

G5™ Standard Automatic Lubrication Pump

3A8847H

EN

For dispensing NLGI Grades #000 to #2 greases and oils with at least 40cSt. For professional use only

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

Model Numbers, page 3

4250 psi (29.3 MPa, 293 bar) Pump Output Pressure

5000 psi (34.5 MPa, 344.8 bar) Fill Inlet Pressure

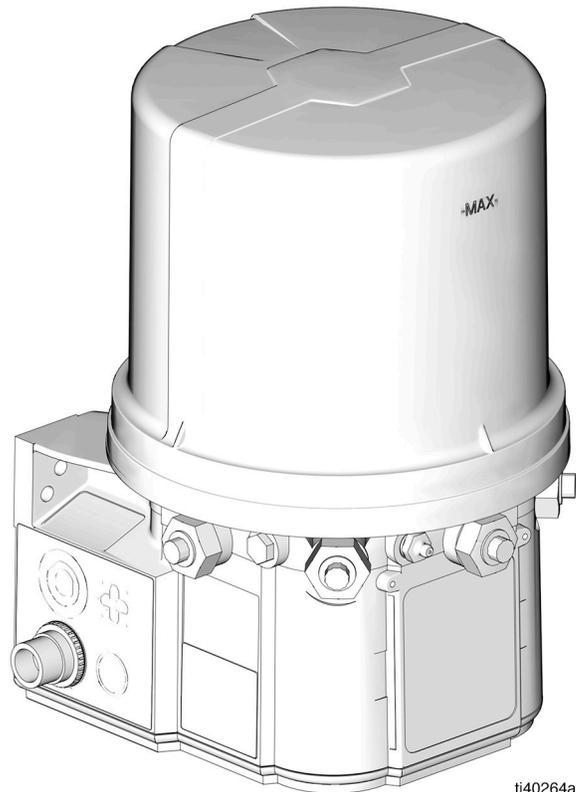


Important Safety Instructions

Read all warnings and instructions in this manual before using the equipment.
Save these instructions.

Related Manuals

Manual in English	Description
333393	Fill Valve



Contents

Related Manuals	1	Pressure Relief Valves	17
Part / Models Numbers	3	Set Pump Output Points and Outlet Volume	18
4 Liter Models	3	Load Pump with Grease	19
8 Liter Models	3	Models Without a Follower Plate	19
Understanding the Model Number	4	Models With a JIC Side Vent	20
Warnings	5	Models with Top Fill	20
Installation	8	Models with a Follower Plate	21
Component Identification	8	Auto-Fill Shut Off	21
Typical Installation	9	Load Grease	21
Pump to Point	9	Change Grease	22
Typical Installation - With Remote		Remote Fill with Remote Fill Manifold	22
Fill Manifold	10	Remote Fill without Remote Fill Manifold	23
Optional Installation - Without		Remote Filling Station Pressure Relief	24
Remote Fill Manifold	11	Fill with Oil	24
Choose an Installation Location	12	Prime the Pump	25
System Configuration and Wiring	12	Pump Operation	26
Grounding	12	Low Level Output Option	26
Fuses	13	Maintenance	28
Recommendations for Pump Usage		Recycling and Disposal	29
in Harsh Environments	13	End of Product Life	29
Wire and Installation Diagrams	13	Troubleshooting	30
Power DIN DC - 15 foot	13	Parts	31
Power CPC DC - 15 foot	14	2 Liter Models	31
Power CPC DC - With Low Level	14	4 Liter and Larger Models	32
Low Level Outputs	15	Kits and Accessories	35
Part No. 124333: Cable Pin Out (M12)	15	Installation and Repair Kits	35
Wire Colors (FIG. 11)	15	Reservoir Conversion Kits	35
Part No. 124300: Field Wireable		Fuses	35
Pin Out (M12)	15	Pressure Relief Valves	35
Wire Colors (FIG. 12)	15	Dimensions	36
Part No. 124594: 4 Pin Eurofast Male Field		Mounting Pattern	37
Wireable Connector	16	Technical Specifications	38
Part No. 124595: 5 Pin Eurofast Male Field		California Proposition 65	39
Wireable Connector	16	Graco Standard Warranty	40
Operation	17		
Pressure Relief Procedure	17		
Connect to Auxiliary Fittings	17		

Part / Models Numbers

The Part Number is a six-digit unique number that is only used to order the G5 pump. Directly related to this six-digit Part Number is the configured Graco Model Number. This configured number identifies the distinct features of a specific G5 pump. To help with understanding each component that makes up the Model Number, see **Understanding the Model Number**, page 4. The following tables show the relationship between each Part Number and the related Model Number.

4 Liter Models

Part Numbers	Model Number
95G101	G5-G-24NC-4L0A06-00C000000
95G102	G5-G-24NC-4LS006-C00000000
95G103	G5-G-24NC-4L0A06-C00000000
95G107	G5-G-24NC-4LS007-C00000000
95G109	G5-G-24NC-4LSA07-C00000000
95G115	G5-G-24NC-4LAA06-C00000000

8 Liter Models

Part Numbers	Model Number
95G112	G5-G-24NC-8L0000-C00000000
95G114	G5-G-24NC-8LS000-C00000000
95G117	G5-A-24NC-8L0A06-C00000000

Understanding the Model Number

Use the Code Sample shown to identify each component's location in the Model Number. The options for each component that make up the code are provided.

NOTE: Other pump configurations are available that are not documents in this manual. Contact Graco Customer Service, or your local Graco distributor for assistance.

Code Sample: $\frac{G}{a} \frac{5}{b} - \frac{-}{c} \frac{-}{c} \frac{N}{c} \frac{C}{c} - \frac{d}{d} \frac{d}{e} \frac{f}{f} \frac{0}{g} \frac{0}{g} - \frac{h}{h} \frac{i}{i} \frac{j}{j} \frac{0}{k} \frac{0}{m} \frac{0}{n} \frac{0}{p} \frac{0}{q}$

Code a: Pump Fluid Type

- G = Grease
- A = Oil

Code bb: Power Source

- 12 = 12 Volts DC
- 24 = 24 Volts DC

Code cc: Operation Control

- NC = No Controller

Code dd: Reservoir Capacity (Liters)

- 2L = 2 Liters
- 4L = 4 Liters
- 8L = 8 Liters
- 12 = 12 Liters
- 16 = 16 Liters

Code e: Reservoir Feature

- F = Follower Plate Installed
- 0 = No Follower Plate
- A = Auto-Fill Shut Off
- L = Top Fill
- S = JIC Side Vent

Code f: Low Level Option

- A = External Low Level
- 0 = No Low Level monitoring

Code gg: Options

- 00 = No Options
- 06 = Low Level in CPC
- 07 = No Power Cord

Code h, i, j, k, m, n, p, q

NOTE: Codes h - q relate to a specific location on the G5 pump. See FIG. 1 for these locations.

- C = CPC
- D = DIN
- L = Low Level
- 0 = Not populated

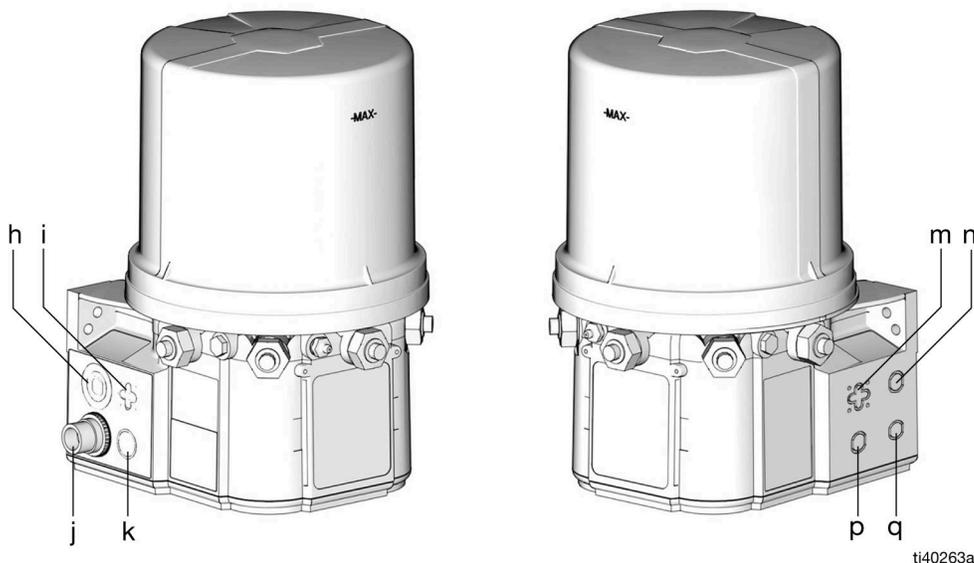


FIG. 1:

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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	
 	<p>ELECTRIC SHOCK HAZARD</p> <p>This equipment must be grounded. Improper grounding, setup, or usage of the system can cause electric shock.</p> <ul style="list-style-type: none"> • Turn off and disconnect power at main switch before disconnecting any cables and before servicing or installing equipment. • Connect only to grounded power source. • All electrical wiring must be done by a qualified electrician and comply with all local codes and regulations.
 	<p>EQUIPMENT MISUSE HAZARD</p> <p>Misuse can cause death or serious injury.</p> <ul style="list-style-type: none"> • 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 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 MSDS 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.

! WARNING

	<p>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.</p> <ul style="list-style-type: none"> • 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.
	<p>PRESSURIZED EQUIPMENT HAZARD Over-pressurization can result in equipment rupture and serious injury.</p> <ul style="list-style-type: none"> • A pressure relief valve is required at each pump outlet. • Follow the Pressure Relief Procedure in this manual before servicing.
	<p>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.</p> <ul style="list-style-type: none"> • 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.

WARNING

 	<p>MOVING PARTS HAZARD Moving parts can pinch, cut or amputate fingers and other body parts.</p> <ul style="list-style-type: none"> • 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.
	<p>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:</p> <ul style="list-style-type: none"> • Protective eyewear, and hearing protection. • Respirators, protective clothing, and gloves as recommended by the fluid and solvent manufacturer.

Installation

Component Identification

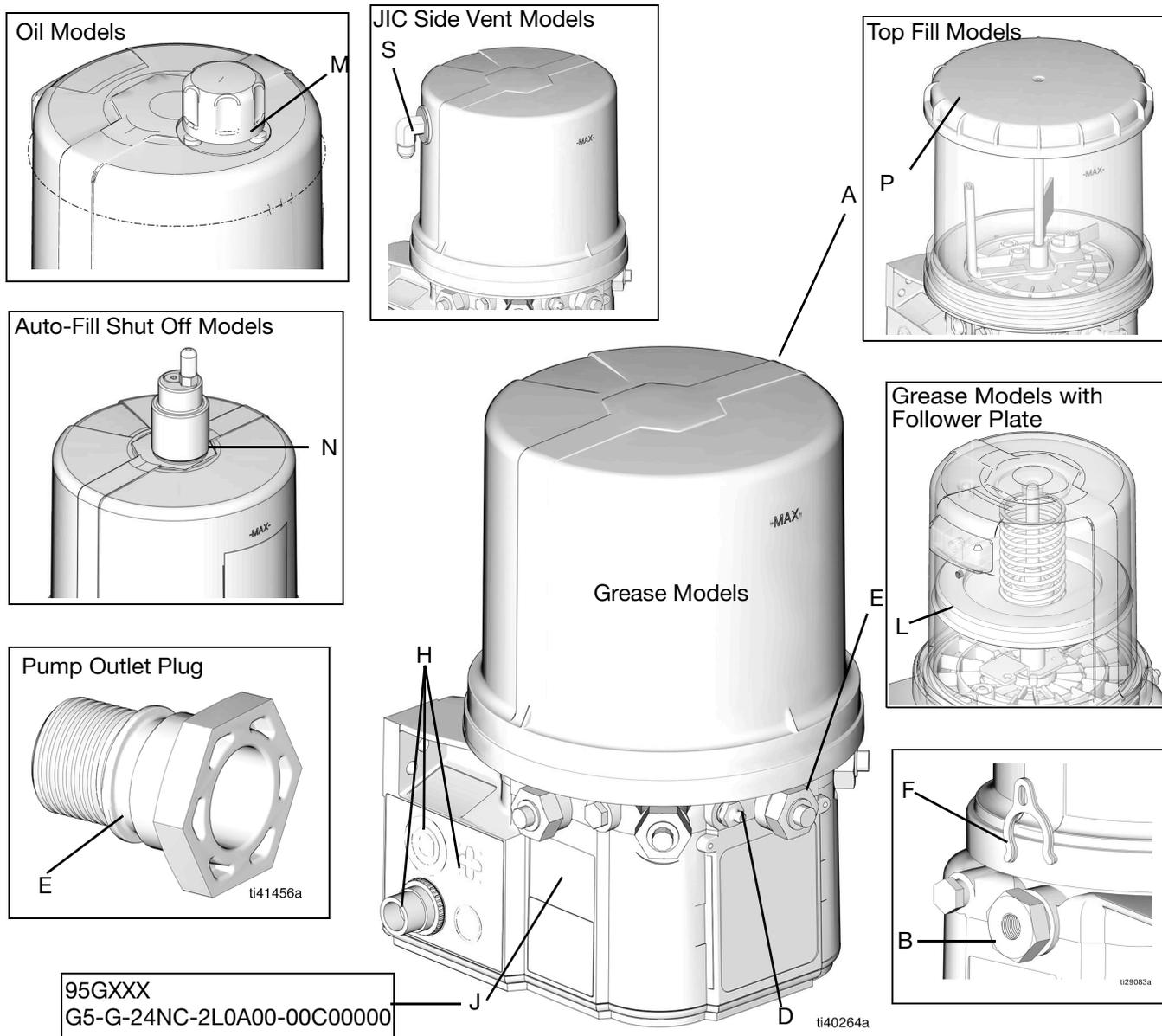


FIG. 2:

