INSTRUCTION MANUAL

MANUAL NUMBER X022361 | REVISION A | ENGLISH (US)

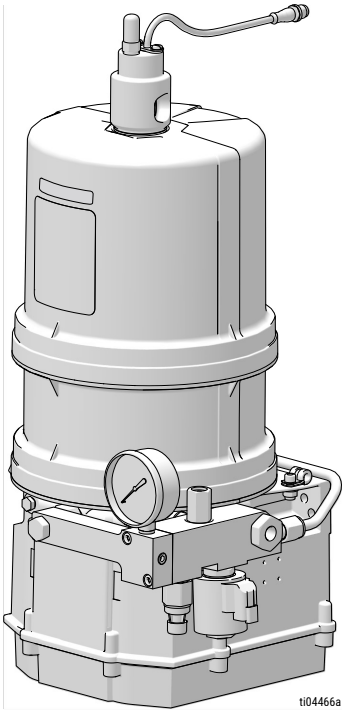
G3® Standard HF Automatic Lubrication Pump

For dispensing NLGI Grades #0 to #2 greases. For professional use only.

Not approved for use in explosive atmospheres or hazardous (classified) locations.

Important Safety Instructions

Read all warnings and instructions in this manual before using the equipment. Be familiar with the proper control and usage of the equipment. Save these instructions.



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CONTENTS

MODELS

Part numbers reflect distinct features and characteristics of the G3 HF Standard Automatic Lube Pump.

4 LITER MODELS

There is no follower plate or auto-fill shutoff.

PART NUMBER	CONTROLLER TO BE USED	CONTROLLER KIT PART NUMBER	LEVEL DETECTION	PRESSURE SENSING
96G400	GLC 2200	2011788	Low level switch	Pressure Switch
96G410	GLC X	2011789	Low level switch	Pressure Transducer

8 LITER MODELS WITH FOLLOWER PLATE

PART NUMBER	CONTROLLER TO BE USED	CONTROLLER KIT PART NUMBER	LEVEL DETECTION	AUTO-FILL SHUTOFF	PRESSURE SENSING
96G412	GLC 2200	2011788	Low level switch	- - -	Pressure Switch
96G407	GLC X	2011789	Low level switch	- - -	Pressure Transducer
96G413	GLC X	2011789	Level transducer	X	Pressure Transducer

8 LITER MODELS WITHOUT FOLLOWER PLATE

There is no auto-fill shutoff.

PART NUMBER	CONTROLLER TO BE USED	CONTROLLER KIT PART NUMBER	LEVEL DETECTION	PRESSURE SENSING
96G411	GLC 2200	2011788	Low level switch	Pressure Switch

12 LITER MODELS

There is no follower plate.

PART NUMBER	CONTROLLER TO BE USED	CONTROLLER KIT PART NUMBER	LEVEL DETECTION	AUTO-FILL SHUTOFF	PRESSURE SENSING
96G414	GLC 2200	2011788	Low level switch	- - -	Pressure Switch
96G415	GLC 2200	2011788	Low level switch	X	Pressure Switch
96G416	GLC X	2011789	Low level switch	- - -	Pressure Transducer
96G417	GLC X	2011789	Low level switch	X	Pressure Transducer

RELATED MANUALS

Additional documents are available to support the operation, repair, and maintenance of the G3 HF Standard Automatic Lube Pump. Find English manuals and any available translations at www.graco.com.

ENGLISH MANUAL NUMBER	DESCRIPTION
3A7031	GLC X Lubrication Controller
X031166	GLC X Controller with Wiring Harness Kit
3A2960	GLC 2200 Lubrication Controller
X027417	GLC 2200 Controller with Wiring Harness Kit
333393	Fill Valve

SAFETY SYMBOLS

The following safety symbols appear throughout this manual and on warning labels. Read the table below to understand what each symbol means.

SYMBOL	MEANING
	Cleaning Solvent Hazard
	Equipment Misuse Hazard
	Fire and Explosion Hazard
	Moving Parts Hazard
	Skin Injection Hazard
	Skin Injection Hazard
	Splash Hazard

SYMBOL	MEANING
	Do Not Place Hands or Other Body Parts Near Fluid Outlet
	Do Not Stop Leaks with Hand, Body, Glove or Rag
	Follow Pressure Relief Procedure
	Read Manual
	Wear Personal Protective Equipment

Safety Alert Symbol

This symbol indicates: Attention! Become Alert! Look for this symbol throughout the manual to indicate important safety messages.

GENERAL WARNINGS FOR THE G3 STANDARD HF

The following warnings apply throughout this manual. Read, understand, and follow the warnings before using this equipment. Failure to follow these warnings can result in serious injury.

⚠ WARNING

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 sysyem component. See **Technical Specifications** in all equipment manuals.
- Use fluids and solvents that are compatible with equipment wetted parts. See **Technical Specifications** in all equipment manuals. Read fluid and solvent manufacturer's warnings. For complete information about your material, request Safety Data Sheets (SDSs) from distributor or retailer.
- 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.

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 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


PRESSURIZED EQUIPMENT HAZARD

Over-pressurization can result in equipment rupture and serious injury.

- A pressure relief valve is required at each pump outlet.
- Follow the **Pressure Relief Procedure** in this manual before servicing.


PLASTIC PARTS CLEANING SOLVENT HAZARD

Many cleaning solvents can degrade plastic parts and cause them to fail, which could cause serious injury or property damage.

- Use only compatible solvents to clean plastic structural or pressure-containing parts.
- See **Technical Specifications** in all equipment manuals for materials of construction. Consult the solvent manufacturer for information and recommendations about compatibility.


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.
- Equipment can start without warning. Before checking, moving, or servicing equipment, follow the **Pressure Relief Procedure** and disconnect all power sources.

PERSONAL PROTECTIVE EQUIPMENT

Wear appropriate protective equipment when in the work area to help prevent serious injury, including eye injury, hearing loss, inhalation of toxic fumes, and burns. Protective equipment includes but is not limited to:

- Protective eyewear and hearing protection.
- Respirators, protective clothing, and gloves as recommended by the fluid and solvent manufacturer.

TECHNICAL SPECIFICATIONS

The table provides important information related to the G3 High Flow Standard Automatic Lubrication Pump, including product attributes, measurements, and performance characteristics that support the use of the equipment.

Table 5-1: G3 High Flow Standard Automatic Lubrication Pump

	US	METRIC
Pump output pressure	3500 psi	24.1 MPa, 241.3 bar
Power		
Voltage	24 VDC	
Current	3.2 amp (4 amp with vent valve) inrush / locked motor 30 amp	
Pressure Sensor (Transducer)		
Operating voltage	24 VDC	
Output type	One Analog output 0.5 - 4.5 VDC	
Connection type	Packard Metri-Pack, 3 pin 150 series	
Pressure range	0-5000 psi	0-34.5 MPa, 0-344.7 bar
Pressure Switch		
Operating voltage	24 VDC	
Output type	1 switching output, NO	
Connection type	Packard Metri-Pack 150 series	
Vent Valve		
Valve type	Normally open, 2 way	
Connection type	2 pin, Deutsch	
Voltage	24 VDC	
Power	0.84 current, 19 W	
Outputs - Low Level (Dry Contact)		
Contact rating	10 W Maximum	
Switch rating	30 VDC Maximum	
Switching current	0.5 A Maximum	
Carry current	1.2 A Maximum	
Output - Level Sensor (Transducer)		
Operating voltage	24 VDC	

	US	METRIC
Output type	One Analog output 0.5 - 4.5 VDC	
Connection type	M12 x 1, 4 pin	
Pump		
Pump output	1.5 in³ (24.6 cm³) per minute	
Pump outlet	¼ 19 NPSF, mates with ¼ - 18 NPT male fittings	
Reservoir size	4, 8, 12 liters	
Ambient temps	-40°F - 158°F	-40°C - 70°C
IP Rating	IP69K	
Noise (dBa)		
Maximum sound pressure	<70dBa	
Materials of Construction		
Wetted parts	Nylon 6/6 (PA), amorphous polyamide, zinc plated steel, carbon steel, alloy steel, stainless steel, nitrile rubber (buna-N), bronze, nickel plated alnico, chemically lubricated acetal, aluminum, PTFE	
All trademarks or registered trademarks are the property of their respective owners.		

Table 5-2: Pump Maximum Weight lb (kg)

MODEL	WITH FOLLOWER PLATE	WITHOUT FOLLOWER PLATE	WITH AUTO-FILL SHUTOFF
4L	22.8	25.0	N/A
8L	24.3	26.5	29.4
12L	N/A	28.0	30.9

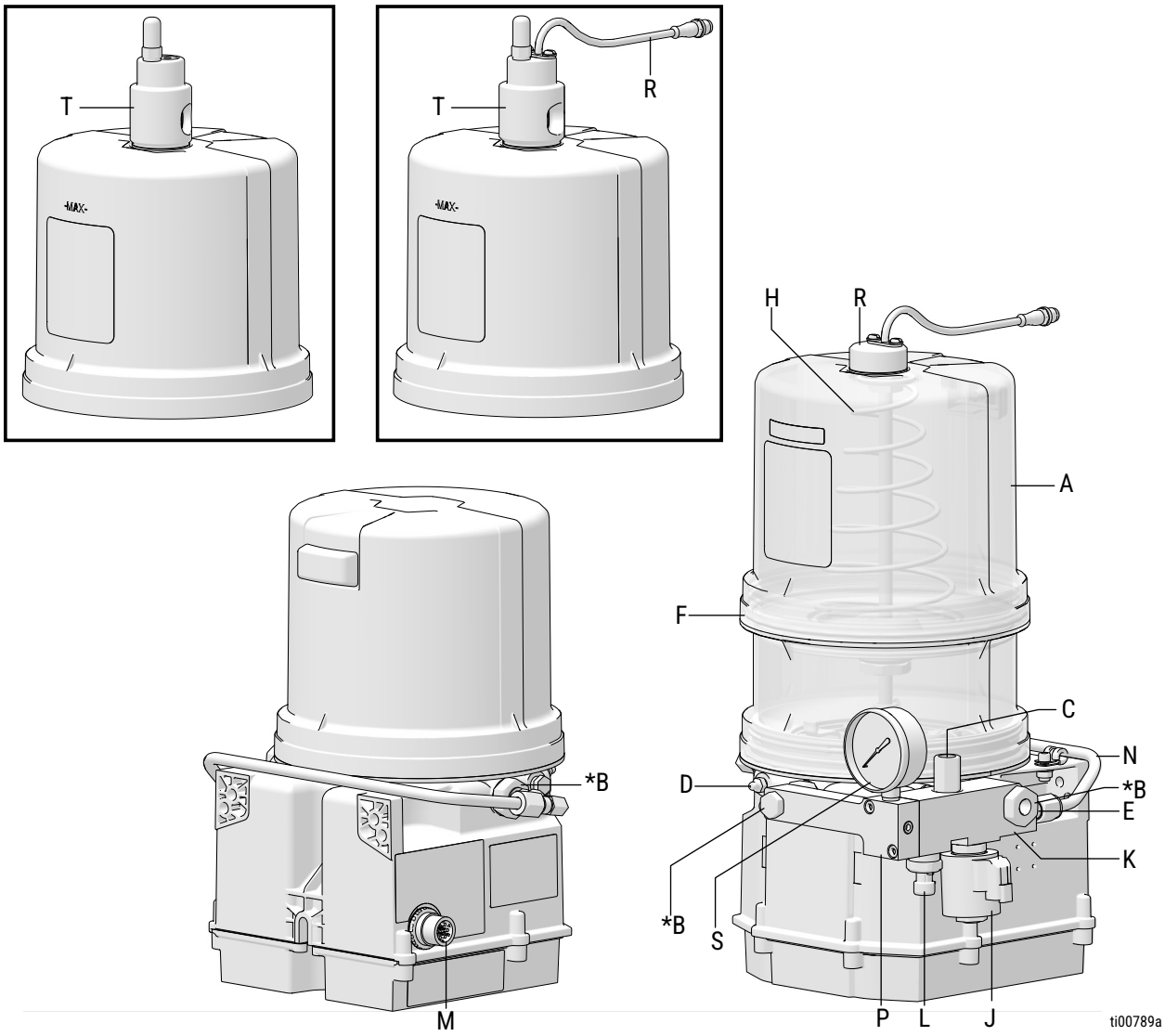


Figure 6-1: Typical Installation

KEY	
A	Reservoir
B	Pump Elements (three are shown in the pump, behind the manifold and fittings)*
C	Pressure Relief Valve
D	Zerk Inlet Fill Fitting (one included)
E	Pump Outlet
F	Follower Plate (Not available on all model)
G	Vent Hole for Reservoir
H	Follower Spring
J	Vent Valve
K	Vent Valve Manifold
L	Pressure Transducer
M	Power Connector CPC
N	Outlet Joining Tube
P	Front Manifold
R	Level Sensor
S	Pressure Gauge
T	Auto-Fill Shutoff

FILL WITHOUT REMOTE FILL MANIFOLD WITH AUTO-FILL SHUTOFF

The diagram highlights the fill without remote fill manifold with auto-fill shutoff on the G3 Standard HF Automatic Lubrication Pump that is used during typical operation.

The installation shown is only a guide for selecting and installing system components and accessories. Contact your Graco distributor for assistance in designing a system to meet your needs.

NOTE: The remote filling station pump stalls (dead heads) when the reservoir is full. If the pump does not stall (dead heads) there is a leak in the system.

