

# G1™ Standard Lubrication Pump

332316C  
EN

For dispensing of NLGI Grades #000 to #2 greases and oil with at least 40cSt. For Professional Use Only.

Not approved for use in explosive atmospheres or hazardous locations.

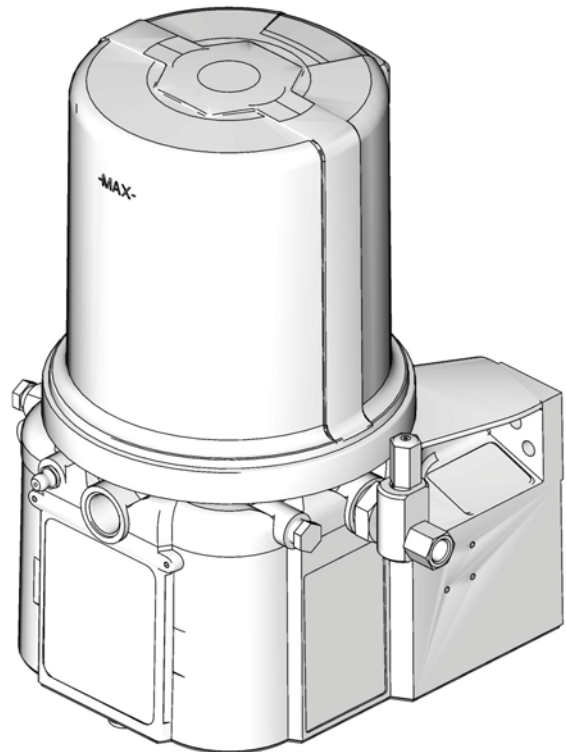
## Part Nos., page 3

*5100 psi (35.1 MPa, 351.6 bar) Maximum Working Pressure*



### Important Safety Instructions

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



3132066  
conforms to  
ANSI/UL 73  
certified to  
CAN/CSA  
Std. 22.2 No 68-09



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## Grease Models




Model	Reservoir Size			Voltage			CPC	DIN	Wiper	Follower	Low Level
	2 Liter	4 Liter	8 Liter	12V DC	24V DC	100-240 VAC					
94G006	X			X			X		X		
94G007		X		X			X		X		
94G008			X	X			X		X		
94G009	X			X			X		X		X
94G010		X		X			X		X		X
94G011			X	X			X		X		X
94G018	X				X		X		X		
94G019		X			X		X		X		
94G020			X		X		X		X		
94G021	X				X		X		X		X
94G022		X			X		X		X		X
94G023			X		X		X		X		X
94G036	X				X			X	X		
94G037		X			X			X	X		
94G038			X		X			X	X		
94G039	X				X			X	X		X
94G040		X			X			X	X		X
94G041			X		X			X	X		X
94G063	X					X		X	X		
94G064		X				X		X	X		
94G065			X			X		X	X		
94G066	X					X		X	X		X
94G067		X				X		X	X		X
94G068			X			X		X	X		X
94G069	X					X		X		X	X
94G070		X				X		X		X	X
94G071			X			X		X		X	X

## Oil Models






Model	Reservoir Size			Voltage			CPC	DIN	Low Level
	2 Liter	4 Liter	8 Liter	12V DC	24V DC	100-240 VAC			
94G042	X				X			X	
94G043		X			X			X	
94G044			X		X			X	
94G045	X				X			X	X
94G046		X			X			X	X
94G047			X		X			X	X
94G072	X					X		X	
94G073		X				X		X	
94G074			X			X		X	
94G075	X					X		X	X
94G076		X				X		X	X
94G077			X			X		X	X

# 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.




 <b>WARNING</b>	
	<p><b>ELECTRIC SHOCK HAZARD</b></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"> <li>• Turn off and disconnect power at main switch before disconnecting any cables and before servicing or installing equipment.</li> <li>• Connect only to grounded power source.</li> <li>• All electrical wiring must be done by a qualified electrician and comply with all local codes and regulations.</li> </ul>
	<p><b>EQUIPMENT MISUSE HAZARD</b></p> <p>Misuse can cause death or serious injury.</p> <ul style="list-style-type: none"> <li>• Do not operate the unit when fatigued or under the influence of drugs or alcohol.</li> <li>• Do not exceed the maximum working pressure or temperature rating of the lowest rated system component. See <b>Technical Data</b> in all equipment manuals.</li> <li>• Use fluids and solvents that are compatible with equipment wetted parts. See Technical Data in all equipment manuals. Read fluid and solvent manufacturer's warnings. For complete information about your material, request MSDS from distributor or retailer.</li> <li>• Do not leave the work area while equipment is energized or under pressure.</li> <li>• Turn off all equipment and follow the <b>Pressure Relief Procedure</b> when equipment is not in use.</li> <li>• Check equipment daily. Repair or replace worn or damaged parts immediately with genuine manufacturer's replacement parts only.</li> <li>• Do not alter or modify equipment. Alterations or modifications may void agency approvals and create safety hazards.</li> <li>• Make sure all equipment is rated and approved for the environment in which you are using it.</li> <li>• Use equipment only for its intended purpose. Call your distributor for information.</li> <li>• Route hoses and cables away from traffic areas, sharp edges, moving parts, and hot surfaces.</li> <li>• Do not kink or over bend hoses or use hoses to pull equipment.</li> <li>• Keep children and animals away from work area.</li> <li>• Comply with all applicable safety regulations.</li> </ul>

## ⚠ WARNING

	<p><b>SKIN INJECTION HAZARD</b></p> <p>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. <b>Get immediate surgical treatment.</b></p> <ul style="list-style-type: none"> <li>• Do not point dispensing device at anyone or at any part of the body.</li> <li>• Do not put your hand over the fluid outlet.</li> <li>• Do not stop or deflect leaks with your hand, body, glove, or rag.</li> <li>• Follow the <b>Pressure Relief Procedure</b> when you stop dispensing and before cleaning, checking, or servicing equipment.</li> <li>• Tighten all fluid connections before operating the equipment.</li> <li>• Check hoses and couplings daily. Replace worn or damaged parts immediately.</li> </ul>
	<p><b>PRESSURIZED EQUIPMENT HAZARD</b></p> <p>Over-pressurization can result in equipment rupture and serious injury.</p> <ul style="list-style-type: none"> <li>• A pressure relief valve is required at each pump outlet.</li> </ul> <p>Follow <b>Pressure Relief Procedure</b> in this manual before servicing.</p>
	<p><b>PLASTIC PARTS CLEANING SOLVENT HAZARD</b></p> <p>Many 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"> <li>• Use only compatible water-based solvents to clean plastic structural or pressure-containing parts.</li> <li>• See <b>Technical Data</b> in this and all other equipment instruction manuals. Read fluid and solvent manufacturer's MSDSs and recommendations.</li> </ul>
	<p><b>MOVING PARTS HAZARD</b></p> <p>Moving parts can pinch or amputate fingers and other body parts.</p> <ul style="list-style-type: none"> <li>• Keep clear of moving parts.</li> <li>• Do not operate equipment with protective guards or covers removed.</li> <li>• Pressurized equipment can start without warning. Before checking, moving, or servicing equipment, follow the <b>Pressure Relief Procedure</b> in this manual. Disconnect power or air supply.</li> </ul>
	<p><b>PERSONAL PROTECTIVE EQUIPMENT</b></p> <p>You must wear appropriate protective equipment when operating, servicing, or when in the operating area of the equipment to help protect you from serious injury, including eye injury, hearing loss, inhalation of toxic fumes, and burns. This equipment includes but is not limited to:</p> <ul style="list-style-type: none"> <li>• Protective eyewear, and hearing protection.</li> <li>• Respirators, protective clothing, and gloves as recommended by the fluid and solvent manufacturer.</li> </ul>

# Installation

## Grounding

							
<p>The equipment must be grounded. Grounding reduces the risk of electric shock by providing an escape wire for the electrical current in the event of malfunction or breakdown.</p>							