Key:

- | | |
|--|---|
| <ul style="list-style-type: none"> A Reservoir B Pump 5 Element (5 included) C Pressure Relief Valve (Not included [not shown] / required for each outlet. Available from Graco. See Parts, Page 34.) D Zerk Inlet Fill Fitting (1 included / grease models only) E Pump Outlet Plug (Not included, see Parts, page 33) F Volume Control Spacers Not included, see Parts, page 33. See Fig FIG. 17, page 18.) G Fuse (DC models only - Not included [not shown]. Available from Graco. See Parts, Page 35.) | <ul style="list-style-type: none"> H Power / Sensor Panel (both sides; only one side shown) J Part Number / Model Number example only shown (see Understanding the Model Number, page 4 for details.) K Power Cord (not shown) L Follower Plate (grease models only / not available on all grease models) M Fill Cap (oil models only) N Auto-Fill Shut Off P Top Fill Lid S JIC Side Vent |
|--|---|

Typical Installation Pump to Point

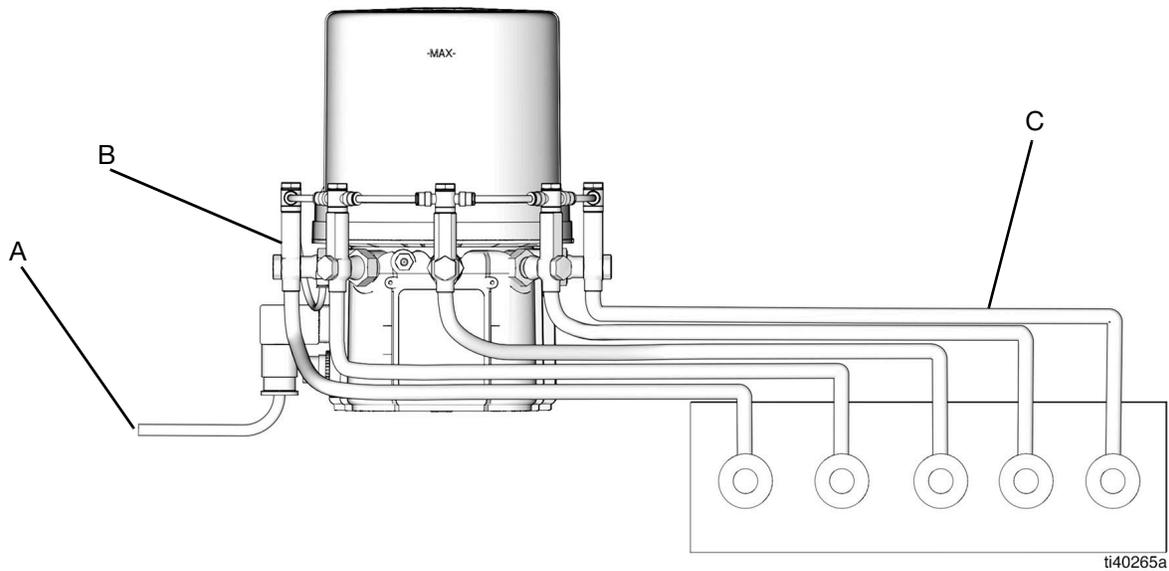


FIG. 3:

Key:

- A Connected to fused power source
- B Pressure Relief Valve (Not included / required for each outlet - user supplied. See Parts, page 34)
- C Supply Hose to lube points (user supplied)
- D Return to Reservoir

Typical Installation - With Remote Fill Manifold

The installation shown is only a guide for selecting and installing system components. Contact your Graco distributor for assistance in planning a system.

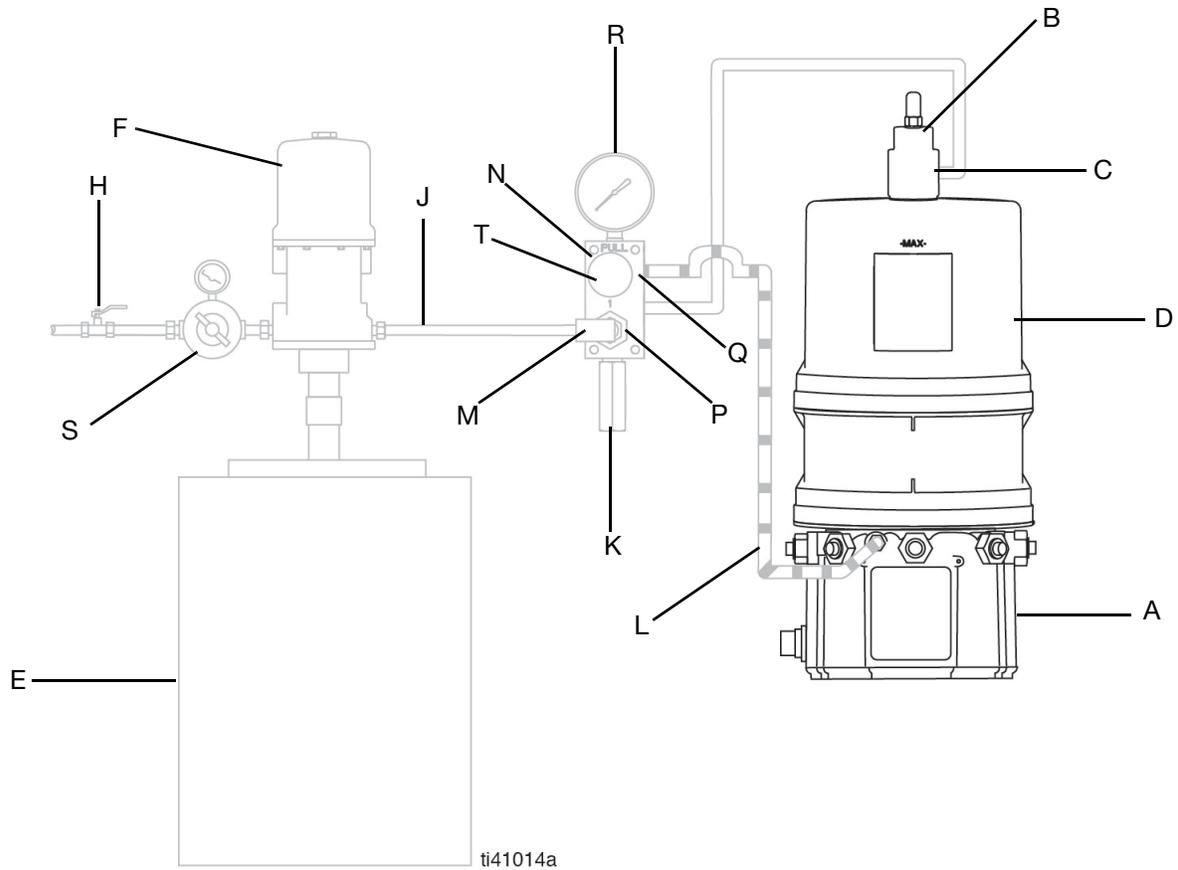


FIG. 4:

Key:

- A G5 Pump
- B Auto-Fill Shut Off Valve
- C Auto-Fill Inlet
- D G5 Reservoir
- E Remote Fill Reservoir
- F Remote Fill Pump
- G Supply Hose (user supplied)
- H Air Supply to Refill Pump
- J Supply Hose (user supplied)
- 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

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

Optional Installation - Without Remote Fill Manifold

The installation shown is only a guide for selecting and installing system components. Contact your Graco distributor for assistance in planning a system.

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.

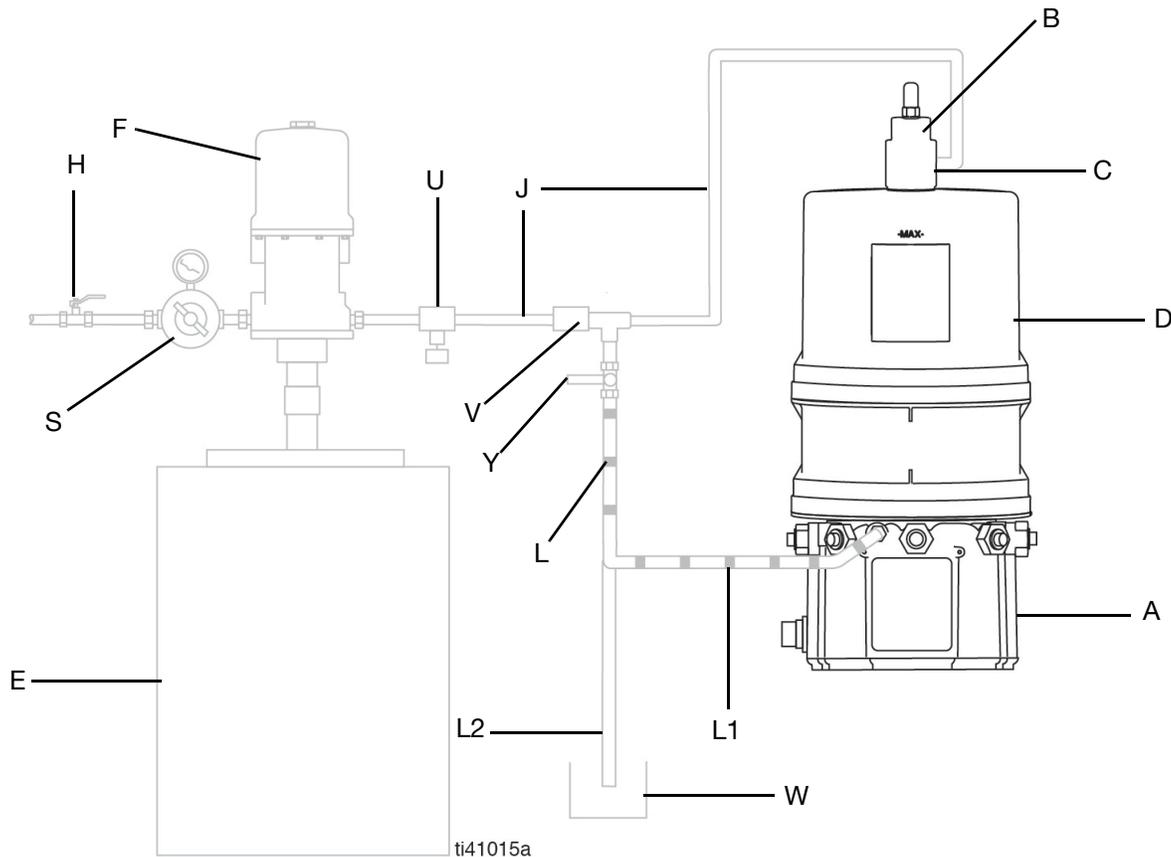


FIG. 5:

Key:

- A G5 Pump
- B Auto-Fill Shut Off Valve
- C Auto-Fill Inlet
- D G5 Reservoir
- E Remote Fill Reservoir
- F Remote Fill Pump
- H Relief Valve
- J Supply Hose (user supplied)
- L Drain Tube
 - L1 Option - to reservoir
 - L2 Option - to overflow container
- S Pressure Regulator and Gauge
- U Pressure Relief Valve
- V Quick disconnect
- W Overflow Container
- Y Supply Hose Pressure Relief Valve❖

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

Choose an Installation Location



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 adequately supports the weight of the G5 pump and lubricant, as well as all plumbing and electrical connections.
- Refer to the mounting hole layouts provided in the **Mounting Pattern** section, page 37. No other installation configuration should be used.
- Use designated mounting holes and provided configurations only.
- Always mount the G5 pump oil models upright.
- Mount top fill G5 pump models so there is a minimum clearance of four (4) in. (10.2 cm) above the reservoir to allow for lid removal and filling.
- If the G5 pump grease model is going to be operated in a tilted or inverted position for any period of time, use a model that includes a follower plate, otherwise the G5 pump must be mounted upright. Refer to the model number to confirm if a follower plate was installed on the pump. See **Understanding the Model Number**, page 4, to identify this character in the model number.
- Use the three included fasteners to secure the G5 pump to the mounting surface.
- Some installations may require an additional reservoir support bracket. See the table for bracket information.
- In high vibration environments, additional isolation at the mounting point is necessary. See the table for further information.
- AC pumps are not recommended when high vibration or shock is present.