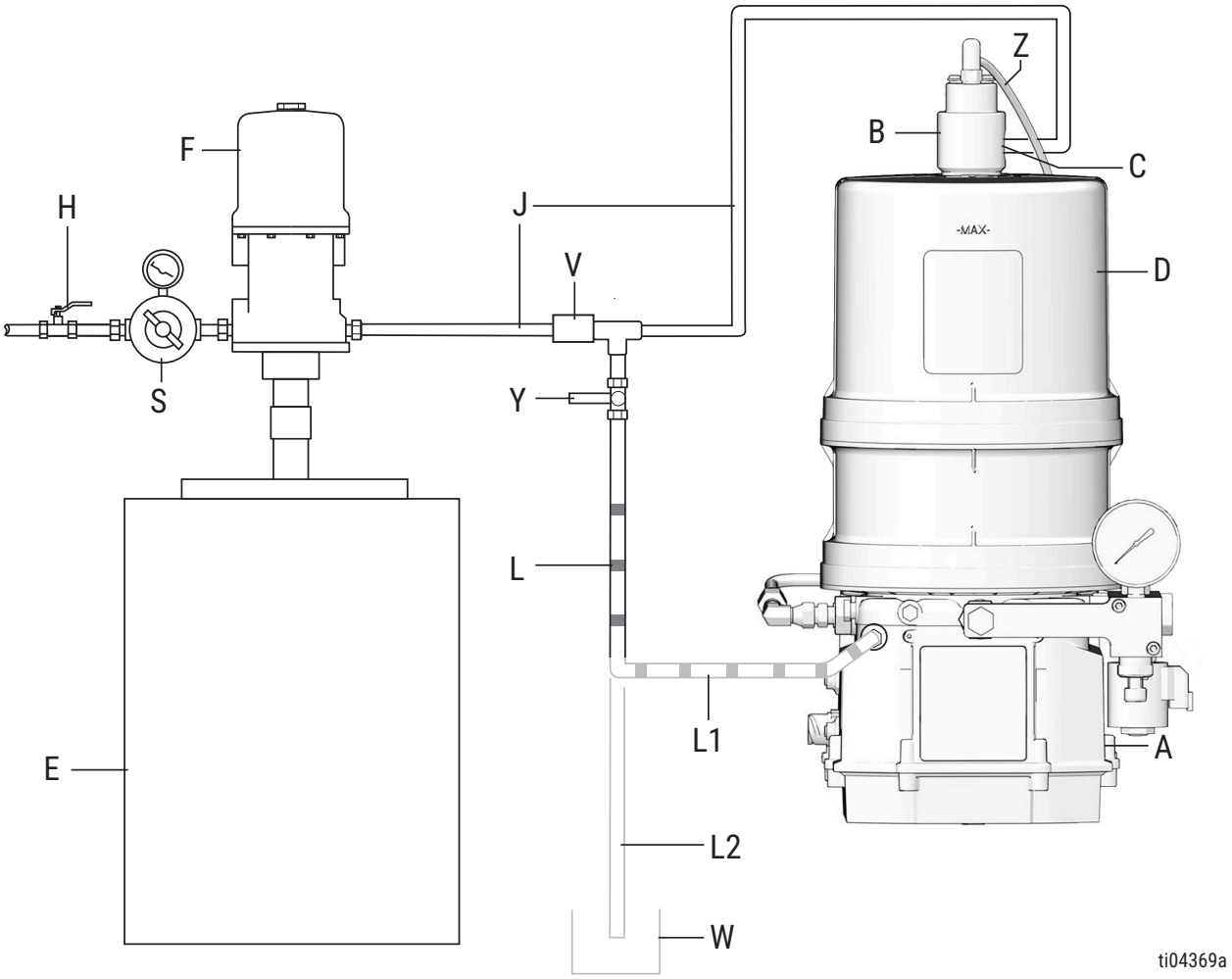


Figure 7-1: Components for G3 Standard HF Automatic Lubrication Pump Fill Without Remote Fill Manifold with Auto-Fill Shutoff Typical Installation

KEY	
A	G3 Pump
B	Auto-Fill Shutoff Valve
C	Auto-Fill Inlet
D	G3 Reservoir
E	Remote Fill Reservoir
F	Remote Fill Pump
H	Air Supply to Refilling Pump
J	Supply Hose
L	Drain Tube
	L1 Option - To reservoir
	L2 Option - To Overflow Container
S	Pressure Regulator and Gauge
V	Quick Disconnect
W	Overflow Container
Y	Supply Hose Pressure Relief Valve ◆
Z	Level Sensor

◆ To relieve stall pressure in the fill line a ball valve (Y) must be installed in the system.

FILL WITH AUTO-FILL SHUTOFF VALVE AND REMOTE FILL SYSTEM

The diagram highlights the fill with auto-fill shutoff valve and remote fill manifold on the G3 Standard HF Automatic Lubrication Pump that are used during typical operation.

The installation shown is only a guide for selecting and installing system components and accessories. Contact your Graco distributor for assistance in designing a system to meet your needs.

NOTE: The remote filling station pump stalls (dead heads) when the reservoir is full. If the pump does not stall (dead heads) there is a leak in the system.

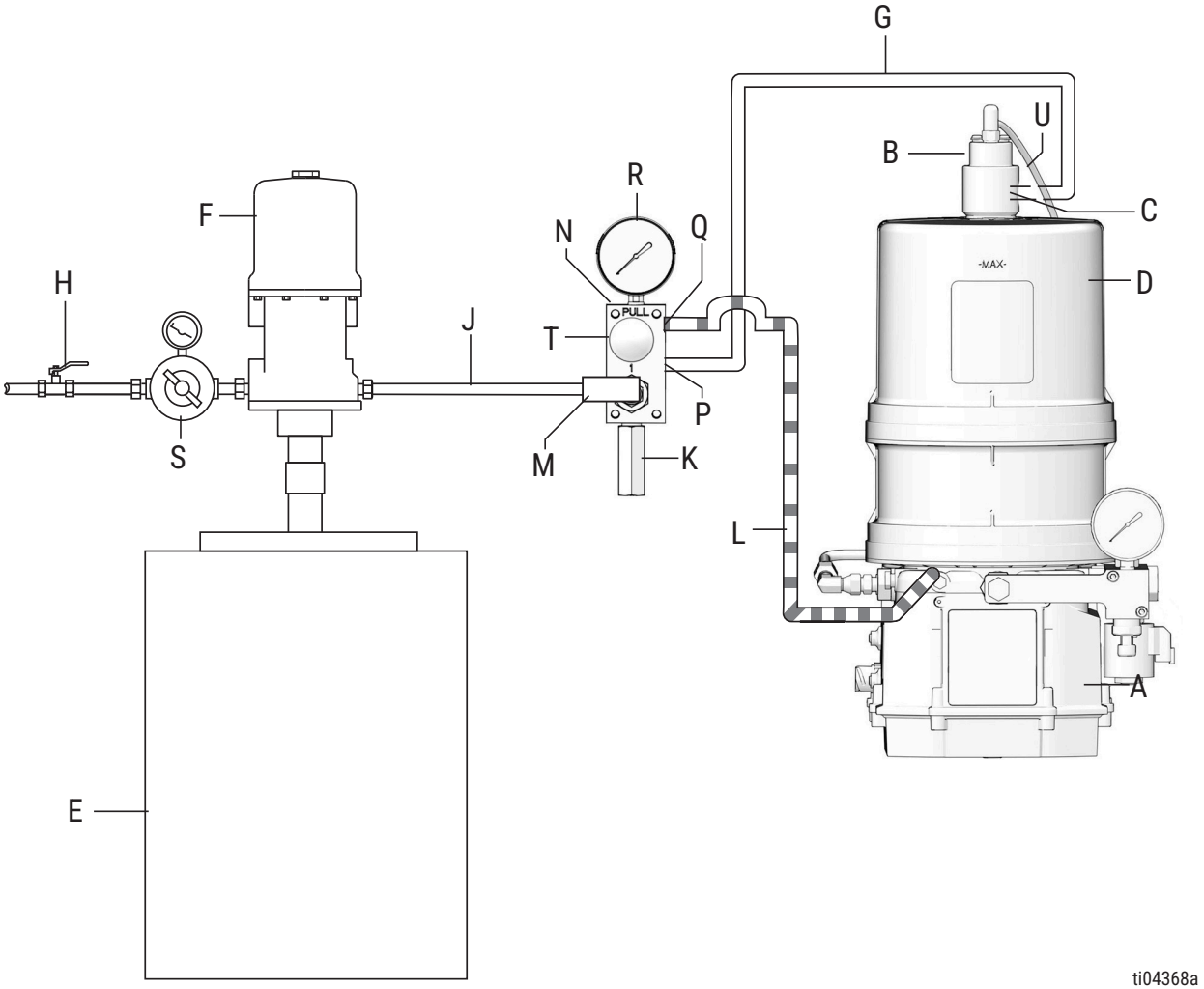


Figure 8-1: Components for G3 Standard HF Automatic Lubrication Pump Fill With Auto-Fill Shutoff Valve and Remote Fill Manifold Typical Installation

KEY	
A	G3 Pump
B	Auto-Fill Shutoff Valve
C	Auto-Fill Inlet
D	G3 Reservoir
E	Remote Fill Reservoir
F	Remote Fill Pump
G	Refilling Line
H	Air Supply to Refill Pump
J	Supply Hose
K	Pressure Relief Valve
L	Drain Hose
M	Fill Coupler/Inlet (quick disconnect)
N	Fill Manifold ◆
P	Fill Manifold Outlet
Q	Fill Manifold Vent Port
R	Pressure Gauge
S	Pressure Regulator and Gauge
T	Pressure Relief Knob
U	Level Sensor

◆ To relieve stall pressure in the fill line a fill manifold (N) must be installed in the system.

TYPICAL INSTALLATION: SINGLE LINE PARALLEL SYSTEM

A typical installation of the G3 Standard HF pump includes connection to a power source, a user-supplied supply hose, and injector that supplies lubrication material to the lube points.

The diagram highlights a typical single line parallel injector system installation on the G3 Standard HF Automatic Lubrication Pump that is used during typical operation.

The installation shown is only a guide for selecting and installing system components and accessories. Contact your Graco distributor for assistance in designing a system to meet your needs.

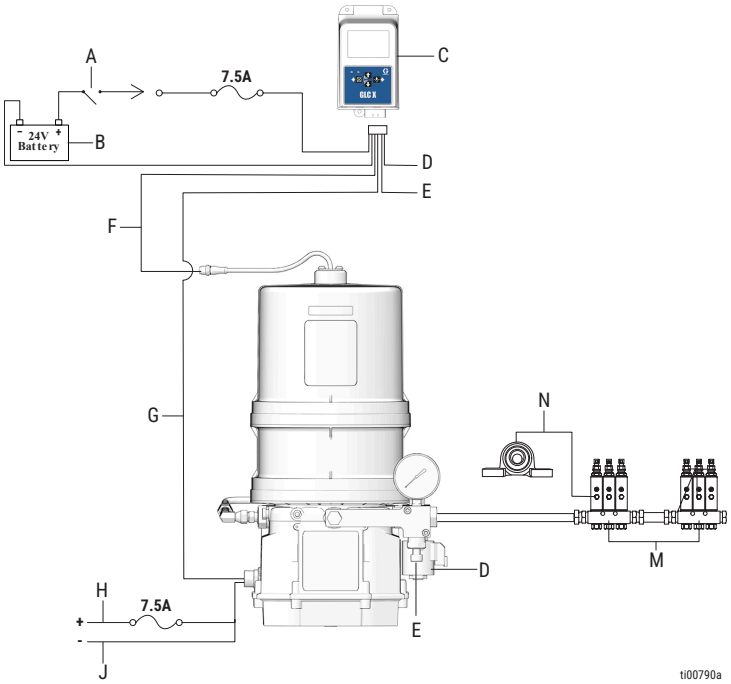


Figure 9-1: Components for a typical single line parallel injector system installation for the G3 Standard HF Automatic Lubrication Pump

KEY	
A	Ignition Switch
B	24V Battery
C	Lubrication Controller
D	Vent Valve
E	Pressure Sensor
F	Low Level Sensor
G	Signal Connector CPC
H	Power, Red Positive
J	Power, Black Negative
K	Injector
L	To Lube Points

UNPACK THE PUMP

NOTICE

To prevent equipment damage, observe precautions for handling electrostatic sensitive devices. Touch ground before handling pump.

The pump module was carefully packaged for shipment. When the package arrives, perform the following procedure to unpack the units:

1. Inspect the shipping box carefully for shipping damage. Contact the carrier promptly if damage is discovered.
2. Unseal the box and inspect the contents carefully. There should not be any damaged parts.
3. Compare the packing slip against all items included in the box. Any shortages or other inspection problems should be reported immediately.

CHOOSE AN INSTALLATION LOCATION

⚠ WARNING

AUTOMATIC SYSTEM ACTIVATION HAZARD

The system is equipped with an automatic timer that activates the pump lubrication system when power is connected or when exiting the programming function. Unexpected activation of the system could result in serious injury, including skin injection and amputation.

Before you install or remove the lubrication pump from the system, disconnect and isolate all power supplies and relieve all pressure.

- Select a location that will adequately support the weight of the G3 pump and lubricant, and all plumbing and electrical connections.
- Refer to the mounting hole layouts in **Dimensions**. No other installation configuration should be used.
- Use designated mounting holes and provided configurations only.

- Use the two fasteners (included) to secure the pump to the mounting surface.

SYSTEM CONFIGURATION AND WIRING

FUSES (DC MODELS)

NOTICE

Fuses (user supplied) are required on all DC models. To avoid equipment damage:

- Never operate G3 Standard HF Pump DC models without a fuse installed.
- A fuse of the correct current must be installed in line with the power entry to the equipment.

Fuse Kits are available from Graco. This table identifies the correct fuse to use for your input voltage and the corresponding Graco Kit number.

INPUT VOLTAGE	FUSE VALUE	GRACO KIT NO.
24 VDC	7.5 A	25C986

PUMP CABLE CONNECTION

PUMP CABLE PART NO. 2010880 FOR PUMPS WITH LOW LEVEL SWITCH

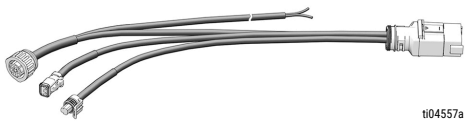


Figure 9-2: Cable Pin Out

PUMP CABLE PART NO. 2010879 FOR PUMPS WITH LEVEL SENSOR

Figure 9-3: Male End View

12 PIN MALE CONNECTOR FOR CABLE

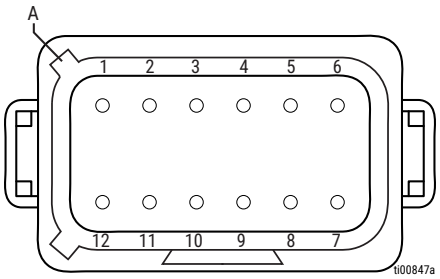


Figure 9-4: Connecter End

(A) is the key for correct alignment of connectors.