## Component Identification

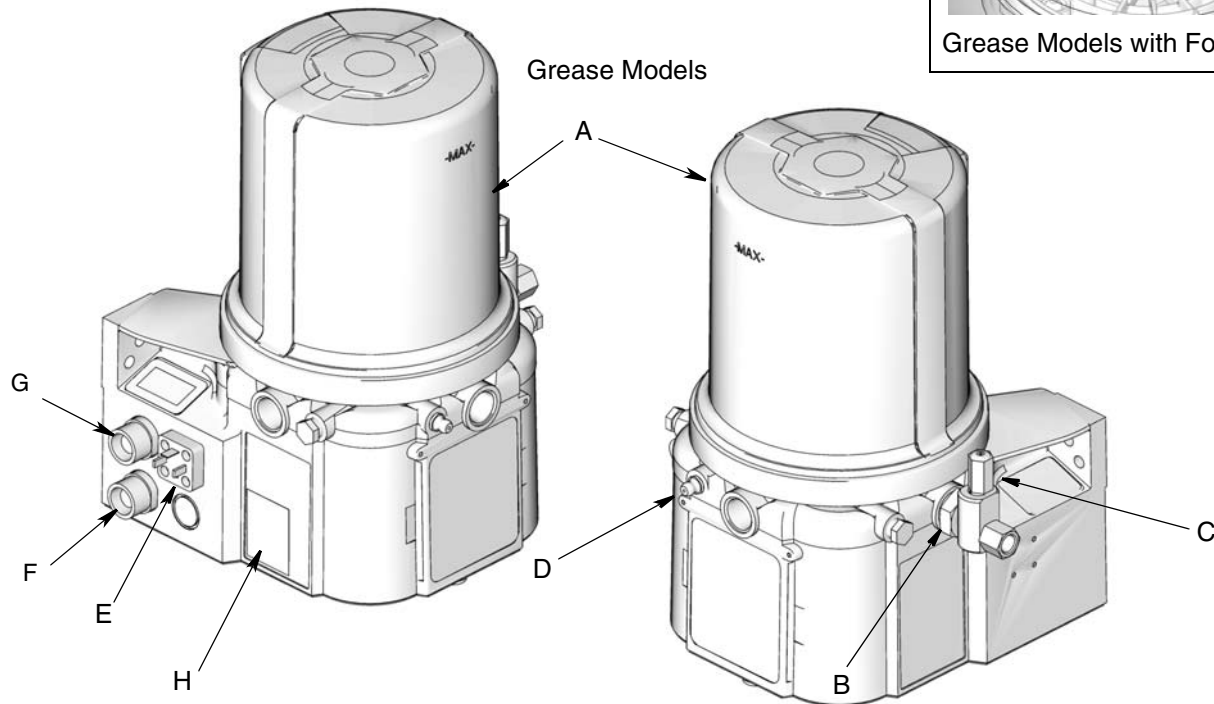
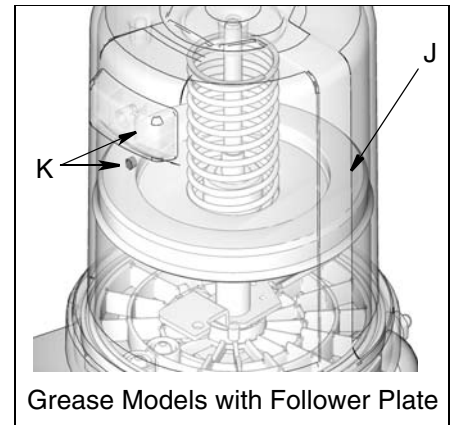
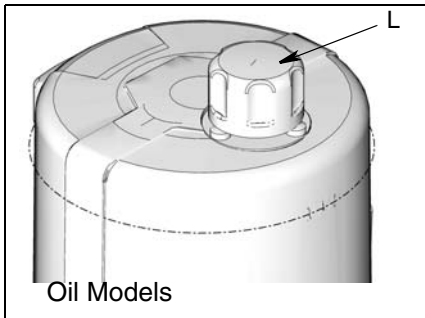


FIG. 1:

### Key:

- |   |  |
|---|--|
| A Reservoir   | H Model Number/ Serial Number  |
| B Pump Element  | J Follower Plate (grease models only / not available on all grease models) |
| C Pressure Relief Valve (Not included / required)           | K Vent Hole  |
| D Zerk Inlet Fill Fitting (1 included / grease models only) | L Fill cap (oil models only)   |
| E Power, DIN (if equipped)                                  |  |
| F Power, CPC (if equipped)                                  |  |
| G Low Level Output (if equipped)                            |  |

## Typical Installation

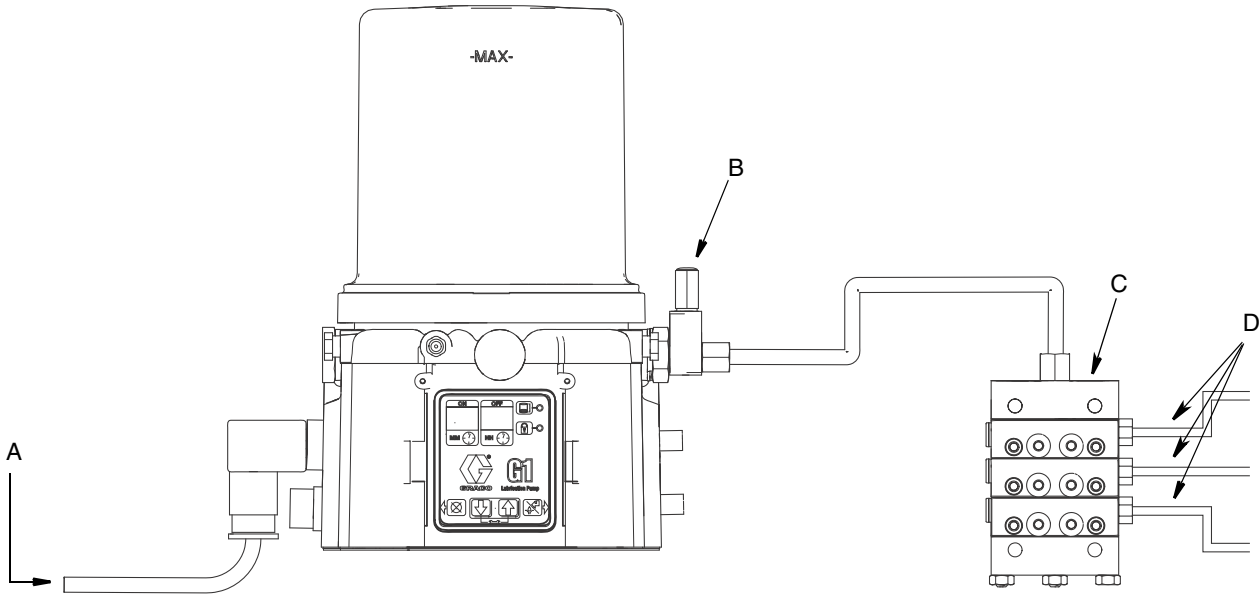


FIG. 2




- |   |   |   |                                   |
|---|---|---|-----------------------------------|
| A | Connected to fuse / power                       | C | Series progressive divider valves |
| B | Pressure relief valve (required, user supplied) | D | To lube points                    |

## Choosing an Installation Location

<b>AUTOMATIC SYSTEM ACTIVATION HAZARD</b>				
Unexpected activation of the system could result in serious injury, including skin injection and amputation.				
This device has an automatic timer that activates the pump lubrication system when power is connected or when exiting the programming function. 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 G1 Pump and lubricant, as well as all plumbing and electrical connections.
  - Refer to the two mounting hole layouts provided in the Mounting Pattern section of this manual, page 30.
- NOTE:** The two mounting hole layouts provided in the Technical Data section show the only correct installation patterns to use for mounting the G1. No other installation configurations should be used.
- Use designated mounting holes and provided configurations only.
  - Always mount the G1 oil models upright.
  - If the G1 grease model is going to be operated in a tilted or inverted position for any period of time, you must use a model that includes a follower plate, otherwise the G1 must be mounted upright.
  - Use the three fasteners (included) to secure the G1 to the mounting surface.

