fluid outlet to the catalyst reservoir.

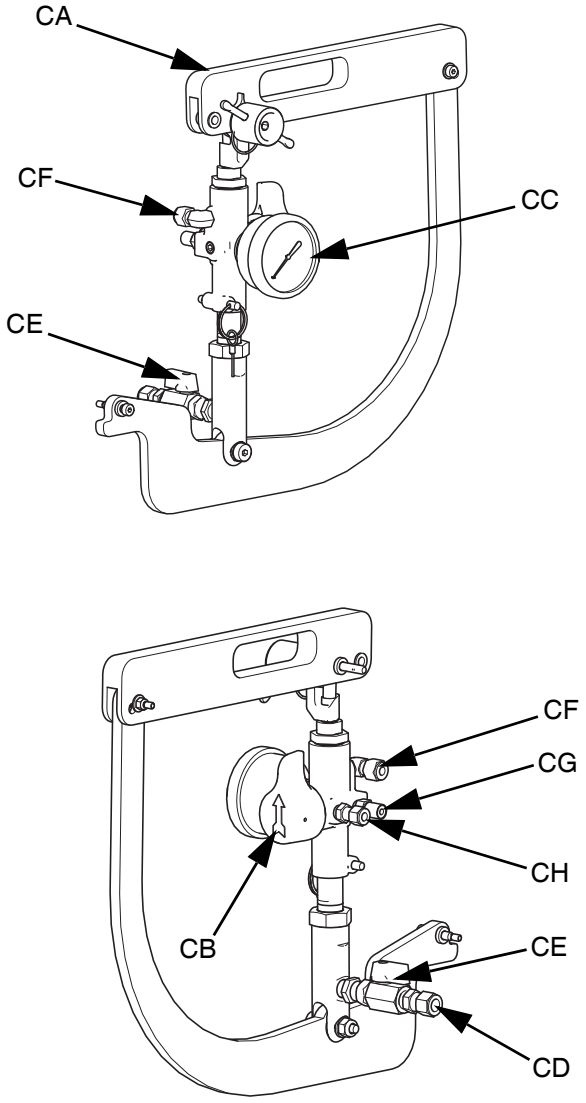


FIG. 4: Catalyst Pump Components

Solvent Flush Systems

Solvent Flush Diaphragm Pump (Standard)

The solvent flush diaphragm pump provides solvent to the gun to clear out mixed fluid and prevent it from curing in the gun. See the Air Operated Diaphragm Pumps manual 308981 in **Related Manuals** on page **3** for detailed component identification.

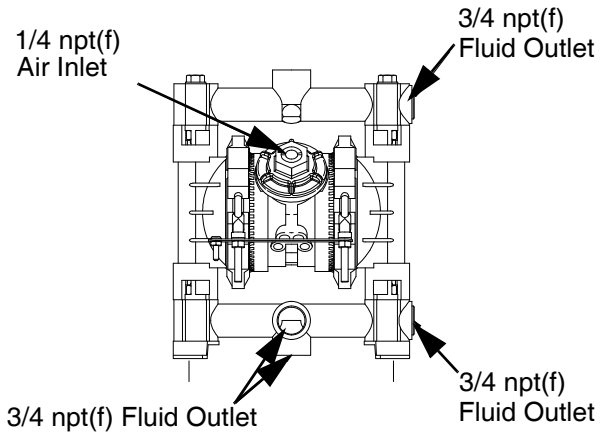


FIG. 5: Diaphragm Pump

Solvent Flush ASME Pressure Pot (Optional)

The pressure pot works by using the incoming air pressure to expel the solvent in the pot out of the fluid outlet. Verify the supply tube is installed on the fluid outlet port.

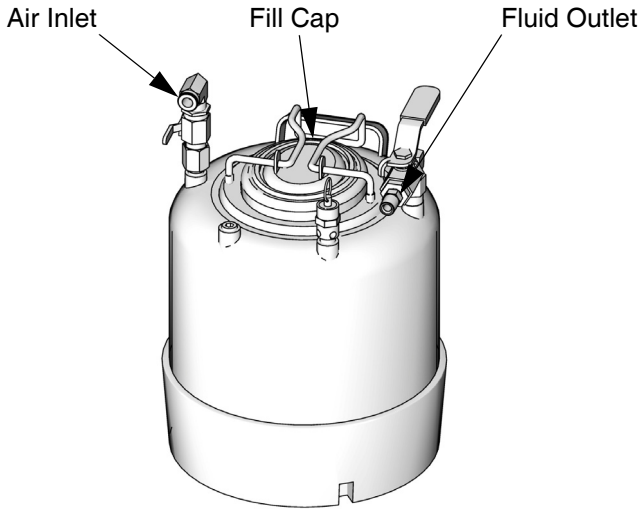


FIG. 6: ASME Pressure Pot

Solvent Flush ASME and CE-Approved Pressure Pot (Optional)

The pressure pot works by using the incoming air pressure to expel the solvent in the pot out of the fluid outlet.

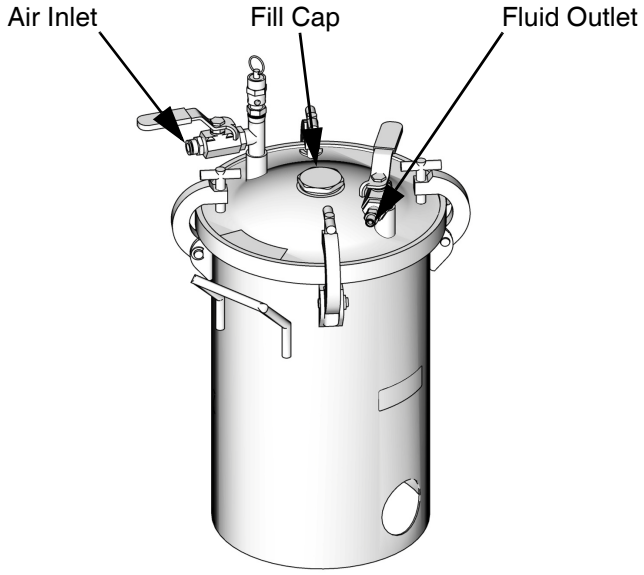


FIG. 7: ASME and CE-Approved Pressure Pot

Setup

This section provides instructions for basic system setup of the 2K-WR proportioner.

Before Installation

- Have all system and component documentation available during installation.
- See the component manuals for specific data on component requirements. Data presented here applies to the 2K-WR assemblies only.
- Be sure all accessories are adequately sized and pressure-rated to meet system requirements. Accessories are available from Graco.

Component identification illustrations are only a guide for selecting and installing system components and accessories. Contact your Graco distributor for assistance in designing a system to suit your particular needs.

Location Requirements

Refer to **Dimensions** starting on page **64**, for mounting and clearance dimensions.

- Position the 2K-WR proportioner so the air controls and catalyst ratio adjustment arm are easily accessible.
- If using a cart and boom system, ensure there is enough space overhead and surrounding the proportioner for the boom and mast to fully extend.
- Place on a flat and level surface.

System Assembly

When the system is shipped from the factory, some items may be shipped loose. Perform the following instructions to properly install each of the components.

1. *For cart and boom systems only,* install the legs:
   a. With the system still on the pallet, use the supplied hardware to install the legs onto the base as shown below. The two longer legs should be installed on the air control panel side of the machine. The two non-locking casters should be installed on the two longer legs.

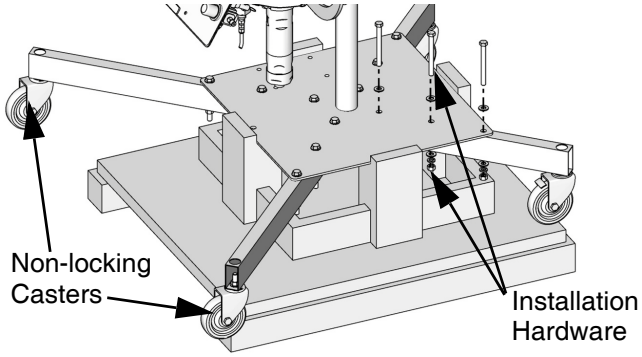


FIG. 8: Cart and Boom Leg Installation

   b. Use a forklift to raise the system off the pallet, remove the pallet, and place the system directly on the floor.

2. Assemble the boom as shown below then slide the boom onto the system pole. See the **Cart with Boom Parts, 16H994 and 16M809** on page **47**.

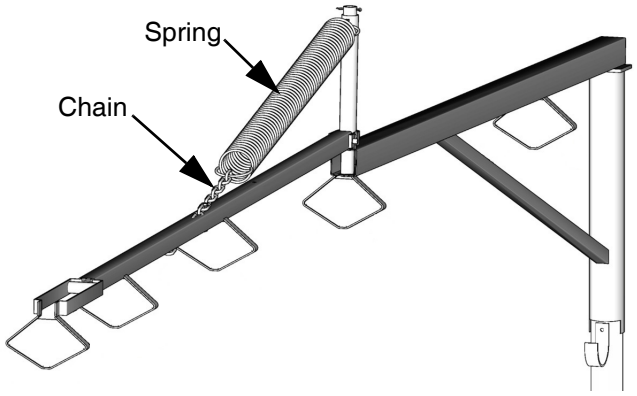


FIG. 9: Boom Assembly

NOTE: The height of the boom can be adjusted by adjusting which link in the chain is secured to the boom arm.

3. *For both the cart system and the cart and boom system*, install the solvent flush diaphragm pump and solvent supply tank.

    a. Use the supplied hardware to install the diaphragm pump or pressure pot onto the base of the cart in the mounting holes provided.

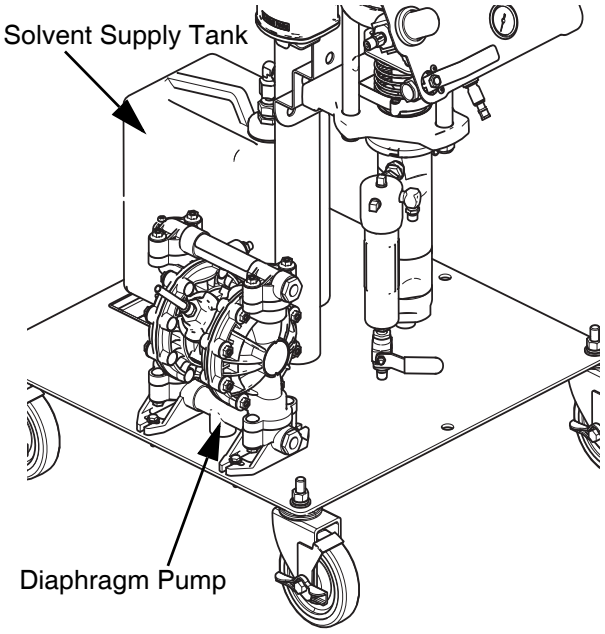


FIG. 10: Solvent Flush Pump and Tank Installation

    b. Use supplied hardware to install the solvent supply tank onto the base of the cart.

4. Install the optional DataTrak Upgrade Kit (if ordered). Follow the detailed instructions in the DataTrak manual. See **Related Manuals** on page **3**.

Grounding

The equipment must be grounded to reduce the risk of static sparking. Static sparking can cause fumes to ignite or explode. Grounding provides an escape wire for the electric current.

General Grounding Guidelines

Pump: use the ground wire and clamp supplied. Connect the ground clamp to a true earth ground.

Air and fluid hoses: use only electrically conductive hoses.

Spray gun: ground through a connection to a properly grounded fluid hose and pump.

Fluid supply container: follow local code.

Object being sprayed: follow local code.

Solvent pails used when flushing: follow local code. Use only conductive metal pails, placed on a grounded surface. Do not place the pail on a nonconductive surface, such as paper or cardboard, which interrupts grounding continuity.

2K-WR Proportioner Grounding

NOTE: All proportioners come with one grounding clamp to ground the proportioner to a true earth ground. The solvent pump accessories come with a second grounding clamp to ground the solvent flush system to the cart.

1. Verify that the ground screw is attached and tightened securely to the air motor. Connect the other end of the ground wire to a true earth ground.

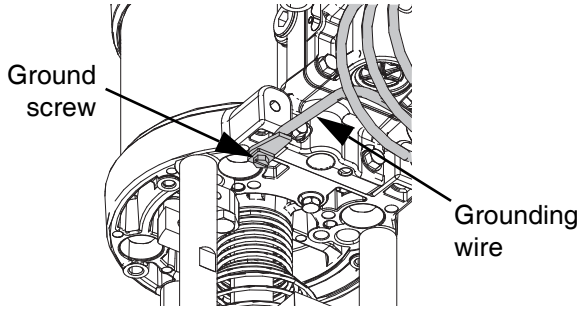


FIG. 11: Ground Wire

2. *Ground the solvent flush system.*

   a. For solvent flush diaphragm pumps only, connect one end of the second grounding clamp to the solvent pump grounding strip. See Air Operated Diaphragm Pumps manual 308981 listed in **Related Manuals** on page **3** for grounding details.

   b. Connect the other end of the grounding clamp to the cart.

3. Use an ohmmeter to verify all components are grounded to the earth ground.

4. Connect the other end of the second supplied grounding clamp to the cart.

Connect Fluid and Air Lines

NOTICE

The catalyst (hardener) is extremely moisture sensitive. Check the catalyst for any changes in viscosity or hardening due to moisture contamination. If contamination is detected, remove the material and flush the system. Do not attempt to pump or recirculate. If material solidifies, it could damage the hoses and the catalyst pump. Do not flush with water or water based solvents. Do not leave the container open to atmosphere for any extended period of time.

Check the desiccant breather daily. Desiccant starts out dark blue and turns translucent pink when it needs to be changed. The desiccant part number is 262454.

When connecting the gun hose bundle, the whip end connections in the bundle should be connected to the gun and the non-whip end connections should be connected to the proportioner. The whip end of the bundle is the end with more flexible lines.

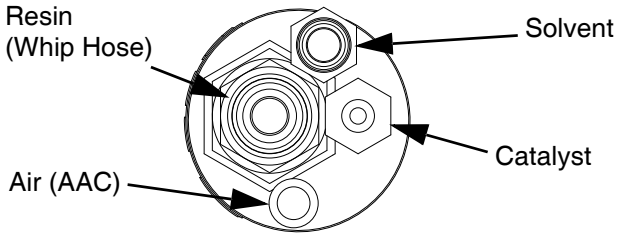


FIG. 12: Hose End Diagram

NOTE: Refer to the G15/G400 Spray Gun manual 3A0149 for hose bundle connection details and individual hose identification. See **Related Manuals** on page **3**.

Air Connections

1. Verify that the air line from the air outlet 1 (AC) on the air control panel is connected to the air inlet (BA) on the air motor. See **Figure 3** on page **11**.

2. Connect the AAC air line from the gun hose bundle to air outlet 3 (AK) on the air control panel. See the G15/G400 Spray Gun manual 3A0149 for the AAC air line identification.

3. Connect the supplied air tubing attached to air outlet 2 (AF) to the solvent pump air inlet. See **Figure 5** on page **13**.

4. Verify the air shutoff valve (AP) is closed (handle is vertical); then connect the air supply line to the air inlet (AA) on the air control panel.

Air Outlet Fitting Details	Tubing Size
Air Outlet 2 (AF)	3/8 tube
Air Outlet 3 (AM)	3/8 tube
Air Outlet 4 (AN)	3/8 tube

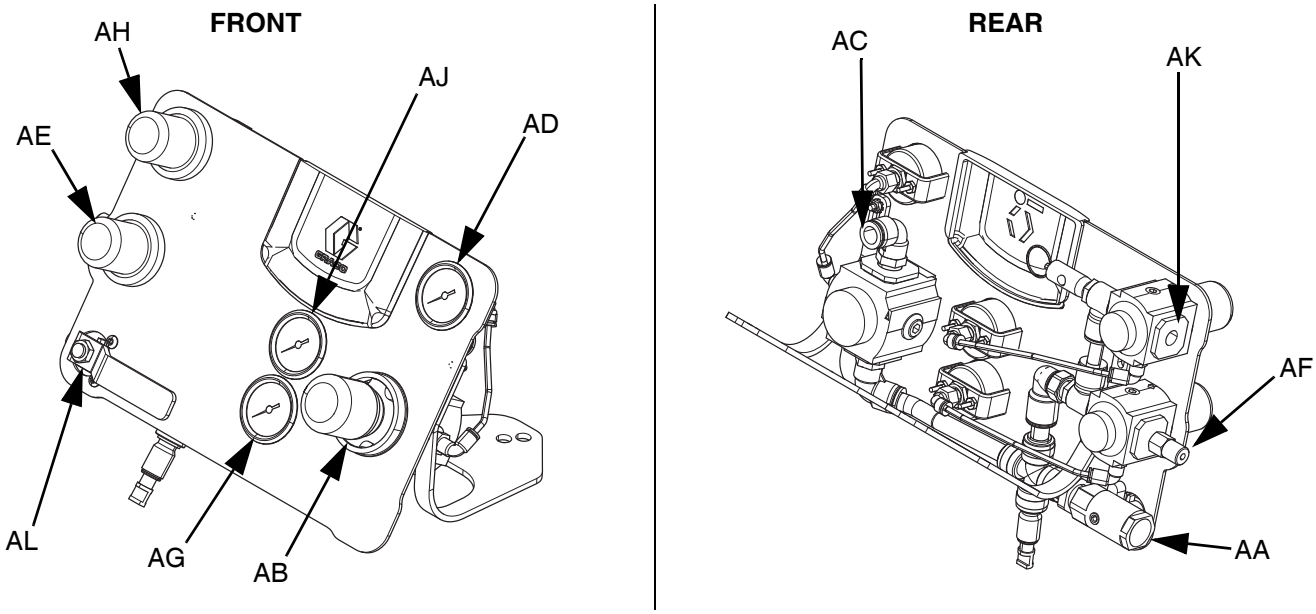


FIG. 13: Air Control Panel

Resin Pump Connections

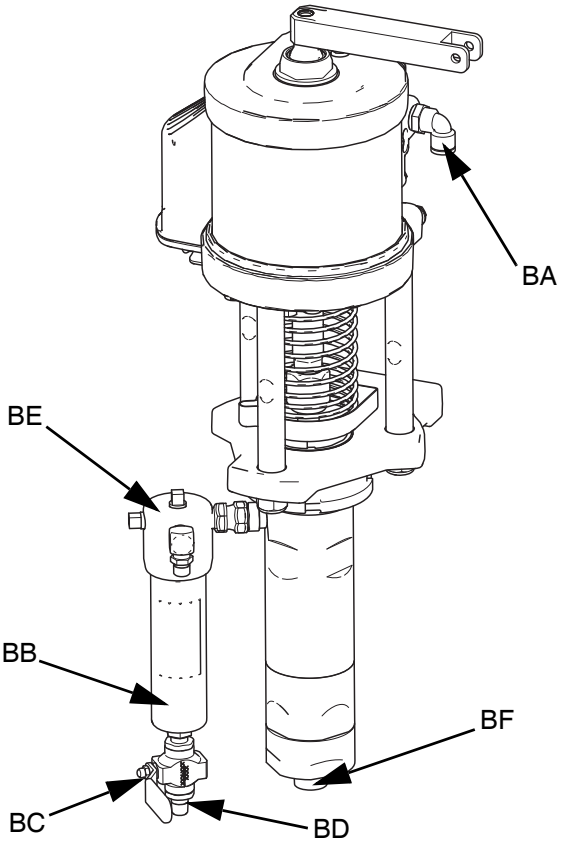


FIG. 14: Resin Pump Connections

1. Verify that the pressure relief/recirculation valve (BC) is set to pressure relief.
2. Place a waste container below the fluid outlet; then remove the pump fluid inlet cap. Drain and discard the test oil.
3. Connect the resin suction hose to the resin pump 3/4 nptm fluid inlet (BF). Place the other end of the suction hose in the resin container.
4. Connect the resin hose from the gun hose bundle to the resin pump 1/4 nptf fluid outlet (BE). The reducer fitting comes with the Graco hose bundle.
5. Connect the resin recirculation hose to the pressure relief/recirculation line (BD) and route it to the resin container.

Catalyst Pump Fluid Connections

NOTE: See **Figure 4** on page **12**.