Table 9-1: Connector and Pin out for 2010880, and 2010879

PIN-OUT 2010880		PIN-OUT 2010879
1	Low Level, N.O.	Vp (Level Sensor)
2	Unused	Vn (Level Sensor}
3	Unused	Analog Output (Level Sensor)
4	Signal (+)	Signal (+)
5	Signal (-)	Signal (-)
6	GND Pressure Sensor	GND Pressure Sensor
7	PWR Pressure Sensor	PWR Pressure Sensor
8	Analog Output Pressure	Analog Output Pressure
9	Vp (Vent Valve)	Vp (Vent Valve)
10	Vn (Vent Valve)	Vn (Vent Valve)
11	Unused	Unused
12	Low Level .COM	Unused

PUMP CPC CONNECTOR ON HOUSING – WITH LOW LEVEL SWITCH

Table 9-2: Pin and Pin Name

Pin	Pin Name
1	Unused
2	-VDC
3	+VDC
4	Signal +
5	LL N.O.
6	LL COM
7	Signal -

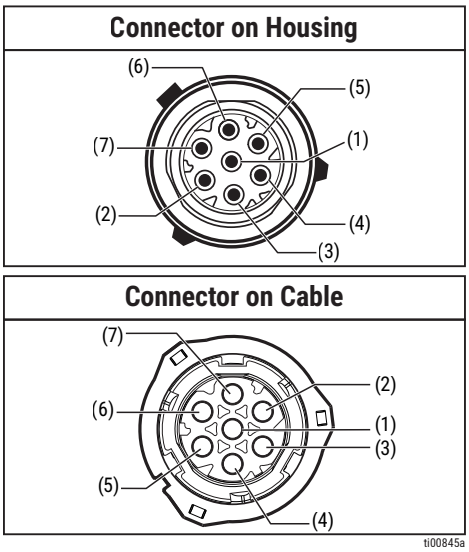


Figure 9-5: Connectors

PUMP CPC CONNECTOR – WITH LEVEL SENSOR

Table 9-3: Pin and Pin Name

Pin	Pin Name
1	Unused
2	-VDC
3	+VDC
4	Signal +
5	Unused
6	Unused
7	Signal -

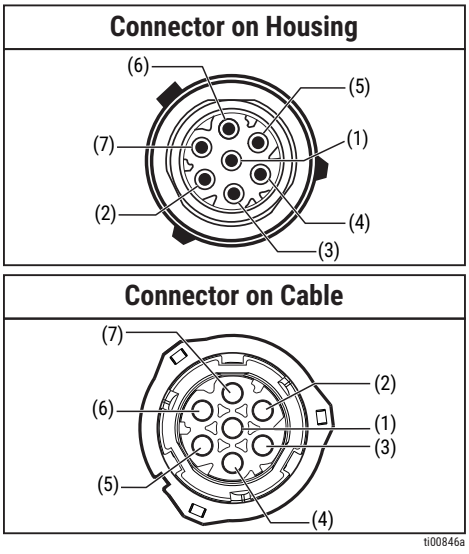


Figure 9-6: Connectors

PRESSURE RELIEF PROCEDURE

To prevent injury, follow the pressure relief procedure before cleaning, checking, or servicing the G3 pump.

Follow the Pressure Relief Procedure whenever you see this symbol.

⚠ WARNING

This 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 dispensing and before cleaning, checking, or servicing the equipment.

Relieve pressure at the pump element using two wrenches working in opposite directions on the pump element and pump element fitting to slowly loosen fitting only until fitting is loose and no more lubricant or air is leaking from fitting. Repeat for each pump element installed.

NOTE:

When loosening pump element fitting, do not loosen pump element. Loosening pump element will change the output volume.

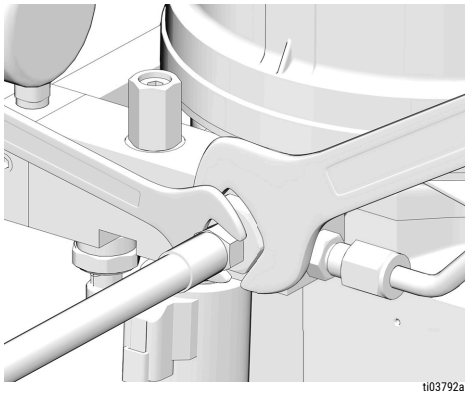
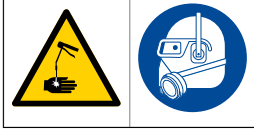


Figure 10-1: Loosen the pump element fitting

CONNECT TO AUXILIARY FITTINGS

⚠ WARNING



NOTICE

Do not attach unsupported equipment to auxiliary fittings such as fill ports and pump element. Attaching unsupported equipment to these fittings can result in irreparable housing damage.

- Always use two wrenches working in opposite directions when connecting anything to pump element or auxiliary fittings.
- Torque pump element fittings to 50 in. lbs (5.6 N•m).
- When connecting pump element into housing torque to 50 in. lbs (5.6 N•m).

LOAD PUMP WITH GREASE

Follow this procedure to fill the G3 grease pump reservoir.

To ensure optimal performance:

- Only use NLGI #000 - #2 greases appropriate for your application, automatic dispensing, and the equipment's operating temperature. Consult with machine and lube manufacturer for details.
- The reservoir can be filled using a hand operated pump, pneumatic pump, or electric transfer pump.
- Do not overfill the reservoir.
- Do not operate the pump without the reservoir attached.

NOTICE

- Always clean inlet fitting (D) with a clean dry cloth prior to filling reservoir. Dirt and/or debris can damage pump and/or lubrication system.
- When changing greases, always use compatible fluids or greases.
- When filling the reservoir using a pneumatic or electric transfer pump, do not over-pressurize and break the reservoir.

MODELS WITHOUT A FOLLOWER PLATE

Follow this procedure to fill a G3 reservoir that does not have a follower plate.

1. Connect the fill hose to the Zerk inlet fill fitting (D).

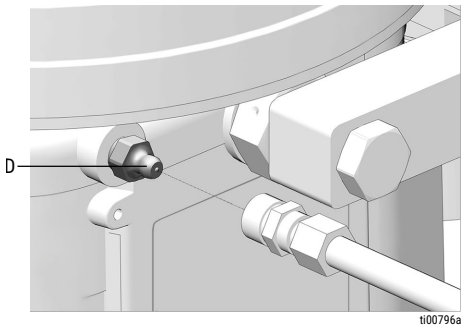


Figure 10-2: Zerk Fitting

2. For higher viscosity fluids, start the pump to rotate the stirring paddle while filling, to prevent air pockets from forming in the grease. Do not exceed a maximum run time of 15 minutes.

   For models with an external controller, follow the controller instructions to start the pump.

3. Fill the reservoir with NLGI grease up to the MAX fill line.

   NOTE:

   The vent port (G), located at the rear of the reservoir, should not be used as an overfill port/ indicator.

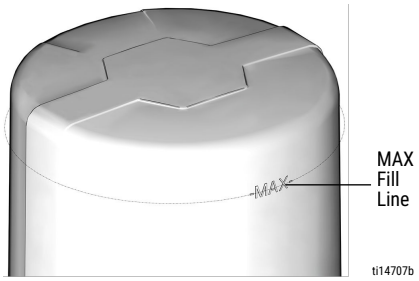


Figure 10-3: Max Fill

4. Remove the fill hose.

MODELS WITH A FOLLOWER PLATE

Follow this procedure to fill a G3 reservoir that has a follower plate.

1. Connect the fill hose to the Zerk inlet fill fitting (D).
2. For higher viscosity fluids, start the pump to rotate the stirring paddle while filling, to prevent air pockets from forming in the grease. Do not exceed a maximum run time of 15 minutes.

   For models with an external controller, follow the controller instructions to start the pump.

3. Fill reservoir with grease until seal of follower plate breaches the vent hole and the majority of air is expelled from the reservoir.

   NOTE:

   The vent port (G), located at the rear of reservoir, should not be used as an overfill port/indicator

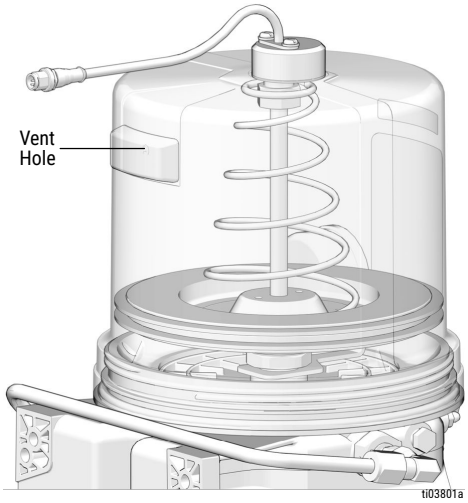


Figure 10-4: Vent Hole

4. Remove the fill hose.

AUTO-FILL SHUT OFF

To help avoid injury, relieve pressure on the G3 Standard HF Automatic Lubrication Pump when operation is stopped, and before cleaning, checking, or servicing the equipment.

CHANGE GREASES

When changing greases, always use compatible fluids or greases.

REMOTE FILL WITH REMOTE FILL MANIFOLD

⚠ WARNING

The remote filling station pump stalls (dead-heads) when the reservoir is full, causing the supply system pressure to rise to the maximum output pressure of the filling station pump. To help prevent equipment damage or serious injury caused by pressurized fluid, such as skin injection or injury from splashing fluid, always use a remote filling station pump with a maximum output pressure of 5100 psi (35.1 MPa, 351.6 bar) and use supply hoses with a minimum pressure rating of 5100 psi (35.1 MPa, 351.6 bar).

⚠ WARNING

COMPONENT RUPTURE HAZARD

The maximum working pressure of each component in the system may not be the same. To reduce the risk of over-pressurizing any component in the system, be sure you know the maximum working pressure of each component. **Never** exceed the maximum working pressure of the lowest rated component in the system. Over-pressurizing any component can result in rupture, fire, explosion, property damage, and serious injury.

Regulate input pressure to the remote fill pump so that no fluid line, component, or accessory is over pressurized.

The reference letters used in the following instructions refer to **Fill Without Remote Fill Manifold with Auto-Fill Shutoff, page 12**.

The fill valve is used to relieve pressure in the refill line and to reset the Auto Fill Shut Off. See Fill Valve instruction manual 333393. Graco fill valve, part no. 77X542 is available. Contact your local Graco distributor.

1. Pull out and hold the Pressure Relief Knob (T) long enough to relieve line pressure between Fill Manifold (N) and Auto-Fill Shut Off Valve (B).
2. Verify the Auto-Fill Shut Off (B) pin is down, indicating it is reset.

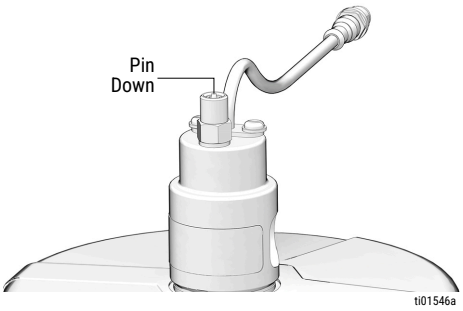


Figure 10-5: Pin Down

3. Remove yellow Dust Cover from Fill Coupler (M).
4. Connect Supply Hose (J) between the Remote Filling Station Pump (F) and Fill Coupler port marked with an "I".
5. Start Remote Filling Station Pump (F).
6. When the G3 Reservoir (D) is filled:
   - The Remote Filling Station Pump (F) stalls (dead-heads).
   - The Auto-Fill Shut Off (B) pin pops up (See Pin Up Figure).
   - The Pressure Gauge (R) rises to the set pressure of the fill pump

   NOTE:

   If the pump does not stall (dead-head), there is a leak in the system.
7. Turn off the Remote Filling Station Pump (F).

8. Pull out and hold the Pressure Relief Knob (T) long enough to relieve line pressure between Fill Manifold (N) and Auto-Fill Shut Off Valve (B) and between Remote Filling Station Pump (F) and Fill Manifold (N).

   NOTE:

   The length of time it takes to vent varies depending on the system design and installation. In some installations it may be necessary to repeat Step to ensure pressure is relieved.

9. Disconnect Supply Hose (J) at Fill Coupler (M).
10. Replace yellow Dust Cover over Fill Coupler (M).

REMOTE FILL WITHOUT REMOTE FILL MANIFOLD

Please reference **Fill Without Remote Fill Manifold with Auto-Fill Shutoff, page 12** for the parts identification referenced in this procedure.

1. A supply Hose Pressure Relief Valve (Y) and Overflow Container (W) (for collecting excess fluid that drains during pressure relief) must be installed in an easily accessible location between the Remote Filling Station Pump (F) and the Auto-Fill Shutoff (B). This pressure relief valve is used to relieve pressure in the refill line and to reset the Auto-Fill Shutoff.

   A Pressure Relief Kit: 247902 is available from Graco. Contact your distributor or Graco Customer Service for additional information about this kit.

2. Connect Supply Hose (J) at Quick Connect (V).
3. Turn on Remote Filling Station Pump (F) and fill the G3 Reservoir (D) until the indicator pin on the Auto-Fill Valve pushes up as shown in (Pin Up Figure). The pressure in the Refill Pump (F) builds and the pump stalls.

   NOTE:

   If the pump does not stall (dead-head) there is a leak in the system.

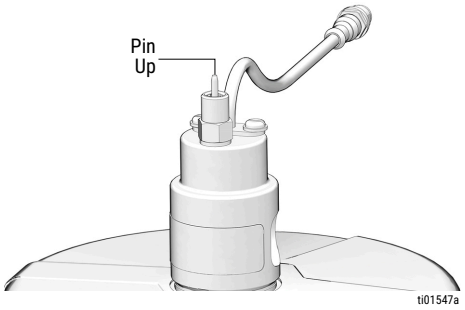


Figure 10-6: Pin Up

4. Turn off the Air Supply (H) to Pump (F).
5. Relieve remote filling station pump pressure using the following **Remote Filling Station Pressure Relief** procedure.

REMOTE FILLING STATION PRESSURE RELIEF

The reference letters used in the following instructions refer to **Optional Installation - Without Remote Fill Manifold**.

The following Pressure Relief Procedure is only used with the Auto-Fill Shutoff Valve to relieve remote filling station and lubricant supply line pressure.

⚠ WARNING

This 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 dispensing and before cleaning, checking, or servicing the equipment.

1. To relieve pressure between the Refill Pump (F) and Auto-Fill Shutoff (B), open the Supply Hose Pressure Relief Valve (Y). Pressure will be released and excess fluid will drain out of the Drain Tube (L) and into the Lubrication Overflow Container (W).

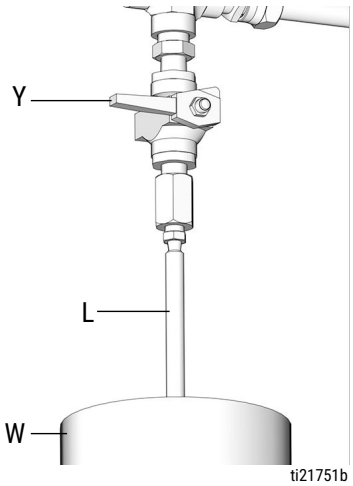


Figure 10-7: Supply Hose Pressure Relief Valve

2. Close Supply Hose Pressure Relief Valve (Y) when all pressure has been relieved.
3. Disconnect the Supply Hose (J) from Quick Connect (V).

PRIME THE PUMP

.This section defines how to prime the pump to prepare the G3 Standard HF Automatic Lube Pump for use.

NOTE:

It is not necessary to prime pump every time pump is filled with lubricant.

Pump only requires priming the first time it is used, or if it is allowed to run dry.

1. Loosen the pump outlet fitting.

NOTE:

When loosening the pump outlet fitting, do not loosen the pump element. Loosening the pump element change the output volume.