## System Configuration and Wiring

						
<p>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.</p>						

If the product is permanently connected:

- it must be installed by a qualified electrician or serviceman.
- it must be 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 an outlet that is properly installed and grounded 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

<b>NOTICE</b>
<p>Fuses (user supplied) are required on all DC models. To avoid equipment damage:</p> <ul style="list-style-type: none"> <li>• Never operate G1 Pump DC models without a fuse installed.</li> <li>• A fuse of the correct voltage must be installed in line with the power entry to the system.</li> </ul>

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

<b>Input Voltage</b>	<b>Fuse Value</b>	<b>Graco Kit No.</b>
12 VDC	7.5 A	571039
24 VDC	4 A	571040

## Recommendations for Using Pump in Harsh Environments


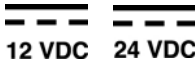
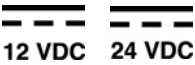

- Use pump with CPC style power cable.
- If using a DIN style power harness with a right angle mating connector, make sure the connector does not exit the unit in the UP direction.
- Use a corrosion preventative electrical grease on all contacts.



## Wiring and Installation Diagrams

**NOTE:** Graco does not provide a power cable with the G1. Power cables are available for purchase from Graco or the user may provide their own. See Table 1 for reference pages containing additional information related to Graco power cables.

**Table 1: Graco Power Cables**

Cable Part No.	Diagram	Symbol	Page #
123358 DIN 15 ft.	Power DIN AC	 AC	10
	Power DIN DC	 12 VDC 24 VDC	12
126217 CPC 15 ft., 3-wire	Power CPC DC	 12 VDC 24 VDC	14
124333 5 meter female to male M12 Eurofast	Low Level Outputs		16
124300 5 meter female M12 Eurofast			16
124594 4-pin Eurofast Field-wireable			17
124595 5-pin female Eurofast Field-wireable			17



**Power DIN AC - 15 foot: Part No. 123358**

**Din Connector Specifications**

- DIN 43650 Form A, 18 mm, assembled to power cable manufacturer’s instructions
- Rated to 6 Amps minimum at 250V AC

**Cable Specifications**

- **United States/Canada:** 3 conductor 16 AWG UL62 and CSA 22.2 No. 49 listed SOOW cable with black, white, green insulation
- **Europe:** 3 Class-5 conductor, 1.5 mm<sup>2</sup> Agency Listed H07RN-F cable with blue, brown, green/yellow insulation
- **Japan/Taiwan:** 3 conductor, 1.25 mm<sup>2</sup> Agency Listed 2 PNCT cable with black, white, red insulation
- **SEA/India/Australia:** 3 conductor, 1.5 mm<sup>2</sup> Agency Listed H07RN-F blue, brown, green/yellow insulation
- **China:** 3 conductor, 1.5 mm<sup>2</sup> Agency Listed YZW cable with blue, brown, green/yellow insulation

**Pin and Related Wire Color (FIG. 3, page 11)**

Pin	Pin Name	Color				
		United States / Canada	Europe	Japan / Taiwan	SEA / India / Australia	China
1	LINE	Black	Brown	Black	Brown	Brown
2	NEUTRAL	White	Blue	White	Blue	Blue
3	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
4	GROUND	Green	Green/Yellow	Red	Green/Yellow	Green/Yellow

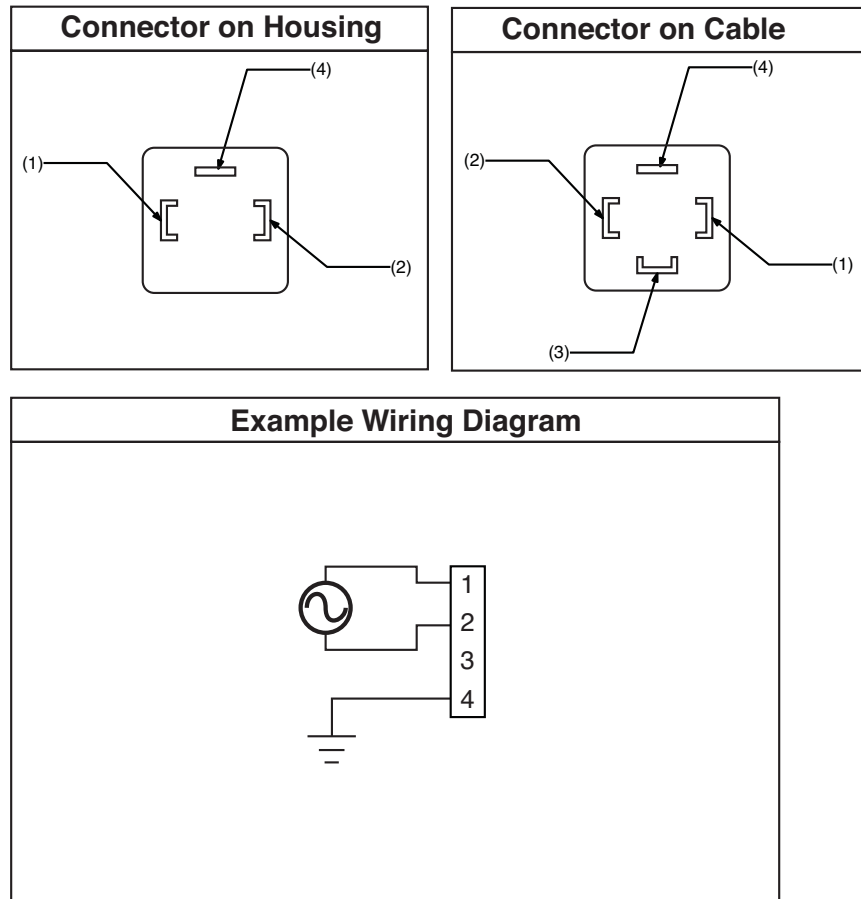
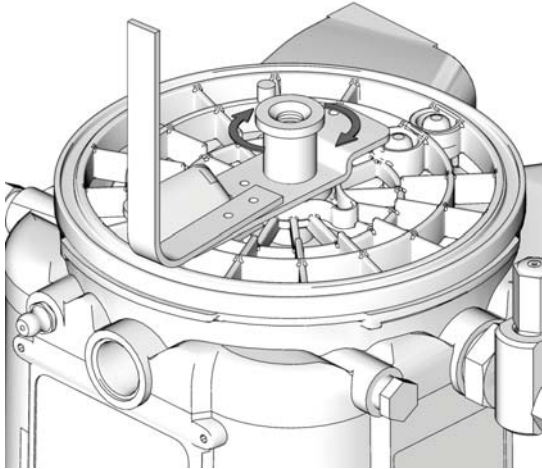


FIG. 3

  **Power DIN DC- 15 foot: Part No. 123358**  
 12 VDC 24 VDC

**NOTICE**

Be sure when power is applied that stirring paddle rotates clockwise (when viewed from the top). If it is wired incorrectly paddle could rotate counter-clockwise which will damage the pump's internal components. If this happens, stop the pump immediately and wire unit correctly.