Part No.	Description
571159	Reservoir bracket and strap
125910	L-Bracket for pump
127665	USP to G-Series mounting bracket
132187	Isolator mounting kit

System Configuration and Wiring

Grounding



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

Improper installation of the grounding conductor may result in a risk of electric shock. This product must be installed by a qualified electrician in compliance with all state and local codes and regulations.

If the product is permanently connected, it must be:

- installed by a qualified electrician or serviceman
- connected to a grounded, permanent wiring system

If an attachment plug is required in the end use application:

- it must be rated for the product electrical specifications
- it must be an approved, 3-wire grounding type attachment plug
- it must be plugged into a properly installed and grounded outlet in accordance with all local codes and ordinances
- when repair or replacement of the power cord or plug is required, do not connect the grounding wire to either flat blade terminal

Fuses

NOTICE	
Fuses (user supplied) are required on all DC models. To avoid equipment damage:	
<ul style="list-style-type: none"> • Never operate G5 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. The following table identifies the correct fuse for the input voltage and the corresponding Graco Kit number.

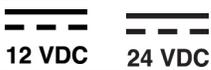
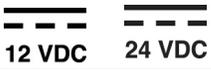
Input Voltage	Fuse Value	Graco Kit No.
12 VDC	7.5 A	571039
24 VDC	4.0 A	571040

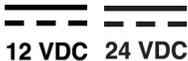
Recommendations for Pump Usage in Harsh Environments

- Use pump with CPC style power cable.
- If using a DIN style power or alarm harness with a right angle mating connector, make sure that the connector does not exit the unit in the upward direction.
- Use a corrosion preventative electrical grease on all contacts.

Wire and Installation Diagrams

The following table identifies the wiring and installation diagrams for the cables included with the pump.

Diagram	Symbol	Page
Power DIN DC	 12 VDC 24 VDC	13
Power CPC DC	 12 VDC 24 VDC	14
Low Level Outputs		15


Power DIN DC - 15 foot

Pin and Related Wire Color (FIG. 6)

Pin	Pin Name	Color
1	-VDC	Black
2	+VDC	White
3	Not Used	Not Used
	Not Used	Green

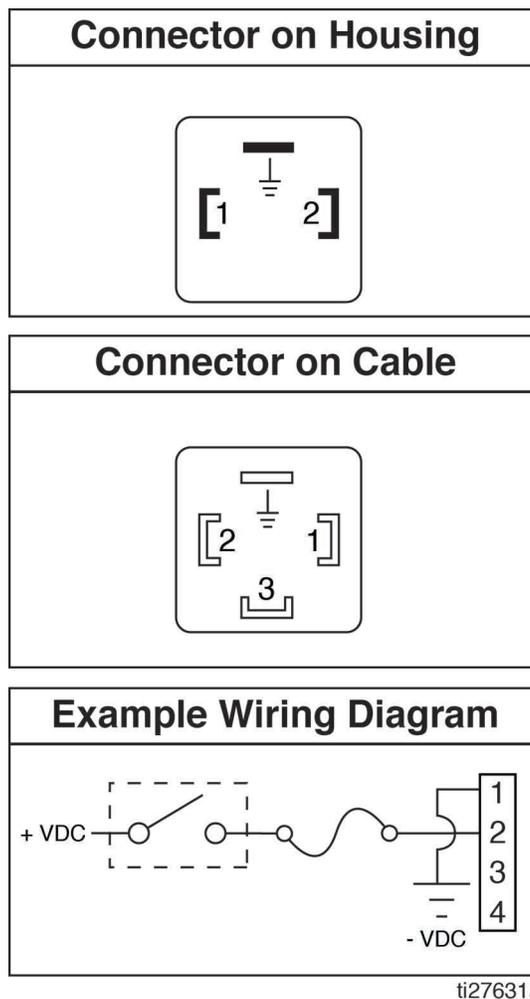


FIG. 6

Power CPC DC - 15 foot

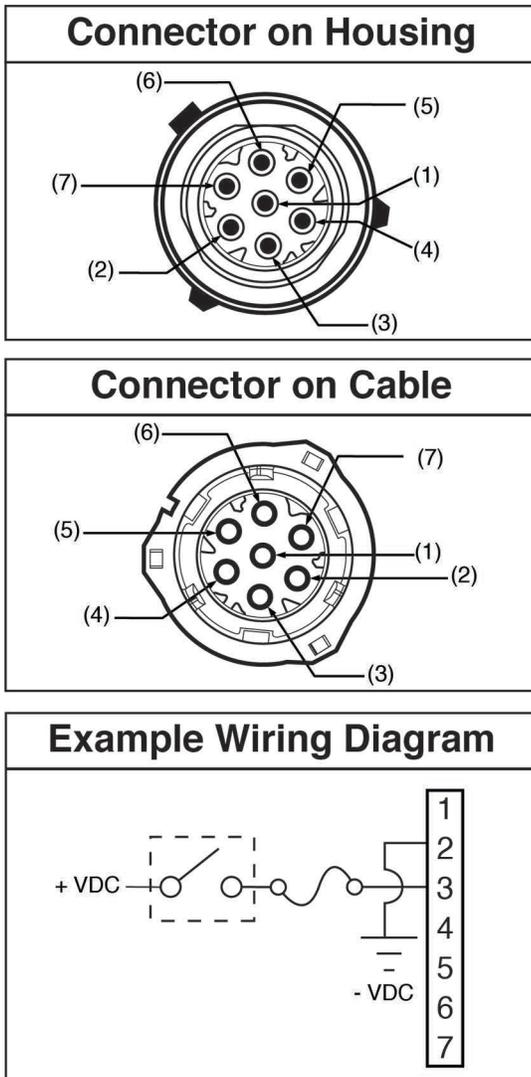
Power CPC DC - With Low Level

Pin and Related Wire Color (FIG. 7)

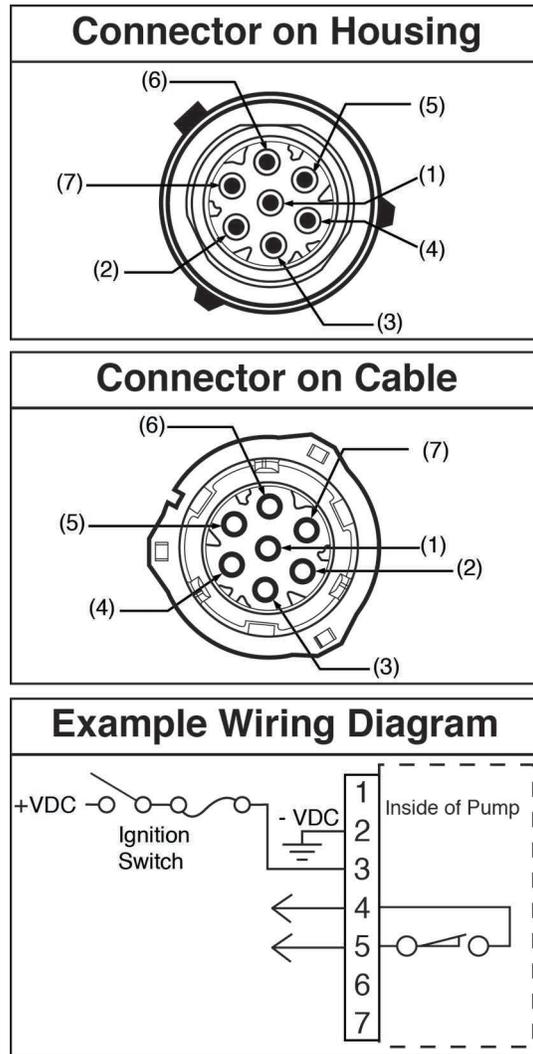
Pin and Related Wire Color (FIG. 8)

Pin	Pin Name	Color
1	Not Used	Not Used
2	-VDC	Black
3	+VDC	White
4	Not Used	Not Used
5	Not Used	Not Used
6	Not Used	Not Used
7	Not Used	Not Used

Pin	Pin Name	Color
1	Not Used	Not Used
2	-VDC	Black
3	+VDC	Red
4	LL N.O.	White or Yellow
5	LL COM	Orange
6	Not Used	Not Used
7	Not Used	Green or Blue



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FIG. 7

FIG. 8



Low Level Outputs

See **Low Level Output Option** Option, page 26 for functional description. See **Technical Specifications**, page 38, for ratings.

Pins (FIG. 9)

Pin	Pin Name
1	Not Used
2	Not Used
3	LL N.O.
4	LL COM

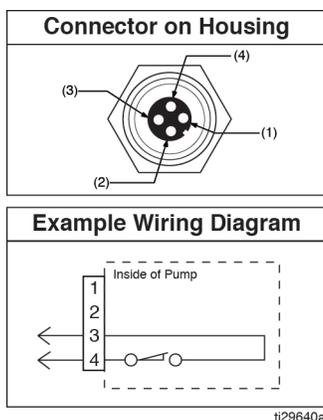


FIG. 9

Pins (FIG. 10)

Pin	Pin Name
1	LL N.O.
2	Not Used
3	LL COM
4	Not Used

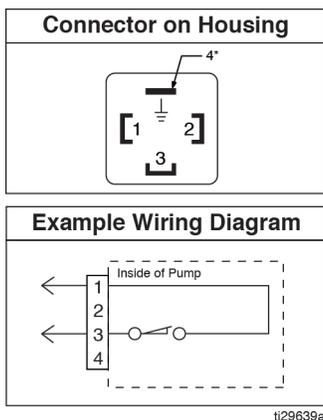
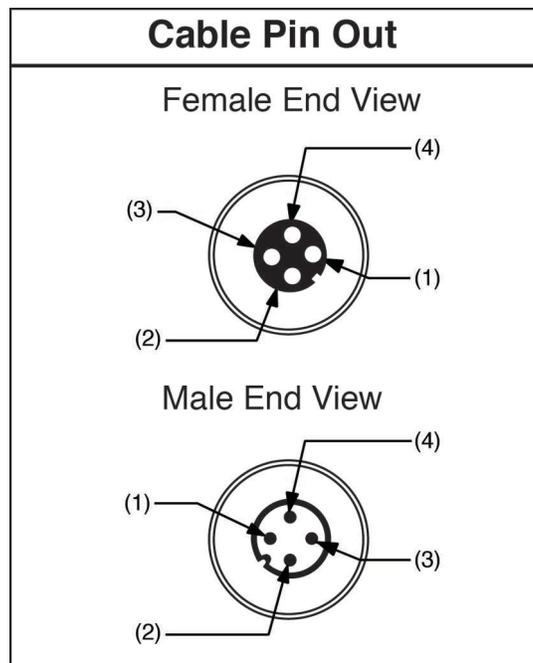


FIG. 10

Part No. 124333: Cable Pin Out (M12)

Wire Colors (FIG. 11)

Item No.	Color
1	Brown
2	White
3	Blue
4	Black



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FIG. 11

Part No. 124300: Field Wireable Pin Out (M12)

Wire Colors (FIG. 12)