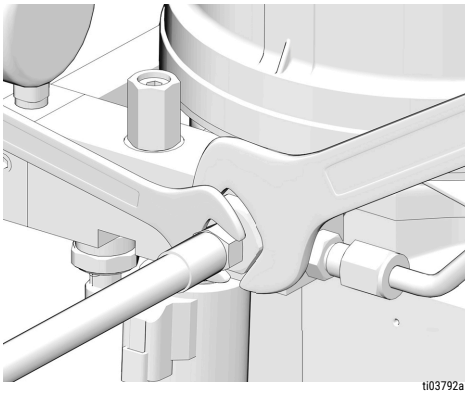


Figure 10-8: Outlet Fitting

2. Only run the pump until air-free lubricant dispenses out of the pump outlet.

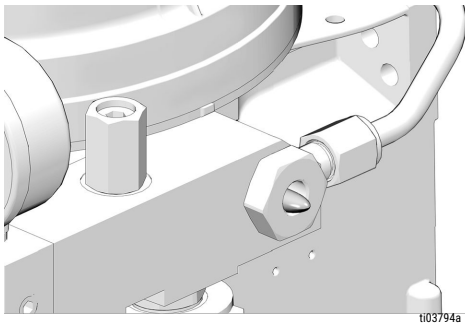


Figure 10-9: Outlet

3. Tighten the pump outlet fitting using two wrenches working in opposite directions.

RESERVOIR LEVEL MONITORING

Follow this procedure to fill the G3 grease pump reservoir.

LOW LEVEL SWITCH (GREASE)

The pump is equipped with a rotating paddle and as the grease level reduces to the minimum level, the paddle momentarily triggers the reed switch (one time per paddle revolution). When the set quantity of triggers are detected, it activates the low level condition.

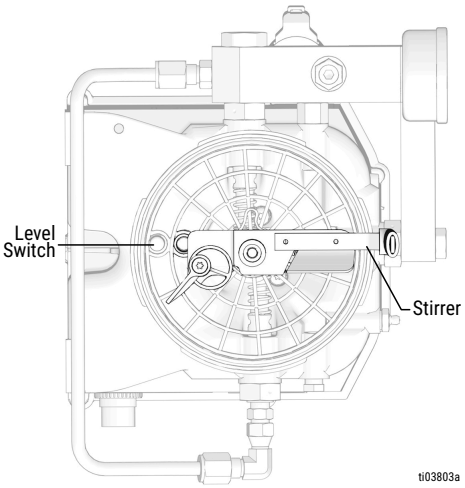


Figure 10-10: Low Level Trigger

When the grease level reaches a low warning level, pins 5 and 6 momentarily close, sending a signal to the controller that the fluid has reached a low level. The Contact position diagram shows a typical low level output response with low level fluid.

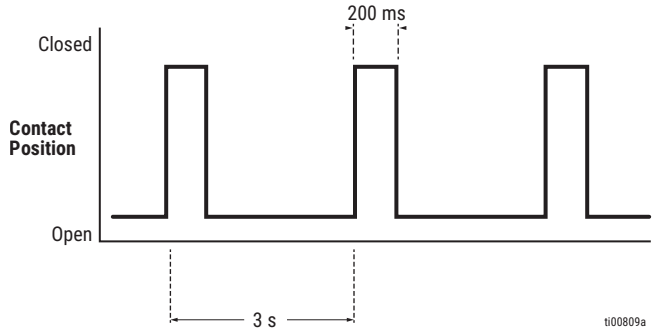


Figure 10-11: Contact Position

LEVEL SENSOR (GREASE PUMP)

Follow this procedure to fill a G3 reservoir that has a follower plate.

The level transducer continuously monitors the fluid level and warns when the follower plate (grease models) reaches the distance set in the controller programming from the bottom of the reservoir.

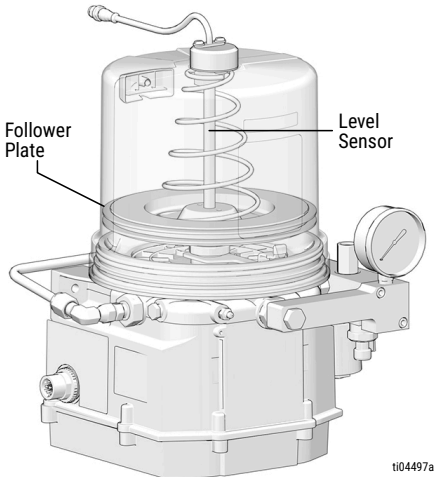


Figure 10-12: Grease Pump

PRESSURE SWITCH AND PRESSURE TRANSDUCER

The Pressure Switch (S) is factory-set to 3000 psi. When the pressure in the system reaches 3000 psi the pressure switch closes.

The pressure transducer is used for continuous pressure monitoring.

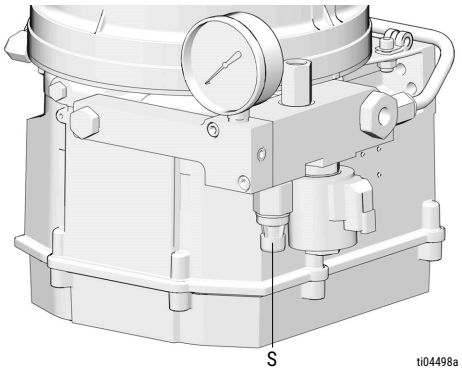


Figure 10-13: Pressure Switch

Table 10-1: Pressure Switch

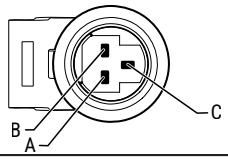
OUTPUT TYPE	1 SWITCH OUTPUT NO.
Operating Voltage	24 VDC
Current	5 amp
Connection Type	Packard Metri-Pack 150 series
Pre Set Pressure	3000 psi

Table 10-2: Pressure Transducer

OUTPUT TYPE	ANALOG 0.5 - 4.5 V
Operating Voltage	8-32 VDC
Connection Type	Packard Metri-Pack 150 series
Pre Set Pressure	0-5000 psi

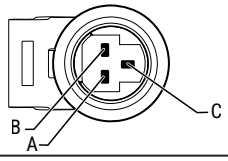
CONNECTOR PIN OUT

Pressure Switch — **Pin-out**



PIN	PIN Name
A	Not Used
B	Vs
C	Pressure Out

Pressure Transducer — **Pin-out**



PIN	PIN Name
A	GND
B	Vs
C	Pressure Out

ti37033a

Figure 10-14: Pressure Switch and Pressure Transducer Pin-Outs

VENT VALVE

The pump design includes a self-contained Vent Valve (P). The vent valve reduces system pressure in the series type single line systems and when resetting the injectors.

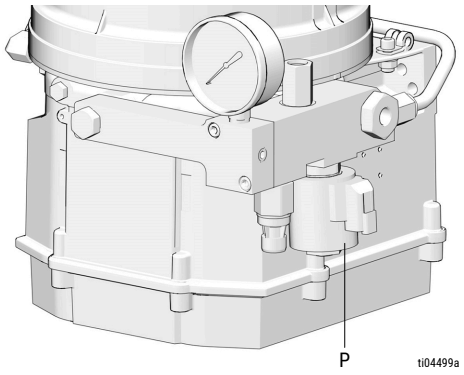


Figure 10-15: Vent Valve

PRESSURE RELIEF VALVE

The pump design includes a Self-contained Pressure Relief Valve (R). When needed the valve relieves pressure back into the Pump Reservoir (A).

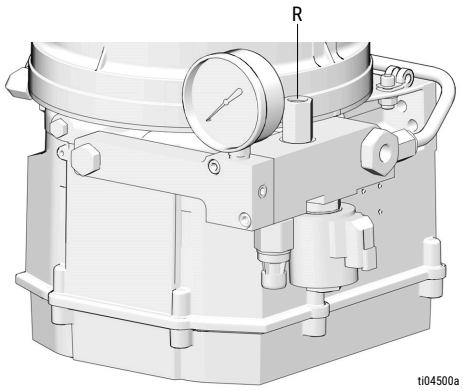


Figure 10-16: Pressure Relief Valve

OPERATION

The instructions provide guidance on how to safely use the G3 Standard HF Automatic Lube Pump.

PUMP OPERATION

The G3 Standard Automatic Lubrication Pump can be controlled using an external Graco made controller.

Refer to the **System Configuration and Wiring, page 18** for required fusing and wiring information.

NOTES:

- When using an external power source and controller, Pump On (Run) time must be set for no longer than 15 minutes.
- In most cases, Pump Off (Rest) time should be twice as long as Pump ON (Run) time. If alternative ON/OFF times are required, contact Graco customer service for assistance.
- Make sure the Graco controller GLC2200, or GLCX are set up for correct value input. Please refer to manual 3A2960 for the GLC2200 controller or manual 3A7031 for the GLCX controller. **Related Manuals, page 4**.
- Make sure the level sensor, level switch and pressure switch, or pressure sensor are set up properly in the controller.

FREQUENCY	COMPONENT	REQUIRED MAINTENANCE
Daily and at refill	Zerk Fittings	Keep all fittings clean using a clean dry cloth. Dirt and/or debris can damage pump and/or lubrication system.
Daily	G3 Pump Unit and Reservoir	Keep pump unit and reservoir clean using a clean dry cloth.
Daily	Display	Keep display clean using a clean dry cloth.
Monthly	External Wiring Harness	Verify external harnesses are secure.

END OF PRODUCT LIFE

At the end of the product's useful life, dismantle and recycle it in a responsible manner.

- Perform **Pressure Relief Procedure**.
- Drain and dispose of fluids according to applicable regulations. Refer to the material manufacturer's Safety Data Sheet.
- Remove motors, batteries, circuit boards, LCDs (liquid crystal displays), and other electronic components. Recycle according to applicable regulations.
- Do not dispose of electronic components with household or commercial waste. 
- Deliver remaining product to a recycling facility.

TROUBLESHOOTING

Detailed instructions and solutions for diagnosing and resolving common issues encountered during the use of the G3 Standard HF Pump.

Follow the **Pressure Relief Procedure** before checking or repairing the equipment.

Additional support on troubleshooting can be found at https://graco.com/G3Support.

NOTE:

Check all possible problems and causes before disassembling the equipment.

Table 14-1: Power Problems, G3 Standard HF Pump

PROBLEM	CAUSE	SOLUTION
Unit does not power on	Incorrect/loose wiring.	Refer to **System Configuration and Wiring** instructions.
	Tripped external fuse due to internal component failure.	Check wiring. If problem persists, contact your local Graco distributor.
	Tripped external fuse due to pumping non-cold weather lubricant in cold weather -40°F (-40°C).	Replace lubricant with pumpable lubricant, rated for environmental conditions and application. Replace fuse.

Table 14-2: Pressure Problems, G3 Standard HF Pump

PROBLEM	CAUSE	SOLUTION
The system is over pressurized and grease is leaking from the pressure relief valve.	In injector system, the pressure switch/sensor is not working.	Set the pressure switch/sensor to the correct pressure. Check the pressure switch/sensor wiring.
	There is system blockage.	Check the injectors for any blockages.
The pump is not building pressure.	The reservoir is low on grease.	Add grease following **Load Grease** instructions.
	There is leakage in the pipeline.	Repair the leakage problem.
	The pump elements are not working.	Replace pump elements.
	The vent valve is not closed or is leaking internally.	Check the vent valve wiring. Replace the vent valve.
The pressure is not venting in an injector system.	The vent valve is clogged.	Replace the vent valve.

Table 14-3: General Problems, G3 Standard HF Pump

PROBLEM	CAUSE	SOLUTION
Lubricant leaks past seal located on the bottom of the reservoir.	Reservoir retaining tabs are cracked or broken.	Replace reservoirs. If problem persists, contact your local Graco distributor.
	Reservoir is being pressurized during filling.	Ensure vent hole is not plugged. If problem persists, contact your local Graco distributor.
Unit not pumping during ON cycle, but controller lights and functions.	Failed motor.	If problem continues, contact your local Graco distributor.
Follower plate is not going down.	Air is trapped in the reservoir between the follower plate and lubricant.	Add grease following **Load Grease** instructions. Ensure air is purged.

When replacing parts, follow the instructions to restore the components on the G3 Standard HF Automatic Lubrication Pump.

⚠ WARNING

All electrical wiring must be done by a qualified electrician and comply with all local codes and regulations.

1. Follow **Pressure Relief Procedure** to depressurize the pump.
2. Turn off the power to the pump.
3. Disconnect the power cord.
4. Remove the screws (3) from the bottom of the pump.
5. Remove the cover (2).

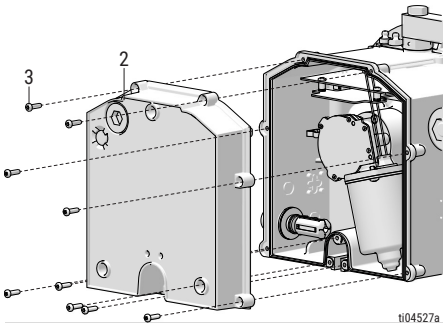
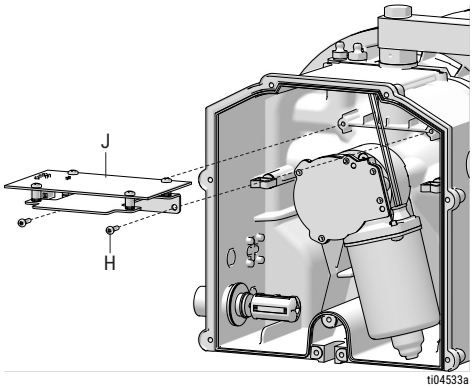


Figure 15-1: Remove Cover

After steps 1 through 5 are completed:

REMOVE RELAY BOARD

Follow this procedure to remove the relay board from the G3 Standard HF Automatic Lubrication Pump.



1. Remove the relay board two bracket screws (H).
2. Disconnect the two (or three) interlocking connections.
3. Remove the relay board bracket assembly (J).

REPLACE RELAY BOARD

Follow this procedure to replace the relay board from the G3 Standard HF Lubrication Pump.

1. Replace the relay board two bracket screws (H) and tighten.
2. Reconnect the two (or three) interlocking connectors.
3. Tighten the main board two bracket screws (H).

NOTE:

The pump may be damaged if the screws (H) are overtightened.

REMOVE LEVEL SENSOR

Follow this procedure to remove the level sensor from the G3 Standard HF Automatic Lubrication Pump.

The reservoir needs to be empty for this process.

IF THE RESERVOIR IS NOT EMPTY

1. On the controller, set level sensor type to 0 - 10 V.
2. Disable the Low Level Alert and Alarm features.
3. Accept the changes.
4. Run the pump to empty grease from the reservoir.

AFTER THE RESERVOIR IS EMPTY

1. Disconnect the power to the pump.
2. Disconnect the level sensor (M) from the controller cable. (N) shows the optional level sensor with auto-fill shutoff.