**Din Connector Specifications**

- DIN 43650 Form A, 18 mm assembled to power cable manufacturer's instructions
- Rated to 6 Amps minimum at 250V AC

**Cable Specifications**

- **United States/Canada:** 3 conductor 16 AWG UL62 and CSA 22.2 No. 49 listed SOOW cable with black, white, green insulation
- **Europe:** 3 Class-5 conductor, 1.5 mm<sup>2</sup> Agency Listed H07RN-F cable with blue, brown, green/yellow insulation
- **Japan/Taiwan:** 3 conductor, 1/25 mm<sup>2</sup> Agency Listed 2 PNCT cable with black, white, red insulation
- **SEA/India/Australia:** 3 conductor, 1.5 mm<sup>2</sup> Agency Listed H07RN-F blue, brown, green/yellow insulation
- **China:** 3 conductor, 1.5 mm<sup>2</sup> Agency Listed YZW cable with blue, brown, green/yellow insulation

**Pin and Related Wire Color (Fig. 4, page 13)**

Pin	Pin Name	Color				
		United States / Canada	Europe	Japan / Taiwan	SEA / India / Australia	China
1	-VDC	Black	Brown	Black	Brown	Brown
2	+VDC	White	Blue	White	Blue	Blue
3	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
4	Not Used	Green	Green/Yellow	Red	Green/Yellow	Green/Yellow

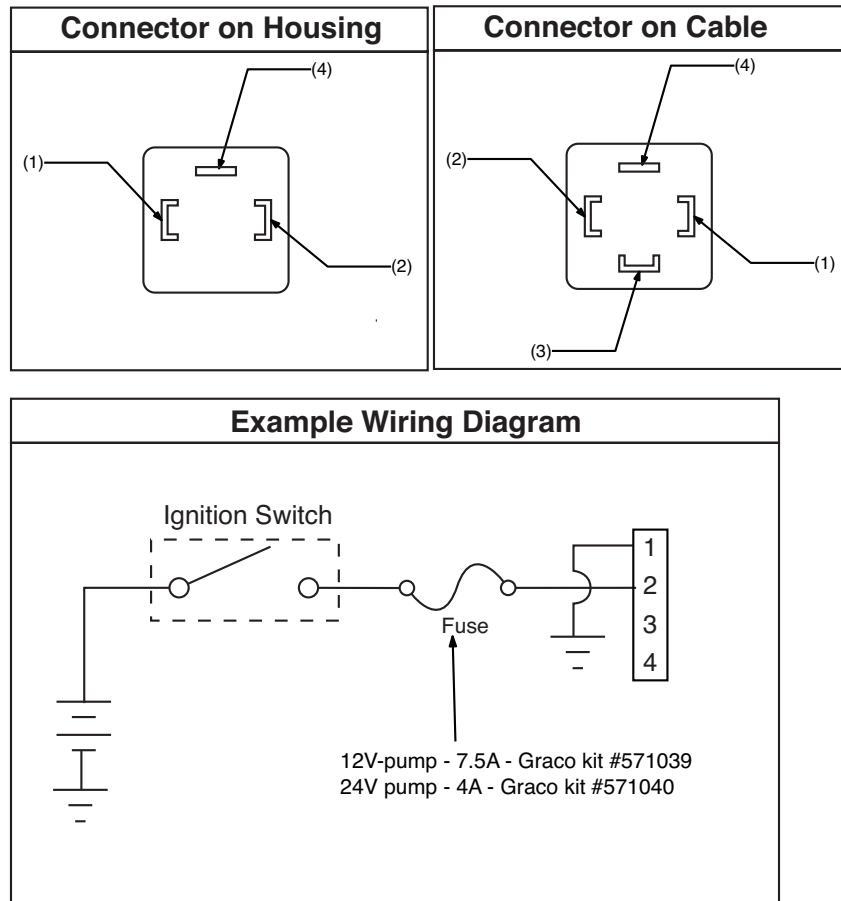


FIG. 4

**Power CPC DC- 15 foot: Part No. 126217**  
**12 VDC 24 VDC**

**CPC Connector Specifications**

- One, 7-position, 1.5 mm socket connector AMP 967650-1
- Three, 16 - 14 gauge female pins AMP 962999-1
- One, 180-degree strain relief or one, 90-degree strain relief AMP 965576-1 (determined by cable exit for cable configuration)

**Installation Notes**

- Crimp pins to wire and install in socket connector per manufacturer’s instructions.
- See Pin Layout shown in FIG. 5 for proper location in the connector.
- Secure socket connector to the cable per the desired strain relief configuration.

**Cable Specifications**

- **United States/Canada:** 3 conductor 16 AWG UL62 and CSA 22.2 No. 49 listed SOOW cable with black, white, green insulation
- **Europe:** 3 Class-5 conductor, 1.5 mm<sup>2</sup> Agency Listed H07RN-F cable with blue, brown, green/yellow insulation
- **Japan/Taiwan:** 3 conductor, 1/25 mm<sup>2</sup> Agency Listed 2 PNCT cable with black, white, red insulation
- **SEA/India/Australia:** 3 conductor, 1.5 mm<sup>2</sup> Agency Listed H07RN-F blue, brown, green/yellow insulation
- **China:** 3 conductor, 1.5 mm<sup>2</sup> Agency Listed YZW cable with blue, brown, green/yellow insulation

**Pin and Related Wire Color (FIG. 5, page 15)**

Pin	Pin Name	Color				
		United States / Canada	Europe	Japan / Taiwan	SEA / India / Australia	China
1	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
2	-VDC	Black	Brown	Black	Brown	Brown
3	+VDC	White	Blue	White	Blue	Blue
4	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
5	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
6	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
7	Not Used	Green	Green/Yellow	Red	Green/Yellow	Green/Yellow

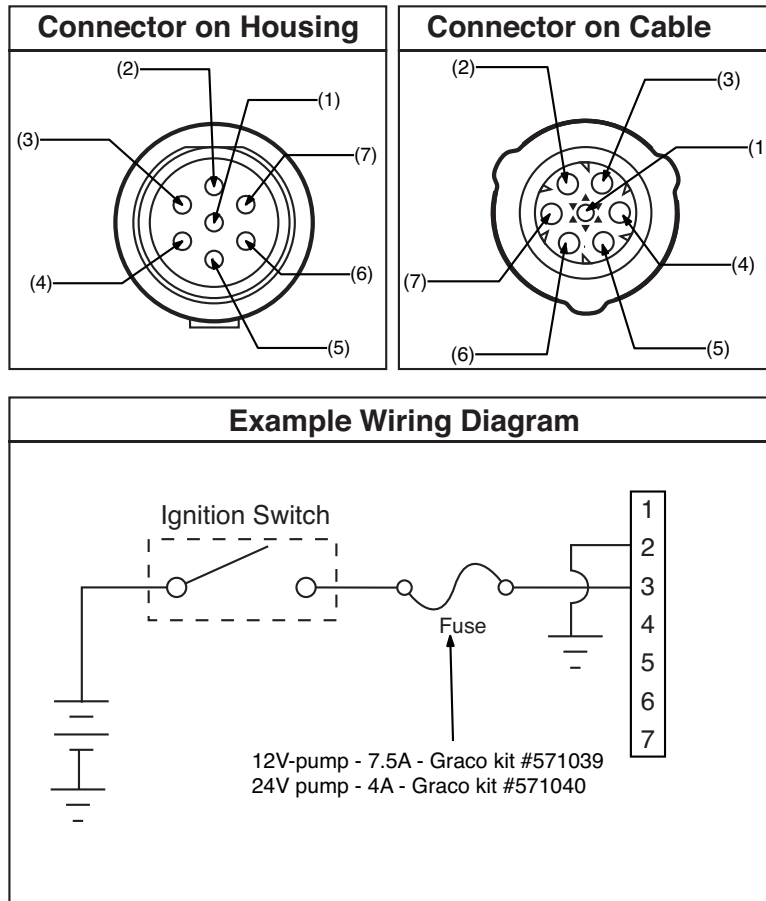


FIG. 5

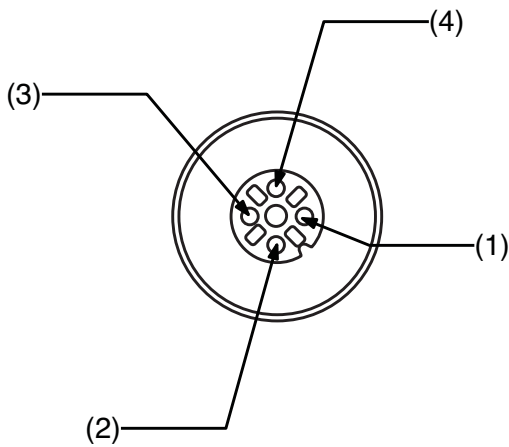
**Part No. 124333:  
Cable Pin Out (M12) (FIG. 6)**