1. Verify the pressure relief/recirculation valve (CB) is set to pressure relief (knob is horizontal).

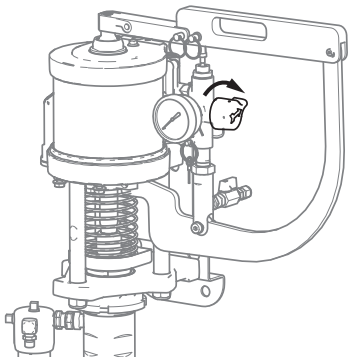


FIG. 15: Catalyst Pump Pressure Relief Valve

2. Connect the catalyst line from the gun hose bundle to the catalyst (fluid) outlet (CG). See **Catalyst Pump** on page **12**

Solvent Flush Connections

NOTE: See **Solvent Flush Systems** on page **13** for connection locations.

1. Connect the solvent air line from the air control panel to the diaphragm pump or pressure pot air inlet.
2. Connect the solvent suction tube from the solvent supply tank to the solvent pump fluid inlet.
3. Connect the solvent line from the gun hose bundle to the solvent fluid outlet.

Gun Connections

Secure all connections on the whip-end of the hose bundle to the gun. See the G15/G400 Spray Gun manual 3A0149 listed in **Related Manuals** on page **3** for detailed instructions.

Flush Before First Use

NOTICE

The catalyst (hardener) is extremely moisture sensitive. Check the catalyst for any changes in viscosity or hardening due to moisture contamination. If contamination is detected, remove the material and flush the system. Do not attempt to pump or recirculate. If material solidifies, it could damage the hoses and the catalyst pump.

Do not flush with water or water based solvents.

Do not leave the container open to atmosphere for any extended period of time.

Check the desiccant breather daily. Desiccant starts out dark blue and turns translucent pink when it needs to be changed. The desiccant part number is 262454.

Flush the system before first use to prevent contaminating the resin or catalyst. See **Flush the System** on page **26**.

Fill Supply Tanks

Add fluid to the solvent flush supply tank (if applicable), the catalyst supply reservoir, and the resin supply container.

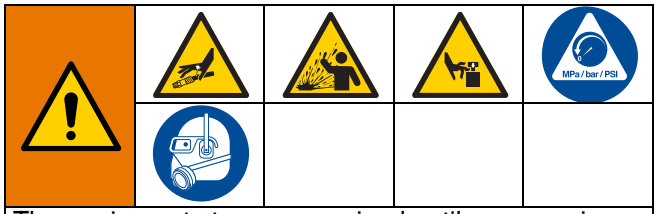
Operation

Trigger Lock

Always engage the trigger lock when you stop spraying to prevent the gun from being triggered accidentally by hand or if it is dropped or bumped.

Pressure Relief Procedure

Follow the Pressure Relief Procedure whenever you see this symbol.



The equipment stays pressurized until pressure is manually relieved. To help prevent serious injury from pressurized fluid such as skin injection, splashing fluid and moving parts, follow the **Pressure Relief Procedure** when you stop spraying and before cleaning, checking or servicing the equipment.

1. Close the main air supply ball valve.

NOTICE

Stop the pump at the bottom of its stroke to prevent fluid from drying on the exposed displacement rod and damaging the throat u-cup seals.

2. Turn the main air supply pressure regulator fully counter-clockwise.

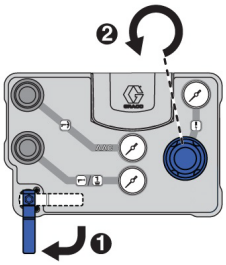


FIG. 16

3. Disengage the trigger lock on the gun. See **Figure 17**.

4. With a grounded bucket below the gun, press the gun against the side of the bucket and pull the trigger to relieve pressure in the fluid lines.

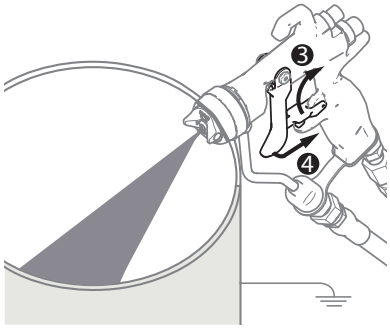


FIG. 17

5. Engage the trigger lock.

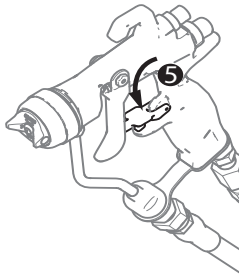


FIG. 18

6. Turn the catalyst pump pressure relief/recirculation valve to the pressure relief position.

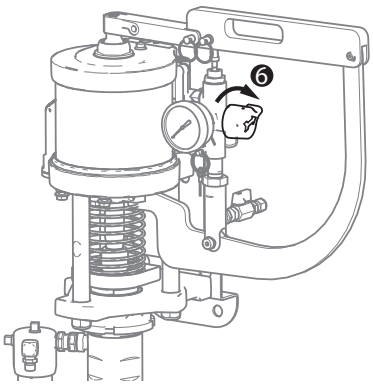


FIG. 19

7. Verify that the resin pressure relief/recirculation fluid line is routed to a grounded container; then turn the pressure relief/recirculation valve to the pressure relief position.

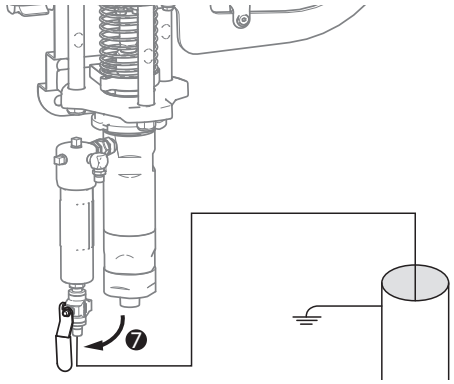


FIG. 20

8. After the pressure is fully relieved, turn the pressure relief/recirculation valve to the dispense position.

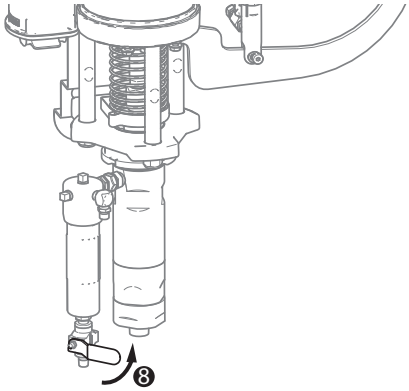


FIG. 21

9. If you suspect the spray tip, hose, or filter is completely clogged or that pressure has not been fully relieved after following the previous steps, very slowly loosen the hose end coupling and relieve pressure gradually; then loosen completely.

Shutdown

1. Follow the **Pressure Relief Procedure** on page **20**.
2. See the G15/G400 Spray Gun manual 3A0149 listed in **Related Manuals** on page **3** for shutdown and maintenance procedures.
3. Perform the scheduled maintenance items listed on page **34**.

Startup

NOTE: Do not exceed 20 psi (0.14 MPa, 1.4 bar) on the material air pressure regulator until a steady material flow has been established.

To avoid overpressurization, before turning on the main air supply ensure all regulators are adjusted fully counter-clockwise so they are set to zero pressure.

NOTE: See **Figure 2** on page **10** for component identification.

1. Verify the wetcup is filled with Graco Throat Seal Liquid (TSL™).
2. Ensure that the main air line is connected to the air control panel air inlet (AA).
3. Check the solvent line:
   a. Verify the gun is ready to begin operation. See the G15/G400 Spray Gun manual 3A0149 listed in **Related Manuals** on page **3**.
   b. Turn the shutoff valve (AP) on the air control panel to the open position.
   c. Open the air valve on the solvent pump and adjust the solvent pressure to 90 psi (0.63 MPa, 6.3 bar).
   d. Open the solvent knob on the mix manifold (see **Figure 1** on page **9**) and pull the trigger on the gun to verify that solvent will flow out of the front of the gun through the dispense tip, then close the valve.

NOTICE

The catalyst (hardener) is extremely moisture sensitive. Check the catalyst for any changes in viscosity or hardening due to moisture contamination. If contamination is detected, remove the material and flush the system. Do not attempt to pump or recirculate. If material solidifies, it could damage the hoses and the catalyst pump.

Do not flush with water or water based solvents.

Do not leave the container open to atmosphere for any extended period of time.

Check the desiccant breather daily. Desiccant starts out dark blue and turns translucent pink when it needs to be changed. The desiccant part number is 262454.

4. If this is the first startup of the machine, perform the flush procedure as described in **Flush the System** on page **26**.
5. As desired, perform prime, flush, and spray procedures beginning with **Prime the System** on page **23**. Make sure to flush the system before first use to flush out oil used to test the equipment at the factory.

Prime the System

Perform this procedure upon initial system setup, whenever hoses are disconnected, if the supply hose is removed from the supply container, or if either pump is run dry. If done properly, this will prime the lines with fluid and/or remove any air bubbles from the fluid lines.

NOTE: If using an air motor with DataTrak, see **DataTrak Operation** on page **29**.

NOTE: *For systems with DataTrak:* When priming pumps, it is normal to get cavitation or pump runaway alarms. Clear alarms  , and press  again as necessary. These alarms prevent excessive pump speeds, which will damage pump packings.

1. Follow the **Pressure Relief Procedure** on page **20**.

NOTICE

The catalyst (hardener) is extremely moisture sensitive. Check the catalyst for any changes in viscosity or hardening due to moisture contamination. If contamination is detected, remove the material and flush the system. Do not attempt to pump or recirculate. If material solidifies, it could damage the hoses and the catalyst pump.

Do not flush with water or water based solvents.

Do not leave the container open to atmosphere for any extended period of time.

Check the desiccant breather daily. Desiccant starts out dark blue and turns translucent pink when it needs to be changed. The desiccant part number is 262454.

2. Verify the resin suction tube is in the resin supply container. Verify the catalyst pump inlet tube is properly connected to the catalyst reservoir and the catalyst pump fluid inlet ball valve is open. Verify both the resin supply container and catalyst supply reservoir have adequate fluid levels.

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

3. *For systems with DataTrak:* enable the prime/flush function by pushing the prime/flush button on the DataTrak. This prevents the DataTrak from stopping the pump if it detects a high cycle rate.

4. Verify the pressure relief/recirculation valves on the catalyst pump is set to the pressure relief/recirculation position.

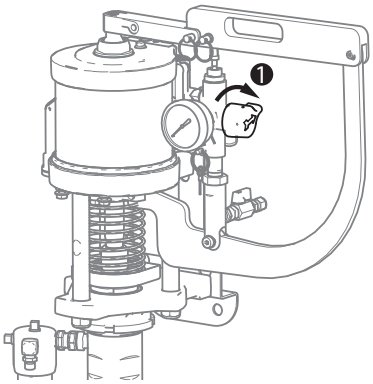


FIG. 22

5. Verify the pressure relief/recirculation valves on the resin pump is set to the pressure relief/recirculation position.

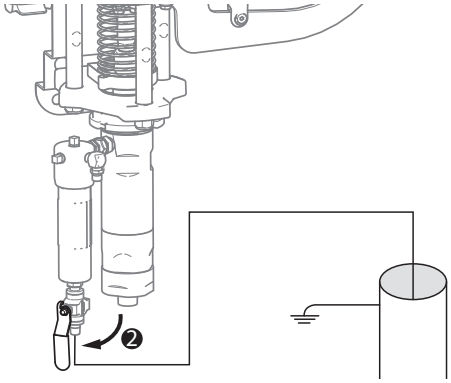


FIG. 23

NOTE: Refer to **Figure 24** for the next three steps.

6. Turn the main air supply pressure regulator fully counter-clockwise to relieve pressure and set to zero pressure.

7. Turn the main air supply ball valve to the open position.

8. Slowly turn the main air supply pressure regulator clockwise until the pump starts to move and will change over by itself. Never turn past 20 psi (0.14 MPa, 1.4 bar).

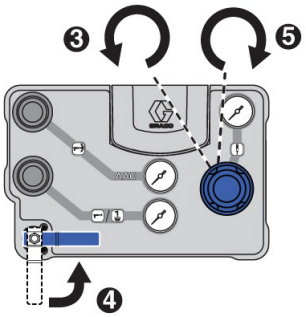


FIG. 24

9. When material begins to flow and all air bubbles have been expelled, turn the resin pump pressure relief/recirculation valve to the dispense position.

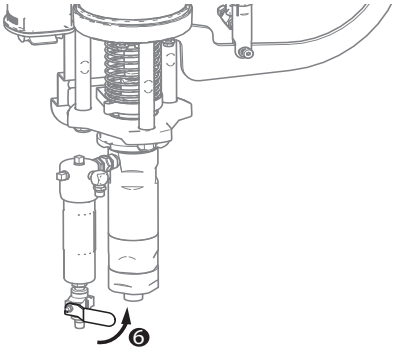


FIG. 25

10. Turn the catalyst pump pressure relief/recirculation valve to the dispense position.

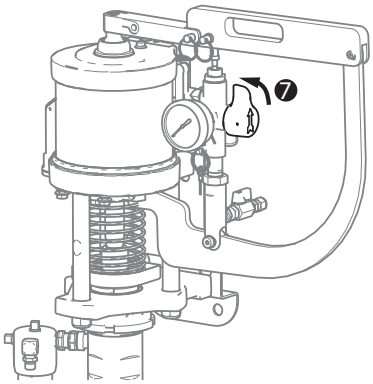


FIG. 26

11. Disengage the trigger lock on the gun. See **Figure 27**.

To reduce the risk of exposure to the dispensed material mist, when performing the following step, use a pail lid with a hole to dispense through. Seal around the hole and the gun with a rag to prevent splash back.

To reduce the risk of skin injection, be careful to keep fingers away from the front of the gun.

To reduce the risk of fire and explosion, use a grounded pail.

12. *Purge air from the resin and catalyst hoses:* with a grounded bucket below the gun, press the gun against the side of the bucket and pull the trigger to dispense. Continue dispensing until air-free fluid is dispensed from both ports on the front of the gun. See **Figure 27**. The pump air pressure may need to increase slightly until the material begins to flow.

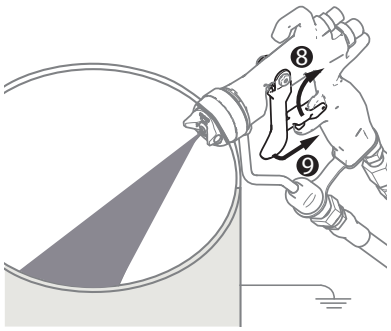


FIG. 27

13. Turn the main air supply ball valve to the closed position.

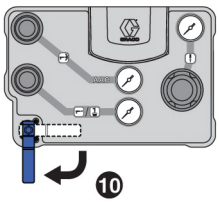


FIG. 28

14. Turn the catalyst pump pressure relief/recirculation valve to the pressure relief position. This will relieve any built up pressure.

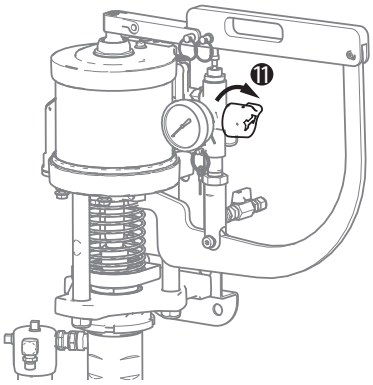


FIG. 29

15. Verify that the resin pressure relief/recirculation fluid line is routed to a grounded container, then turn the pressure relief/recirculation valve to the pressure relief position.

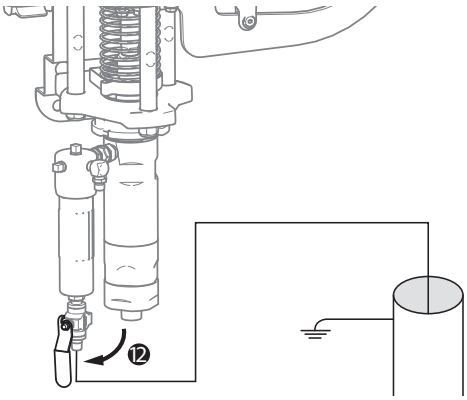


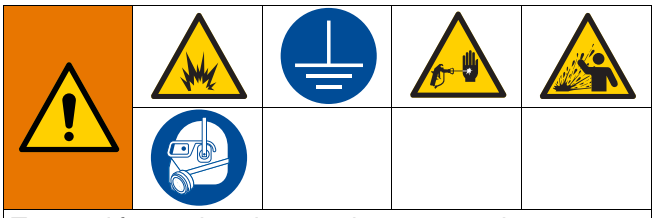
FIG. 30

16. *For systems with DataTrak:* disable the prime/flush function by pushing the prime/flush button on the DataTrak.

17. Engage the gun trigger lock.

18. If the front end of the gun was removed, apply grease to the o-rings and front of the gun to prevent material from curing or sticking to it, then install gun front end.

Flush the System



To avoid fire and explosion, always ground equipment and waste container. To avoid static sparking and injury from splashing, always flush at the lowest possible pressure.

NOTICE

The catalyst (hardener) is extremely moisture sensitive. Check the catalyst for any changes in viscosity or hardening due to moisture contamination. If contamination is detected, remove the material and flush the system. Do not attempt to pump or recirculate. If material solidifies, it could damage the hoses and the catalyst pump.

Do not flush with water or water based solvents.

Do not leave the container open to atmosphere for any extended period of time.

Check the desiccant breather daily. Desiccant starts out dark blue and turns translucent pink when it needs to be changed. The desiccant part number is 262454.

You should flush the system:

- Before first use
- When changing fluids
- Before repairing equipment
- Before fluid dries or settles out in a dormant pump (check the pot life of catalyzed fluids)
- Before storing the pump.

Flush at the lowest pressure possible. Flush with a fluid that is compatible with the fluid you are pumping and with the wetted parts in your system. Check with your fluid manufacturer or supplier for recommended flushing fluids and flushing frequency.

NOTE: Always flush the catalyst pump separately by hand (remove the pin from the upper control arm and hand pump).

1. Remove all fluid inlet, recirculation, and weep lines from the catalyst reservoir and insert them in a container filled with a compatible solvent.
2. Remove the resin pump fluid supply and recirculation lines from the resin supply container and insert them in a container filled with a compatible solvent.
3. With the fluid lines in the two separate solvent containers, perform the prime procedure at the lowest pressure possible. See **Prime the System** on page **23**. While performing this procedure, leave the fluid supply, recirculation, and supply lines in the solvent containers.

Spraying

NOTE: If using an air motor with DataTrak, see **DataTrak Operation** on page **29** for instructions on using the DataTrak counter/totalizer.

Prior to production use, spray onto a clean piece of paper until all system settings are adjusted to optimize the spray pattern.

Perform this full procedure whenever the gun has been unused for an extended period of time, such as overnight. After performing this full procedure, spraying can be performed intermittently as desired by simply pulling the trigger and utilizing the trigger lock to prevent accidental triggering.

1. If this is the first time starting up the system, if fluid lines have been disconnected, if the fluid supply line has been removed from the supply container, or if either pump has been run dry, perform the prime procedure on described on page **23**.
2. Turn the main air supply ball valve to the closed position.
3. Turn the main air supply pressure regulator fully counterclockwise.

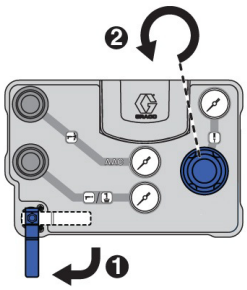


FIG. 31

4. Turn the resin pump pressure relief/recirculation valve to the dispense position.

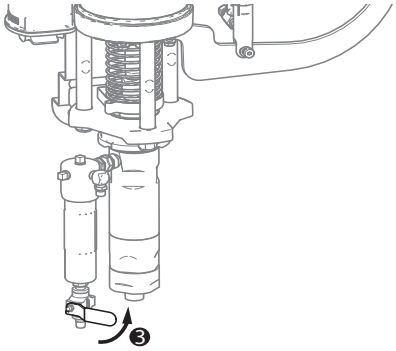


FIG. 32

5. Turn the catalyst pump pressure relief/recirculation valve to the dispense position as shown in **Figure 33**.
6. Bring the catalyst pump fluid outlet line to the dispensing pressure :
   a. Remove the pin connecting the upper catalyst pump arm to the air motor rod, then manually stroke the pump until the catalyst pressure gauge shows 300-400 psi (2.1-2.8 MPa, 21-28 bar).
   b. Insert the pin to connect the upper catalyst pump arm to the air motor.