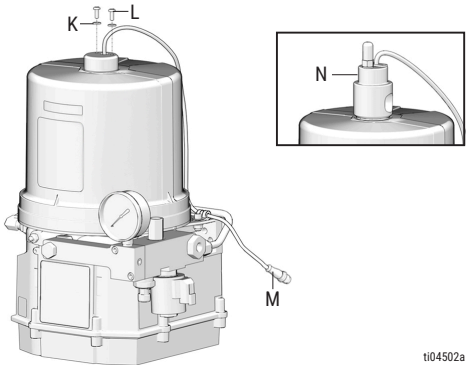


Figure 15-2: Disconnect Sensor

3. Use a hex key and wrench to loosen and remove fasteners (P, S, and T) .

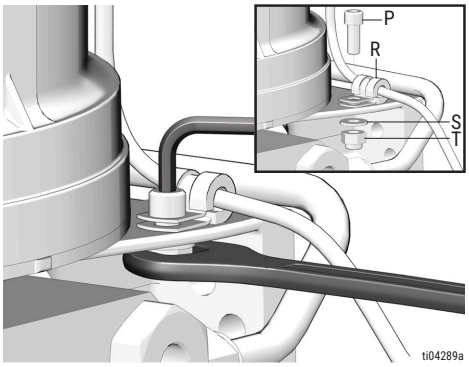


Figure 15-3: Remove Fasteners

4. Remove the holding clip (R).

NOTE:

The reservoir is spring loaded.

5. Remove the two screws (L) and washers (K) from the level sensor (M).
6. Use a flat screwdriver and lightly tap the flange to rotate the flange until the screwdriver fits underneath.
7. Use the flat screwdriver to push up on the flange (FL).

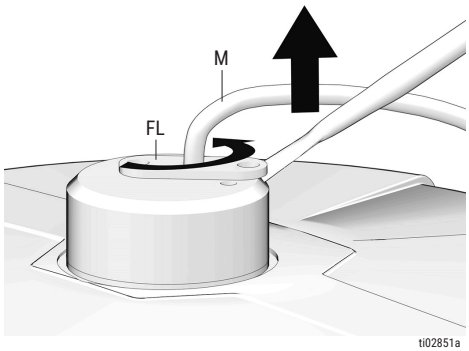


Figure 15-4: Push on Flange

8. Pull the level sensor (M) out of the reservoir.

REPLACE LEVEL SENSOR

Follow this procedure to replace the level sensor from the G3 Standard HF Automatic Lubrication Pump.

1. Lubricate the level sensor (M) stem lightly with grease.
2. Replace the level sensor (M) through the top of the block on the reservoir.
3. Push the level sensor (M) through the hole in the follower plate (V).

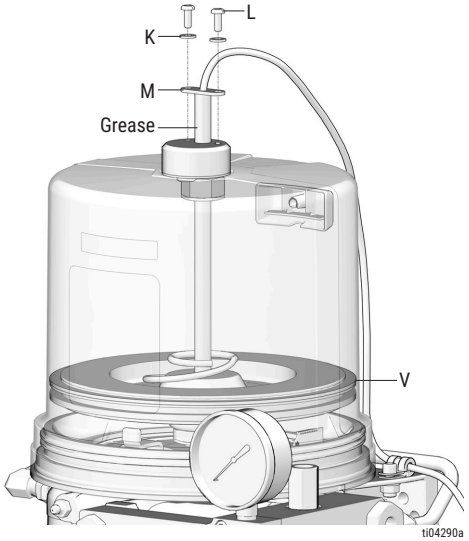


Figure 15-5: Level Sensor

4. Align the level sensor flange over the screw holder.
5. Replace the two washers (K) and screws (L), and torque to 15 - 25 in.-lb (1.7 -2.8 N•m).
6. Attach the fastener clip (R) to the level sensor cord.
7. Place the fastener clip (R) with the screw (P) and washer (S) and tighten.

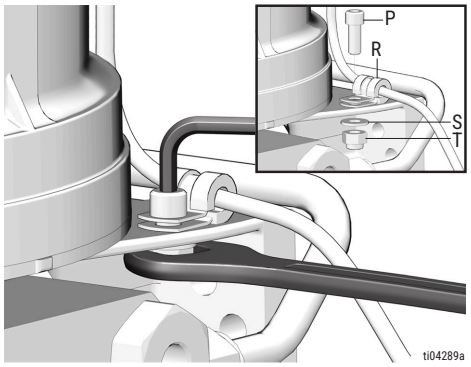


Figure 15-6: Fastener Clip

8. Reconnect the level sensor (M) to the controller cable.

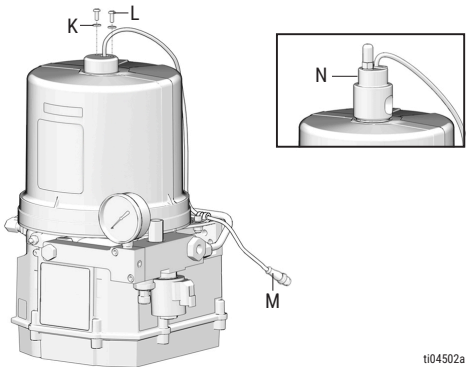


Figure 15-7: Reconnect Power

9. Restore power to the pump.
10. On the controller, set level sensor type to 0.5 - 4.5 V.
11. Enable the Low Level Alert and Alarm features.
12. Follow the installation procedure.

REMOVE RESERVOIR WITH LEVEL SENSOR

Follow this procedure to remove the reservoir with level sensor from the G3 Standard HF Automatic Lubrication Pump.

The reservoir needs to be empty for this process.

IF THE RESERVOIR IS NOT EMPTY

1. On the controller, set level sensor type to 0 - 10 V.
2. Disable the Low Level Alert and Alarm features.
3. Accept the changes.
4. Run the pump to empty grease from the reservoir.

AFTER THE RESERVOIR IS EMPTY

1. Disconnect the power to the pump.
2. Disconnect the level sensor (M) from the base of the controller cable. (N) shows the optional level sensor with auto-fill shutoff.

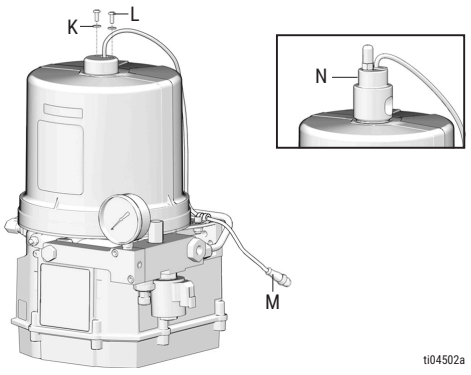


Figure 15-8: Disconnect Sensor

3. Use a hex key and wrench to loosen and remove fasteners (P, S, and T) .

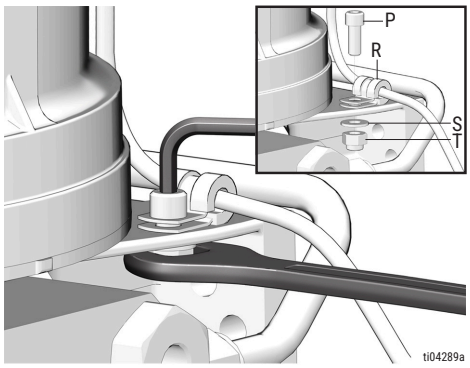


Figure 15-9: Remove Fasteners

4. Remove the holding clip (R).

NOTE:

For removal of 4 L or larger reservoirs, use special tool 133410 to prevent adapter ring rotation while turning the reservoir. The tool is installed with two sets of fasteners to the back of the pump.

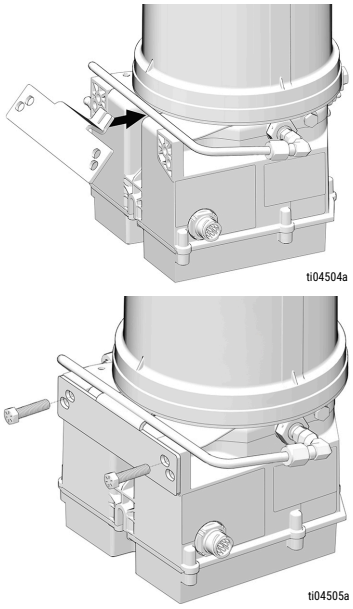


Figure 15-10: Install Special Tool (133410)

NOTE:

The reservoir is spring loaded.

5. Position the strap wrench over the reservoir (W) and turn counter-clockwise to remove from the pump base.

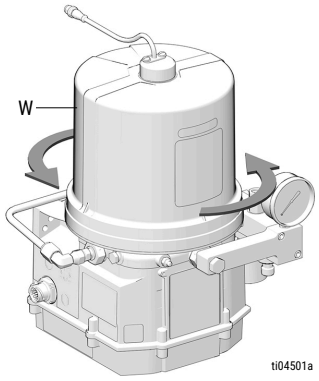


Figure 15-11: Remove Reservoir

6. Remove the spring (Y).

7. Remove the follower plate (Z).
8. Remove the bearing (AA).

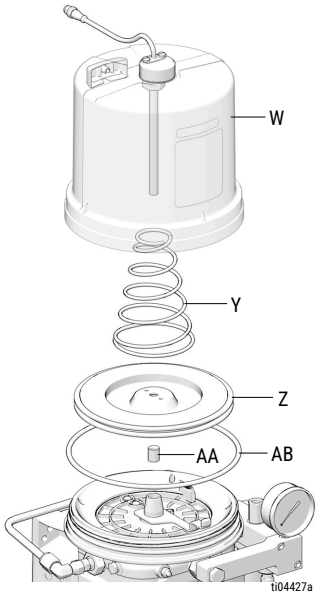


Figure 15-12: Remove Bearing

9. Remove the stirrer (AC) by rotating clockwise (left hand threaded).

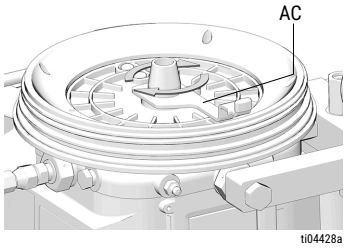


Figure 15-13: Remove Stirrer

10. Remove the O-ring (AB) from the adapter ring (B).

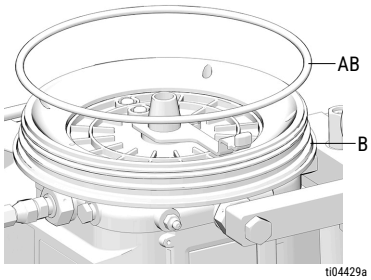


Figure 15-14: Remove O-Ring

11. Discard all parts.

REPLACE RESERVOIR WITH LEVEL SENSOR

Follow this procedure to remove the reservoir with level sensor from the G3 Standard HF Automatic Lubrication Pump.

1. Place new O-ring (AB) on adapter ring (B).

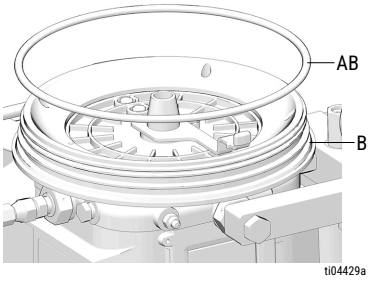


Figure 15-15: O-Ring

2. Apply grease to adapter ring (B).
3. Place and tighten new stirrer (AC) by rotating counter-clockwise (left hand threaded).

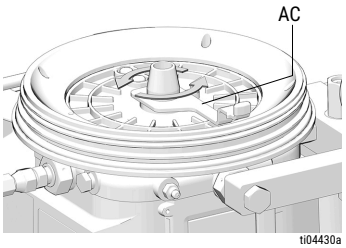


Figure 15-16: Stirrer

4. Place the new bearing (AA) into the center of the stirrer (AC).

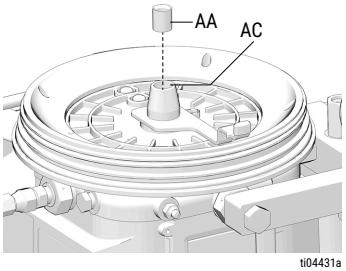


Figure 15-17: Bearing Placement

5. Place the new follower plate (Z) onto the stirrer (AC).

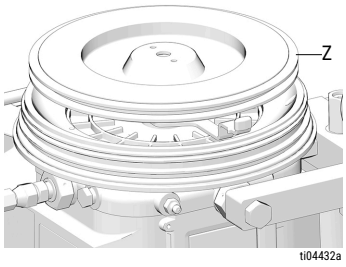


Figure 15-18: Follower Plate

6. Apply grease to the follower plate (Z) seal.
7. Place new spring (Y).
8. Put the new reservoir (W) with the level sensor (M) on the base, and align the level sensor (M) rod with the center hole. Push down and turn clockwise.

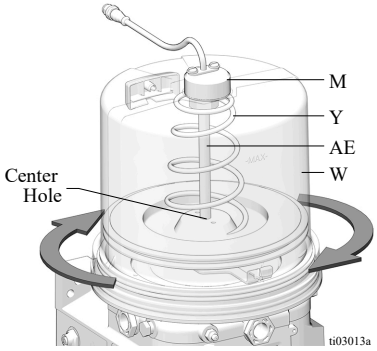


Figure 15-19: New Reservoir

9. Position the strap wrench around the reservoir (W) and turn the reservoir (W) two full turns clockwise, until the front of the reservoir aligns with the front of the pump base.
10. Replace the two washers (K) and screws (L), and torque to 15-25 in.-lb (1.7-2.8N•m).
11. Attach the fastener clip (R) to the level sensor cord (M).

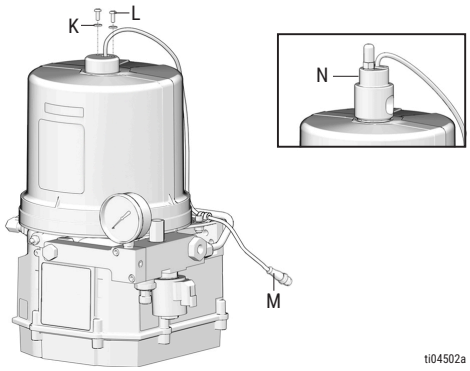


Figure 15-20: Sensor Cord

12. Place the fastener clip (R) to with the screw (P) and washer (S) and tighten.
13. Reconnect the level sensor (M) to the controller cable.

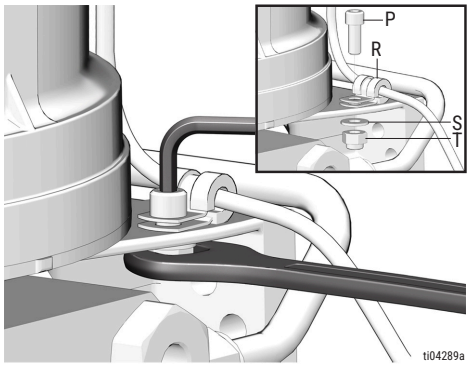


Figure 15-21: Fastener Clip

14. Restore power to the pump.
15. On the controller, set level sensor to 0.5 - 4.5 V.
16. Enable the low level alert and alarm features.
17. Follow the installation instructions.

REMOVE RESERVOIR WITH LEVEL SENSOR AND AUTO-FILL SHUTOFF (AFSO)

Follow this procedure to remove the reservoir with level sensor and auto-fill shut off from the G3 Standard HF Automatic Lubrication Pump.

The reservoir needs to be empty for this process.

IF THE RESERVOIR IS NOT EMPTY

1. On the controller, set level sensor type to 0 - 10 V.
2. Disable the Low Level Alert and Alarm features.
3. Accept the changes.
4. Run the pump to empty grease from the reservoir.