Item No.	Color
1	Brown
2	White
3	Blue
4	Black

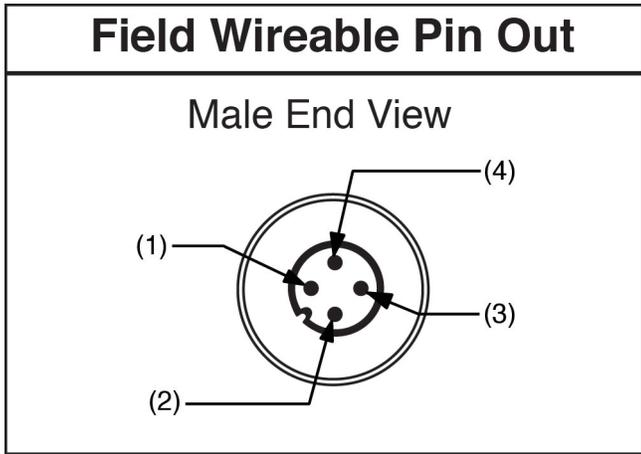


FIG. 12

Part No. 124594: 4 Pin Eurofast Male Field Wireable Connector (FIG. 13)

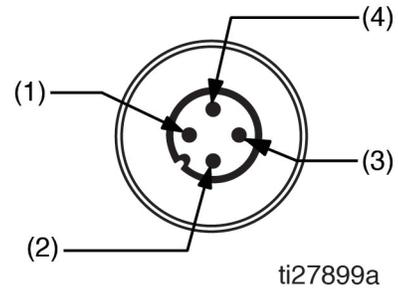


FIG. 13

Part No. 124595: 5 Pin Eurofast Male Field Wireable Connector (FIG. 14)

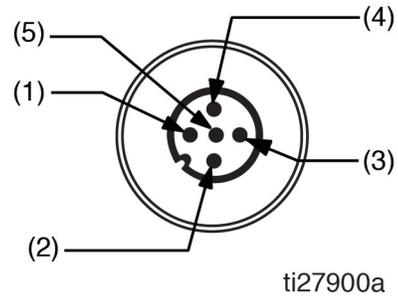
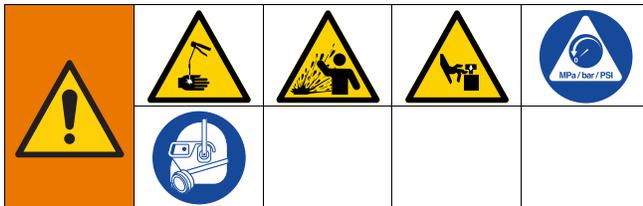


FIG. 14

Operation

Pressure Relief Procedure

 Follow the Pressure Relief Procedure whenever you see this symbol.



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 the fitting. Repeat for each pump element installed (FIG. 15).

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

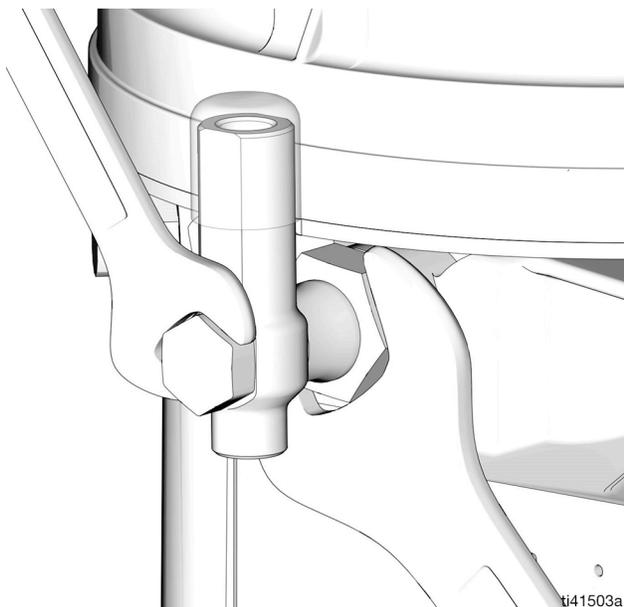


FIG. 15

Connect to Auxiliary Fittings



NOTICE

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

- Always use two wrenches working in opposite directions when connecting anything to pump element or auxiliary fittings. See FIG. 15 for an example.
- 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).

Pressure Relief Valves



To prevent over-pressurization, which can result in equipment rupture and serious injury, a pressure relief valve appropriate for the lubrication system must be installed close to every pump outlet to alleviate unintended pressure rises in the system and protect the G5 pump from damage.

- Only use a pressure relief valve that is rated for no more than the working pressure of any component installed in the system. See **Technical Specifications**, page 38.
- Install a pressure relief valve close to every pump outlet; before any auxiliary fitting.

NOTE: A pressure relief valve can be purchased from Graco. See Parts, page 34.

Set Pump Output Points and Outlet Volume



NOTE: If less than five (5) pump elements are needed, remove any additional pump elements and replace with a plug. Torque fitting to 50 in-lb (5.6 N•m).

1. Follow the **Pressure Relief Procedure**, page 17, before removing or replacing a pump element.
2. Use a wrench to turn the pump element counter-clockwise to loosen.
3. Remove the pump element and replace with a plug (torque fitting to 50 in-lb (5.6 N•m)) (FIG. 16).
4. Repeat steps 2 and 3 until all pump elements have been replaced with the desired number of plug(s).

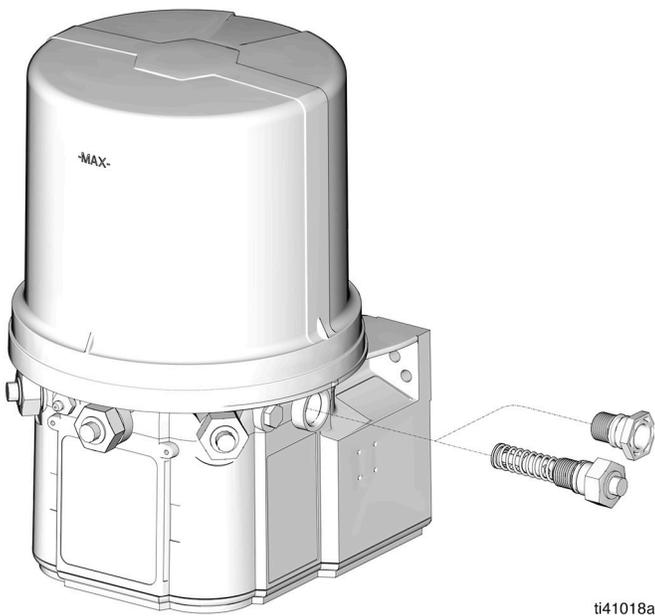


FIG. 16

NOTE:

- Only use Graco spacers (Kit 133457 - 5 spacers per kit) to control output volume.
 - It may be necessary to repeat this outlet volume setup procedure after the pump is operating to re-adjust the volume of dispensed fluids.
5. Follow the **Pressure Relief Procedure**, page 17, before making any adjustments to the pump volume.

6. Use a wrench to turn the pump element counter-clockwise to loosen. Do not remove the entire pump element. Only back the pump element out enough to allow a spacer to be slid on or off. (FIG. 17).

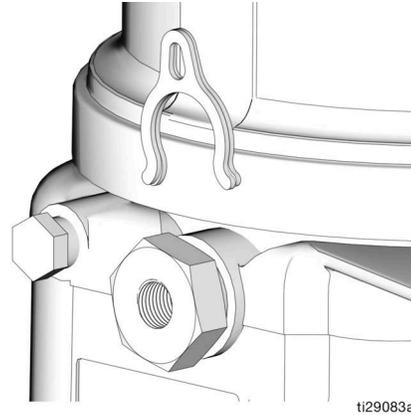


FIG. 17

7. If needed, remove or insert spacers to achieve the required pump output volume. A tool may be needed to facilitate removal.

The pump volume control is set using no spacers, one (1) or two (2) spacers (FIG. 17).

Do not use more than two (2) spacers to adjust the output volume.

No. Spacers	Output Volume/ Minute	
	cubic inches	cubic cm
2	0.055	0.90
1	0.104	1.70
0	0.155	2.54

8. Tighten the pump element fitting. Torque fitting to 50 in-lb (5.6 N•m).
- The amount of dispensed volume varies depending upon external conditions, such as lubricant temperature and back pressure from downstream connections.
 - Use of these volume adjustment in conjunction with setting the ON time of the pump allows for control of the output volume.
 - Use these volume adjustments as a starting point, then adjust as needed to ensure the desired lubrication dispense.

Load Pump with Grease

To ensure optimal performance from the G5 pump:

- Use only NLGI #000 - #2 greases appropriate for the application, automatic dispensing, and the temperature. Consult with the machine and lube manufacturer for details.
- The reservoir can be filled using a hand operated pump, a pneumatic pump, or an electric transfer pump.
- Do not overfill the reservoir.
- Do not operate the G5 pump without a reservoir attached.

NOTICE

- Always clean the fitting (D) (FIG. 18) with a clean dry cloth prior to filling the reservoir. Dirt and/or debris can damage the pump and/or the lubrication system.
- When changing greases, always use compatible fluids or greases.
- Use care when filling the reservoir with a pneumatic or an electric transfer pump, to not pressurize and break the reservoir.

Models Without a Follower Plate

1. Connect the fill hose to the Zerk inlet fill fitting (FIG. 18)

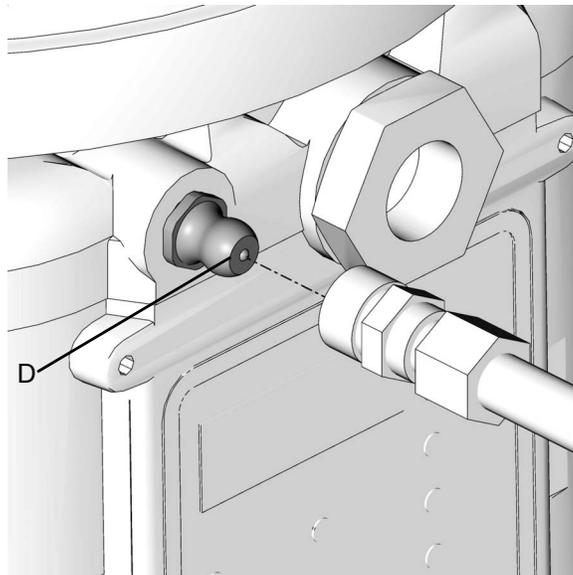


FIG. 18

2. For higher viscosity fluids, start the pump to rotate the stirring paddle during the fill to prevent air pockets from forming. Do not exceed a 30 minute run time.

For models using an external controller, start the pump operation following your controller specifications.

3. Fill the reservoir with NLGI grease.

NOTE: The vent port located in rear of reservoir should not be used as an overflow port/indicator (FIG. 21).

4. Remove the fill hose.

Models With a JIC Side Vent

1. Inspect the JIC vent and vent hose, if attached, to make sure it is not plugged.
2. Connect the fill hose to the zerk inlet fill fitting (see FIG. 18).
3. For higher viscosity fluids, start the pump rotating the stirring paddle during the fill to prevent air pockets from forming. Do not exceed a 30 minute run time.

For models using an external controller, start pump operation following your controller specifications.

4. Fill the reservoir with NLGI grease.

NOTE: The JIC vent and vent hose, if attached, should not be used as an overfill port/indicator (FIG. 19).

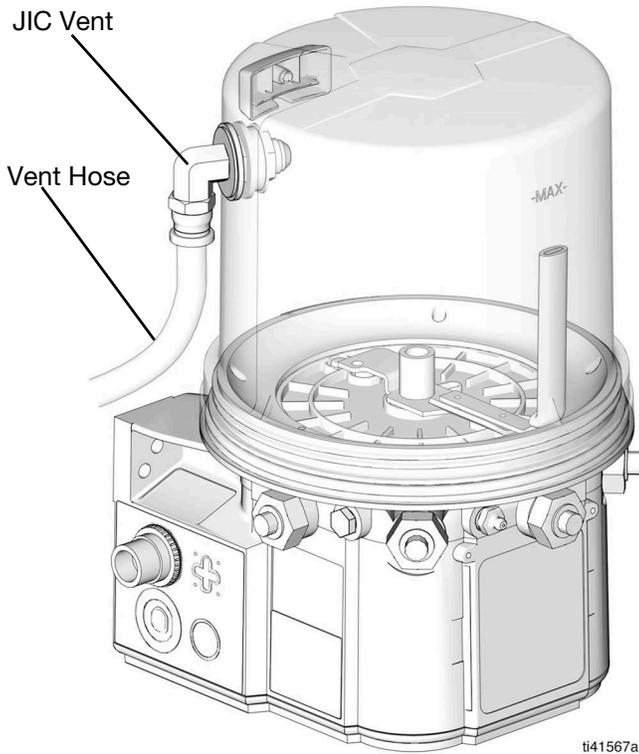


FIG. 19

5. Remove the fill hose.

NOTICE

Check the JIC vent and vent hose, if attached, after removal of the fill hose for any grease. Remove any grease from the JIC vent and vent hose.