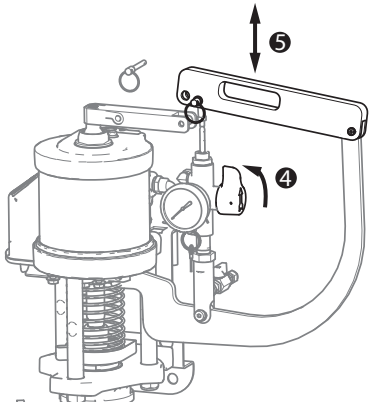


FIG. 33

7. Turn the main air supply ball valve to the open position. See **Figure 34**.

8. Slowly turn the main air supply pressure regulator clockwise until the main air supply pressure gauge reads the desired pressure.

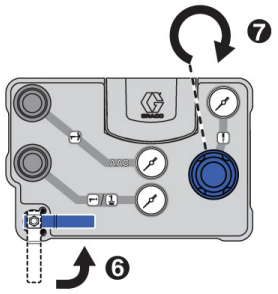


FIG. 34

9. Disengage the trigger lock on the gun as shown in **Figure 35**.

10. Pull the trigger to begin dispensing.

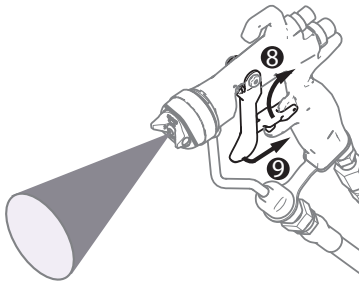


FIG. 35

NOTE: In the following step, to minimize over-spray, use as little atomization air pressure as possible to achieve the desired spray pattern. See the G15/G400 Spray Gun manual 3A0149 listed in **Related Manuals** on page **3** for instructions.

11. If the spray pattern has not already been set up to perform as desired, refer to the G15/G40 gun manual for detailed instructions for how to optimize the spray pattern, including adjusting the AAC air pressure at the system or gun, and adjusting the catalyst atomization air. See **Related Manuals** on page **3**.

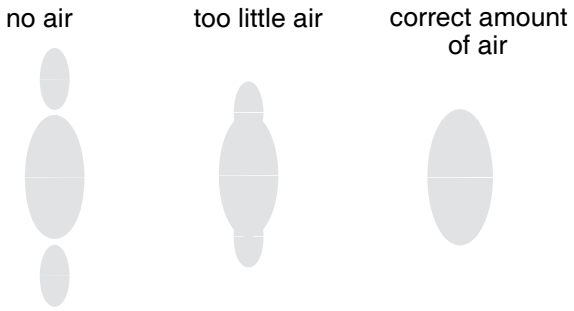


FIG. 36: AAC Air Adjustment

12. After all pressure adjustments are made, spray a final test shot on a clean piece of paper. This shot should be approximately 5 ft long. Check desired gel times and uniformity of curing.

13. When finished spraying, point the gun into a waste container. Use the solvent knob on the mix manifold and pull the trigger on the gun to move solvent through the gun to flush it.

14. Engage the trigger lock on the gun. If necessary, use a brush to remove cured material from the front of the gun.

15. *If finished spraying for an extended period of time:* follow the **Pressure Relief Procedure** on page **20**.

DataTrak Operation

DataTrack is available as an option for the 2K-WR. For DataTrak installation instructions, see the NXT Air Motor for FRP manual 3A2315 listed in **Related Manuals** on page **3**.

NOTICE

To prevent damage to the soft key buttons, do not press the buttons with sharp objects such as pens, plastic cards, or fingernails.

Controls and Indicators

NOTE: The display will turn off after 1 minute of inactivity in Run mode or 3 minutes in Setup mode. Press any key to wake up the display. DataTrak will continue to count cycles when the display is off.

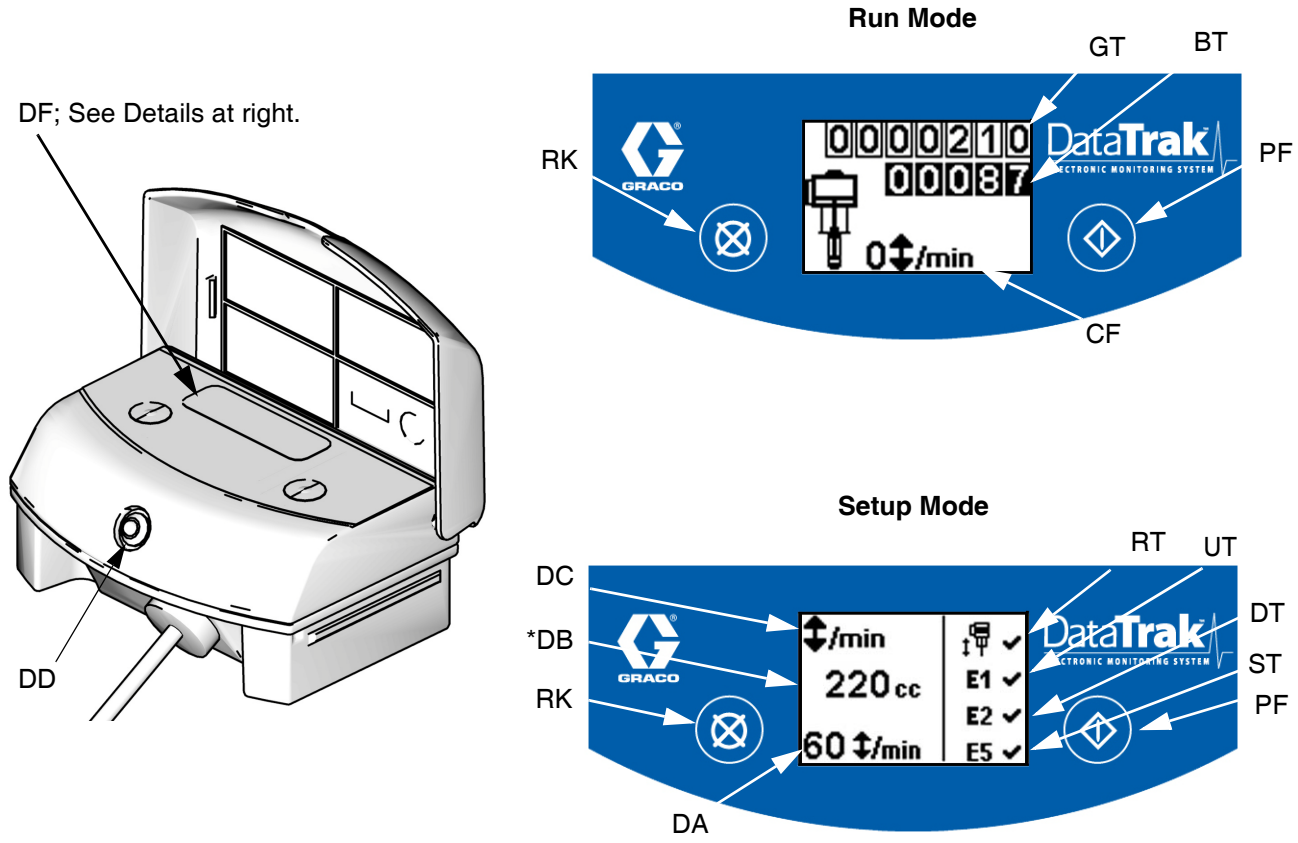


FIG. 37. DataTrak Controls and Indicators

Key:

DA Runaway Limit, in cycles per minute (user settable; 00=OFF)
DB * Lower Displacement (user settable)
DC Flow Rate Units (user settable to /min, gpm [US], gpm [Imperial], oz/min [US], oz/min [Imperial], l/min, or cc/min)
DD LED (fault indicator when lit)
DE Diagnostic Reference Card (see **Table 1**, page **32**)
DF Display

** 17:1 pump setting is 60cc (for 2 in. stroke).*

PF Prime/Flush Key (Enables Prime/Flush mode. While in Prime/Flush mode, runaway protection is disabled and the batch totalizer (BT) will not count.)
RK Reset Key (Resets faults. Press and hold for 3 seconds to clear the batch totalizer.)
CF Cycle/Flow Rate
BT Batch Totalizer
GT Grand Totalizer
RT Runaway Toggle (enable/disable)
UT E1 Error Option (enable/disable)
DT E2 Error Option (enable/disable)
ST E5 Error Option (enable/disable)

Setup Mode

1. Refer to **Figure 37**. Press and hold ⓘ for 5 seconds until the Setup menu appears.
2. To enter settings for runaway, lower size, and flow rate units, and to enable runaway, E1, E2, and E5 error options, press ⊗ to change the value, then ⓘ to save the value and move the cursor to the next data field. See page **32** for a description of E1, E2, and E5 error codes.

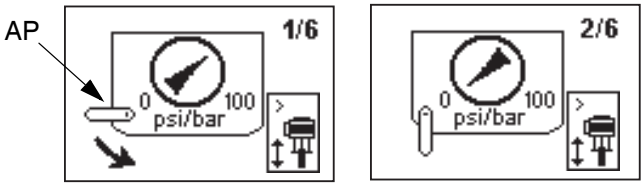
NOTE: When runaway, E1, E2, and E5 error options are enabled, a ✓ appears on the setup screen.

3. Move the cursor to the E5 error enable option field, then press ⓘ once more to exit Setup mode.

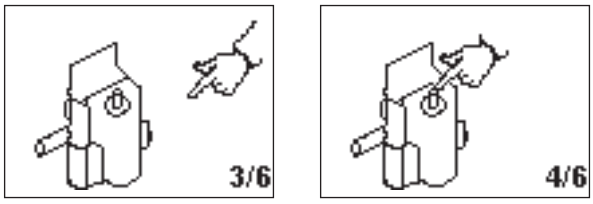
Run Mode

Runaway Monitor

1. Refer to **Figure 37**. If pump runaway occurs, the runaway solenoid actuates, stopping the pump. The LED (CD) flashes and the display (CF) indicates a runaway condition (see **Table 1** on page **32**). The display cycles through six instruction screens.
2. Runaway Screens 1 and 2: To reset the runaway solenoid, close the master air valve (AP). Wait for air to completely bleed off the air motor.



3. Runaway Screens 3 and 4: After the air is bled off, push the solenoid release button down to reset the air valve. The button pops back up when the air valve is re-pressurized.



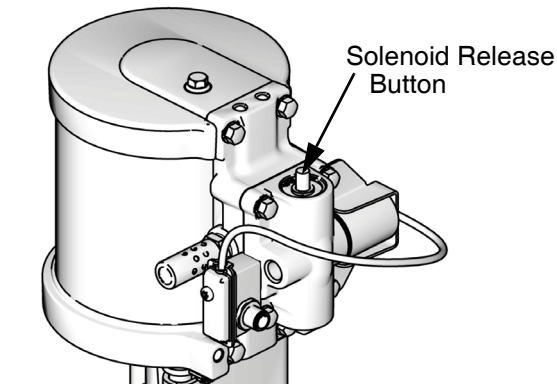
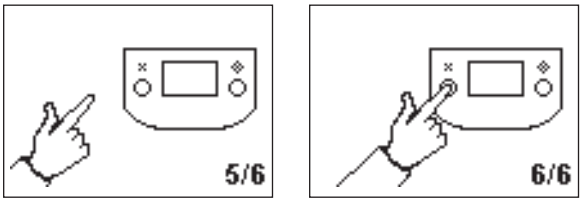


FIG. 38: Solenoid Release Button Location

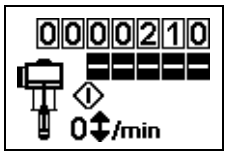
4. Runaway Screens 5 and 6: Press ⊗ to clear the diagnostic code and reset the runaway solenoid.



5. Open the master air valve (AP) to restart the pump.

NOTE: To disable runaway monitoring, go to the setup mode and set the runaway value (CA) to 0 (zero) or disable (RT) .

Prime/Flush

1. Refer to **Figure 37**. To enter Prime/Flush mode, press any key to wake up the display, then press ⏻. The Prime/Flush symbol appears in the display and the LED flashes 

.

2. While in Prime/Flush mode, runaway protection is disabled and the batch totalizer (BT) does not count. The grand totalizer (GT) continues to count.

1. To exit Prime/Flush mode, press any key to wake up the display, then press ⏻. The Prime/Flush symbol disappears from the display and the LED stops flashing.

Counter/Totalizer

The last digit of the batch totalizer (BT) represents tenths of gallons or liters. To reset the totalizer, press any key to wake up the display, then press and hold ⊗ for 3 seconds.

- If AC is set to gallons or ounces, BT and GT display gallons.
- If AC is set to liters or cc, BT and GT display liters.
- If AC is set to cycles, BT and GT display cycles.

Press ⊗ to toggle between flow rate units and cycles. A letter under the BT display indicates that both BT and GT are displaying gallons (g) or liters (l). No letter means both BT and GT are displaying cycles.

Display

The display (CF) will turn off after 1 minute of inactivity in Run mode or 3 minutes in Setup mode. Press any key to wake up the display.

NOTE: DataTrak will continue to count cycles when display is off.

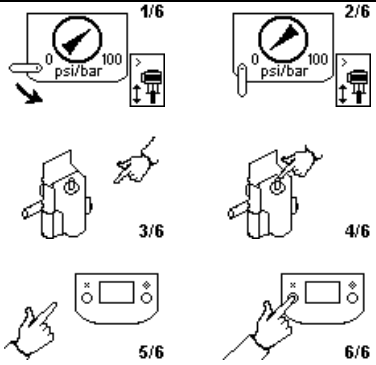
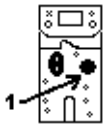
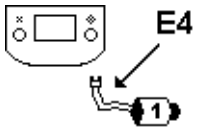
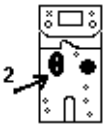
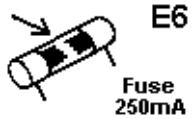
NOTE: The display (CF) may turn off if a high-level static discharge is applied to the DataTrak. Press any key to wake up the display.

Diagnostics

DataTrak can diagnose several problems with the pump. When the monitor detects a problem, the LED (CD) flashes and a diagnostic code appears on the display. See **Table 1** on page **32**.

To acknowledge the diagnosis and return to the normal operating screen, press ⊗ once to wake up the display, and once more to clear the diagnostic code screen.

Table 1. Diagnostic Codes

Symbol	Code	Code Name	Diagnosis	Cause
		Runaway (DataTrak only)	Pump running faster than set runaway limit.	• Increased air pressure. • Increased fluid output. • Exhausted fluid supply.
	E-1	Diving Up	Leak during upstroke.	Worn piston valve or packings.
	E-2	Diving Down	Leak during downstroke.	Worn intake valve.
	E-3	Low Battery	Battery voltage too low to stop runaway.	Low battery. Replace battery; see page **33**.
	E-4	Service Component 1 (units with runaway protection only)	Problem with stopping runaway.	• Damaged solenoid. • Damaged valve carriage. • Runaway (RT, FIG. 37) protection may be enabled with pump that is not equipped with a runaway solenoid valve. Enter setup screen and disable runaway protection.
	E-4	Disconnected Solenoid (units with runaway protection only)	Solenoid is disconnected.	• Solenoid unplugged. • Damaged solenoid wires.
			Solenoid is not engaging piston cup.	• Bracket and solenoid not tight against air valve housing.
	E-5	Service Component 2	Problem with sensing valve movement.	• Sensors unplugged. • Sensors mounted incorrectly. • Damaged sensors. • Damaged valve carriage.
	E-6	Blown Fuse	Fuse is blown. Replace fuse; see page **33**.	• Faulty solenoid or solenoid wiring. • Extreme temperatures (above 140°F [60°C]). • Runaway (RT, **Figure 37** on page **29**) protection may be enabled with pump that is not equipped with a runaway solenoid valve. Enter setup screen and disable runaway protection.

Replace the DataTrak Battery or Fuse

To reduce the risk of fire and explosion, the battery and fuse must be replaced in a non-hazardous location.

Use only an approved replacement battery, shown in Table 2, and an approved fuse, shown in Table 3. Use of an unapproved battery or fuse will void Graco's warranty and Intertek and Ex approvals.

Replace Battery

1. Unscrew the cable from the back of the reed switch assembly as shown in **Figure 39**.
2. Remove the cable from the two cable clips.

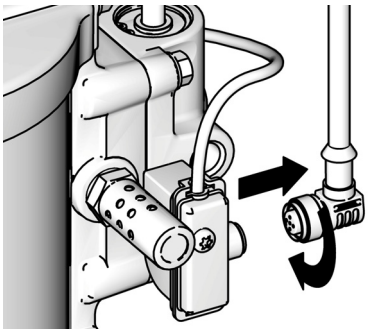


FIG. 39. Disconnect DataTrak

3. Remove the DataTrak module from the bracket. Take the module and the attached cable to a non-hazardous location.
4. Remove two screws on the back of the module to access the battery.
5. Disconnect the used battery and replace with an approved battery. See **Figure 40**.

Table 2. Approved Batteries
Energizer® alkaline # 522
Varta™ alkaline # 4922
Ultralife® lithium # U9VL
Duracell® alkaline # MN1604

Replace Fuse

1. Remove the screw, metal strap, and plastic holder.
2. Pull the fuse away from the board.
3. Replace with a new fuse.

Table 3. Approved Fuses		
DataTrak Part Number	**Series***	**Fuse Required**
289822	A or B	24C580
	C and later	24V216
All other part numbers	A	24C580
	B and later	24V216

* ***Figure 40*** *shows where to find the Series letter.*

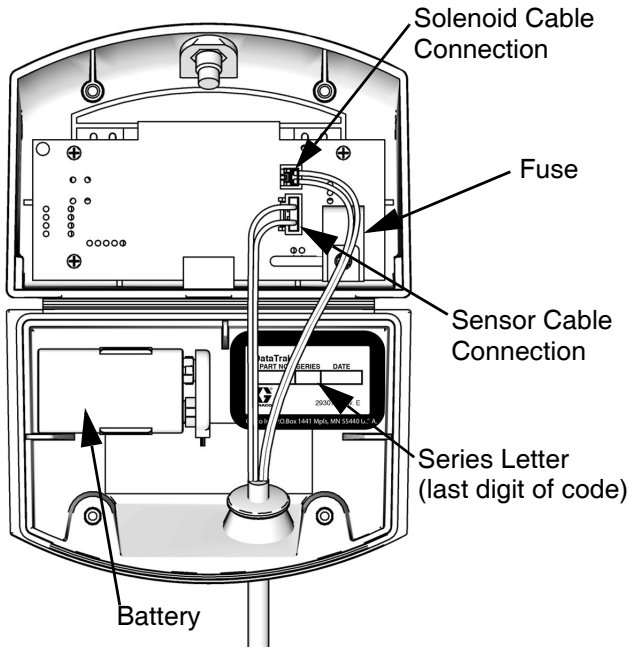


FIG. 40: DataTrak Battery and Fuse Location

Maintenance

Task	Schedule
Inspect pump wetcup and fill with TSL and remove any particles or residue	Daily
Remove resin pump outlet filter and flush debris	Daily
Inspect hoses for wear or damage and replace immediately if found	Weekly
Remove catalyst reservoir filter and clean with solvent	As needed
Replace catalyst reservoir filter	As needed
Flush system	As needed

Components

See the component manuals listed in **Related Manuals** on page **3** for maintenance schedules and procedures for each component.

NOTICE
The catalyst (hardener) is extremely moisture sensitive. Check the catalyst for any changes in viscosity or hardening due to moisture contamination. If contamination is detected, remove the material and flush the system. Do not attempt to pump or recirculate. If material solidifies, it could damage the hoses and the catalyst pump. Do not flush with water or water based solvents. Do not leave the container open to atmosphere for any extended period of time. Check the desiccant breather daily. Desiccant starts out dark blue and turns translucent pink when it needs to be changed. The desiccant part number is 262454.

Troubleshooting

Problems

Try the recommended solutions in the order given for each problem, to avoid unnecessary repairs.

Catalyst Pump

See **Air Panel, 16U750** parts illustration on page **52** for parts identification.

Problem	Cause	Solution
Pressure loss on up stroke.	Worn transfer housing seal.	Replace transfer housing seal.
	Worn transfer housing seat.	Replace transfer housing.
Pressure loss on up stroke and down stroke.	Worn weep seals.	Replace weep cartridge.
	Blow off valve spring is wearing out.	Replace blow off valve.
	Loose fittings on spray gun and/or hoses.	Tighten fittings on spray gun and hoses.
	Scratched piston rod.	Replace piston rod.
Pressure not building on up stroke.	Damaged transfer housing seat.	Replace transfer housing.
Pressure not building on down stroke.	Scratched inlet valve.	Replace inlet valve.
Leakage from cartridge housing.	Loose cartridge housing.	Tighten cartridge housing.
	Loose bearing.	Tighten bearing.
Pressure being relieved through relief valve or check valve at a low pressure.	Relief valve or check valve has a weak spring.	Replace relief valve or check valve.
Pump will not prime.	Fluid inlet ball valve is closed.	Open fluid inlet ball valve.
Excessive weepage	Missing snap-on seal retainer.	Remove cartridge and install.
	Worn or damaged snap-on seal retainer.	Remove and replace.