**Wire Colors**

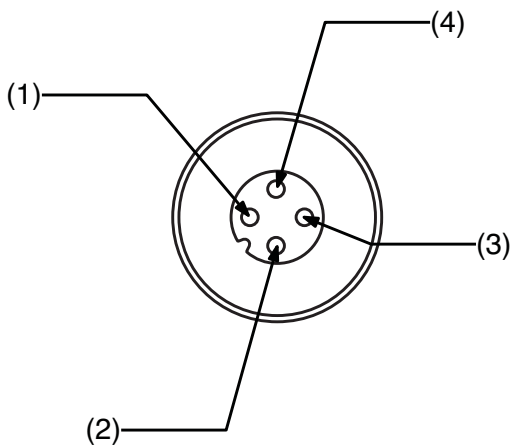
Item No.	Color
1	Brown
2	White
3	Blue
4	Black

Cable Pin Out

Female End View



Male End View



**FIG. 6**

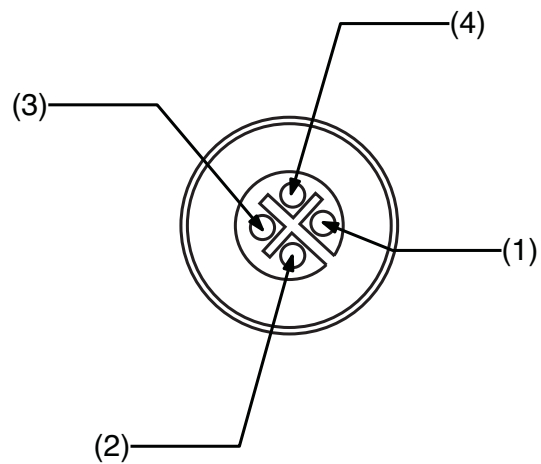
**Part No. 124300:  
Field Wireable Pin Out (M12) (FIG. 7)**

**Wire Colors**

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

Field Wireable Pin Out

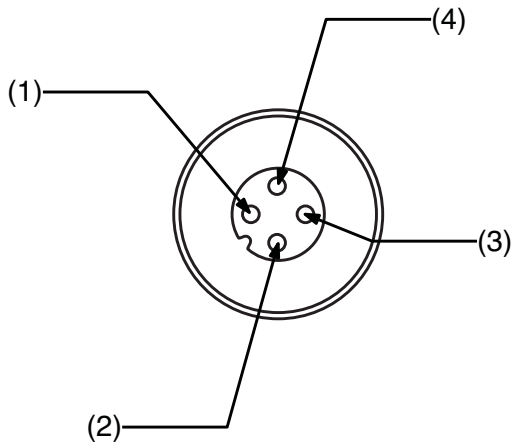
Female End View



**FIG. 7**



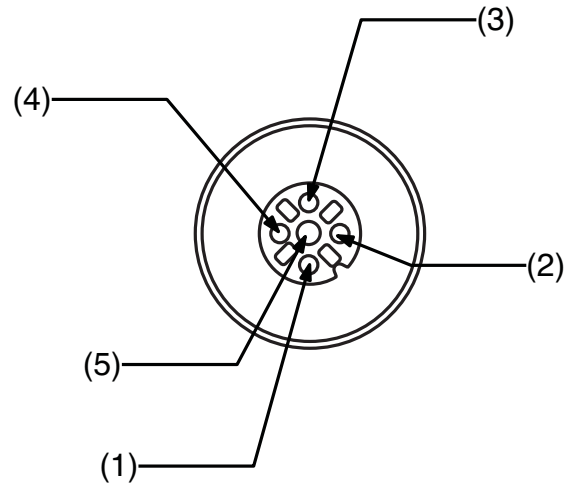
**Part No. 124594:  
4 Pin Eurofast Field Wireable Connector  
(FIG. 8)**



**FIG. 8**

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**Part No. 124595:  
5 Pin Eurofast Field Wireable Connector  
(FIG. 9)**



**FIG. 9**

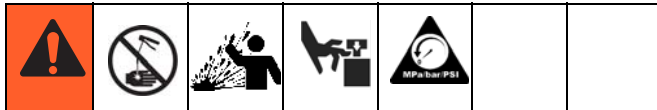
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# Setup

## Pressure Relief



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 spraying and before cleaning, checking, or servicing the equipment.

**Relieve pressure** in system using two wrenches working in opposite directions on 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.

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

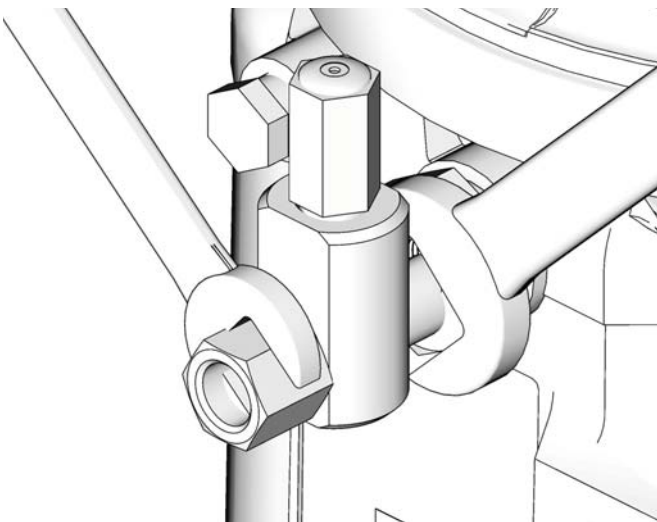
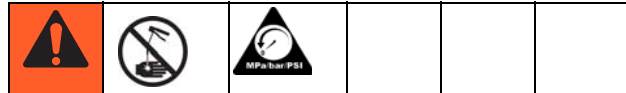


FIG. 10

## Connecting to Auxiliary Fittings

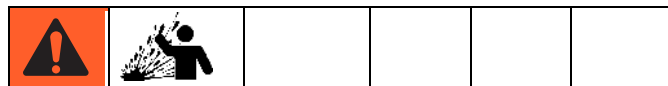


### NOTICE

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. 10 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



A pressure relief valve appropriate for the lubrication system must be installed close to the pump outlet to alleviate unintended pressure rises in the system and protect the G1 pump from damage.

- Only use a pressure relief valve that is rated for no more than the working pressure of the G1 pump it is installed on. See Technical Data, page 29.
- Install a pressure relief valve before any auxiliary fitting.

## Loading Grease

To ensure optimal performance from the G1:

- 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 (FIG. 12).
- Do not operate G1 without reservoir attached.

### NOTICE

- Always clean fitting (37) with a clean dry cloth prior to filling reservoir. Dirt and/or debris can damage pump and/or lubrication system.
- Care must be used when filling the reservoir using a pneumatic or electric transfer pump to not pressurize and break the reservoir.