AFTER THE RESERVOIR IS EMPTY

1. Disconnect the power to the pump.
2. Disconnect the level sensor (M) from the controller cable.

Figure 15-22: Disconnect Sensor

3. Use a hex key and wrench to loosen and remove fasteners (P, S, and T).

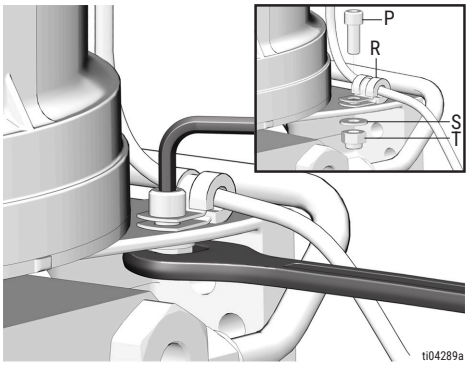


Figure 15-23: Remove Fasteners

4. Remove the holding clip (R).

NOTE:

For removal of 4 L or larger reservoirs, use special tool 133410 to prevent adapter ring rotation while turning the reservoir. The tool is installed with two sets of fasteners to the back of the pump.

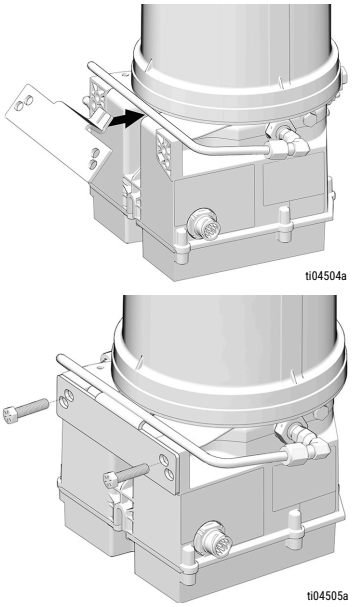


Figure 15-24: Install special tool (133410)

NOTE:

The reservoir is spring loaded.

5. Position the strap wrench over the reservoir (W) and turn counter-clockwise to remove from the pump base.

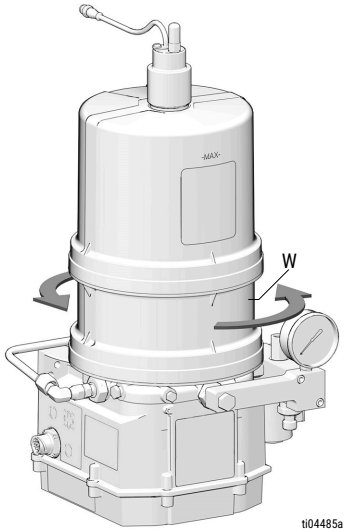


Figure 15-25: Remove Reservoir

6. The reservoir should come apart as an assembly. Remove and discard.

NOTE:

If the reservoir does not come apart as an assembly, remove and discard all individual components in the reservoir.

7. Remove the stirrer (AC) by rotating clockwise (left hand threaded).

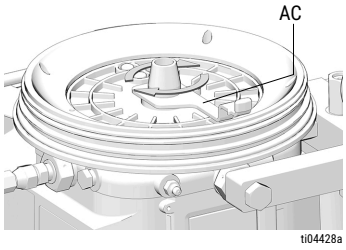


Figure 15-26: Remove Stirrer

8. Remove the O-ring (AB) from the adapter ring (B).

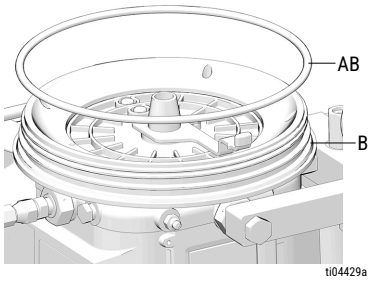


Figure 15-27: Remove O-Ring

9. Discard all parts.

REPLACE RESERVOIR WITH LEVEL SENSOR AND AUTO-FILL SHUTOFF (AFSO)

Follow this procedure to replace the reservoir with level sensor and auto-fill shut off from the G3 Standard HF Automatic Lubrication Pump.

1. Place the new o-ring (AB) on the adapter ring (B).

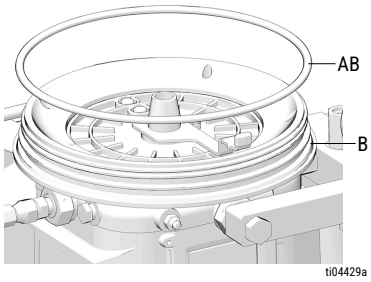


Figure 15-28: O-Ring Placement

2. Apply grease to the adapter ring (B).
3. Place the new stirrer (AC) onto the adapter ring (B), rotate counter-clockwise (left hand threaded) to tighten.

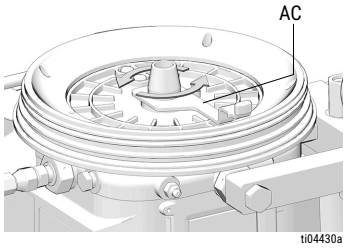


Figure 15-29: Stirrer Placement

4. Place the new reservoir with Level Sensor and Auto-Fill Shutoff onto the base.

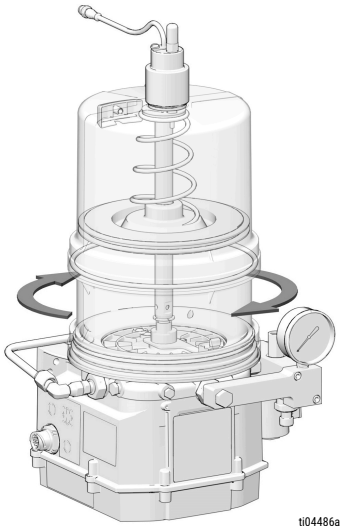


Figure 15-30: Reservoir Placement

5. Position the strap wrench around the reservoir (W) and turn the reservoir (W) two full turns clockwise, until the front of the reservoir aligns with the front of the pump base.
6. Replace the two washers (K) and screws (L), and torque to 15 - 25 in.-lb (1.7 -2.8 N•m).
7. Attach the fastener clip (R) to the level sensor cord (M).

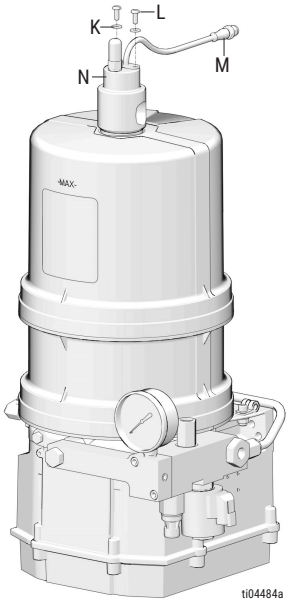


Figure 15-31: Sensor Cord

8. Place the fastener clip (R) with the screw (P) and washer (S) and tighten.
9. Reconnect the level sensor (M) to the controller cable.

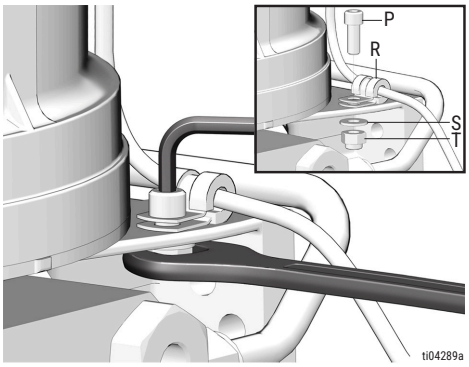


Figure 15-32: Fastener Clip

10. Restore power to the pump.
11. On the display, set level sensor type to 0.5 - 4.5 V.
12. Enable the Low Level Alert and Alarm features.
13. Follow the installation procedure.

G3 STANDARD HF 4L AND LARGER RESERVOIR, PARTS DIAGRAM AND PARTS LIST

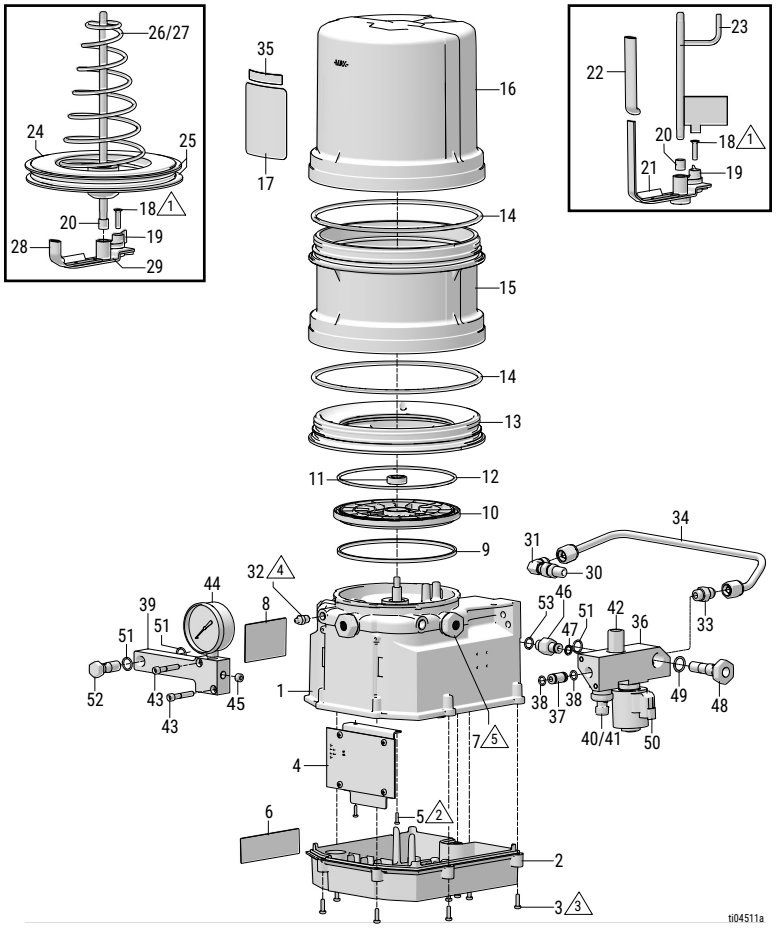


Figure 16-1: G3 Standard HF 4L and Larger Reservoir, Parts Diagram

1 Torque to 14 in-lb (1.6 N·m)

2 Torque to 15 in-lb (1.7 N·m)

3 Torque to 30 in-lb (3.4 N·m)

4 Torque to 35 in-lb (3.9 N·m)

5 Torque to 50 in-lb (5.7 N·m)

PARTS LIST FOR G3 STANDARD PUMP 4L AND LARGER RESERVOIR

REF.	PART	DESCRIPTION	QTY.
1	- - -	Base, 3 pump housing	1
2	- - -	Cover, bottom	1
3	- - -	Screw, mach, torx pan hd, o-ring	9
4❖	- - -	Relay controller board w/ bracket	1
5❖	- - -	Screws	2
6▲	2011888	Label, safety	1
7	25C987	Pump Element	1
8▲	- - -	Pump Identification Label	1
9	- - -	RECT-seal	1
10	- - -	Plate, ricer	1
11	- - -	Bearing, ball	1
12◆	- - -	O-ring	1
13◆	- - -	Adapter, reservoir	1
14◆✖#	- - -	Seal, oval, 4L, 8L	1
15	25C764	Reservoir mid-section, 8L (includes 14) Two required for 12L	1/2
16◆	- - -	Reservoir, 4L, grease	1
17◆+	- - -	Branding label	1
18✖#	- - -	Screw, M6	1
19✖#	- - -	Paddle, low level, grease models	1
20✖#	- - -	Bearing, sleeve	1
21✖	- - -	Paddle, stirring, 4L, 8L, 12L grease models, w/o follower plate	1
22✖	- - -	Wiper, stirring (for models without follower plate)	1
23	24E246	Baffle, low level, 4L models	1
	24F836	Baffle, low level, 8L models	1
	24F923	Baffle, low level, 12L models	1

REF.	PART	DESCRIPTION	QTY.
24★	- - -	Plate, follower, 4L, 8L models	1
25★	- - -	Seal, follower, 4L, 8L models	2
26	- - -	Spring, follower, 4L models	1
27	- - -	Spring, follower, 8L models	1
28#	- - -	Wiper, stirring, 4L, 8L follower plate models	1
29#	- - -	Paddle, stirring, 4L, 8L, grease models with follower plate	1
30✔	- - -	ADAPTER, 9/16 - 18 JIC x ¼ in. NPT	1
31✔	- - -	FITTING, elbow, swivel, 90, JIC06 FM, CS	1
32✔	555888	Grease fitting	1
33✔	278145	FITTING, straight	1
34✔	- - -	BENT TUBE	1
35◆	- - -	Label, max fill	1
36+✻	- - -	BLOCK, side vent RH	1
37+✻	- - -	SLEEVE, manifold	1
38+✻	- - -	PACKING, o-ring	2
39+✻	- - -	BLOCK, front RH	1
40+	- - -	SWITCH, pressure, 3000 psi	1
41✻	- - -	PRESSURE TRANSDUCER, 5000 psi	1
42+✻	- - -	VALVE, pressure relief, 4000 psi	1
43+✻	- - -	SCREW, soc hd cap, 1/4	2
44+✻	- - -	GAUGE, press, fluid	1
45+✻	- - -	PLUG, pipe, headless, 1/8-27	1
46+✻	- - -	BOLT, vent valve, alignment	1
47+✻	- - -	O-RING, 2-012 V75	1
48+✻	- - -	BOLT, vent valve mount	1
49+✻	- - -	O-RING, 908 FKM	1
50+✻	- - -	VALVE, hf, cartridge 24 VDC DEU	1
51+✻	- - -	PACKING, o-ring	3

REF.	PART	DESCRIPTION	QTY.
52+ ✻	- - -	BOLD, banjo	1
53+ ✻	- - -	PACKING, o-ring	1

▲ Replacement safety labels, tags, and cards are available at no cost.

❖ Main controller board kit 2012660.

✔ Pump Element Output Union Kit (PN 2011787).

◆ Reservoir Kit 571183, 4L model, grease low level.

★ Repair Kit follower plate (PN 24X192).

✖ Repair Kit, 4L, replacement paddle, without follower plate (PN 571046).

Repair Kit, 4L, replacement paddle, with follower plate (PN 571047).

+ Vent Valve Kit Pressure Switch (PN 2012025).

✻ Vent Valve Kit Pressure Transducer (PN 2012394).

NOTE:

For removal of 4L or larger reservoir, use special tool 113410.