Resin Pump

See **Resin Pumpline, 17N663** on page **48** for parts identification.

Problem	Cause	Solution
Does not operate.	Valve closed or clogged.	Clear air line; increase air supply. Check that valves are open.
	Fluid hose or gun obstructed.	Clean hose or gun.*
	Dried fluid on displacement rod.	Clean rod; always stop pump at bottom of stroke; keep wet-cup filled with Throat Seal Liquid (TSL).
	Air motor parts dirty, worn, or damaged.	Clean or repair air motor. See air motor manual.
	Runaway error on DataTrak tripped (if DataTrak installed).	See **DataTrak Operation - Run Mode**, page **30**.**
Stall on bottom of stroke.	Runaway solenoid actuated. (if DataTrak installed).	Enable runaway protection, if disabled, then see **DataTrak Operation - Run Mode**, page **30**, to reset the runaway solenoid.**

Problem	Cause	Solution
Output low on both strokes.	Air line restricted or air supply inadequate. Valves closed or clogged.	Clear air line; increase air supply. Check that valves are open.
	Fluid hose/gun obstructed.	Clear hose or gun*.
	Air motor icing.	See air motor manual for instructions.
	Exhausted fluid supply.	Refill and prime pump.
	Worn piston packings.	Replace.
	Open or worn intake valve.	Clear or service intake valve.
Pump output low on only one stroke.	Held open or worn ball check valves.	Check and repair.
	Worn piston packings.	Replace.
No output.	Improperly installed ball check valves.	Check and repair.
Pump operates erratically.	Exhausted fluid supply.	Refill and reprime pump.
	Held open or worn ball check valves.	Check and repair.
	Worn piston packing.	Replace.
	Suction tube too restrictive, causing pump to cavitate.	Use larger diameter tube.
Erratic accelerated speed.	Fluid supply exhausted, clogged suction.	Refill supply and prime pump. Clean suction tube.
	High viscosity fluid.	Reduce viscosity; increase fluid temperature, reduce flow rate by using smaller tip.
	Open or worn piston valve or seal.	Clear piston valve; replace seal.
	Open or worn intake valve.	Clear or service intake valve.
Runs sluggishly.	Possible icing.	See air motor manual for instructions.
	Filler material clumping causing extra friction on rods and seals.	Flush pump and replace packings.
Cycles or fails to hold pressure at stall.	Worn check valves or seals.	Service lower. See lower manual for instructions.
Air bubbles in fluid.	Loose suction line.	Tighten. Use compatible liquid thread sealant or PTFE tape on connections.
Poor finish or irregular spray pattern.	Incorrect fluid pressure at gun.	See gun manual; read fluid manufacturer's recommendations.
	Fluid is too thin or too thick.	Adjust fluid viscosity; read fluid manufacturer's recommendations.
	Dirty, worn, or damaged spray gun.	Service spray gun. See spray gun manual.
Difficulty priming	Inlet ball stuck to seat.	Tap pump with hammer to dislodge.
		Remove inlet ball, flush dried material, re-install inlet ball.
	Suction hose/strainer too restrictive or clogged.	Clean inlet strainer, shorten hose length and/or increase hose diameter (especially cold or viscous material.

* *To determine if the fluid hose or gun is obstructed, follow the **Pressure Relief Procedure** on page **20**. Disconnect the fluid hose and place a container at the pump fluid outlet to catch any fluid. Turn on air power just enough to start the pump. If the pump starts, the obstruction is in the fluid hose or the gun.*

** *The runaway solenoid can still be actuated if the Runaway Error is not displayed. Also, disabling the runaway monitor will not retract the solenoid.*

Repair

- To reduce the risk of fire and explosion, repair procedures must be performed in a non-hazardous location. Move the system to a non-hazardous location before performing any repair procedure.
- To prevent contact with fluids, flush the system prior to disassembling any components that contain catalyst or resin.
- Follow **Pressure Relief Procedure** on page **20** before checking or servicing the equipment.

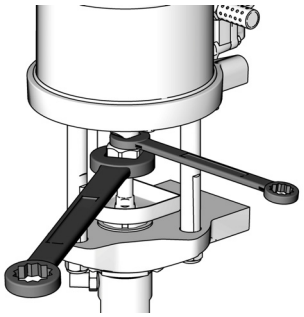
General Information

- Reference numbers and letters in parentheses in the text refer to the callouts in the figures and the parts drawing.
- Always use Genuine Graco Parts and Accessories, available from your Graco distributor. If you supply your own accessories, be sure they are adequately sized, pressure-rated, and made of materials compatible with your system.

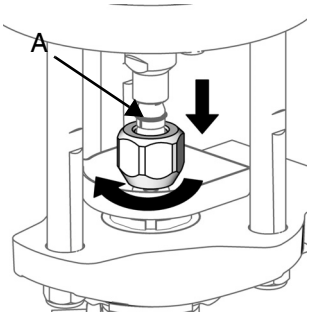
Disconnect the Displacement Pump

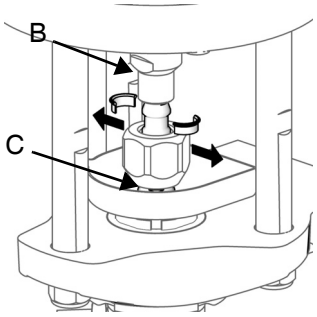
The resin displacement pump is the lower assembly of the resin pumpline. See U-Cup Displacement Pump manual 3A2313 listed in **Related Manuals** on page **3** for displacement pump service and parts information.

1. Flush the pump. See **Flush the System** on page **26**.
2. Stop the pump in the middle of the stroke.
3. Relieve the pressure. See **Pressure Relief Procedure** on page **20**.
4. Disconnect the air supply and fluid hoses.
5. Hold the flats of the air motor piston rod with a wrench. Use another wrench to loosen the coupling nut.

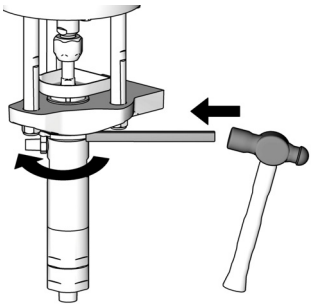


6. Lower the coupling nut (A) enough to remove the coupling collars (B), and then remove the coupling nut (A). Use a magnet to aid removing the two collars (B).





7. Pull up on the TSL reservoir (C) to remove.
8. Use a hammer and brass rod to loosen the jam nut. Unscrew the jam nut as far as possible.
9. Protect your hands with a rag; then unscrew the displacement pump by hand and place it on a work bench.

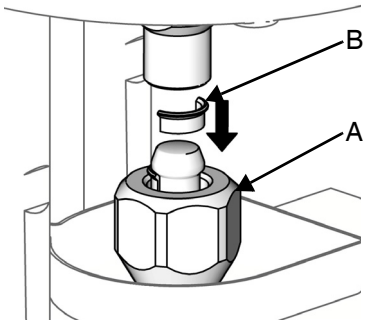


Threads are very sharp. Use a rag to protect hands when hand turning or carrying the pump.

10. See U-Cup Displacement Pump manual 3A2313 for pump service procedures and parts information.

Reconnect the Displacement Pump

1. Disconnect the air supply from the air motor.
2. Hand-turn the displacement pump into the adapter plate.
3. Install the coupler spring guard and TSL reservoir.
4. Hold the air motor piston rod up with one hand. With your other hand, put the coupling nut (A) on the displacement rod.
5. Put the coupling collars (B) into the coupling nut (A) so the large flanges point upward.



6. Gently let the air motor piston rod drop onto the displacement rod. Hand tighten the coupling nut (A).
7. Screw the displacement pump into the adapter plate (D) until the cylinder top is flush with the top of the adapter plate.

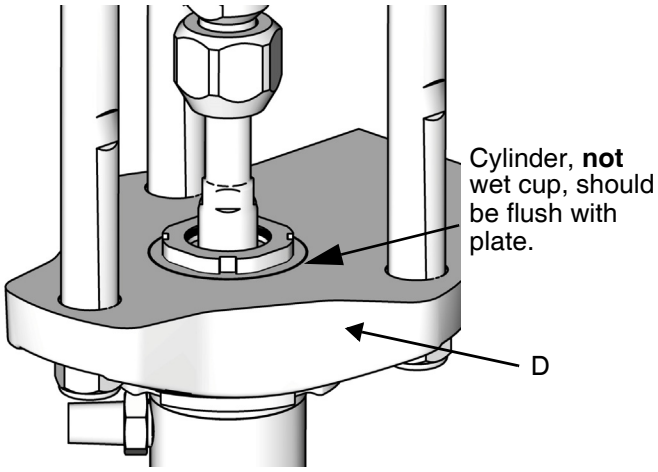
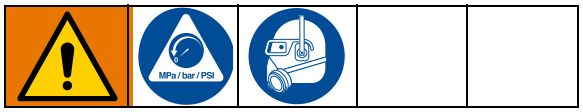


FIG. 41. Align the Cylinder and Adapter Plate.

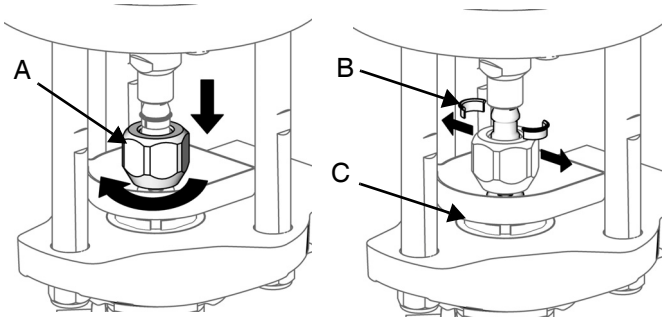
8. Align the fluid outlet as shown and tighten the jam nut.
9. Align the TSL reservoir (C) and push it down into place.
10. Hold the flats of the motor rod with a wrench. Use another wrench to tighten the coupling nut (A). Torque to 75-80 ft-lb (102-108 N•m).
11. Reconnect the air supply to the motor.

Disconnect the Air Motor

Refer to air motor manual 3A2315 (see **Related Manuals** on page **3**) for air motor service and parts information. See **Figure 42** on page **40** for reference.



1. Relieve the pressure. See **Pressure Relief Procedure** on page **20**.
2. Disconnect the main air supply line from the inlet on the air control panel (EE).
3. Disconnect the grounding wire.
4. Disconnect items from the air motor:
   a. Note the location of all air hoses connected to the air motor, then disconnect the hoses from the air motor.
   b. Remove the top pin (EA) connecting the upper catalyst pump arm to the air motor and remove the bolts (EB) connecting the lower catalyst pump arm to the air motor. Then remove the catalyst pump and control arms assembly (EC).
   c. Remove the two bolts (ED) securing the air control panel to the air motor. Then remove the air control panel (EE).
5. Hold the flats of the air motor piston rod with a wrench. Use another wrench to loosen the coupling nut (A). Lower the coupling nut (A) enough to remove the coupling collars (B), then remove the coupling nut (A).

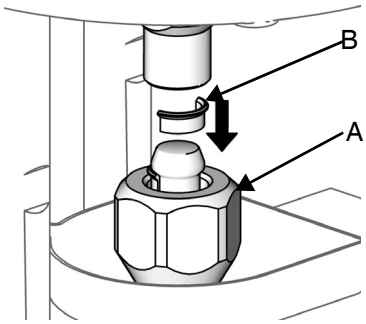


6. Use a 23 mm socket to remove the tie rod nuts (EF).
7. Use a 13 mm socket to loosen the top two screws (EG) that secure the air motor to the mounting bracket (EH).
8. Lift up on the air motor to remove it. The tie rods (EJ) remain attached to the air motor.
9. Use a socket on the flats of the tie rods (EJ) to remove them from the bottom of the air motor.
10. See NXT Air Motor for FRP manual 3A2315 for repair procedures and parts information.

Reconnect the Air Motor

See **Figure 42** on page **40** for reference.

1. Screw the tie rods (EJ) into the bottom of the air motor. With a wrench on the flats of the tie rods, torque to 50-55 ft-lb (68-75 N•m).
2. Align the tie rods (EF) with the holes in the pump adapter. Carefully lower the air motor into place.
3. Attach the tie rod nuts (EF) to the tie rods then torque to 50-60 ft-lb (68-81 N•m).
4. Install and tighten the screws (EG) that secure the air motor to the mounting bracket (EH).
5. Install the coupler spring guard and TSL reservoir.
6. With coupling collars (B) in place, hand tighten the coupling nut, then torque to 75-80 ft-lb (102-108 N•m).



7. Connect the air and fluid hoses.

The equipment must be grounded to reduce the risk of static sparking. Static sparking can cause fumes to ignite or explode. Grounding provides an escape wire for the electric current.

8. Attach the grounding wire to a true earth ground.

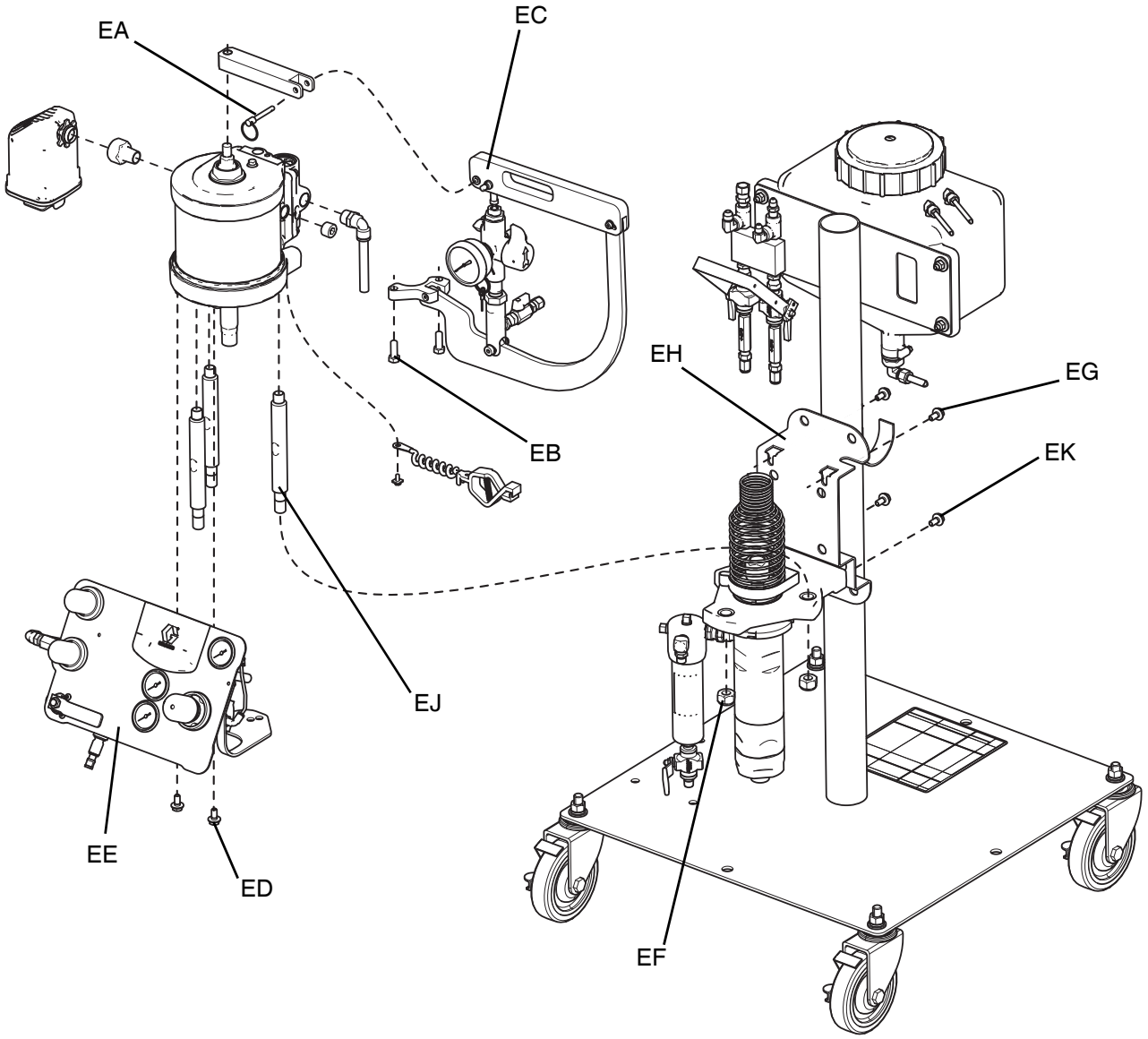
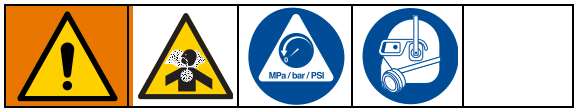


FIG. 42: Repair and Replace Components

Replace the Resin Pumpline



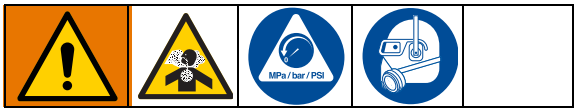
This procedure is only needed if you are replacing the entire resin pumpline.

NOTE: If you are just installing repair parts in the air motor and/or resin displacement pump, see **Disconnect the Displacement Pump** on page **37** and **Disconnect the Air Motor** on page **39**.

See **Figure 42** on page **40**.

1. Flush the pump. See **Flush the System** on page **26**.
2. Relieve the pressure. See **Pressure Relief Procedure** on page **20**.
3. Disconnect the main air line from air panel (EE).
4. Disconnect items from the air motor:
   a. Note the location of all air hoses connected to the air motor; then disconnect the hoses from the air motor.
   b. Remove the top pin (EA) connecting the upper catalyst pump arm to the air motor and remove the bolts (EB) connecting the lower catalyst pump arm to the air motor. Then remove the catalyst pump and the control arms assembly (EC).
   c. Remove the two bolts (ED) securing the air control panel to the air motor; then remove the air control panel (EE).
5. Disconnect the air and fluid hoses.
6. Disconnect the ground wire.
7. Use a socket to loosen the two screws (EG) connecting the air motor to the mounting bracket (EH).
8. Use a socket to remove the two screws (EK) securing the displacement pump to the mounting bracket.
9. Lift up on the pumpline to slide the pumpline out of bracket.
10. Reassembly is the reverse of assembly.

Repair the Catalyst Pump



See **Catalyst Slave Pump, 25M310** in **Parts** on page **54** for reference numbers.

Remove the Catalyst Pump from System

1. Flush the pump. See **Flush the System** on page **26**.
2. Relieve the pressure. See **Pressure Relief Procedure** on page **20**.
3. Close the catalyst supply ball valve and disconnect the fluid lines.
4. Remove the top pivot knob securing the catalyst pump to the upper control arm.
5. Remove the bolt securing the catalyst pump to the lower control arm. Then remove the catalyst pump.

Disassemble the Catalyst Pump

6. Pull the pin out to fully extend the slave pump piston rod (810).
7. Remove the quick release pin (808) from the slave pump housing (801).
8. Holding the slave pump housing stationary with one hand, use a crescent wrench on the flats of the slave pump cylinder (818) to loosen it. Then remove the cylinder and foot valve (822) assembly.
9. Place the slave pump housing in a vise. Use the flats provided by the quick-release pin hole.
10. Use a crescent wrench on the flats of the cartridge (802) to loosen and then remove the cartridge and piston rod assembly.

Repair the Throat and Piston Seals

11. Use a wrench on the flats of the piston rod (810) to hold it stationary while using a second wrench on the flats of the transfer housing (814) to loosen it. Then remove the housing and cap (817) assembly.
12. Install the bullet tool 16D007 on the piston rod; then pull the rod out of the cartridge (802).

NOTICE

Bullet tool 16D007 must be used or damage to the seals will result when removing or installing items onto the rod.