### Models without a follower plate:

1. Connect fill hose to inlet fitting \*(37) (FIG. 11).

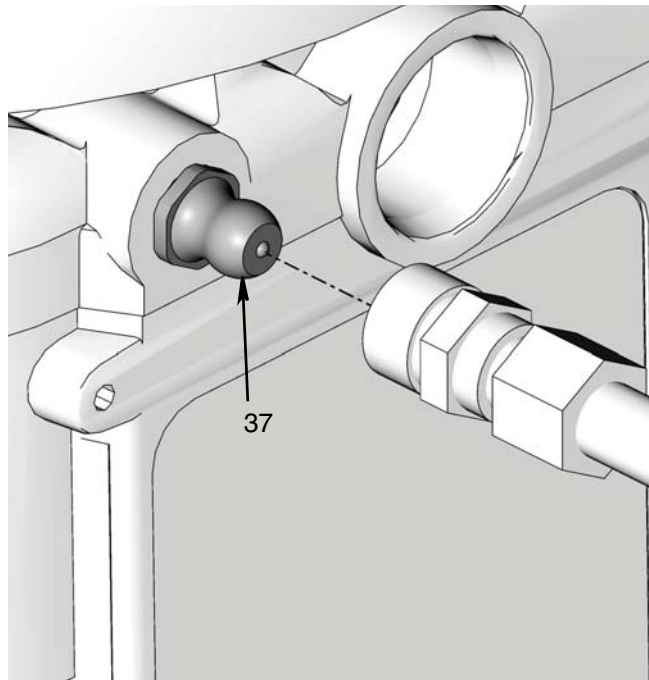


FIG. 11

2. For higher viscosity fluids, start pump per your controller specifications, to rotate stirring paddle during fill to prevent air pockets from forming in grease.

3. Fill reservoir with NLGI grease to max fill line.

**NOTE:** Vent port, located in rear of reservoir, should not be used as an overfill port/indicator.

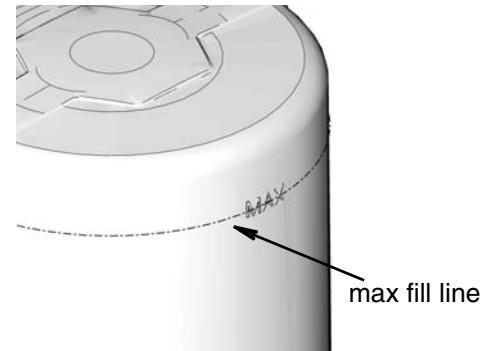


FIG. 12

4. Remove fill hose.

### Models with a follower plate:

1. Connect fill hose to inlet fitting (FIG. 11).
2. For higher viscosity fluids, start pump per your controller specifications, to rotate stirring paddle during fill to prevent air pockets from forming in grease.
3. Fill reservoir with grease until seal of follower plate breaches the vent hole (FIG. 13) and the majority of air is expelled from the reservoir.

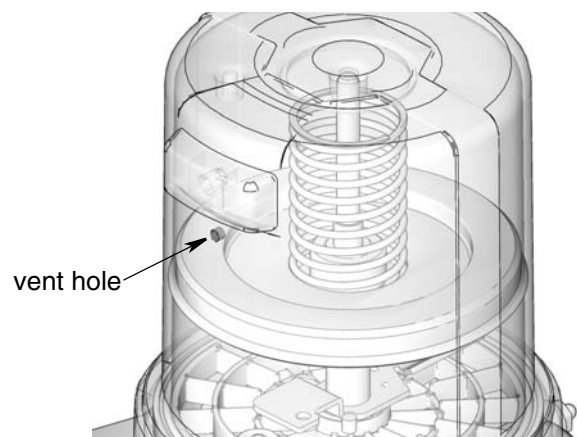


FIG. 13

**NOTE:** Vent port, located in rear of reservoir, should not be used as an overfill port/indicator.

4. Remove fill hose.

## Changing Greases

When changing greases, always use compatible fluids or greases.

## Filling Oil Unit

- Only use oil 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 (FIG. 14).
- Do not operate G1 without reservoir attached.
- Only use oils with viscosity at least 40 cSt.

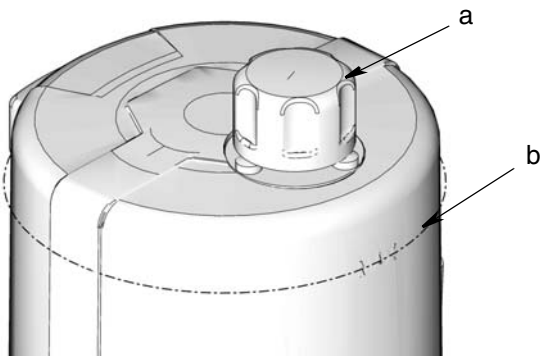


FIG. 14

1. Remove fill cap (a).
2. Pour oil into reservoir to fill line (b).
3. Replace fill cap. Hand tighten cap, securely.

## Priming

**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 pump element fitting (FIG. 15).

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

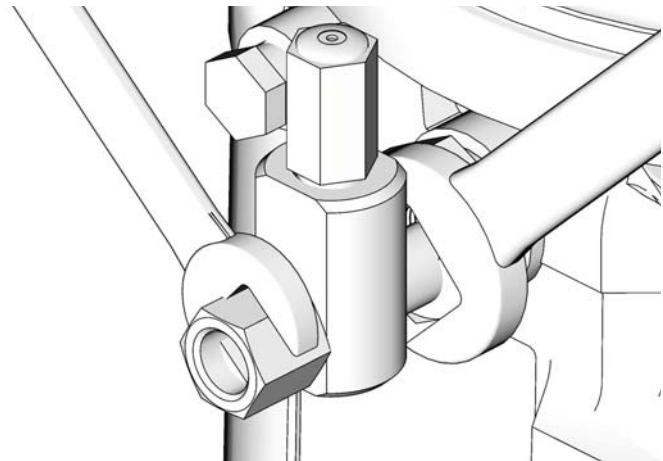


FIG. 15

2. Only run pump until air is no longer dispensed with the lubricant coming out of element fitting (FIG. 16).

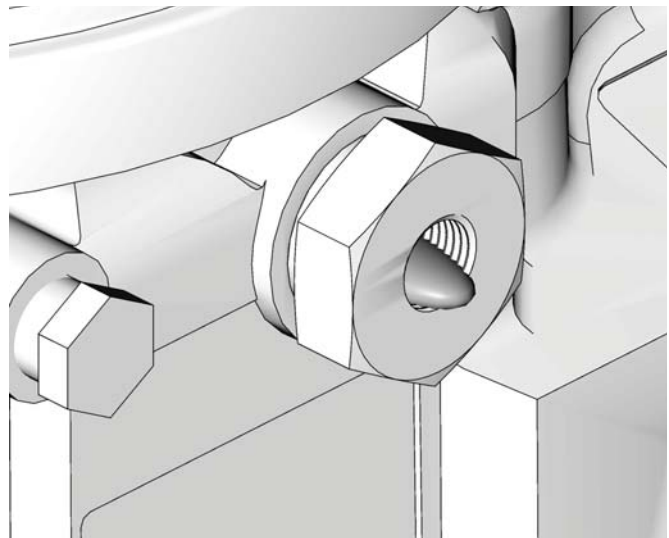


FIG. 16

3. Tighten pump element fitting using two wrenches working in opposite directions (FIG. 15).

## No Controller Operation

The G1 Pump can be controlled using an external, user supplied, power source and controller.

Refer to the Typical Installation diagrams provided on page 7 for correct location of the required pump ground wire and fuses.

### NOTE:

- When using an external power source and controller, 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 G1 pumps without controllers include a Low Level Output Option. The low level signal is monitored across PINS 3 and 4. For PIN 3 and 4 locations and wiring information the Low Level Outputs diagram.