Grease in the hose may create a vacuum and cause problems with pumping, or may cause excessive pressure and cause damage to the reservoir.

Models with Top Fill

AUTOMATIC SYSTEM ACTIVATION HAZARD				
Moving parts can pinch, cut or amputate fingers and other body parts.				
<ul style="list-style-type: none"> • Keep clear of moving parts. • Do not operate equipment with lid removed. • Disconnect power before removing lid. 				

1. Disconnect the power from the equipment.

NOTE: If battery disconnect is not available, remove the power cord (FIG. 20).

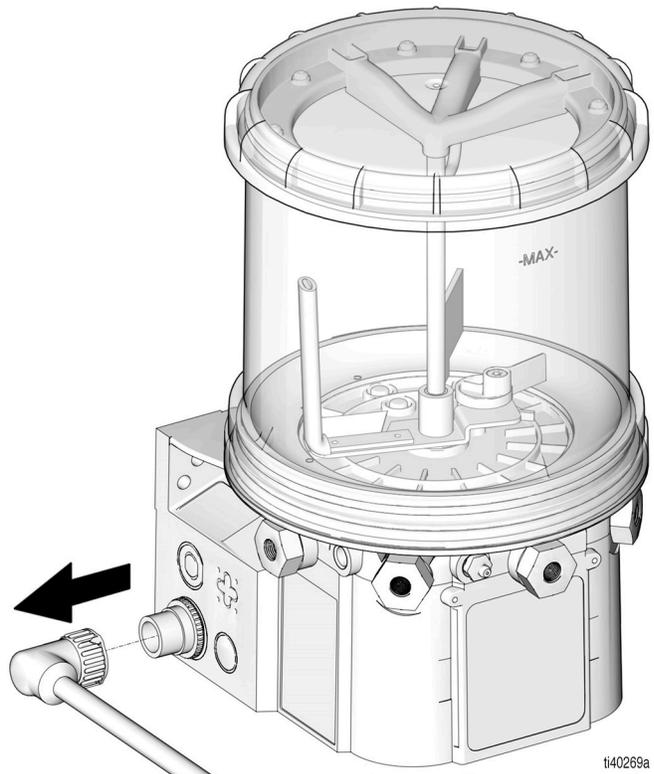


FIG. 20

2. Clean the top of the lid and the area around the top of the reservoir to ensure that no debris falls into the reservoir when the lid is removed.
3. Turn the lid counterclockwise to remove.
4. Place the lid in a clean area to avoid debris getting into the inside of the lid or on the threads.
5. Fill the reservoir with new clean grease.
6. Make sure that no contaminants enter the reservoir.

NOTICE

Any debris or dirt accidentally introduced into the reservoir should be removed immediately. Do not allow the pump to operate until all debris or dirt are removed.

Operating the pump with debris or dirt in the reservoir may damage the pump, down stream equipment, and bearings.

7. Clean the threads on the reservoir and the lid.
8. Replace the lid on the reservoir, turning clockwise (approximately 1 3/4 turns).
9. Reconnect the power to the equipment.

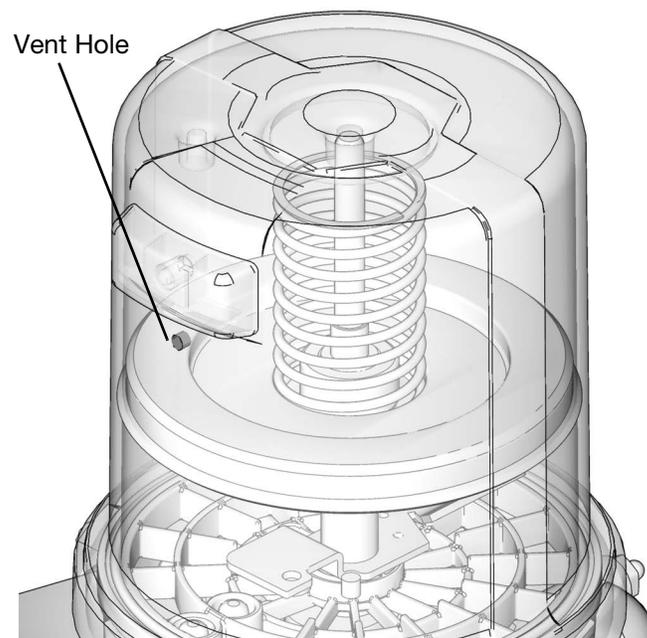
Models with a Follower Plate

1. Connect the fill hose to the zerk inlet fill fitting (see FIG. 18).
2. For higher viscosity fluids, start the pump to rotate the stirring paddle during filling to prevent air pockets. Do not exceed a 30 minute run time.

For models using an external controller, start the pump operation following your controller specifications.

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

NOTE: The vent port, located in rear of reservoir, should not be used as an overfill port/indicator (FIG. 21).

**FIG. 21**

4. Turn off the air supply (H) to the refill pump (F).
5. Remove the fill hose.

Auto-Fill Shut Off

The Auto-Fill Shut Off is used for refilling the G5 reservoir in an automatic lubrication system. As fluid is added to the reservoir, the plate valve is pushed up to the top of the reservoir, pushing the valve pin and closing the inlet fluid path.

When the fluid refilling path closes, the refilling line pressurizes and brings the refilling pump to a pressurized stall condition.

NOTE: The operator must monitor the system while filling the reservoir to prevent overfilling.

Load Grease

To ensure optimal performance from the G5 pump:

- Only use NLGI #000 - #2 greases appropriate for the application, automatic dispensing, and the temperature. Consult with the machine and lube manufacturer for details.
- Do not overfill the reservoir.
- Do not operate the G5 pump without a reservoir attached.

NOTICE

Use care when filling the reservoir with a pneumatic or an electric transfer pump, to not pressurize and break the reservoir.

Change Grease

When changing greases, always use compatible fluids or greases.



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 (35.1 MPa, 351.6 bar).



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 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.

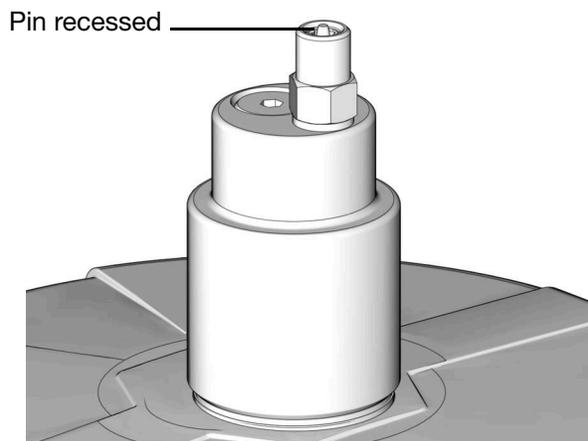
Regulate input pressure to the remote fill pump so that no fluid line, component or accessory is over pressurized.

Remote Fill with Remote Fill Manifold

The reference letters used in the following instructions refer to FIG. 4, page 10.

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. 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 the fill manifold (N) and the auto-fill shut off valve (B).
2. Verify that the auto-fill shut off valve (B) pin is recessed, indicating that it is reset.



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FIG. 22

3. Remove the yellow dust cover from the fill coupler (M).
4. Connect the supply hose (J) between the remote filling station pump (F) and the fill coupler port (marked with an "I").
5. Start the remote filling station pump (F).
6. When the G5 reservoir (D) is filled:
 - the remote filling station pump (F) stalls (dead-heads),
 - the auto-fill shut off valve pops up (FIG. 23),
 - the pressure gauge (R) rises to the fill pump's set pressure.

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

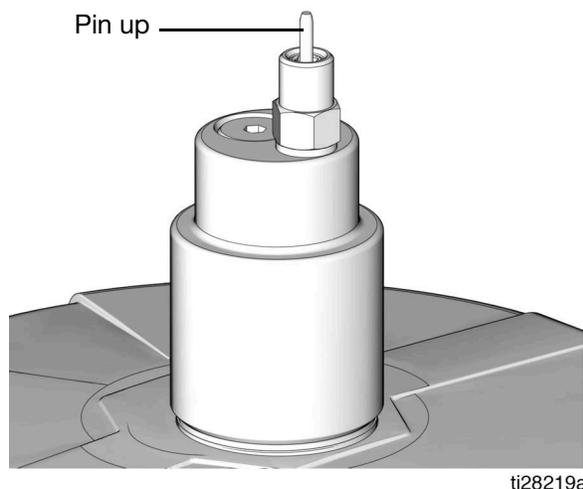


FIG. 23

7. Turn off the remote filling station pump (F).
8. Pull out and hold the pressure relief knob (T) long enough to relieve the pressure between the fill manifold (N) and the auto-fill shut off valve (B) and between the remote filling station pump (F) and the fill manifold (N).

NOTE: The length of time to vent varies depending upon the system design and installation. In some installations it may be necessary to repeat Step 8.

9. Disconnect the supply hose (J) at the fill coupler (M).
10. Replace the yellow dust cover for the fill coupler (M).

Remote Fill without Remote Fill Manifold

The referenced letters used in the following instructions refer to FIG. 5, page 11.

1. A supply hose pressure relief valve (Y) and overflow container (W), that collects 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 shut off valve (B). This pressure relief valve relieves pressure in the refill line and resets the Auto-Fill Shut Off. See **Typical Installation**, starting on page 9.

Pressure Relief Kit 247902 is available from Graco. Contact your distributor or Graco Customer Service for additional information.

2. Connect the supply hose (J) at the quick disconnect (V).
3. Turn on remote filling station pump (F) and fill the G5 reservoir (D) until the indicator pin on the auto-fill shut off valve (B) is pushed up (see FIG. 23). The pressure in the refill pump (F) increases and the pump stalls.
4. Turn off the air supply (H) to the refill pump (F).
5. Relieve remote filling station pump pressure following the **Remote Filling Station Pressure Relief** procedure, page 24.
6. Disconnect the supply hose (J) from the quick disconnect (V).

Remote Filling Station Pressure Relief

The reference letters used in the following instructions refer to FIG. 5, page 11.



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

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 the auto-fill shut off valve (B), open the supply hose pressure relief valve (Y) (FIG. 24). The pressure releases and excess fluid drains out of the drain tube (L) and into the lubrication overflow container (W).

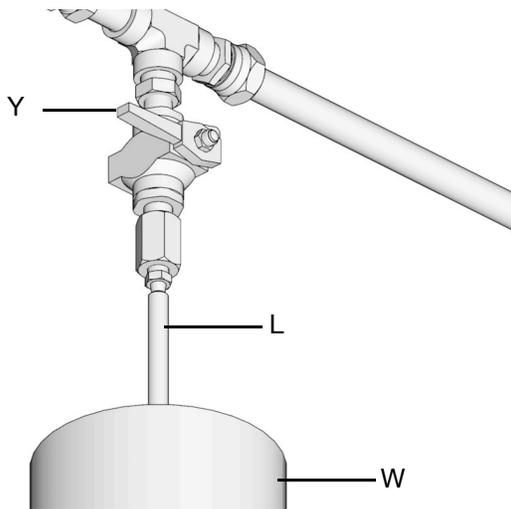


FIG. 24

2. Close the supply hose pressure relief valve (Y) after all pressure has been relieved.

Fill with Oil

- Only use oil appropriate for the 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.
 - No not overfill (FIG. 25).
 - Do not operate the G5 pump without a reservoir attached.
 - Only use oils with a viscosity of at least 40 cSt.
1. Remove the fill cap (FIG. 25).
 2. Pour the oil into the reservoir to the max fill line (FIG. 25).
 3. Replace the fill cap, and hand tighten, securely (FIG. 25).