13. Remove the snap-on seal retainer (802e); then remove the seal (802f).
14. Use a crescent wrench to loosen and remove the bearing (802b) and felt wiper (802d) assembly.
15. Remove the seal from the inside of the cartridge (802a).
16. Remove the o-ring (802g).
17. Install the new seal (802f) into the bottom of the cartridge with the u-cup opening facing into the pump.
18. Install the seal with the weep seal installation tool 16N967. Make sure the u-cup opening is facing into the pump. Then use the tool to install the seal into the inside of the cartridge.
19. Install the felt wiper (802d) and the bearing (802b) into the cartridge. Tighten to 20-60 in-lb (2.3-6.8 N•m).
20. Install the o-ring (802g).
21. Install the snap-on seal (802e).
22. Lubricate the piston rod.
23. With the bullet tool 16D007 installed on the piston rod, install the cartridge assembly (802) onto the rod.
24. Remove the bullet tool.
25. Use one wrench on the transfer housing (814) and another on the transfer housing cap (817) to break them loose from each other. Then remove the cap from the housing.
26. Remove the seal (815) and the guide (816) from the transfer housing.
27. Remove the spring (811), the valve (812), and the o-ring (813) from the transfer housing.
28. Remove the o-ring from the valve.
29. Install the new o-ring on the new valve.

30. Hold the spring (811) upright, place the valve (812) on top of the spring, and slide the transfer housing (814) upside down over the spring. Then flip it upright.

31. Install the transfer housing onto the piston rod (810). Use the flats on the rod and the transfer housing to torque the transfer housing against the piston rod to 30-50 in-lb (3.4-5.6 N•m).

32. Slide the cartridge (802) down against the transfer housing.

33. Install the u-cup (815) onto the transfer housing with the u-cup opening facing up towards the rod.

34. Install the guide (816) onto the transfer housing.

35. Install the transfer housing cap (817) onto the transfer housing. Use the flats to torque to 30-50 in-lb (3.4-5.6 N•m).

Repair the Foot Valve

36. Use a wrench to loosen the lock nut (821); then remove the cylinder (818) from the foot valve (822).

37. Remove the ball (825) from the foot valve.

38. Remove the backup o-ring (820) and the o-ring (819) from both ends of the cylinder.

39. Remove the ball seat (823). Tool 24N253 can be used to aid the ball seat removal.

40. Place the new ball seat onto the seat installation tool 16N996 with the lip opening facing in towards the tool.

41. Place the tool into the foot valve and tap with a hammer until the ball seat is properly seated. Then remove the tool.

42. Install the new backup o-ring (820) and the o-ring (819) onto both ends of the cylinder (818). Make sure to install the o-rings in the correct position, with the backup o-rings towards the center of the cylinder.

43. Lubricate the backup o-rings and the o-rings.

44. Install the ball into the foot valve.

45. Thread the cross-cut end of the cylinder into the foot valve by hand until it bottoms out but do not tighten the jam nut.

Assemble the Catalyst Pump

46. Verify the cartridge (802) is pressed against the transfer housing (814).

47. Lubricate the o-ring (802g) on the cartridge.

48. Apply thread sealant to the threads of the cartridge (802a).

49. With the slave pump housing (801) in a vise, carefully thread the cartridge (802) into the housing. Torque the cartridge to 240 in-lb (27.1 N•m).

50. Lubricate the o-rings (819, 820) on the cylinder (818).

51. Hand-thread the cylinder into the slave pump housing all the way until the cylinder bottoms out. Rotate the cylinder counterclockwise less than 1/2 turn until the flat on the cylinder is parallel with the quick-release pin hole. Then insert the quick-release pin (808).

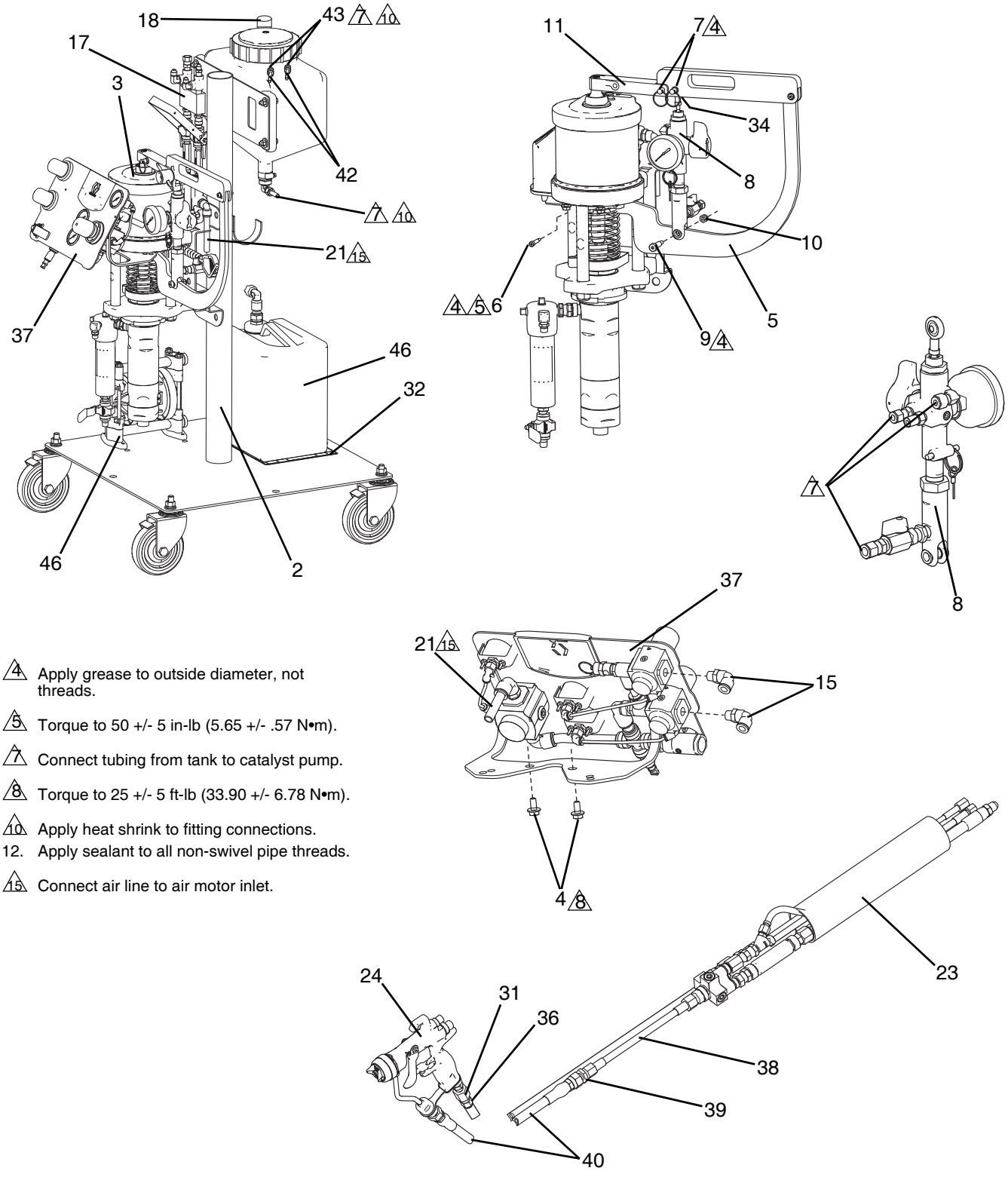
52. With the quick-release pin in place, rotate the foot valve counterclockwise less than one full-turn so that it is facing directly backwards relative to the pressure gauge.

53. Hold the foot valve in position and tighten the lock nut (821) against the foot valve to 225-275 in-lb (25.4-31.1 N•m).

54. Push the piston rod (808) down into the slave pump housing (801).

Parts

2K-WR System, 25C410 and 25C384



4 Apply grease to outside diameter, not threads.

5 Torque to 50 +/- 5 in-lb (5.65 +/- .57 N•m).

7 Connect tubing from tank to catalyst pump.

8 Torque to 25 +/- 5 ft-lb (33.90 +/- 6.78 N•m).

10 Apply heat shrink to fitting connections.

12. Apply sealant to all non-swivel pipe threads.

15 Connect air line to air motor inlet.

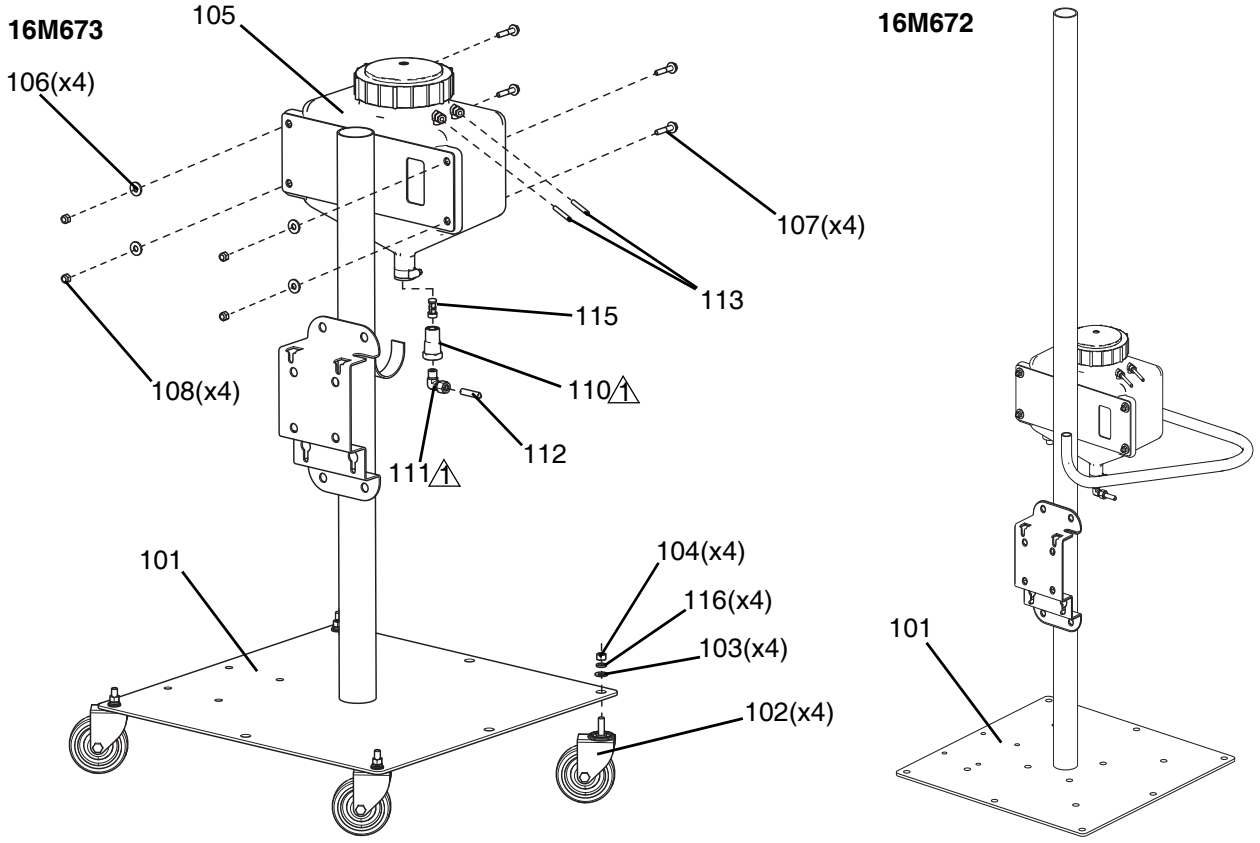
Ref	Part	Description	Quantity	25C410	25C384	
2	16M672	CART, chop, subassy	1		✓	*See page **46***
	16M673	CART, pole, subassy	1	✓		*See page **46***
3	17N663	PUMP, frp, 17:1, 5000 psi filter	1	✓	✓	*See page **48***
4	111799	SCREW, cap, hex hd	6	✓	✓	
5	25M306	HARNESS, slave linkage	1	✓	✓	*See page **53***
6	119999	BOLT, shoulder	1	✓	✓	
7	24M092	PIN, quick release, 1.5 x .25	2	✓	✓	
8	25M310	PUMP, slave, internal mix	1	✓	✓	*See page **54***
9	120476	BOLT, shoulder, 5/16	1	✓	✓	
10	111040	NUT, lock, insert, nylock, 5/16	1	✓	✓	
11	25M309	LINK, yoke, upper, assm	1	✓	✓	
12	16H994❖	SUPPORT, boom, mast	1		✓	
15	115841	FITTING, elbow	2	✓	✓	
17	25M307	KIT, ratio check	1	✓	✓	
18	262454	KIT, accessory, desiccant dryer	1	✓	✓	
21	590570	TUBE, polyethlene, 1/2 in. od	1 ft	✓	✓	
23	17N782	HOSE, bundle, 25 ft	1	✓	✓	*See page **57***
24	24C855	GUN, assy, aag40, 4000 psi	1	✓	✓	
25	17N683◆	KIT, supply hose	1	✓	✓	*See page **51***
27	16M809❖	KIT, boom parts	1		✓	
31	16P309	SWIVEL, union	1	✓	✓	
32	16D136▲	LABEL, safety, warning, multiple	1	✓	✓	
34	24M692	SPACER, ball joint	1	✓	✓	
36	113319	FITTING, air	1	✓	✓	
37	16U750	PANEL, air control	1	✓	✓	*See page **52***
38	24N291	HOSE, static-mixer, hP	1	✓	✓	
39	166846	FITTING, adapter	1	✓	✓	
40	24N347	HOSE, coupled, 5.0 ft	1	✓	✓	
41	114271◆	STRAP, retaining	4	✓	✓	
42	61/0010/88	TUBE, 0.500 od, polyflow, 90 psi	4 ft	✓	✓	
43	61/0088-A/11	SLEEVE, tubing, shrink, 3/4	1 ft	✓	✓	
44	262182◆	HOSE, b, 5 ft, 3/8, moisture-lok, ms	1	✓	✓	
45	257771◆	HOSE, cpld, 1/8 in., 3000 psi, 7 ft	1	✓	✓	
46	16M560	PUMP, solvent, frp, flush, 2 gal	1	✓	✓	*See page **58***

❖ *Not shown here. See **Cart with Boom Parts, 16H994 and 16M809** on page **47**.*

◆ *Not shown.*

▲ *Replacement Danger and Warning labels, tags and cards are available at no cost.*

Carts, 16M672 and 16M673

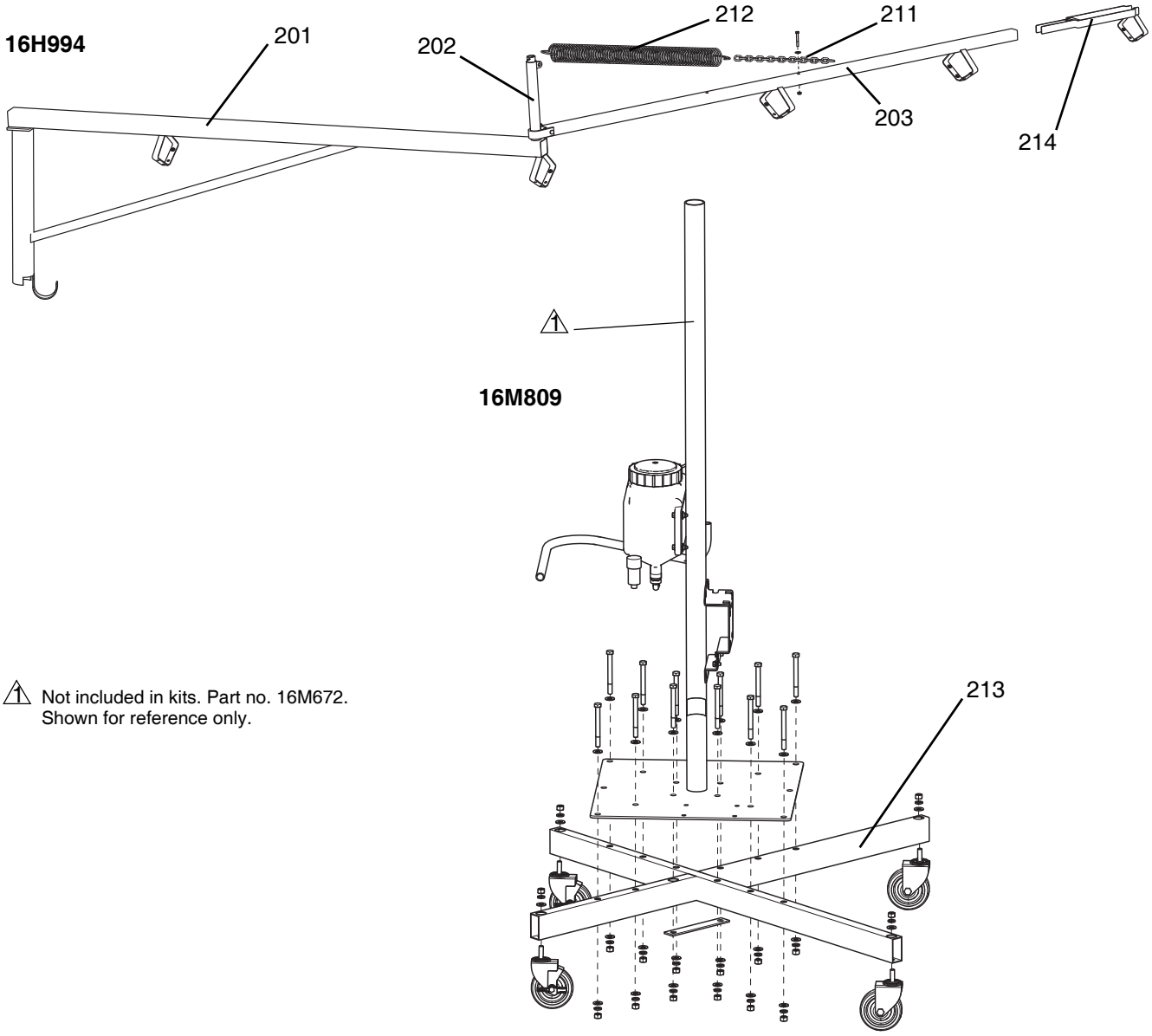


1 Apply sealant to threads.

Ref	Part	Description	Quantity	16M672	16M673	
101	---	CART, chop, weldment	1	✓		
	---	CART, pole, weldment	1		✓	
102	16M465	CASTER, locking	4		✓	
103	113962	WASHER, hardened, sae	4		✓	
104	100321	NUT	4		✓	
105	24M161	RESERVOIR, gravity feed, 2.5 gallon	1	✓	✓	*See page **56***
106	100023	WASHER, flat	4	✓	✓	
107	110837	SCREW, flange, hex	4	✓	✓	
108	111040	NUT, lock, insert, nylock, 5/16	4	✓	✓	
110	16V707	BUSHING, filter, tank, 2.5 gallon	1	✓	✓	
111	20170-00	FITTING, elbow, 1/4 nptm x 3/8 tube ss	1	✓	✓	
112	054106	TUBE, plyeth .375 od	1.25 ft	✓	✓	
113	054118	TUBE, polyethylene	5 ft	✓	✓	
115	16V872	FILTER, assy, 100 mesh, poly, frp	1	✓	✓	
116	100018	WASHER, lock, spring	4		✓	