G3 STANDARD HF 4L AND 8L RESERVOIR WITH LEVEL SENSOR, PARTS DIAGRAM AND PARTS LIST

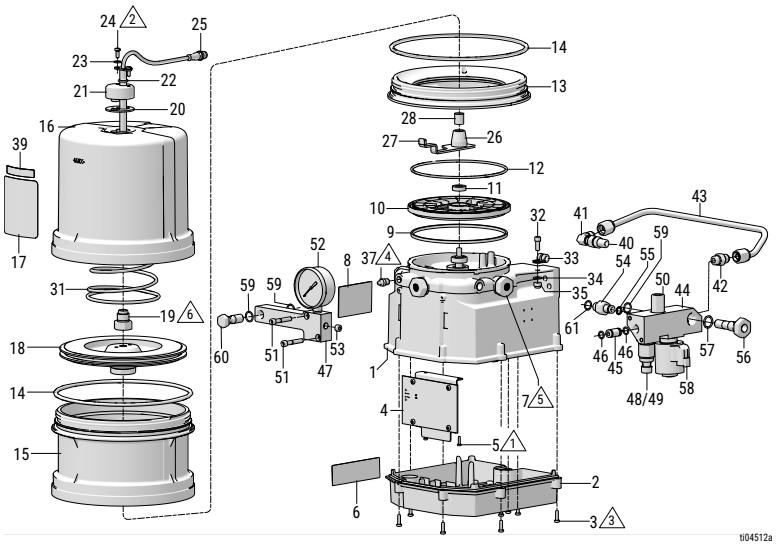


Figure 16-2: G3 Standard HF 8L Reservoir with Level Sensor, Parts Diagram

1 Torque to 15 in-lb (1.7 N·m)

2 Torque to 15-25 in-lb (1.7-2.8 N·m)

3 Torque to 30 in-lb (3.4 N·m)

4 Torque to 35 in-lb (3.9 N·m)

5 Torque to 50 in-lb (5.7 N·m)

6 Torque to 20 ft-lb (28 N·m)

PARTS LIST FOR G3 STANDARD PUMP 4L AND 8L RESERVOIR WITH LEVEL SENSOR

REF.	PART	DESCRIPTION	QTY.
1	- - -	Base, 3 pump housing	1
2	- - -	Cover, bottom	1
3	- - -	Screw, mach, torx pan hd, o-ring	9
4❖	- - -	Relay controller board w/bracket	1
5❖ ✻	- - -	Screws	4
6▲	2011888	Label, safety	1
7	25C987	Pump, Element	3
8	- - -	Pump identification label	1
9	- - -	RECT-seal	1
10	- - -	Plate, ricer	1
11	- - -	Bearing, ball	1
12	- - -	O-ring	1
13	- - -	Adapter, reservoir	1
14✺	- - -	Seal, oval, 8L	1
15✺ ✖	25C764	Reservoir mid-section, 8L (includes 14)	1
16✺	- - -	Reservoir, 4L, grease, level sensor	1
17✺	- - -	Branding label	1
18✺	- - -	Follower plate assay with seal magnet for level sensor, 8L	1
19✺	- - -	Spacer, seal cap	1
20✺	- - -	Seal, upper reservoir	1
21✺	- - -	Block cap	1
22✺+	- - -	O-ring, level sensor	1
23✺+	- - -	Washer, flat	2
24✺+	- - -	Screw, machined	2
25✺+	- - -	Level sensor, 8L	1
26✺	- - -	Paddle, stirring, 4L grease models, level sensor	1

REF.	PART	DESCRIPTION	QTY.
27✺	- - -	Wiper, stirring, level sensor	1
28✺	- - -	Bearing, sleeve, level sensor	1
31✺	- - -	Spring reservoir level sensor 8L	1
32✺+	- - -	Screw clip level sensor	2
33✺+	- - -	Clip level sensor	1
34✺+	- - -	Washer clip level sensor	1
35✺+	- - -	Lock nut clip level sensor	1
37	555888	Grease fitting	1
39✺	- - -	Label, max fill	1
40★	- - -	ADAPTER, 9/16-18 JIC x ¼ NPT	1
41★	- - -	FITTING, elbow swv, 90, JIC06, FM, CS	1
42★	- - -	FITTING, straight	1
43★	- - -	BENT TUBE	1
44✔#	- - -	BLOCK, side vent RH	1
45✔#	- - -	SLEEVE, manifold	1
46✔#	- - -	PACKING, o-ring	2
47✔#	- - -	BLOCK, front RH	1
48✔	- - -	SWITCH, pressure, 3000 psi	1
49#	- - -	PRESSURE TRANSDUCER, 5000 psi	1
50✔#	- - -	VALVE, pressure relief, 4000 psi	1
51✔#	- - -	SCREW, soc hd cap, /14	2
52✔#	- - -	GAUGE, press, fluid	1
53✔#	- - -	PLUG, pipe, headless, 1/8-27	1
54✔#	- - -	BOLT, vent valve, alignment	1
55✔#	- - -	O-RING, 2-012 V75	1
56✔#	- - -	BOLT, vent valve mount	1
57✔#	- - -	O-RING, 908 FKM	1
58✔#	- - -	VALVE, hf, cartridge 24 VDC DEU	1

REF.	PART	DESCRIPTION	QTY.
59✔#	- - -	PACKING, o-ring	3
60✔#	- - -	BOLT, banjo	1
61✔#	- - -	PACKING, o-ring	1

▲ Replacement safety labels, tags, and cards are available at no cost.

❖ Main controller board kit 2012660.

✺ Reservoir Kit 2008167, 8L model, grease low level.

+ Level Sensor, 8L, Kit 2008010.

★ Pump Element Output Union Kit (PN 2011787).

✔ Vent Valve Kit Pressure Switch (PN 2012025).

Vent Valve Kit Pressure Transducer (PN 2012394).

NOTE:

For removal of 4L or larger reservoir, use special tool 113410.

G3 STANDARD HF 8L RESERVOIR WITH AUTO-FILL SHUTOFF, WITH LEVEL SENSOR AND PARTS DIAGRAM

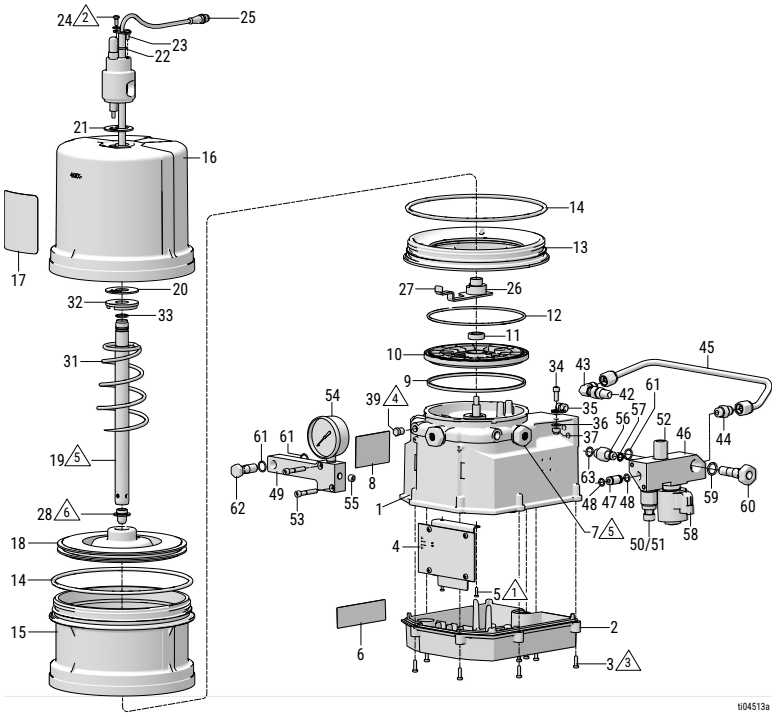


Figure 16-3: G3 Standard HF 8L Reservoir with Auto-Fill Shut Off, Level Sensor Diagram

1. Torque to 15 in-lb (1.7 N·m)
2. Torque to 15-25 in-lb (1.7-2.8 N·m)
3. Torque to 30 in-lb (3.4 N·m)
4. Torque to 35 in-lb (5.6 N·m)
5. Torque to 50 ft-lb (28 N·m)
6. Left Hand Thread Torque to 12 ft-lb (16.3 N·m)

PARTS LIST FOR G3 STANDARD PUMP 8L RESERVOIR WITH AUTO-FILL SHUT OFF, WITH LEVEL SENSOR

REF.	PART	DESCRIPTION	QTY.
1	- - -	Base, 3 pump housing	1
2	- - -	Cover, bottom	1
3	- - -	Screw, mach, torx pan hd, o-ring	9
4❖	- - -	Relay controller board w/bracket	1
5❖	- - -	Screws	4
6▲	2011888	Label, safety	1
7	25C987	Pump Element	1
8	- - -	Pump identification label	1
9	- - -	RECT-seal	1
10	- - -	Plate, ricer	1
11	- - -	Bearing, ball	1
12	- - -	O-ring	1
13	- - -	Adapter, reservoir	1
14◆	- - -	Seal oval, 8L	2
15◆	25C764	Reservoir mid-section, 8L (includes 14)	1
16◆	- - -	Reservoir, 4L, grease, level sensor, AFSO	1
17◆	- - -	Branding label	1
18◆	- - -	Follower plate assay with seal magnet for level sensor, AFSO, 8L	1
19◆	- - -	Tube center fill, AFSO and level sensor, 8L	1
20◆	- - -	Seal, lower, reservoir	1
21◆	- - -	Seal, upper, reservoir	1
22◆	- - -	O-ring, level sensor	1
23◆ ✺	- - -	Washer, flat	2
24◆ ✺	- - -	Screw, machined	2
25◆ ✺	- - -	Level sensor, 8L, AFSO	1
26◆	- - -	Paddle, stirring, 8L grease models, level sensor, AFSO	1

REF.	PART	DESCRIPTION	QTY.
27◆	- - -	Wiping, stirring, level sensor, AFSO	1
28◆	- - -	Bearing, level sensor, cap	1
29✿	- - -	Cellular board with bracket and antenna	1
31◆	- - -	Spring reservoir level sensor, 8L	1
32◆	- - -	Spacer, seal, torque limiting	2
33◆	- - -	O-ring refill tube	1
34◆✺	- - -	Screw clip level sensor	1
35◆✺	- - -	Clip level sensor	1
36◆✺	- - -	Washer clip level sensor	1
37◆✺	- - -	Lock nut clip level sensor	1
39	- - -	Plug, 1/8 in.	1
42✔	- - -	ADAPTER, 9/16 - 18 JIC x ¼ in. NPT	1
43✔	- - -	FITTING, elbow swivel, 90, JIC 06, FM, CS	1
44✔	- - -	FITTING, straight	1
45✔	- - -	BENT TUBE	1
46+✻	- - -	BLOCK, side vent rh	1
47+✻	- - -	SLEEVE, manifold	1
48+✻	- - -	PACKING, o-ring	2
49+✻	- - -	BLOCK, front rh	1
50+	- - -	SWITCH, pressure, 3000 psi	1
51✻	- - -	PRESSURE TRANSDUCER, 5000 psi	1
52+✻	- - -	VALVE, pressure relief, 4000 psi	1
53+✻	- - -	SCREW, soc hd cap, 1/4	2
54+✻	- - -	GAUGE, press, fluid	1
55+✻	- - -	PLUG, pipe, headless, 1/8-27	1
56+✻	- - -	BOLT, vent valve, alignment	1
57+✻	- - -	O-RING, 2-012 V75	1
58+✻	- - -	VALVE, high flow, cartridge, 24 VDC DEU	1

REF.	PART	DESCRIPTION	QTY.
59+✻	- - -	O-RING, 908 FKM	1
60+✻	- - -	BOLT, vent valve mount	1
61+✻	- - -	PACKING, o-ring	3
62+✻	- - -	BOLT, banjo	1
63+✻	- - -	PACKING, o-ring	1

▲ Replacement safety labels, tags, and cards are available at no cost.

❖ Relay controller board kit 2012660.

✔ Pump Element Output Union Kit (PN 2011787).

◆ Reservoir Kit 2008168, 8L model, grease level sensor with AFSO.

✺ Level Sensor Kit 2008018, 8L with AFSO.

+ Vent Valve Kit Pressure Switch (PN 2012025).

✻ Vent Valve Kit Pressure Transducer (PN 2012394).

NOTE:

For removal of 4L or larger reservoir, use special tool 113410.

G3 STANDARD PUMP 12L RESERVOIR WITH AUTO-FILL SHUTOFF, PARTS DIAGRAM AND PARTS LIST

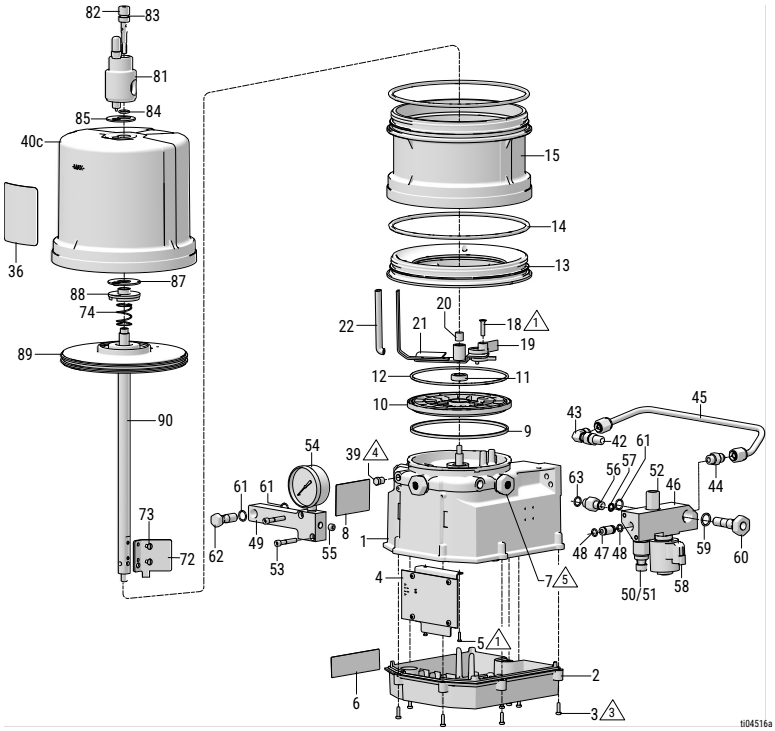


Figure 16-4: G3 Standard Pump 12L Reservoir with Auto-Fill Shutoff, Parts Diagram