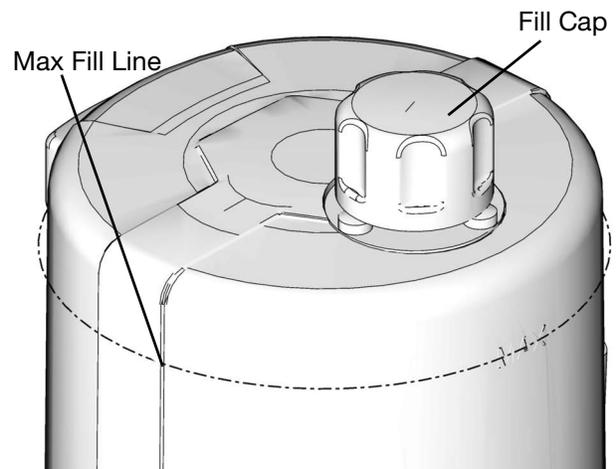


FIG. 25

Prime the Pump

NOTE: It is not necessary to prime the pump each time the pump is filled with lubricant. The pump only requires priming the first time used, or if the pump is allowed to run dry.

1. Loosen the pump element fitting using two wrenches working in opposite directions (FIG. 26).

NOTICE

Make sure not to loosen the pump element when loosening the pump element fitting. If the pump element is loosened, the output volume will change.

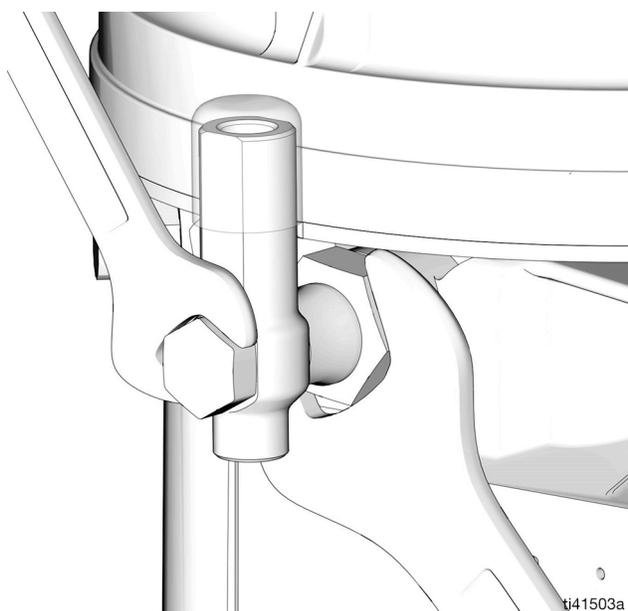
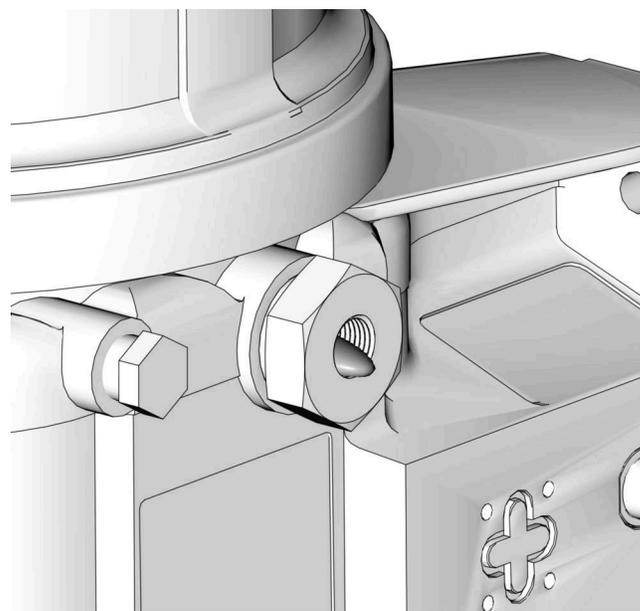


FIG. 26

2. Run the pump until air-free lubricant is dispensed out of the element fitting (FIG. 27).



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FIG. 27

3. Tighten the pump element fitting using two wrenches working in opposite directions (see FIG. 26).

Pump Operation

The G5 pump can be controlled using an external, user supplied, power source and controller.

Refer to **System Configuration and Wiring**, page 12 for required fuse and wire information.

NOTE:

- When using an external power source and controller, the Pump ON (Run) Time should be set for no longer than 30 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.

Low Level Output Option

Some G5 pumps without controllers include a Low Level Output Option. It can be configured with an M12 connector in code location “G” or with a DIN connector

in code location “K” (see **Understanding the Model Number**, page 4). The low level signal is monitored across PINS 3 and 4. For PINS 3 and 4 locations and wire information, see **Low Level Outputs**, page 15.

NOTE: a low level warning is triggered when the controller detects PINS 3 and 4 have momentarily closed.

Grease Pumps

When the grease level has reached a low warning level, PINS 3 and 4 momentarily close (one time per paddle revolution) and sends the signal to the controller that the fluid has reached a low level.

Three (3) or more low level triggers must be detected within one (1) minute or less to ensure that a low level condition has been met.

See FIG. 28 for an illustration of a typical Low Level Output response to low grease level.

Typical Low Level Output Response with Low Level Fluid in Grease Models

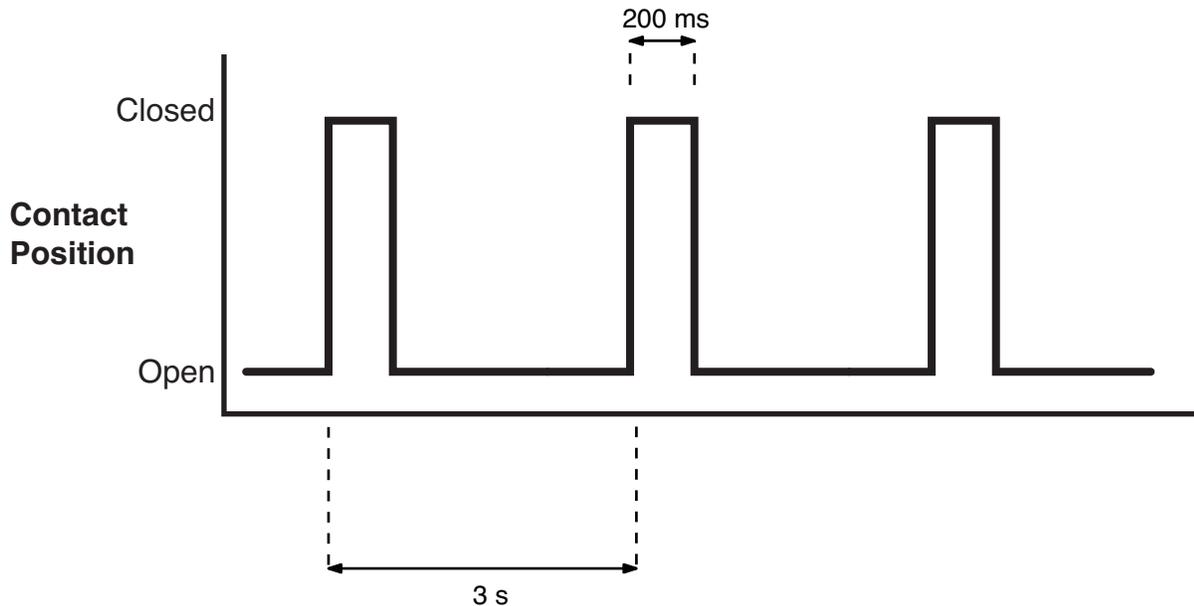


FIG. 28

Oil Pumps

When the oil level has reached a low warning level, PINS 3 and 4 close, sending the signal to the controller that the fluid has reached a low level.

The low level trigger must be detected for 10 continuous seconds to ensure that a low level condition has been met.

See FIG. 29 for an illustration of a typical Low Level Output response to low oil level.

Typical Low Level Output Response with Low Level Fluid in Oil Models

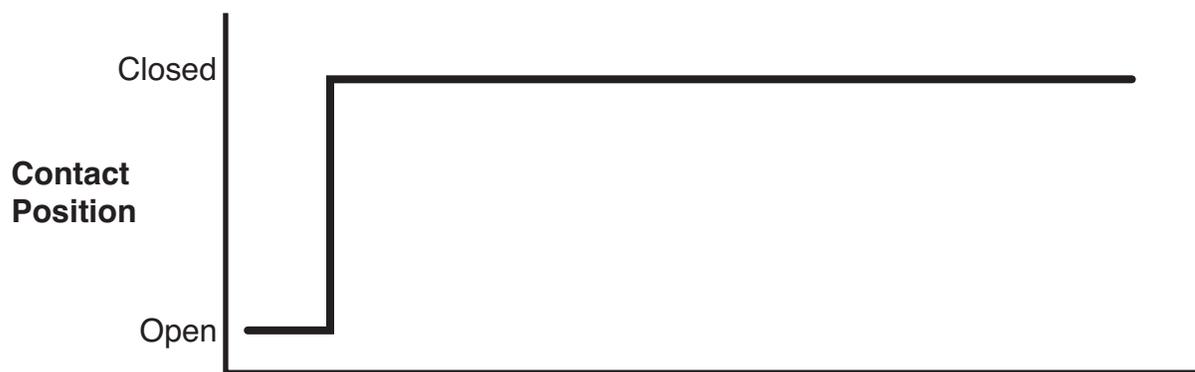


FIG. 29

Maintenance

Frequency	Component	Required Maintenance
Daily and at refill	Fill Fittings	Keep all fittings clean using a clean dry cloth. Dirt and/or debris can damage pump and/or lubrication system.
Daily	G5 Pump Unit and Reservoir	Keep pump unit and reservoir clean using a clean dry cloth.
Monthly	External Wiring Harness	Verify external harnesses are secure.

Recycling and Disposal

End of Product Life

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

- Perform the **Pressure Relief Procedure**, page 17.
- 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 batteries or electronic components with household or commercial waste.



- Deliver remaining product to a recycling facility.

Troubleshooting



Follow **Pressure Relief Procedure**, page 17, before checking or repairing the pump.

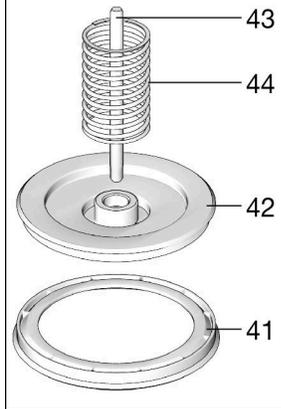
Check all possible problems and causes before disassembling pump.

Problem	Cause	Solution
Unit does not power on	Incorrect/loose wiring	Refer to Installation instructions, page 8.
Unit does not power on (DC models only)	Tripped external fuse due to internal component failure	Contact Graco Customer Service.
	Tripped external fuse due to pumping non-cold weather lubricant in cold weather -13°F (-25°C)	Replace lubricant with pumpable lubricant, rated for environmental conditions and application. Replace fuse.
Unit does not power on (AC models only)	Tripped internal power supply fuse due to power supply failure	Contact Graco Customer Service.
Lubricant leaks past seal located on the bottom of the reservoir	Reservoir retaining tabs are cracked or broken	Replace reservoir.
	Reservoir is being pressurized during filling	Ensure vent hole is not plugged. If problem persists, contact Graco Customer Service or your local Graco distributor for assistance.
Unit not pumping during ON cycle, but external controller functions	Failed motor	Replace unit.
Follower plate is not going down	Air is trapped in the reservoir between the follower plate and lubricant	Add grease following Load Pump with Grease instructions, page 19. Ensure air is purged.
Pump takes several minutes before it begins pumping at the highest pump volume setting (no stroke adjust spacers installed)	Pumping non-cold weather lubricant in cold weather -13°F (-25°C)	Add 1 stroke adjust spacer and adjust lube cycle time to accommodate the difference in pump volume per stroke.
In an Injector System without sensor feedback, unit does not vent properly	Vent valve time needs to be configured	Adjust external vent valve control time.
After wiring and installing equipment, pump is not working (DC models only)	Pump wired backwards	Rewire pump. See Wire and Installation Diagrams , page 13