--- *Not available for individual sale.*

Cart with Boom Parts, 16H994 and 16M809



1 Not included in kits. Part no. 16M672. Shown for reference only.

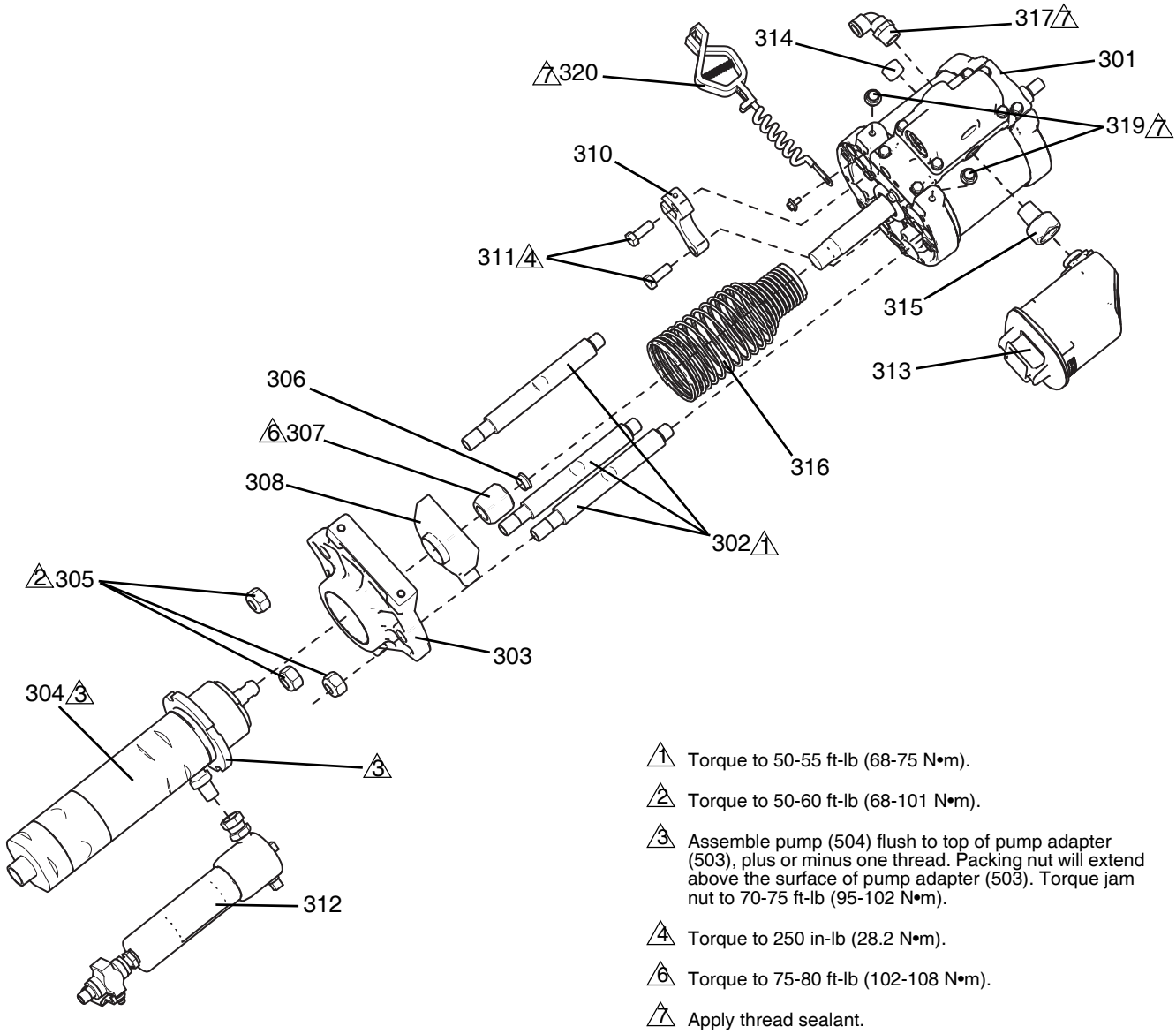
Ref	Part	Description	Quantity
16H994			
201	---	SUPPORT, boom, mast	1
202	16H992	COLLAR, rocker	1
203	16H993	EXTENSION, boom, rocker	1
16M809			
211	16P657❖	KIT, hardware, cmb, system, frp	1
212	444	SPRING, boom	1
213	16N186✖	KIT, legs, chop, cart	1
214	16N950	EXTENSION, boom	1

--- *Not available for individual sale.*

❖ *Not all parts from kit are shown.*

✖ *See **Cart and Boom Legs Kit, 16N186** on page **63**.*

Resin Pumpline, 17N663



1 Torque to 50-55 ft-lb (68-75 N•m).

2 Torque to 50-60 ft-lb (68-101 N•m).

3 Assemble pump (504) flush to top of pump adapter (503), plus or minus one thread. Packing nut will extend above the surface of pump adapter (503). Torque jam nut to 70-75 ft-lb (95-102 N•m).

4 Torque to 250 in-lb (28.2 N•m).

6 Torque to 75-80 ft-lb (102-108 N•m).

7 Apply thread sealant.

Ref	Part	Description	Quantity
301	16M047*	MOTOR, double ended, 4.5 in.	1
302	15M662	ROD, tie	3
303	16U426	ADAPTER, 100 cc pump lower	1
304	24L026**	LOWER, assy, 100 cc, cs	1
305	15U606	NUT, lock, m 16 x 2	3
306	184128†	COLLAR, coupling	2
307	15T311	NUT, coupler	1
308	15T338	RESERVOIR, tsl, 75 cc lwr 7 1/2 motor	1
310	16M362	LINK, fixed, pivot	1

311	116596	SCREW, cap, hex head	2	
312	24Z983	FILTER, fluid, 5000 psi, cold, sst	1	*See page 50*
313	24D642	MUFFLER, 1050 aodd, ice resistant	1	
314	100361	PLUG, pipe	1	
315	16M355	ADAPTER, muffler, 1050	1	
316	16M477	SPRING, guard	1	
317	15V204	FITTING, elbow, 1/2 npt x 1/2 tube	1	
319	111799	SCREW, cap, hex hd	2	
320	238909	WIRE, grounding assembly	1	

* *See air motor manual 3A2315 for parts identification.*

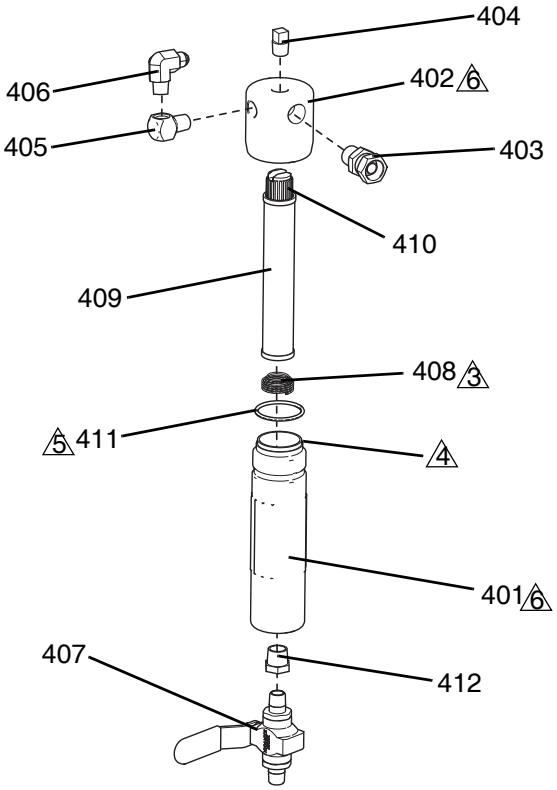
** *See displacement pump manual 3A2313 for parts identification.*

† *Parts available in coupling collar kit 24A619, package of 10.*

NOTE: For displacement pump repair kits, see manual 3A2313. For air motor repair kits, see manual 3A2315.

NOTE: See **Related Manuals** on page **3**.

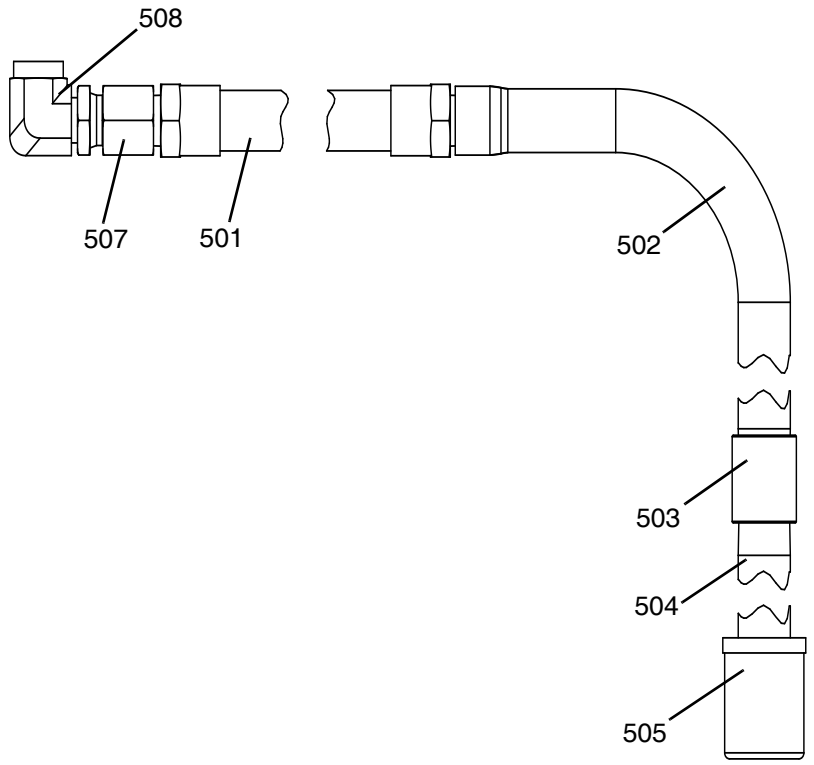
Resin Filter, 24Z983



3. Press fit spring (608) to bottom of filter bowl (601).
4. Apply thread lubricant.
5. Apply lubricant grease.
6. Fully seat filter bowl (601) into head (602) then back off 1/8 to 1/4 turn.
7. Apply sealant to all non-swiveling pipe threads per G std 4.0450.

Ref	Part	Description	Quantity
401	185632	BOWL, filter	1
402	185631	HOUSING, filter	1
403	235208	FITTING, union, swivel	1
404	111697	PLUG, pipe	2
405	166866	FITTING, elbow, street	1
406	122786	FITTING, elbow, jic 06 x 1/4 npt	1
407	239018	VALVE, ball, sst	1
408	171941	SPRING, compression	1
409	17K787	STRAINER, 100 mesh screen, 316 sst	1
410	186075	SUPPORT, filter	1
411	104361	PACKING, o-ring	1
412	168160	BUSHING, pipe	1

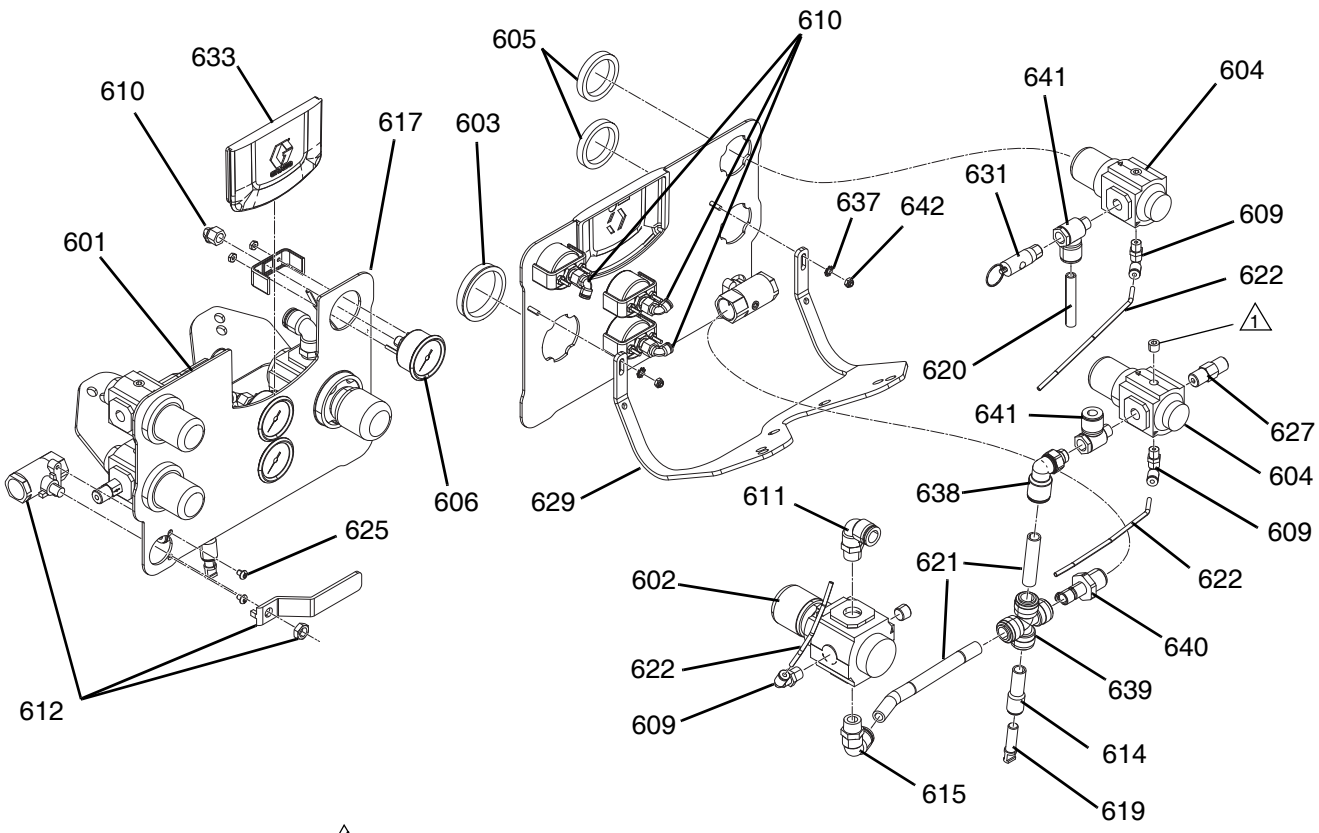
Resin Supply Hose, 17N683



1. Apply pipe sealant to all non-swiveling pipe threads.

Ref	Part	Description	Quantity
501	24P094	HOSE, coupled, 72l, 1id, 1npt, sst	1
502	197682	TUBE, suction	1
503	114967	COUPLING, pipe, 1 in.	1
504	195151	TUBE, intake	1
505	20397-01	FILTER, mesh, 24, 1 in. npt	1
507	122639	SWIVEL, 1 nps x 3/4 npt, ff, ms, 3k, ss	1
508	94/0302-1HP/98	FITTING, elbow, str, 3/4 npt, 90, 3k, ss	1

Air Panel, 16U750



1 Plug supplied with regulator (304).

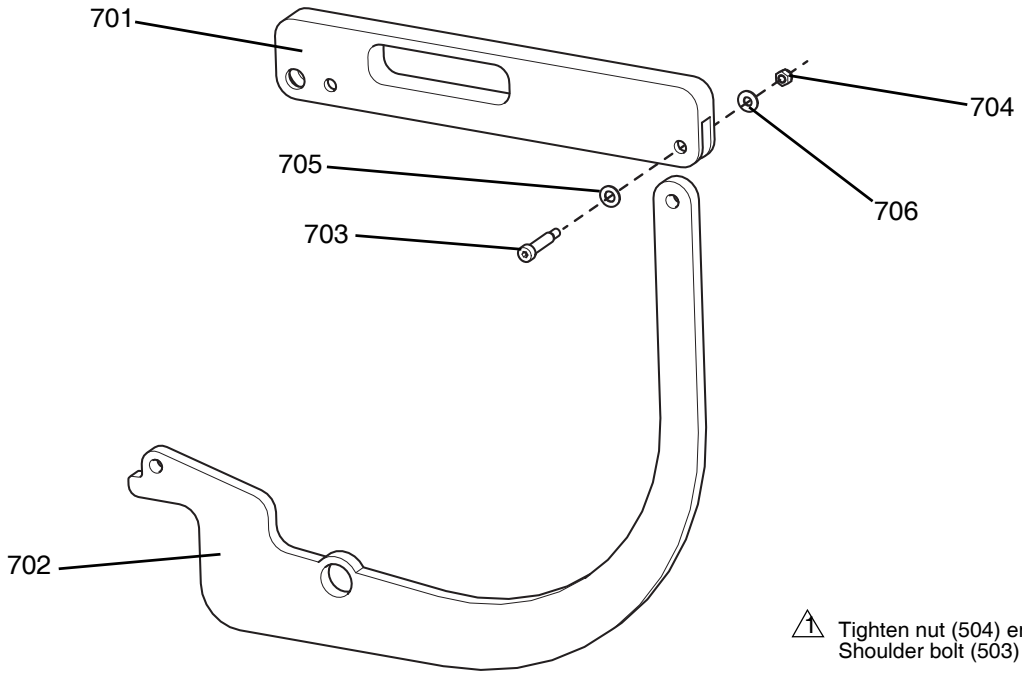
2 Apply sealant to all non-swiveling pipe threads.

Ref	Part	Description	Qty
601	---	PANEL, air control	1
602	15T536	REGULATOR, air, 3/8 npt	1
603	15T538	NUT, regulator	1
604	116513	REGULATOR, air	2
605	116514	NUT, regulator	2
606	15T500	GAUGE, pressure, air, 1/8	3
609	15T866	FITTING, elbow, swivel, 1/8 npt x 5/32 t	2
610	15T498	FITTING, 90°, swivel, 5/32t x 1/8fnpt	3
611	15T937	FITTING, elbow, male, 1/4 npt(m) x 5/32 OD tube	1
612	---	VALVE, ball, 1/2 npt x 1/2 npt	1
614	---	FITTING, straight, 1/2 x 3/8 tube	1
615	121212	FITTING, elbow, swivel, 1/2 t x 3/8 npt(m)	2
617	16U556	LABEL, air control panel, FRP	1
619	124071	PLUG, fitting, push-to-connect	1

--- Not available for individual sale.

Ref	Part	Description	Qty
620	---	TUBING, air, 3/8 in. OD; polyurethane	0.18
621	---	TUBE, polyethylene; 1/2 in. OD	0.68
622	---	TUBE, nylon, round, black	1.37
625	114381	SCREW, cap, button head	3
627	124496	VALVE, air check	1
629	---	BRACKET, air control	1
631	113498	VALVE, safety, 110 psi	1
633	---	INSERT, control panel	1
637	96/0005-2/99	WASHER, lock, ext, #10, ms	2
638	16U452	FITTING, elbow, 1/4npt(m) x 1/2 tube	1
639	16U479	FITTING, cross, 1/2 tube, plastic	1
640	16U480	FITTING, 1/2 stem x 1/2npt(m), plastic	1
641	16U481	FITTING, tee, 1/4 npt(m), 3/8 t, 1/4 npt(f)	2
642	105332	NUT, lock	2

Slave Pump Linkage, 25M306

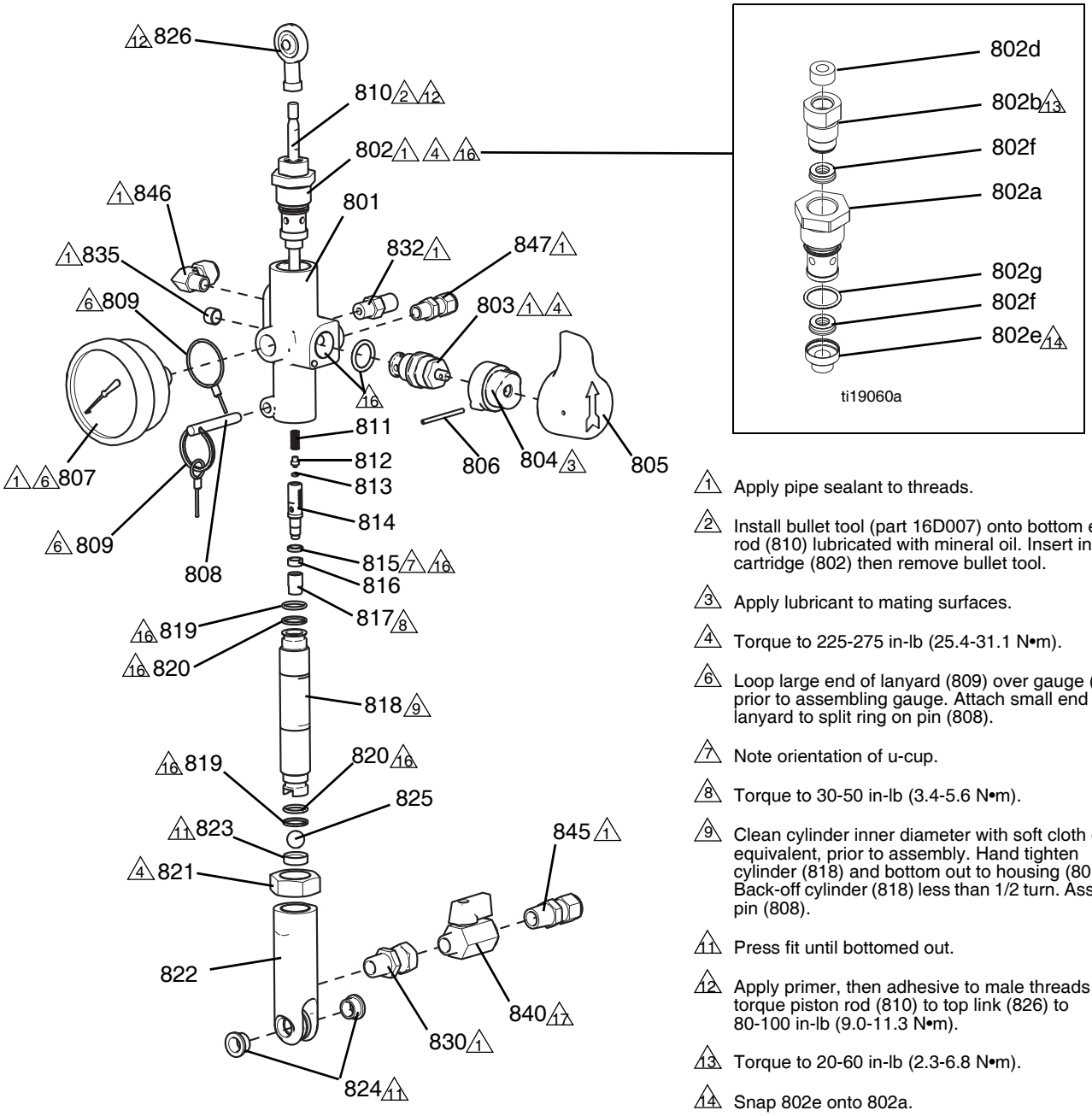


1 Tighten nut (504) engaging nylok washer. Shoulder bolt (503) must rotate freely.

2 Apply lubricant to shoulder bolt.

Ref	Part	Description	Quantity
701	25M308	LINK, upper, adjustment assm	1
702	16M785	LINK, lower, assy	1
703	119999	BOLT, shoulder	1
704	116969	NUT, lock	1
705	7486-05	WASHER, flat, fender, 1/4	1
706	7486-03	WASHER, flat, std, #10	1

Catalyst Slave Pump, 25M310



1 Apply pipe sealant to threads.

2 Install bullet tool (part 16D007) onto bottom end of rod (810) lubricated with mineral oil. Insert into cartridge (802) then remove bullet tool.