1 Torque to 14 in-lb (1.6 N·m)

2 Torque to 15 in-lb (1.7 N·m)

3 Torque to 30 in-lb (3.4 N·m)

4 Torque to 35 in-lb (3.9 N·m)

5 Torque to 50 in-lb (5.7 N·m)

G3 STANDARD PUMP 12L RESERVOIR WITH AUTO-FILL SHUTOFF

REF.	PART	DESCRIPTION	QTY.
1	- - -	Base, 3 pump housing	1
2	- - -	Cover, bottom	1
3	- - -	Screw, mach, torx pan hd, o-ring	9
4❖	- - -	Relay controller board w/ bracket	1
5❖	- - -	Screws	4
6▲	2011888	Label, safety	1
7	25C987	Pump Element	1
8	- - -	Pump Identification Label	1
9	- - -	RECT-seal	1
10	- - -	Plate, ricer	1
11	- - -	Bearing, ball	1
12	- - -	O-ring	1
13	- - -	Adapter, reservoir	1
14◆	- - -	Seal oval, 8L	2
15◆	25C764	Reservoir mid-section, 8L (includes 14) Two required for 12L	1/2
18	- - -	Screw, M6	1
19	- - -	Paddle, low level grease model	1
20	- - -	Guide	1
21	- - -	Paddle, stirring, 4L grease models without follower plate	1
22	- - -	Wiper stirring for models without follower plate	1
36◆	- - -	LABEL, brand	1
40c◆	17F484	RESERVOIR, 4 liter, G3 AFSO	1
42✔	- - -	ADAPTER, 9/16 - 18 JIC x ¼ in. NPT	1
43✔	- - -	FITTING, elbow swivel, 90, JIC 06, FM, CS	1
44✔	- - -	FITTING, straight	1
45✔	- - -	BENT TUBE	1

REF.	PART	DESCRIPTION	QTY.
46+✻	- - -	BLOCK, side vent rh	1
47+✻	- - -	SLEEVE, manifold	1
48+✻	- - -	PACKING, o-ring	2
49+✻	- - -	BLOCK, front rh	1
50+✻	- - -	SWITCH, pressure, 3000 psi	1
51✻	- - -	PRESSURE TRANSDUCER, 5000 psi	1
52+✻	- - -	VALVE, pressure relief, 4000 psi	1
53+✻	- - -	SCREW, soc hd cap, 1/4	2
54+✻	- - -	GAUGE, press, fluid	1
55+✻	- - -	PLUG, pipe, headless, 1/8-27	1
56+✻	- - -	BOLT, vent valve, alignment	1
57+✻	- - -	O-RING, 2-012 V75	11
58+✻	- - -	VALVE, high flow, cartridge, 24 VDC DEU	1
59+✻	- - -	O-RING, 908 FKM	1
60+✻	- - -	BOLT, vent valve mount	1
61+✻	- - -	PACKING, o-ring	3
62+✻	- - -	BOLT, banjo	1
63+✻	- - -	PACKING, o-ring	1
72◆	- - -	PLATE, baffle, low level	1
73◆	- - -	SCREW, machine	2
74◆	- - -	SPRING, plate, valve, reset	1
81◆	- - -	VALVE, AFSO	1
82◆	- - -	BOLT, mounting	1
83◆	- - -	PACKING, o-ring	1
84◆	- - -	PACKING, o-ring	1
85◆	- - -	SEAL, upper, reservoir	1
87 ◆	- - -	SEAL, lower, reservoir	1
88◆	- - -	SPACER, seal, base	1

REF.	PART	DESCRIPTION	QTY.
89◆	- - -	PLATE, valve	1
90◆	17F486	BAFFLE, low level, 12 liter, AFSO	1

▲ Replacement safety labels, tags, and cards are available at no cost.

❖ Relay controller board kit 2012660.

✔ Pump Element Output Union Kit (PN 2011787).

◆ Reservoir Kit 571288, 12L model with AFSO.

+ Vent Valve Kit Pressure Switch (PN 2012025).

✻ Vent Valve Kit Pressure Transducer (PN 2012394).

NOTE:

For removal of 4L or larger reservoir, use special tool 113410.

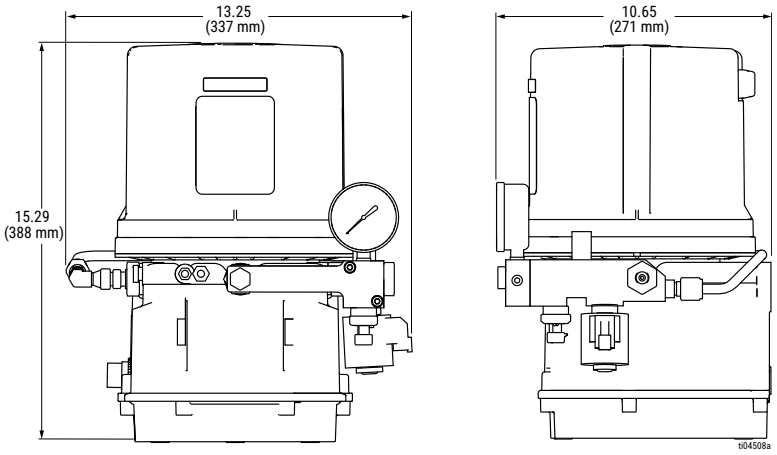


Figure 17-1: 4 Liter Model Dimensions

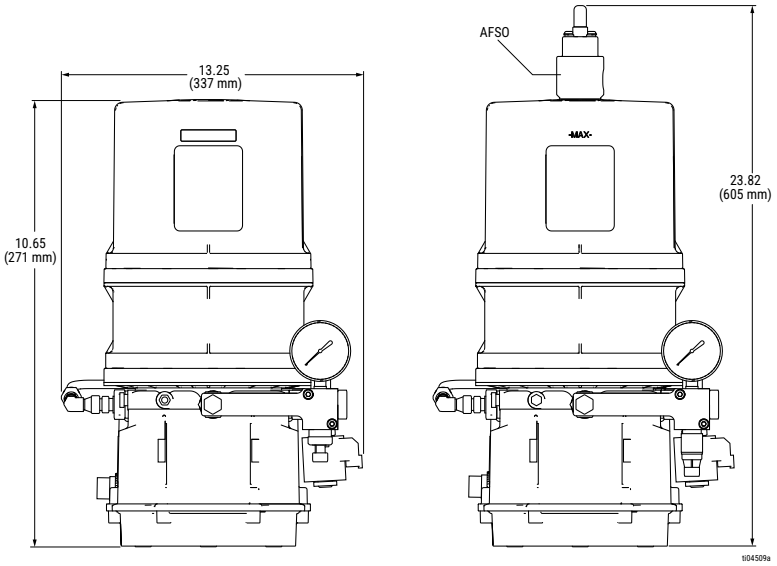


Figure 17-2: 8 Liter Model Dimensions

AFSO	Auto Fill Shut Off

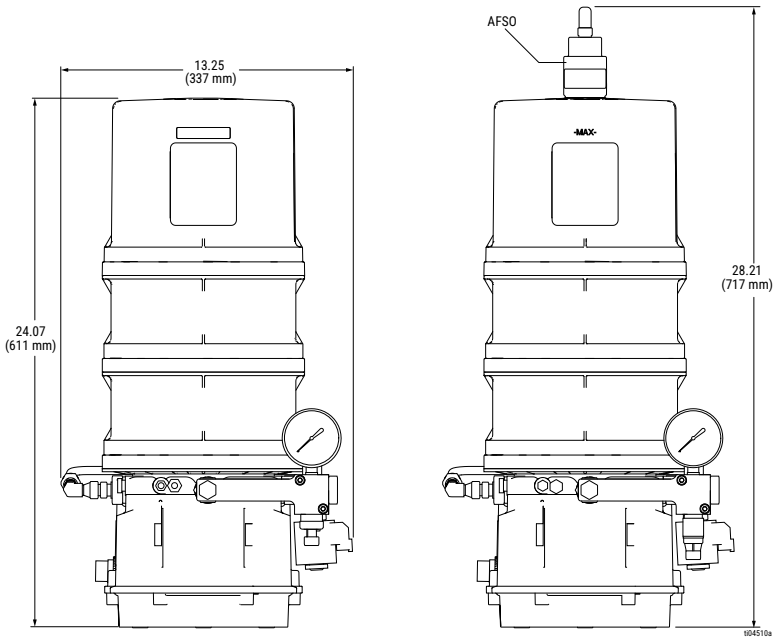


Figure 17-3: 12 Liter Model Dimensions

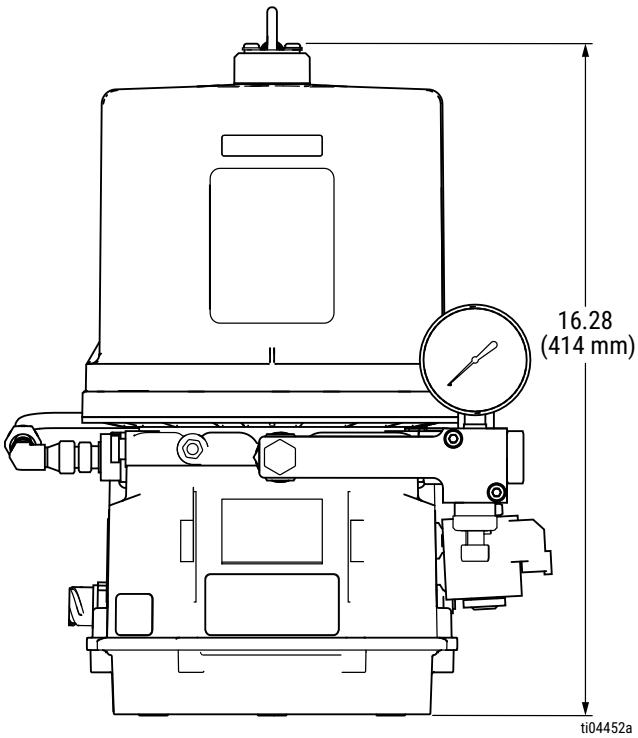


Figure 17-4: 4 Liter Model with Level Sensor Dimensions

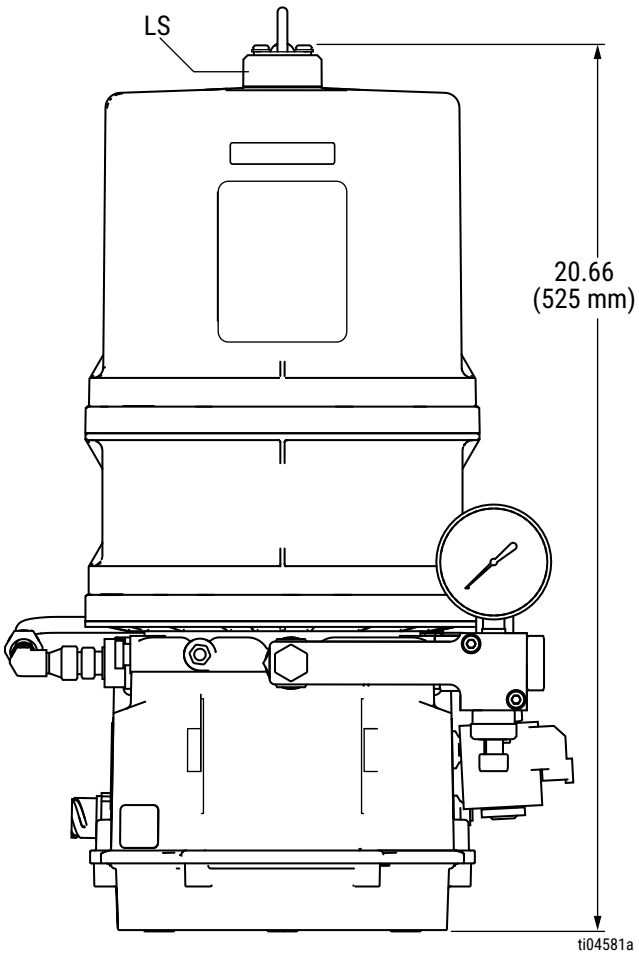


Figure 17-5: 8 Liter Model with Level Sensor Dimensions

LS	Level Sensor

MOUNTING PATTERN

There are two options for mounting the G3 Max HF pump.

NOTE:

A Graco mounting bracket (2010478) can be purchased to mount the pump.

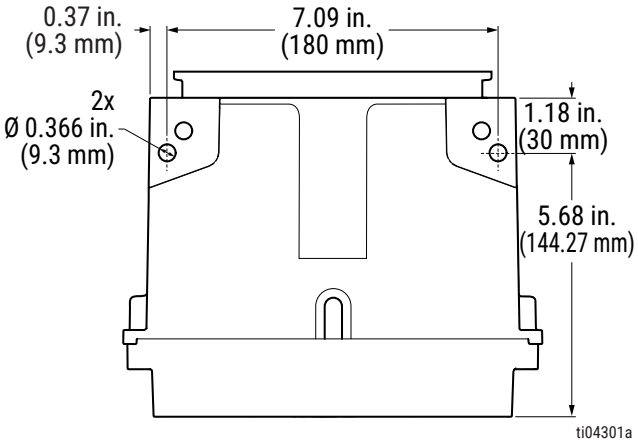


Figure 18-1: Mounting Option 1

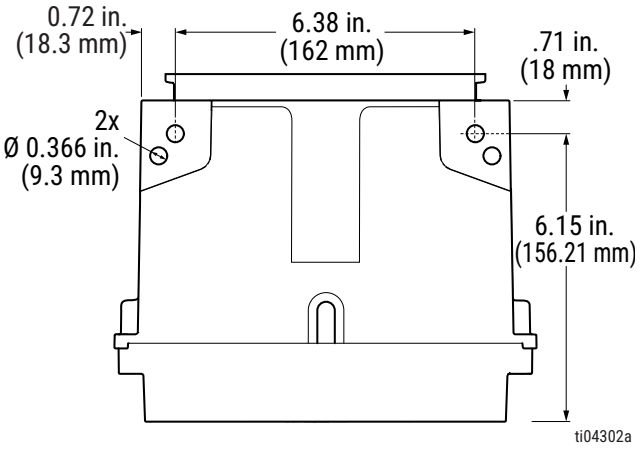


Figure 18-2: Mounting Option 2

MOUNTING BRACKET

A Graco mounting bracket (2010478) can be purchased to mount the pump.

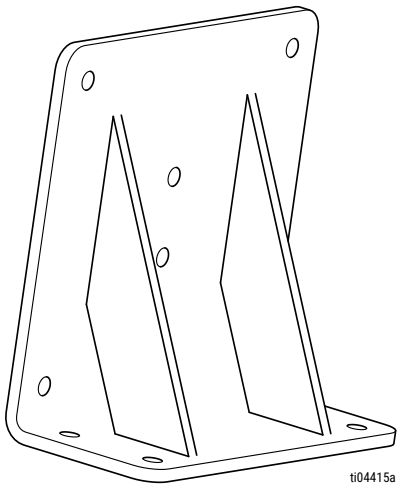


Figure 18-3: Mounting Bracket (2010478)

CALIFORNIA PROPOSITION 65

CALIFORNIA RESIDENTS

⚠**WARNING** Cancer and reproductive harm — www.P65warnings.ca.gov.

NOTES

GRACO STANDARD WARRANTY

Graco warrants all equipment referenced in this document which is manufactured by Graco and bearing its name to be free from defects in material and workmanship on the date of sale to the original purchaser for use. With the exception of any special, extended, or limited warranty published by Graco, Graco will, for a period of twelve months from the date of sale, repair or replace any part of the equipment determined by Graco to be defective. This warranty applies only when the equipment is installed, operated and maintained in accordance with Graco's written recommendations.

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

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

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GRACO INC. AND SUBSIDIARIES I P.O. BOX 1441 I MINNEAPOLIS MN 55440-1441 I USA

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