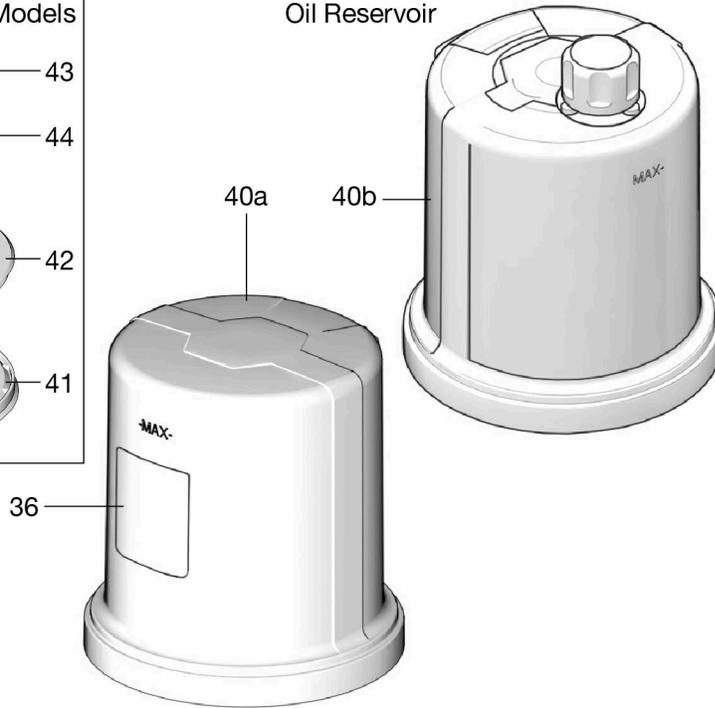
Parts

2 Liter Models

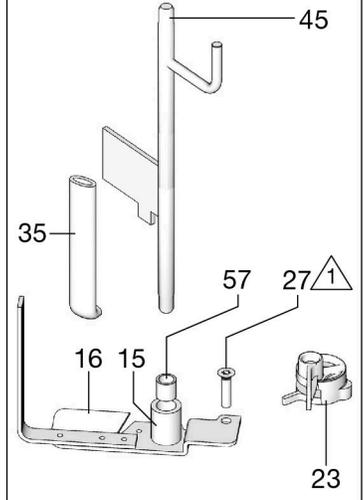
Follower Plate Models



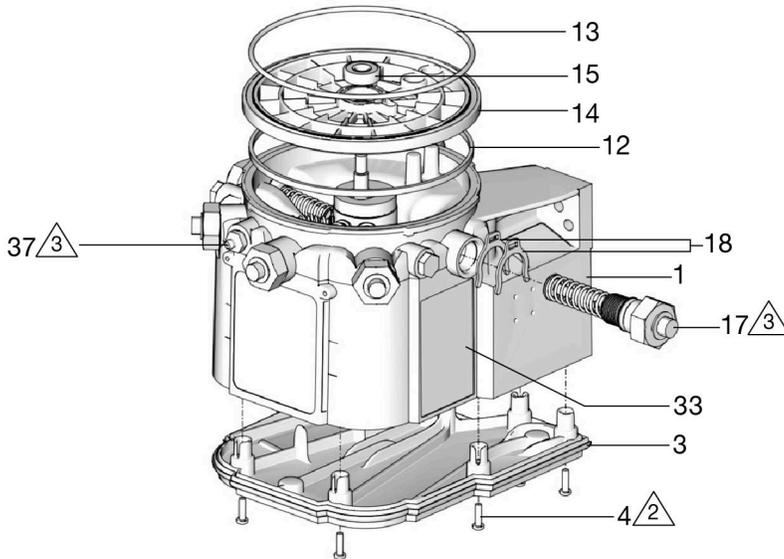
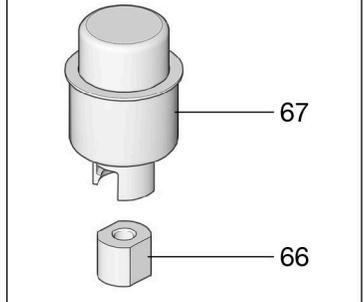
Oil Reservoir



Low Level Grease Models



Low Level Oil Models

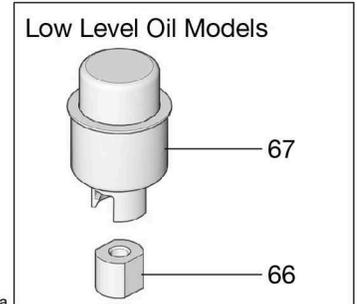
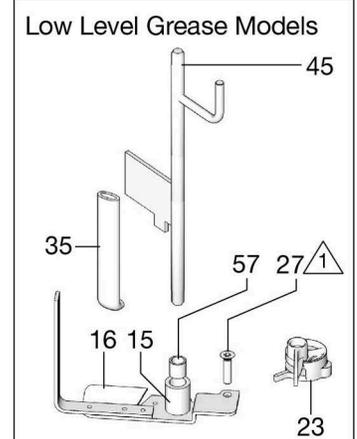
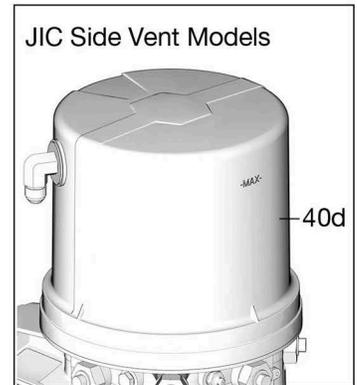
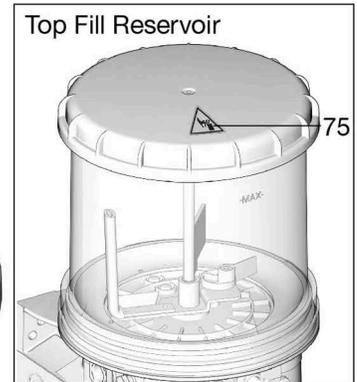
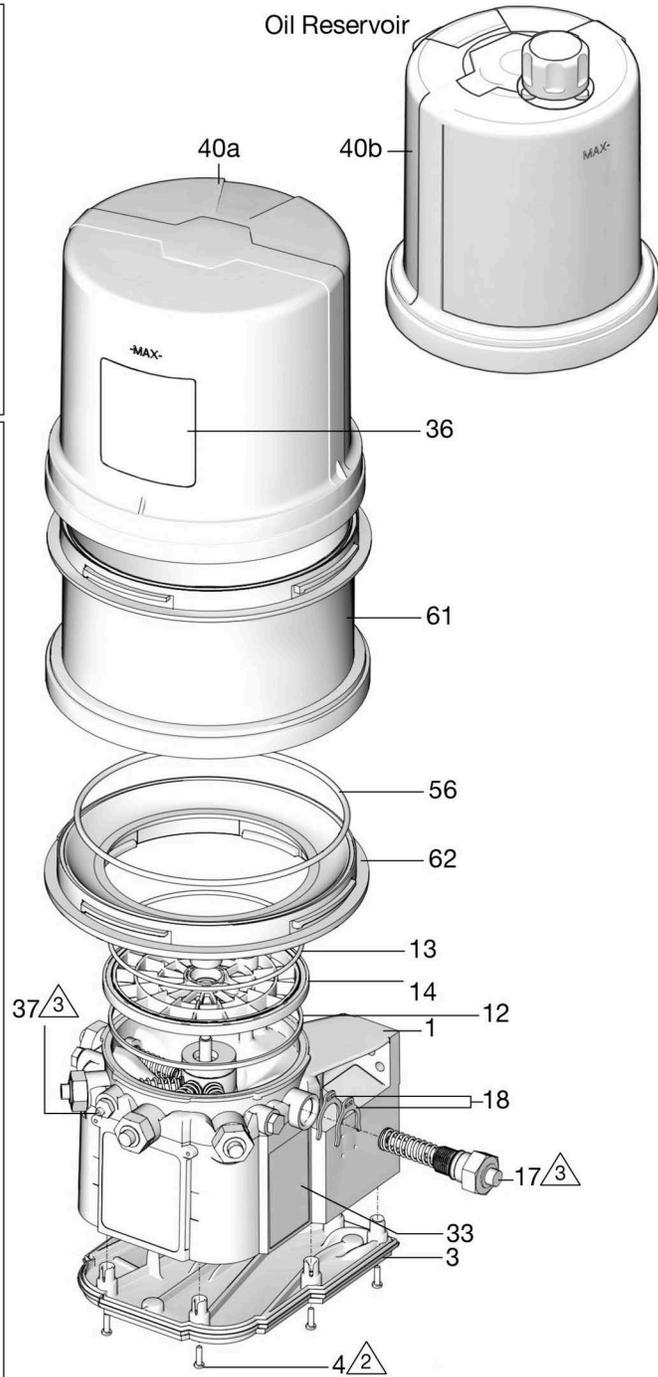
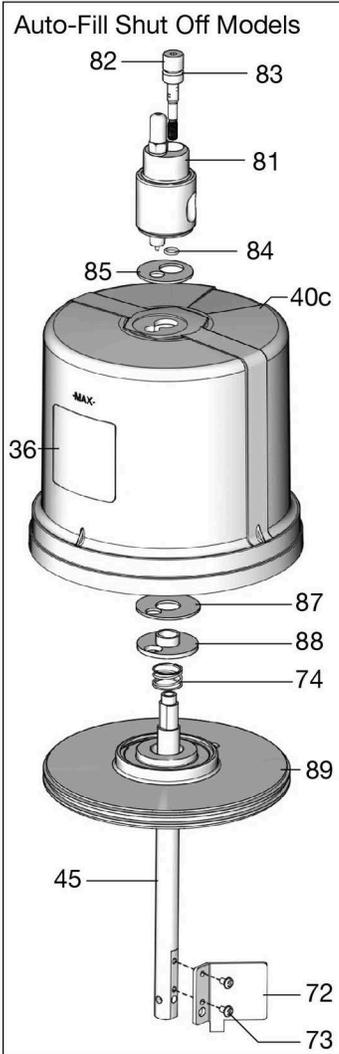
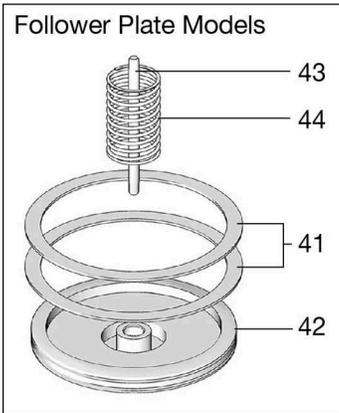


- △1 Torque to 14 in-lb (1.58 N•m)
- △2 Torque to 30 in-lb (3.4 N•m)
- △3 Torque to 50 in-lb (5.6 N•m)

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Parts

4 Liter and Larger Models



- ① Torque to 14 in-lb (1.58 N•m)
- ② Torque to 30 in-lb (3.4 N•m)
- ③ Torque to 50 in-lb (5.6 N•m)

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Parts

Ref.	Part	Description	Qty.
1			1
3	25V211	BASE, five pump housing	1
4	133767	SCREW, mach, torx pan hd, o-ring	9
12	127079	RECT-RING, included in kit 571042, 571069, 571179	1
13	132524	O-RING, included in kit 571042, 571044, 571045, 571069, 571179	2
14	278144	PLATE, ricer	1
15	120822	BEARING, ball	1
16		PADDLE, stirring, 2 Liter models without follower plate, included in kit 571044	1
		PADDLE, stirring, 4 Liter and larger models without follower plate, included in kit 571046	1
		PADDLE, stirring, 2 Liter models with follower plate, included in kit 571045	1
		PADDLE, stirring, 4 Liter and Larger models with follower plate, included in kit 571047	1
17		PUMP. element, included in kit 571041	5
18	133457	SPACER	
	278296	PLUG, pump, 3/4 - 16 (optional)	0
23❖	279043	PADDLE, low level	1
27	123025	SCREW, M6	1
33▲	16A579	LABEL, safety	1
35		WIPER, stirring, included in kits 571044, 571045, 571046, and 571047	1
36		LABEL, brand	1
37	123741	FITTING, zerk, grease, not included on oil models	1
40a	24E984	RESERVOIR, 2 Liter, grease, included in kit 571042, 571069	1
40b	16G021	RESERVOIR, 2 Liter, oil, included in kit 571179	1
40a	24B702	RESERVOIR, 4 Liter, grease, included in kit 571183	1
40b	16G020	RESERVOIR, 4 Liter, oil, included in kit 571182	1
40c	17F484	RESERVOIR, 4 Liter, G5, AFSSO	1
40d	25V141	RESERVOIR, 4 Liter, side vent JIC	1
41	278139	SEAL, follower plate, 2 Liter models	1
	16F472	SEAL, follower plate, 4 Liter models	2