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

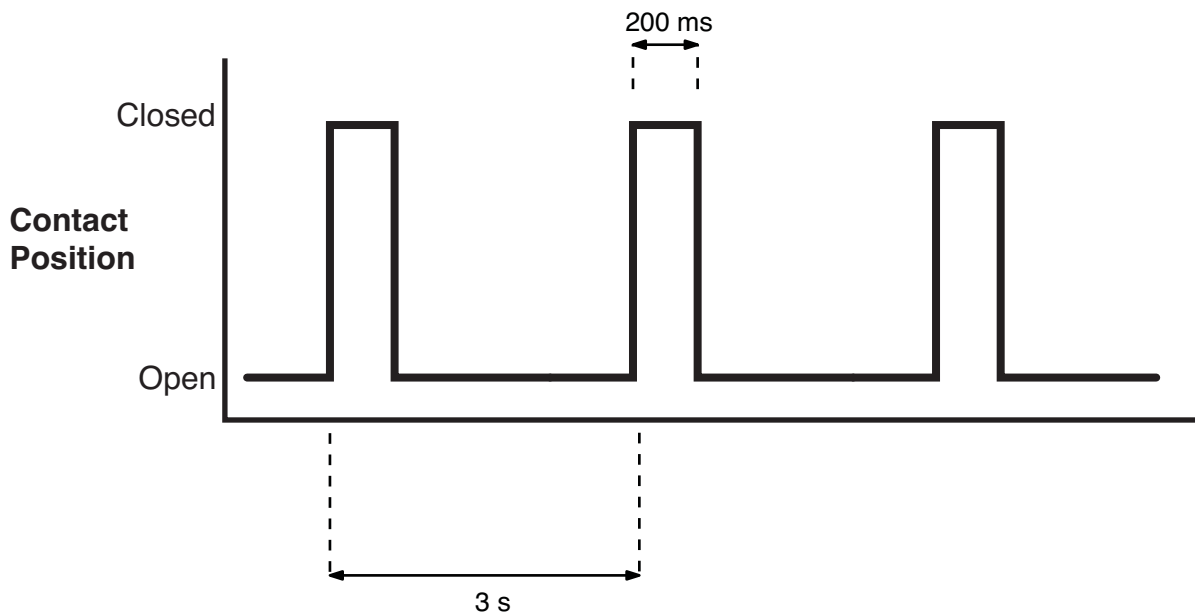
### Grease Pumps

When the grease level has reached a low warning level, PINS 3 and 4 momentarily close (1 time per paddle revolution) sending the signal that the fluid has reached a low level to the controller.

To ensure that a low level condition has been met, 3 or more low level triggers must be detected within 1 minute or less.

See FIG. 17 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. 17**

### 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.

To ensure that a low level condition has been met, the low level trigger must be detected for 10 continuous seconds.

See FIG. 18 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. 18

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# Troubleshooting



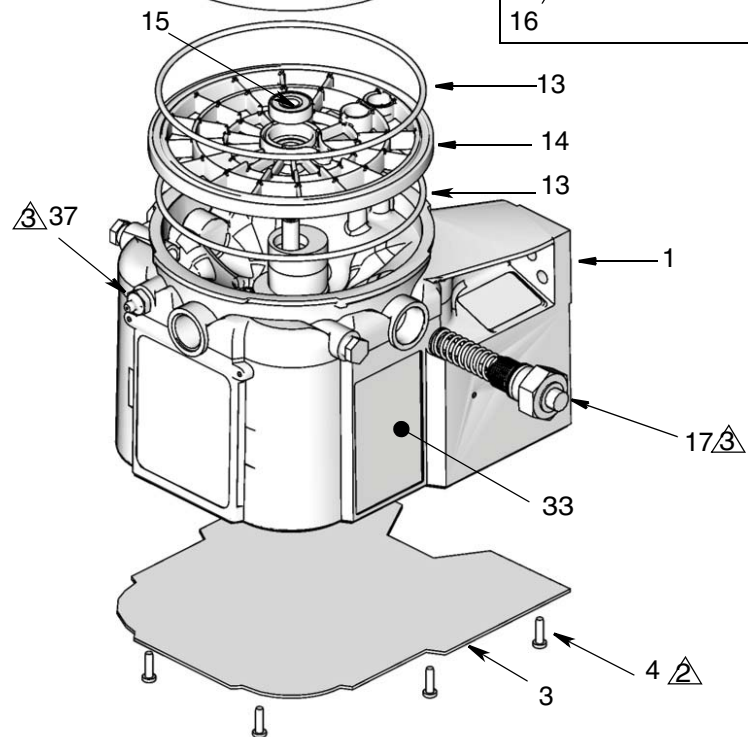
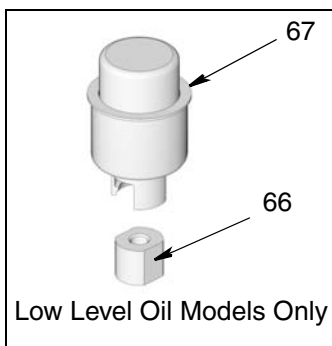
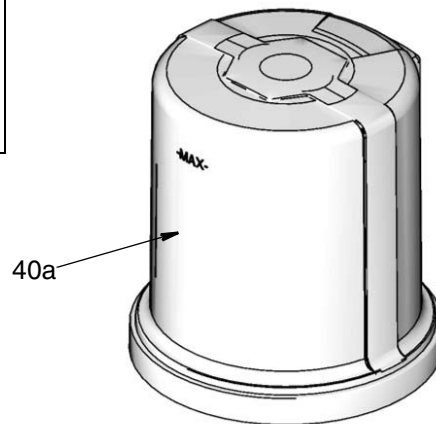
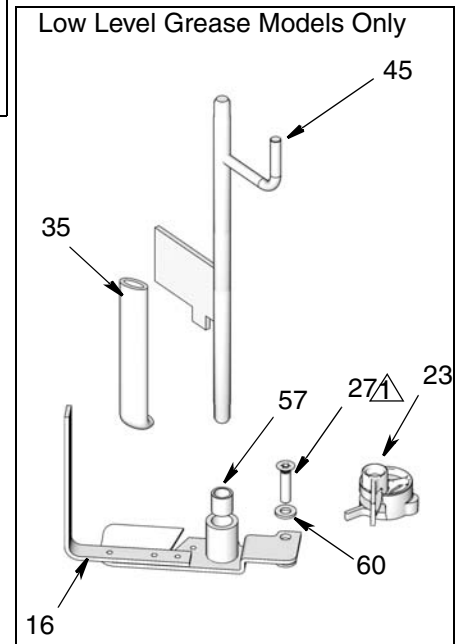
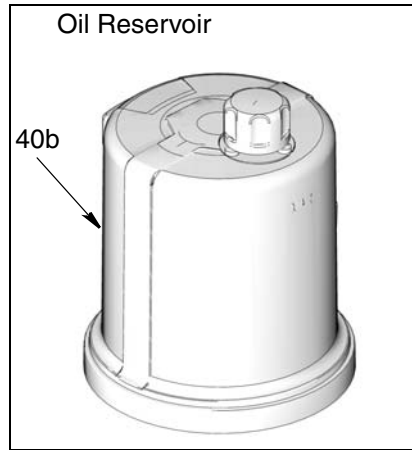
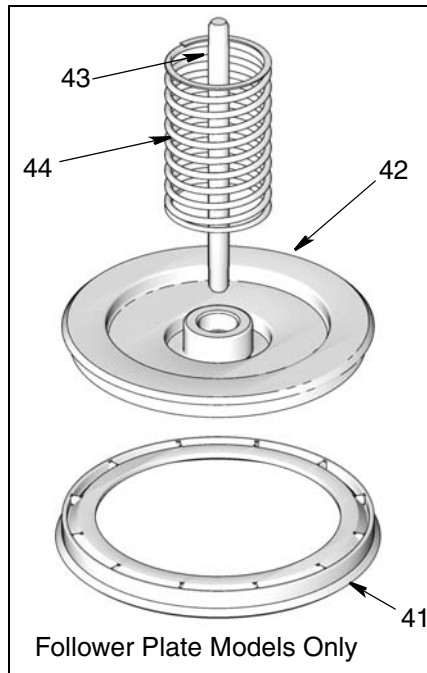
Problem	Cause	Solution
Unit does not power on	Incorrect/loose wiring	Refer to Installation instructions, page 6.
Unit does not power on (DC models only)	Tripped external fuse due to internal component failure	Contact Graco Customer Service.
	Tripped external fuse due to pumping non-cold weather lubricant 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.
Follower plate is not going down	Air is trapped in the reservoir between the follower plate and lubricant	Add grease following Loading Grease instructions, page 19. Ensure air is purged.
Pump takes several minutes before it begins pumping	Pumping non-cold weather lubricant in cold weather -13°F (-25°C)	Increase pump on time.
		Use grease suitable for temperature and conditions.