3 Apply lubricant to mating surfaces.

4 Torque to 225-275 in-lb (25.4-31.1 N•m).

6 Loop large end of lanyard (809) over gauge (807) prior to assembling gauge. Attach small end of lanyard to split ring on pin (808).

7 Note orientation of u-cup.

8 Torque to 30-50 in-lb (3.4-5.6 N•m).

9 Clean cylinder inner diameter with soft cloth or equivalent, prior to assembly. Hand tighten cylinder (818) and bottom out to housing (801). Back-off cylinder (818) less than 1/2 turn. Assemble pin (808).

11 Press fit until bottomed out.

12 Apply primer, then adhesive to male threads and torque piston rod (810) to top link (826) to 80-100 in-lb (9.0-11.3 N•m).

13 Torque to 20-60 in-lb (2.3-6.8 N•m).

14 Snap 802e onto 802a.

16 Lubricate with mineral oil during assembly.

17 Orient at shown.

Ref	Part	Description	Qty
801	16A197	HOUSING, slave pump	1
802	24C479	KIT, cartridge, frp	1
802a	---†	CARTRIDGE, slave pump	1
802b	---†	BEARING, cartridge	1
802d	---	WIPER, felt, piston rod	1
802e	16A658✿	SEAL, snap on, cartridge	1
802f	16A981✿	SEAL, slave pump weep	2
802g	123556✿	O-RING, silicone #016	1
803	24C661	VALVE, 3000 psi blow off	1
804	224807	BASE, valve	1
805	15C780	HANDLE	1
806	15C972	PIN, spring	1
807	113641	GAUGE, pressure, fluid, sst	1
808	123595	PIN, sst quick release	1
809	124193	CABLE, sst lanyard, 5 inch	1
810	16A660	ROD, piston, slave pump	1
811	123636★	SPRING, transfer housing	1
812	16K928★	VALVE, poppet	1
813	123934★	O-RING, 003, viton extreme	1
814	16K960	HOUSING, transfer, etched	1
815	LPA-126★	SEAL, radial	1
816	LPA-127★	GUIDE, piston	1
817	16A666	CAP, transfer housing	1
818	16A662	CYLINDER, slave pump	1
819	CJ-143‡✿	O-RING, o-ring, silicone, 2-014	2
820	124061‡✿	RING, backup, .518 id, .053 wide	2
821	LPA-144	NUT, lock	1
822	16M782	HOUSING, inlet, slave	1
823	LPA-139-01	SEAT, ball, 7/16 dia.	1
824	24M382	BEARING, flanged, .375 id	2
825	LPA-134-02	BALL, spherical	1
826	LPA-120	BEARING, spherical, rod end	1
830	114339	FITTING, union, swivel, 1/4 npt, sst	1
832	123628	FITTING, adapter, 1/8 npt - #4 jic	1
835	110208	PLUG, pipe, headless	1
840	24U857	VALVE, ball, mini, 1/4 npt, mf, sst	1
845	16V703	FITTING, 3/8 tube comp x 1/4 npt, ss	1
846	16V704	FITTING,1/8 npt x 1/4 tube, 90, ss	1
847	16V705	FITTING,1/8 npt x 1/4 tube, ss	1

Installation Tools (not shown):

Foot valve seat installation tool, 16N966

Foot valve seat deluxe removal tool, 24N253 (includes foot valve seat installation tool, 16N996)

Weep seal installation tool, 16N967 ✿

Rod Assembly Bullet Installation Tool, 16D007 ✿

--- *Not available for individual sale.*

† *Parts available in bearing and wiper repair kit 16P185.*

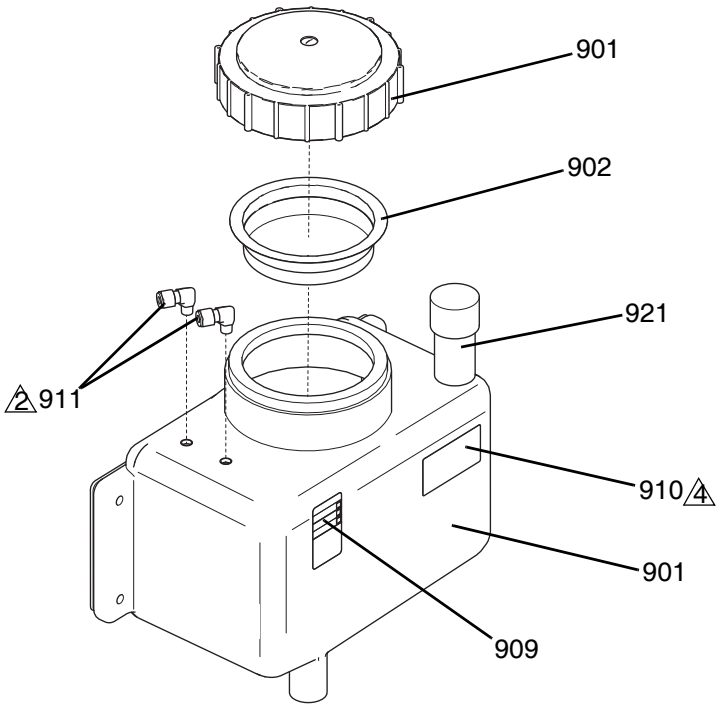
‡ *Parts available in foot valve repair kit 16N961.*

★ *Parts available in piston valve repair kit 16N962.*

✿ *Parts and tools available in throat seal repair kit 16N963.*

Complete rebuild kit 16N919 includes:
- *Foot valve repair kit 16N961*
- *Piston valve repair kit 16N962*
- *Throat seal repair kit 16N963*
- *Foot ball replacement kit LPA-134-02*
- *Bearing with felt wiper 16P185*

Catalyst Reservoir, 24M161



2 Apply pipe sealant to threads.

4 Apply sticker so that the level line is even with the 2.5 gallon mark on the tank.

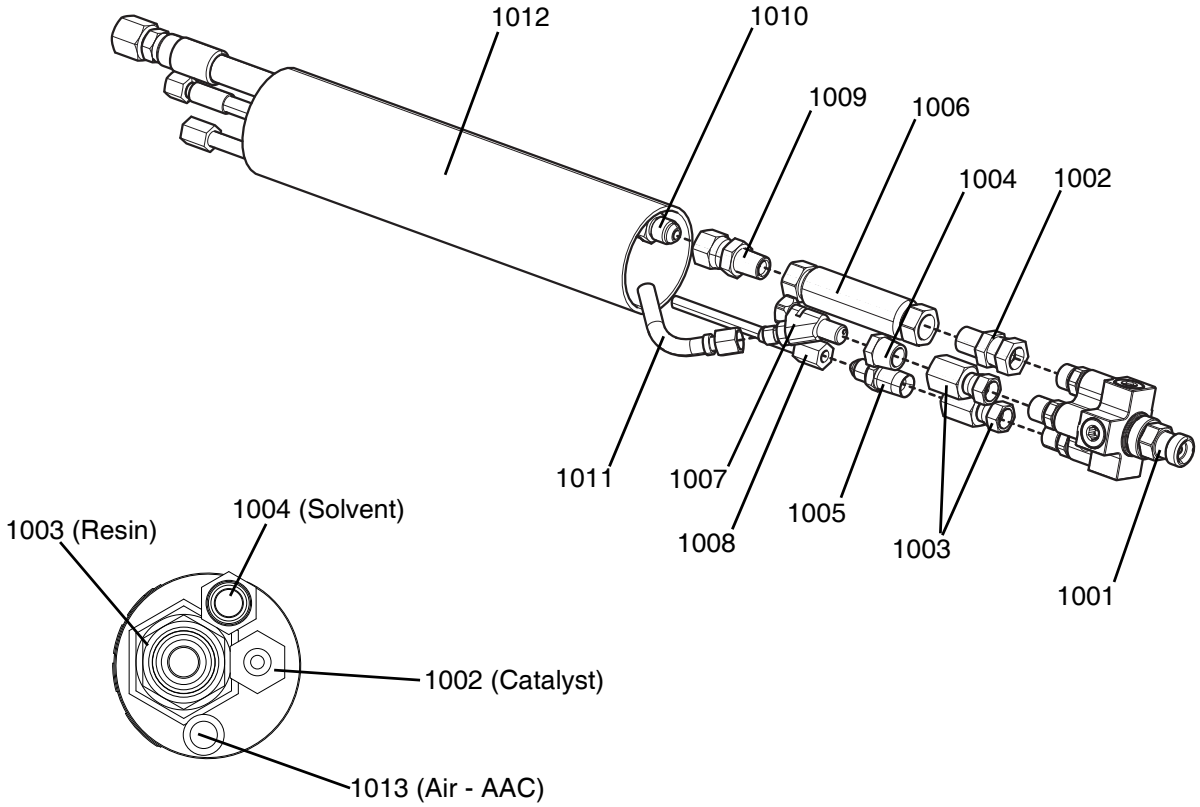
Ref	Part	Description	Quantity
901	24M157	TANK, gravity feed, 2.5 gallon	1
902	24M159	STRAINER, tank, gravity feed	1
909	16M738	LABEL, safety, hazardous material	1
910	16M754	LABEL, maximum fill line	1
911	16V704	FITTING, 1/8 npt x 1/4 tube, 90, ss	2

Dessicant Dryer

Ref	Part	Description	Quantity
921	262454✖	KIT, accessory, desiccant dryer	1

✖ *When replacing the dessicant dryer, be sure to remove the plugs at each end of the component before installing it. The dessicant dryer will not function if the two plugs are not removed.*

Hose Bundle, 17N782



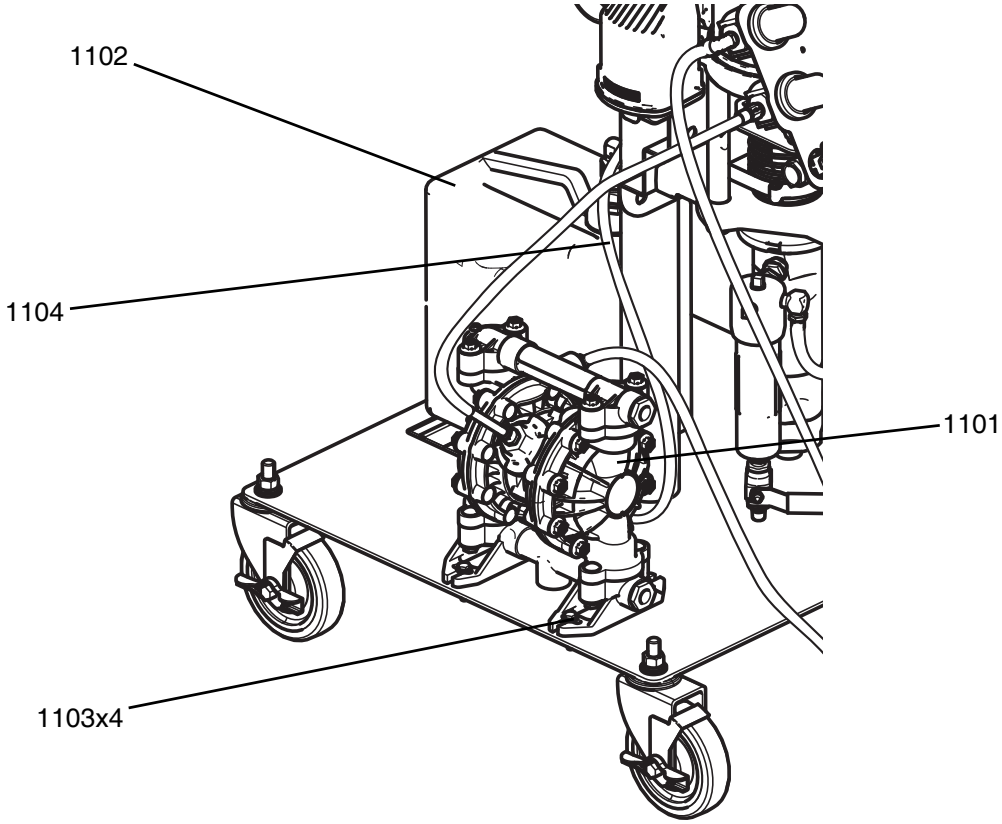
Ref	Part	Description	Quantity
1001	17A439	MANIFOLD, hp	1
1002	94/0561/98	FITTING, adapter, swivel, 1/4 npt	1
1003	16P309	SWIVEL, union	2
1004	122785	BUSHING, 1/4 npt x 1/8 npt, ss	1
1005	124961	FITTING, adp, 04 jic x 1/4 npt, mm, ss, 6k	1
1006	261602	FITTING, coupler	1
1007	24E415	KIT, fitting, solvent/aac assy	1
1008	24C540	HOSE, cpld, 1/8 in., 3000 psi, 28 ft	1
1009	122961	ADAPTER, swvl, jic06 x 1/4 npt, fm, ss, 5K	1
1010	262249	HOSE, b, 25 ft, 3/8, moisture-lok, ss	1
1011	24C543	HOSE, cpld, 1/4 in., nylon, 28 ft	1
1012	125084	JACKET, scuff, blue, hose, 2 in.	25 ft
1013	61/0002/88◆	TUBE, 375 od, poly	34 ft

◆ *Not shown.*

Gun, 24C855

See G15/G40 Spray Gun manual 3A0149 for parts identification.

Solvent Diaphragm Pump, 16M560



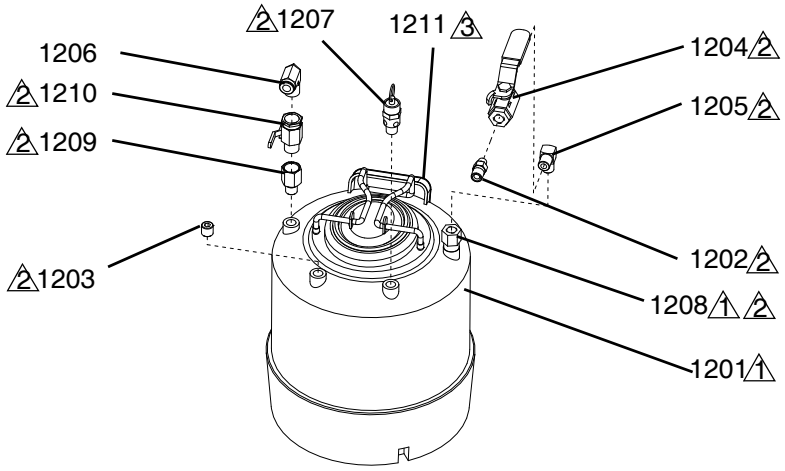
Ref	Part	Description	Quantity
1101	16M559	PUMP, solvent, frp, flush	1
1102	16M652	TANK, solvent, 2.5 gal assembly	1
1103	16M769	KIT, pump fasteners	1
1104	---	TUBING, nylon, round	3 ft

--- *Not available for individual sale.*

Accessories and Kits

Optional Solvent Pressure Pot Kits

ASME Pressure Pots, 2-gallon 16M893 and 5-gallon 16M894



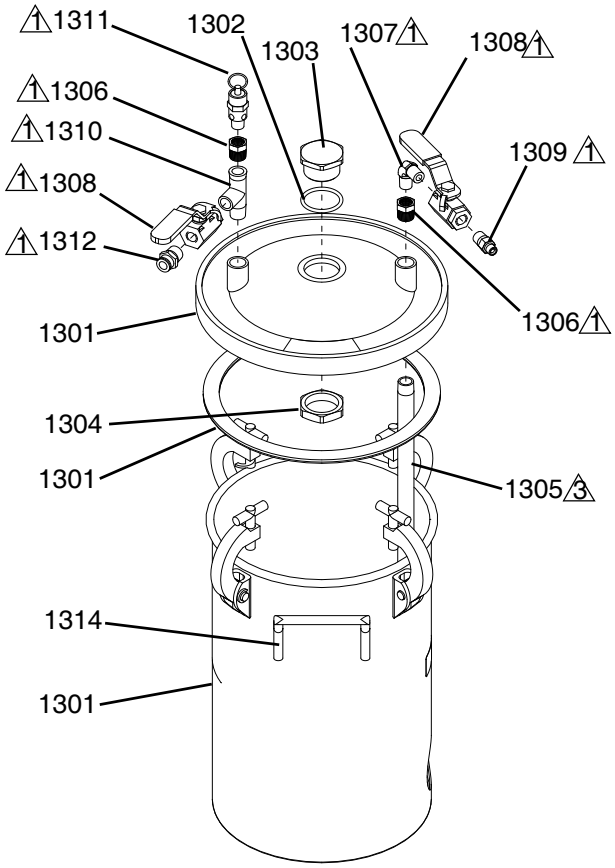
1 To assemble strainer (1111), remove the dip tube from tank (1101). Slide strainer onto bottom end of dip tube. Hold strainer in place while positioning dip tube. Strainer should be secure on tube and pressed to bottom of tank. Tighten dip tube in place. Strainer not shown.