Ref.	Part	Description	Qty.
42		PLATE, follower	1
43		ROD, follower plate	1
44		SPRING, compression	1
45†	24D838	BAFFLE, low level, 2 Liter	1
	24E246	BAFFLE, low level, 4 Liter	1
	24F836	BAFFLE, low level, 8 Liter	1
	24F923	BAFFLE, low level, 12 Liter	1
	24F924	BAFFLE, low level, 16 Liter	1
	24F836	BAFFLE, low level, 8 Liter, AFSSO	1
56	127144	SEAL, oval	1
57	117156	BEARING, sleeve	1
58▲	196548	LABEL, electric shock (not shown)	1
61	25C764	RESERVOIR, mid-section kit, with o-rings (see quantity by size / model below)	
		8 Liter models	1
		12 Liter models	2
		16 Liter models	3
62	574002	APADTER, reservoir, 4 Liter models and larger	1
66		NUT, oil	1
57	24N806	FLOAT, oil models	1
72		PLATE, baffle, low level	1
73		SCREW, machine	2
74		SPRING, plate, valve, reset	1
75▲	15H108	LABEL, safety, pinch	1
81		VALVE, AFSSO	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
89		PLATE, valve	1
200	127783	CABLE, CPC, 15 ft. (4.5 m), SOOW w/7 pos, 2 pin, 90 degrees (See Wire and Installation Diagrams , page 13)	1
		CABLE, DIN, to flying leads (See Wire and Installation Diagrams , page 13)	1
	2003467	CABLE, CPC, 15 ft. (4.5 m), 7 pos, 5 pin, 90 degrees (See Wire and Installation Diagrams , page 15)	1
		CABLE, CPC, 30 ft. (9.0 m), 7 pos, 5 pin, 90 degrees (See Wire and Installation Diagrams , page 15)	1

Parts

Ref.	Part	Description	Qty.
201	124300	CABLE, M12, 16.5 FT. (5.0 m), 4 wire, straight male to flying leads (See Wire and Installation Diagrams , page 15)	1
	124333	CABLE, M12, 16.5 ft (5.0 m), 4 wire, straight male to female (see Wire and Installation Diagrams , page 15)	1
202	124301	CONNECTOR, straight, M12 female, 4 pin	1
	124594	CONNECTOR, straight, M12 female (See Wire and Installation Diagrams , page 16)	1
	124595	CONNECTOR, straight, M12 male (See Wire and Installation Diagrams , page 16)	1

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

❖ Also order Ref. 27, Part No. 123025.

† Also order Ref. 57, Part No. 117156 when ordering.

Kits and Accessories

Installation and Repair Kits

Kit No.	Description	Manual Number
571026	KIT, output union, 3 pump	3A0523
571063	KIT, output union, 2 pump	
571028	KIT, return to reservoir npt, includes pressure relief valve 16C807	3A0525
571071	KIT, return to reservoir bspp, includes pressure relief valve 16C807	
24M478	KIT, vent valve, 12 volt DC, NO, npt DEU	3A0526
24M479	KIT, vent valve, 24 volt DC, NO, npt DEU	
24M480	KIT, vent valve, 115 VAC, NO, npt DIN	
24N182	KIT, vent valve, 230 VAC	NA
571036	Kit, cover with "G" label	
571041	KIT, pump element, includes Ref. 17, 18, 33	3A0533
571042	KIT, repair, 2 liter reservoir, includes Ref. 13, 36, 40	3A0534
571069	KIT, repair, 2 liter reservoir, for models with follower plate, includes Ref. 13, 36, 40.	
571044	KIT, replacement, paddle, 2 liter, for models without follower plate, includes Ref. 13, 16, 35, 57.	3A0535
571045	KIT, replacement, paddle, 2 liter, for models with follower plate, includes Ref. 13, 16, 35, 40a, 42, 57.	
571046	KIT, replacement, paddle, 4 - 16 liter, for models without follower plate, includes Ref. 13, 16, 35, 57.	
571047	KIT, replacement, paddle, 4 liter, for models with follower plate, includes Ref. 13, 16, 35, 57.	
571058	KIT, output adapter, npt	3A0522
571070	KIT, output adapter, bspp	
571060	KIT, fill, zerk, leakproof	NA

Kit No.	Description	Manual Number
571179	KIT, repair, reservoir oil, 2 liter models, includes Ref. 13, 36, 40b.	3A0534
571182	KIT, repair, reservoir oil, 4 liter models, includes Ref. 13, 36, 40b.	
571183	KIT, repair, reservoir grease, 4 liter models, includes Ref. 13, 36, 40b.	
127685	RING, fixing, for CPC connector	NA
16G022	FILLER CAP	NA

Reservoir Conversion Kits

Kit No.	Description	Manual Number
571155	KIT, reservoir conversion, 4 Liter	3A1260
571156	KIT, reservoir conversion, 8 Liter	
571157	KIT, reservoir conversion, 12 Liter	
571158	KIT, reservoir conversion, 16 Liter	
571229	KIT, reservoir conversion, 4L Top Fill	3A8295

Fuses

Kit No.	Description	Qty.
571039	FUSE, 7.5 A for 12 volt DC	1
571040	FUSE, 4 A for 24 volt DC	1

Pressure Relief Valves

Kit No.	Description
133910	VALVE, pressure relief, 4000 psi (27.6 MPA, 275.8 bar)
133991	VALVE, 5 x pressure relief, 4000 psi (27.6 MPA, 275.8 bar)
133958	KIT, 5 x pressure relief valves with return

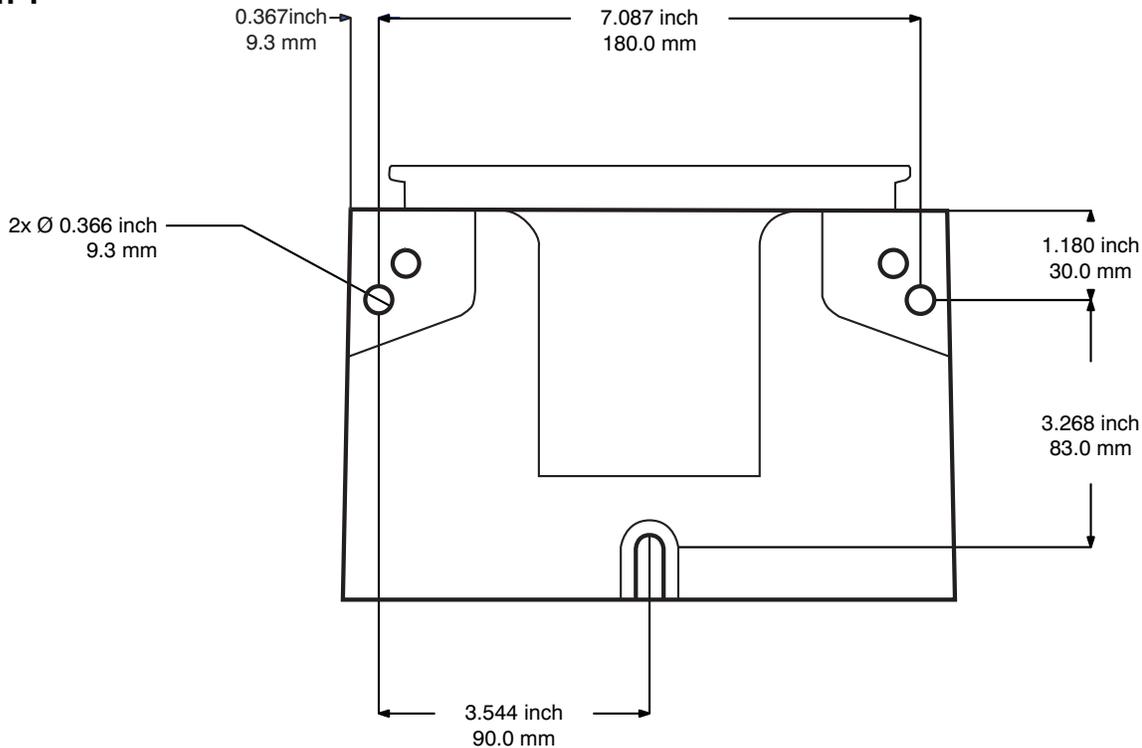
Dimensions

Model	Height		Width		Depth	
	in.	cm	in.	cm	in.	cm
2L	13.25	33.65	8.00	20.32	9.00	22.86
4L	14.50	36.83	9.25	23.50	10.00	25.40
4L Top Fill	15.50	39.38	9.25	23.50	10.00	25.40
8L	18.50	47.00	9.25	23.50	10.00	25.40
8L Top Fill	19.50	49.53	9.25	23.50	10.00	25.40
12L	23.00	58.42	9.25	23.50	10.00	25.40
12L Top Fill	24.00	60.96	9.25	23.50	10.00	25.40
16L	27.50	69.85	9.25	23.50	10.00	25.40
16L Top Fill	28.50	72.39	9.25	23.50	10.00	25.40

Mounting Pattern

(For correct mounting configuration, choose either Option 1 or Option 2). See P/N 126916 template.

Option 1



Option 2

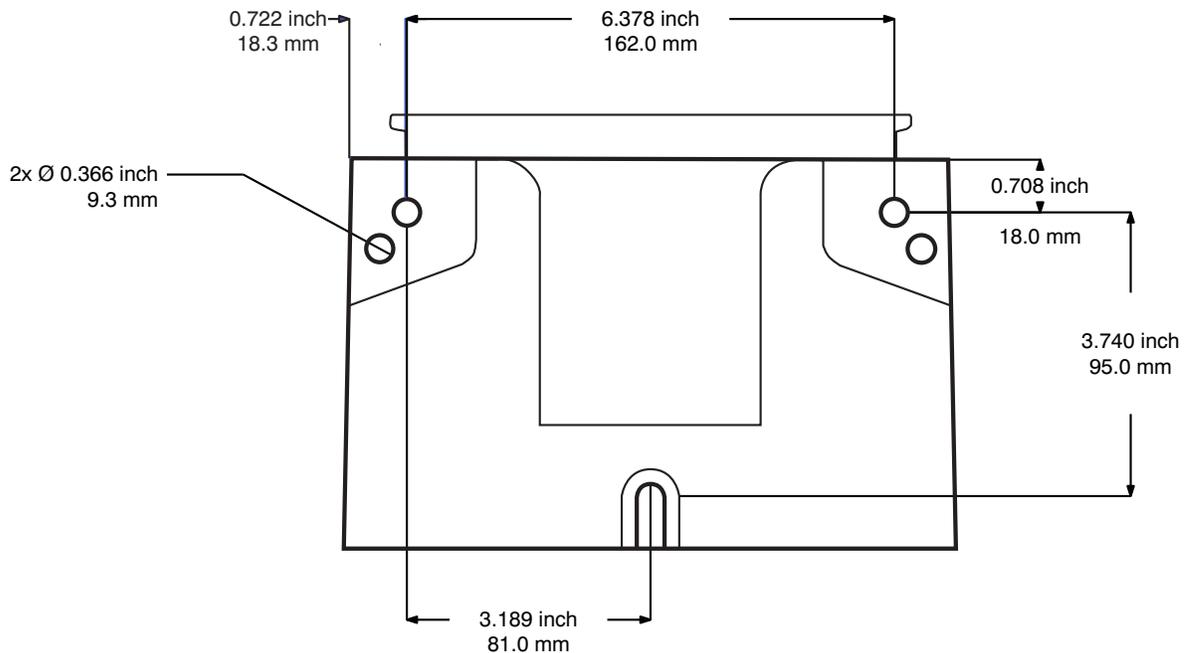


FIG. 30

Technical Specifications

G5 Standard Automatic Lubrication Pump		
	US	Metric
Pump output pressure	4250 psi	29.3 MPa, 293 bar
Fill inlet pressure	5000 psi	34.4 MPa, 344.7 bar
Power		
12 VDC	9 - 16 VDC; 5A current, 60 W, inrush/locked rotor 12 A	
24 VDC	18 - 32 VDC; 2.5 A current, 60 W, inrush/locked rotor 6 A	
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	
Fluid		
Grease Models	Grease NLGI #000 - #2	
Oil Models	At least 40 cSt oil	
Pumps	Up to 3	
Pump Outlet	1/4-18 NPSF, Mates with 1/4-18 npt male fittings	
Reservoir Vent	-8 JIC (if equipped)	
Reservoir Size	2, 4, 8, 12, 16 Liters	
IP Rating	IP69K	
Ambient Temps	-40°F - 158°F	-40°C - 70°C
Noise (dBa)		
Maximum sound pressure	<70dBa	
Weight (Dry - includes power cord and plug)		
Without follower plate	13.3 lb.	6.03 kg
With follower plate	14.2 lb.	6.44 kg
Wetted Parts	nylon 6/6 (PA), amorphous polyamide, T5004-060, 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.		

California Proposition 65

CALIFORNIA RESIDENTS

 **WARNING:** Cancer and reproductive harm – www.P65warnings.ca.gov.

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Original instructions. This manual contains English. MM 3A8847

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