2 Apply pipe sealant.

3 Clamp ground cable (1311) to handle on tank (1101). Ground cable not shown.

Ref	Part	Description	Quantity
1201	20324-00	TANK, solvent, 2 gallon (assembly 16M893 only)	1
	20324-01	TANK, solvent, 5 gallon (assembly 16M894 only)	1
1202	16D939	FITTING, nipple, reducing	1
1203	11021-23	PLUG, pipe, 1/4	1
1204	18470-05	VALVE, ball, 2-way, 1/4nptf	1
1205	RM-856-04	FITTING, elbow, 1/4 nptm x 1/4 nptm	1
1206	20655-04	FITTING, elbow, 3/8 nptm x 3/8 tube	1
1207	103347	VALVE, safety, 100 psi	1
1208	21035-00	STRAINER, pick-up, material	1
1209	21462-01	FITTING, adapter, 1/4 nptm x 3/8 nptf	1
1210	3165	VALVE, ball, 2-way, 3/8 female, 3/8 male	1
1211	17440-00	CLAMP, grounding	1

ASME and CE-Approved Pressure Pots, 16M874 and 16M875



1 Apply pipe sealant.

2 Clamp ground cable (1423) to handle on tank (1401). Ground cable not shown.

3 Must be installed on the outlet side. The outlet is the port without the cross hole.

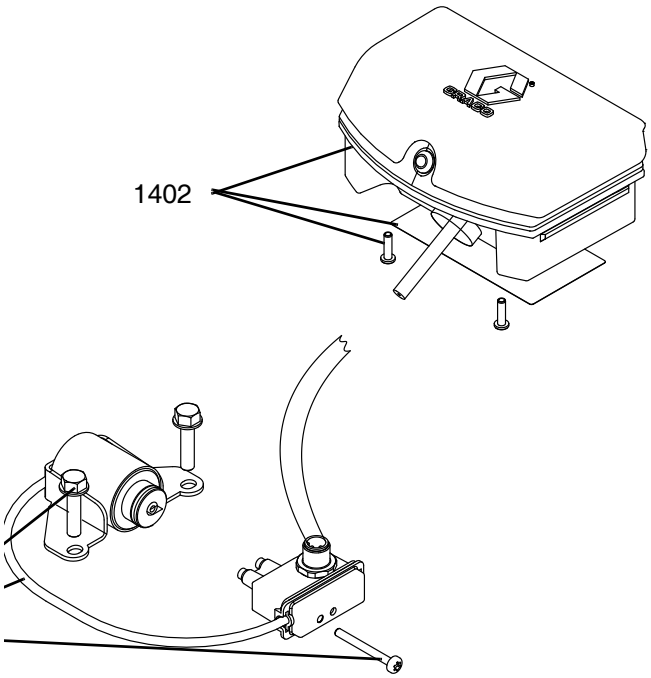
Ref	Part	Description	Qty
	236086	TANK, pressure assy, 2 gal. (assembly 16M874 only)	1
1301	236087	TANK, pressure assy, 5 gal. (assembly 16M875 only)	1
1302	165053	PACKING, o-ring	1
1303	188880	PLUG, lid	1
1304	188784	NUT, jam, hex	1
	171976	TUBE (assembly 16M875 only)	1
1305	185531	TUBE, siphon (assembly 16M874 only)	1
1306	---	BUSHING, hex, 3/8npt x 1/4npt, male/female	2
1307	111763	FITTING, elbow, 1/4 npt	1
1308	18470-05	VALVE, ball, 2-way, 1/4nptf	2
1309	---	FITTING, nipple, reducing	1
1310	108673	TEE, street	1
1311	103347	VALVE, safety, 100 psi	1
1312	---	FITTING, connector, male, 3/8 npt	1
1313	210575◆	CAP, filler (assembly 16M875 only, not shown)	1
1314	176347	LABEL, identification	1
1315	---◆	LABEL, designation	1
1316	175078▲◆	LABEL, warning	1
1323	17440-00	CLAMP, grounding	1
1324	171988	O-RING (for filler cap, item 1413, not shown)	1

▲ *Replacement Danger and Warning labels, tags and cards are available at no cost.*

--- *Not available for individual sale.*

◆ *Not shown.*

Optional DataTrak Upgrade Kit, 16M881

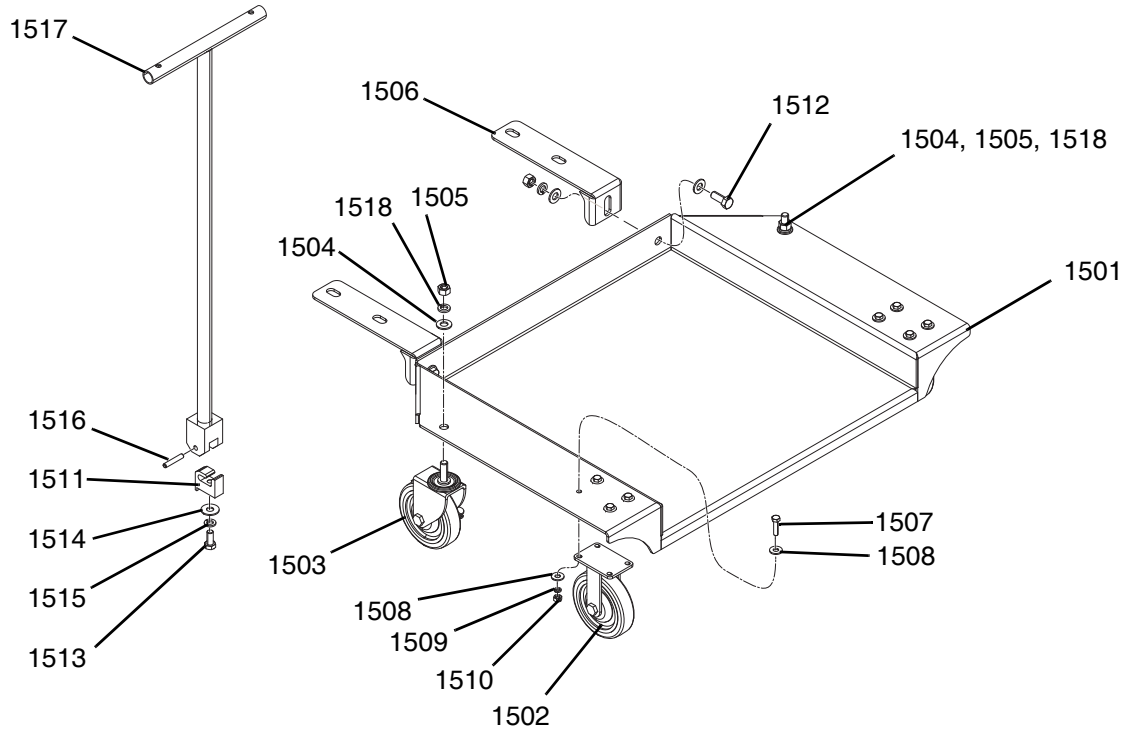


Ref	Part	Description	Quantity
1401	24A354*◆	SMART AIR VALVE	1
1402	24A576	DATATRAK conversion kit	1

* *See NXT Air Motor manual 3A2315.*

◆ *Not shown.*

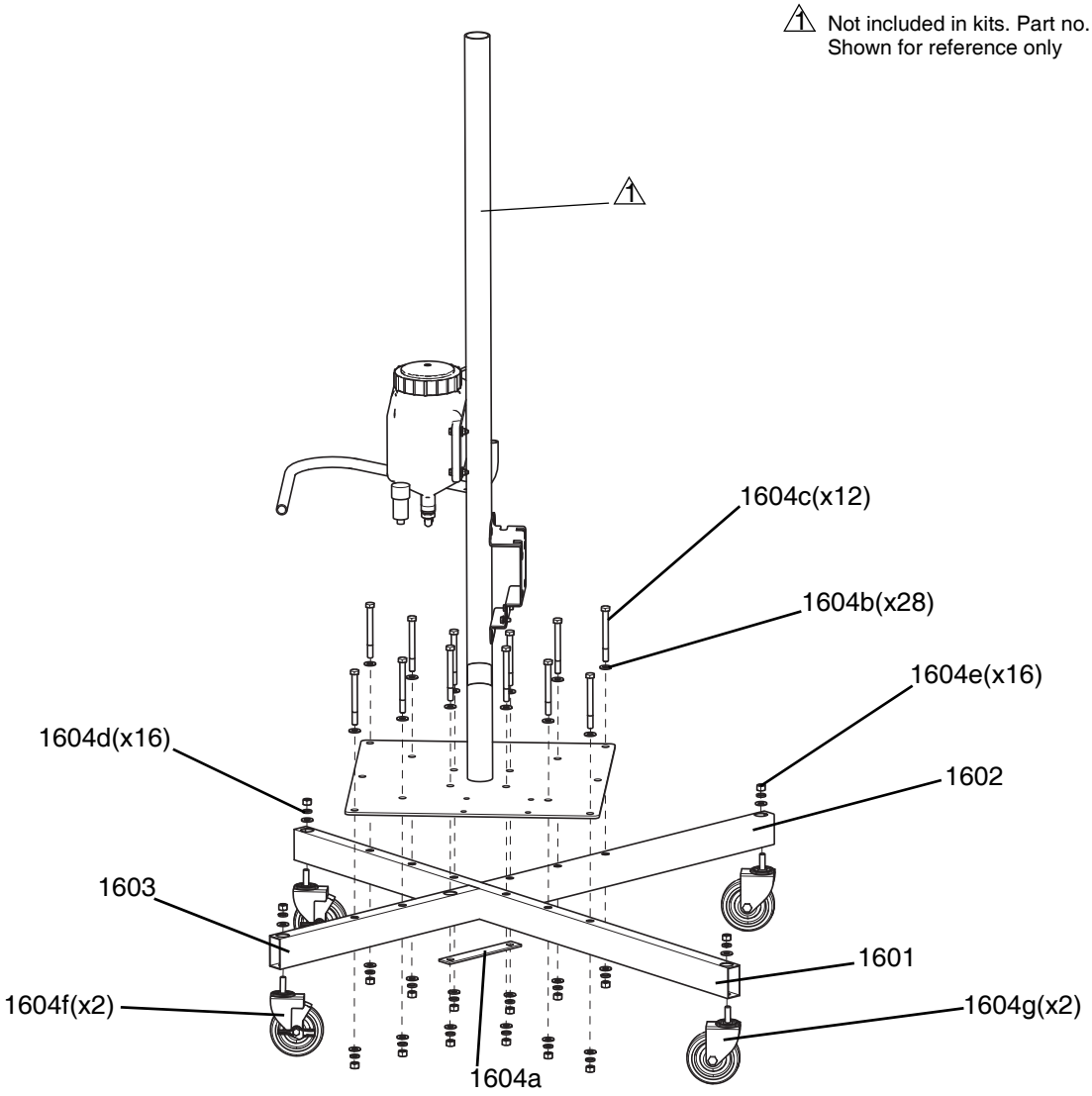
Cart for 55 Gallon Barrel, 16M896



Ref	Part	Description	Quantity
1501	---	PLATE, 55 gal drum	1
1502	16P134	CASTER, rigid	2
1503	16M465	CASTER, locking	2
1504	113962	WASHER, hardened, sae	6
1505	100321	NUT	4
1506	16N977	BRACKET, drum cart	2
1507	100521	SCREW, cap hex head	8
1508	100023	WASHER, flat	16
1509	104008	WASHER, lock, spring	8
1510	GC2096	NUT, hex, standard, 5/16-18	8
1511	16N978	BRACKET, handle, drum cart	1
1512	100424	SCREW, cap, hex head	2
1513	116645	SCREW, cap, hex head	1
1514	100696	WASHER, wrought	1
1515	100052	WASHER, lock	1
1516	124291	PIN, spring	1
1517	258982	HANDLE, cart	1
1518	100018	WASHER, lock, spring	4

--- *Not available for individual sale.*

Cart and Boom Legs Kit, 16N186

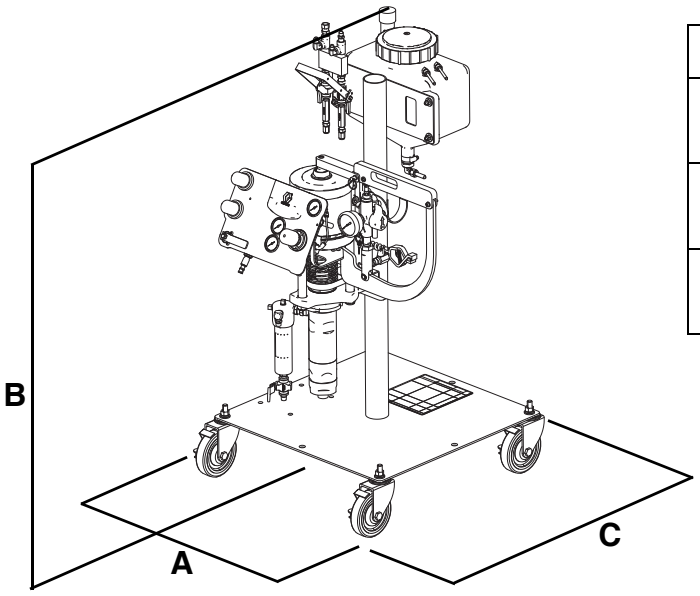


Ref.	Part	Description	Quantity
1601	16H975	LEG, cart, long	1
1602	16H976	Leg, cart	1
1603	16H977	LEG, cart, short	1
1604	24N909	KIT, hardware, cmb, legs, frp	1
1604a	16H978†	BRACKET, leg	1
1604b	113962†	WASHER, hardened, sae	28
1604c	8155-160C†	SCREW, hshd, cs, .500-13 x 5.000zp	12
1604d	100018†	WASHER, lock, spring	16
1604e	100321†	NUT	16
1604f	16M465†	CASTER, locking	2
1604g	122051†	CASTER, 6 1/4 in., h-vr	2

† *Parts available in kit 24N909.*

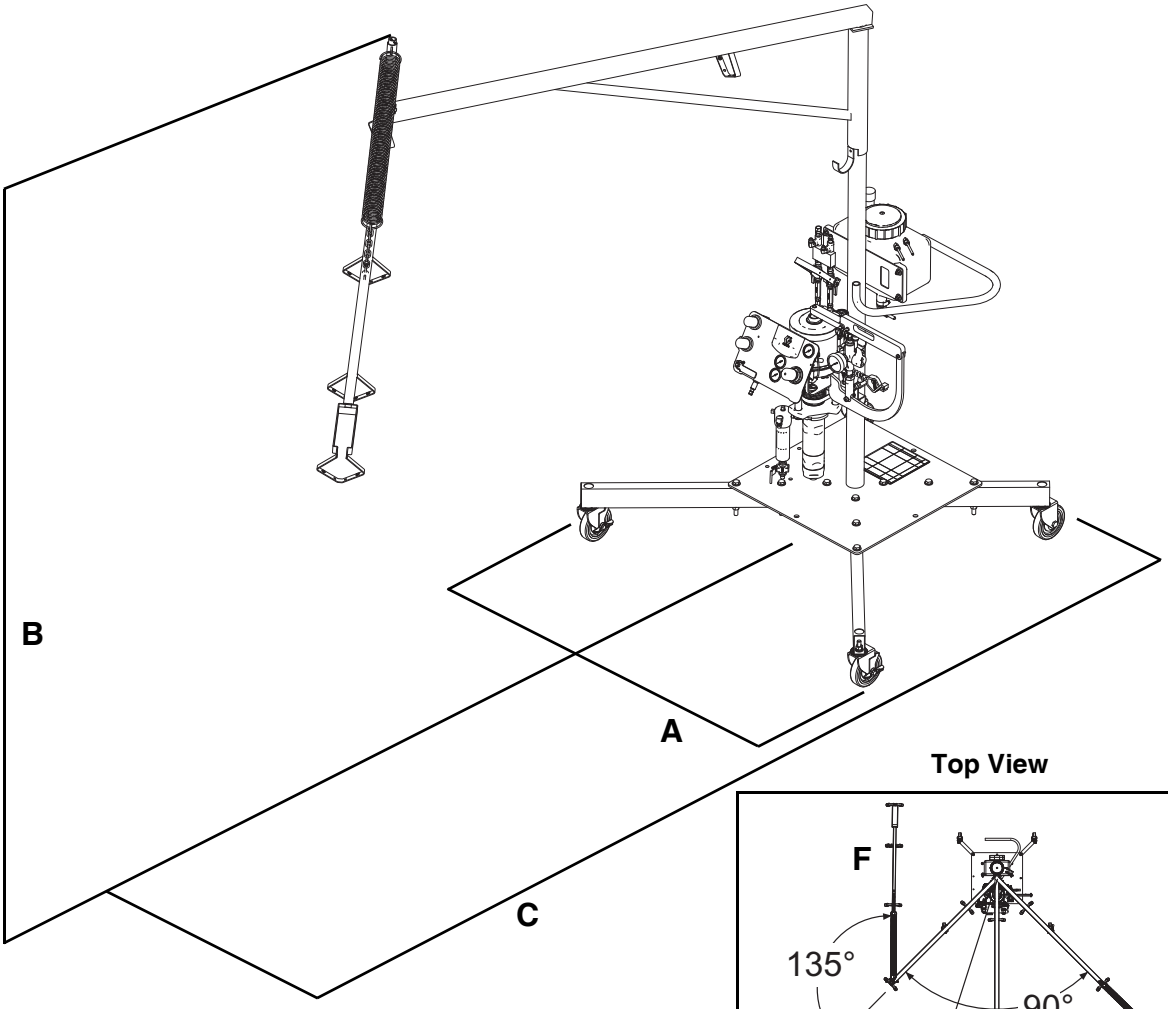
Dimensions

Cart Only

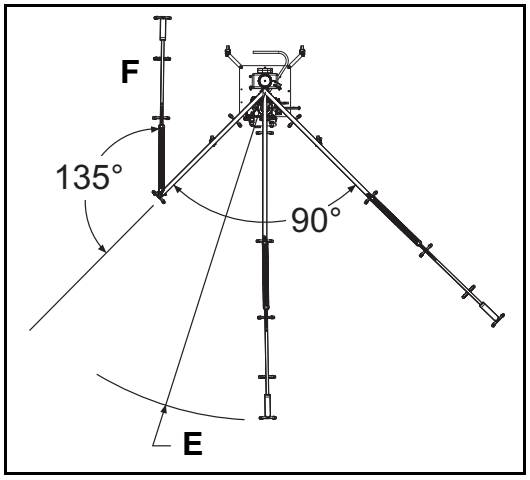


Ref.	Cart Only
A (Max Width)	29.5 in. (749 mm)
B (Max Height)	50 in. (1270 mm)
C (Max Depth)	32.5 in. (826 mm)

Cart and Boom



Top View



Ref.	A (Max Width)	B (Max Height)	C (Max Depth)	E (Radius)	F (Radius)
Description	144 in. (3658 mm)	100 in. (2540 mm)	192 in. (4877 mm)	144 in. (3658 mm)	72 in. (1828 mm)

** Rotate unit to fit cart and boom system through a 3 ft 6 in. wide door, with a 9 in. jamb width.*

*** Height with boom installed. Height of unit without the boom is 83 in. (2108 mm).*

Technical Data

System Technical Data

Maximum fluid working pressure	1300 psi (9 MPa, 90 bar)
Maximum air inlet pressure	100 psi (0.7 MPa, 7.0 bar)
Maximum air inlet pressure to ASME solvent pressure pots	100 psi (0.7 MPa, 7.0 bar)
Typical flow rate of pattern guns	See **Related Manuals**, page **3**.
Maximum fluid temperature	100°F (38°C)*
A component (catalyst) inlet size	3/8 in. tube
B component (resin) inlet size	1 5/16-12 UN-2A male
Wetted parts	Stainless steel, carbide, UHMWPE, PTFE, and acetal.
Resin wetted parts	See **Resin Resin Pumpline Technical Data**
Catalyst wetted parts	See **Catalyst Pump Technical Data**

* *Maximum fluid temperature rating determined by lowest rated component in system.*

Resin Pumpline Technical Data

Maximum fluid working pressure	1300 psi (9 MPa, 90 bar)
Maximum air inlet pressure	100 psi (0.7 MPa, 7.0 bar)
Minimum air inlet pressure	10 psi (0.07 MPa, 0.7 bar)
Maximum ambient air temperature	120°F (49°C)
Maximum cycle rate	70 cpm
Air consumption	See Technical Data in air motor manual 3A2315.
Fluid output	*17:1 Systems:* 1.1 gpm (free flow at 70 cpm)
Maximum fluid temperature	100°F (38C) **NOTE:** System rating is lower than this due to other, lower-rated components.
Stroke length	2.0 in. (51 mm)
Sound data	See Technical Data in air motor manual 3A2315.
Wetted parts	Stainless steel, tungsten carbide with 6% nickel, UHMWPE, PTFE, *LW100C displacement pump only:* Also includes carbon steel

Catalyst Pump Technical Data

Maximum fluid working pressure	1300 psi (9 MPa, 90 bar)
Weight	3.5 lb (1.6 kg)
Wetted parts	301, 303, 304, 316, and 17-4 PH grades of stainless steel, silicon nitride, acetal, perfluoroelastomer, PE, PTFE, UHWMPE, polypropylene

Whip Hose Technical Data

Hose bundles maximum fluid working pressure and wetted materials	
Catalyst hose	3000 psi (21.0 MPa, 210 bar); PTFE
1/2 in. resin hose	4000 psi (28.0 MPa, 280 bar); nylon
3/8 in. resin hose	3300 psi (23.1 MPa, 231 bar); nylon
Solvent/AAC air hose	225 psi (1.6 MPa, 16 bar); nylon
3/8 in. OD air hose	125 psi (0.9 MPa, 9 bar); PET

NOTE: For technical data on other system components, refer to the component manuals listed on page **3**.

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Original instructions. This manual contains English. MM 3A4527
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