# Maintenance

<b>Frequency</b>	<b>Component</b>	<b>Required Maintenance</b>
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	G1 Pump Unit and Reservoir	Keep pump unit and reservoir clean using a clean dry cloth.
Monthly	External Wiring Harness	Verify external harnesses are secure.



# Parts Drawing: 2 Liter Models

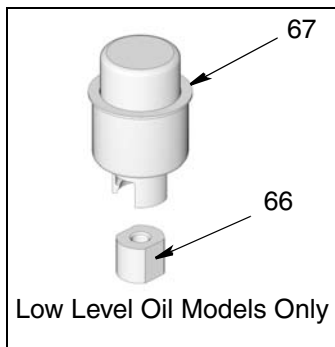
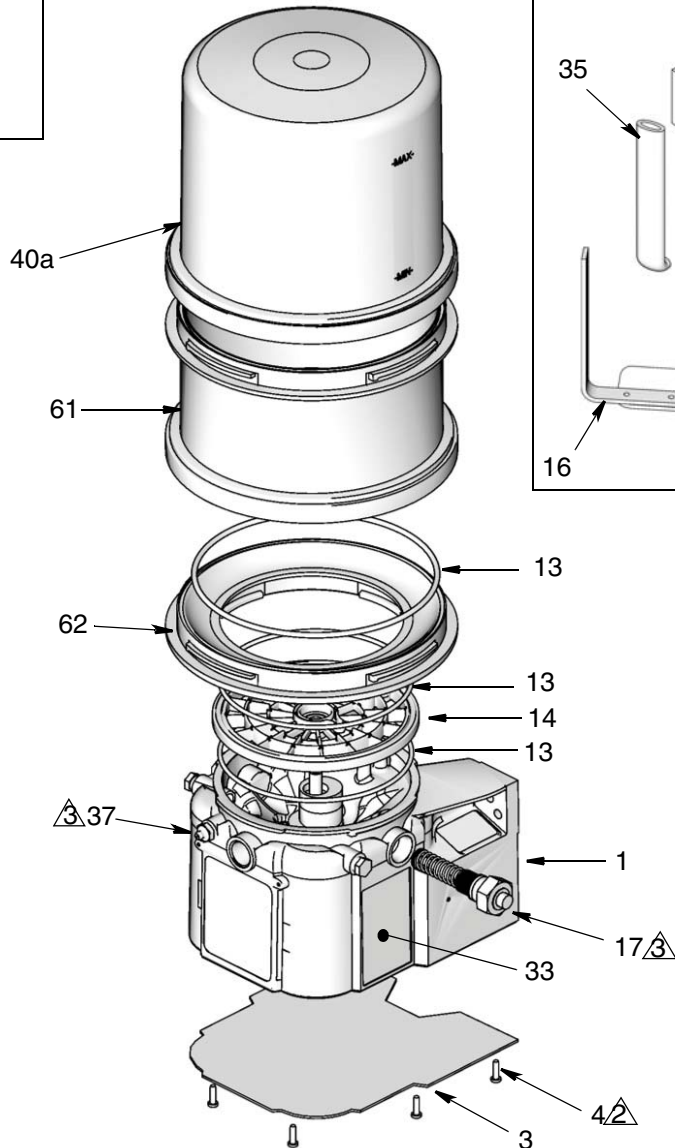
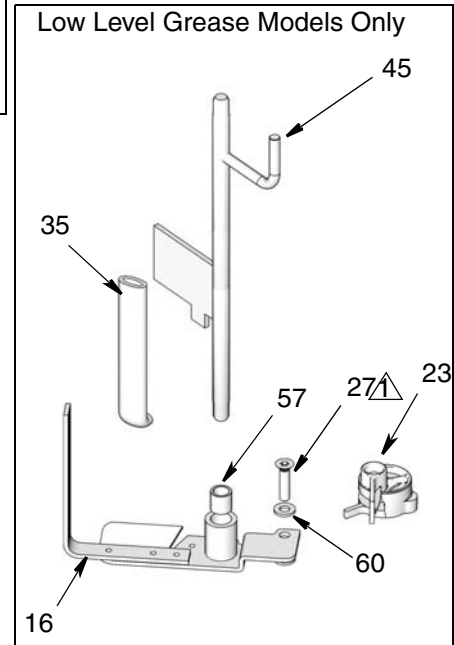
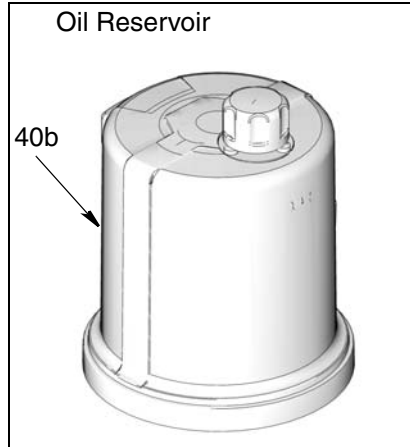
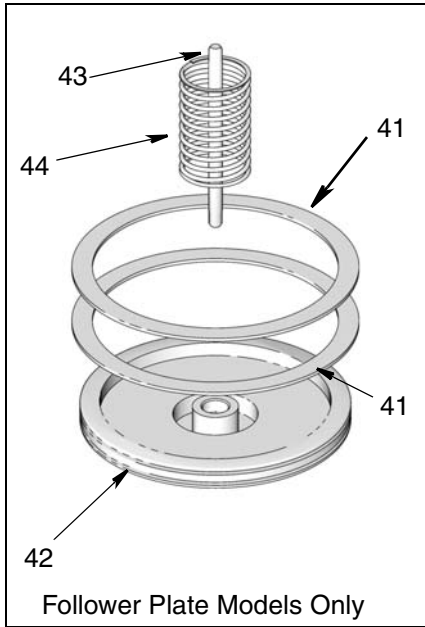


Torque to 4 in. lbs (0.45 N.m)

Torque to 30 in. lbs (3.4 N.m)

Torque to 50 in. lbs (5.6 N.m)

# Parts Drawing: 4 and 8 Liter Models



- Torque to 4 in. lbs (0.45 N.m)
- Torque to 30 in. lbs (3.4 N.m)
- Torque to 50 in. lbs (5.6 N.m)

# Parts

FN	Part No.	Description	Qty.
1		BASE, molded	1
3	278142	BOTTOM, cover	1
4	115477	SCREW, bottom cover	9
13	124396	O-RING, 258 (green), included in Kit 571042, 571043, 571044, 571045, 571069, 571179	2
	124510	O-RING, included in Kit 571069, 571179, 571182, 571183	1
14		PLATE, ricer	1
15		BEARING, ball	1
16		PADDLE, stirring, 2 liter models without follower plate, included in Kit 571044	1
		PADDLE, stirring, 4 and 8 liter 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 models with follower plate, included in Kit 571047	1
17		ELEMENT, pump	1
23‡	278136	PADDLE, low level	1
27	123025	SCREW, M6	1
33▲	16A579	LABEL, safety	1
35		WIPER, stirring, models without follower plate, included in Kit 571044, 571046	1
		WIPER, stirring, models with follower plate, included in Kit 571045, 571047	1
37	123741	FITTING, zerk, grease models (not included on oil models)	1
40a		RESERVOIR, 2 liter, grease, included in Kit 571042, 571069	1
40b		RESERVOIR, 2 liter, oil, included in Kit 571179	1
40a		RESERVOIR, 4 liter, grease, included in Kit 571183	1
40b		RESERVOIR, 4 liter, oil, included in Kit 571182	1
40a		RESERVOIR, 8 liter grease	1
40b		RESERVOIR, 8 liter, oil, included in Kit 571182	1

FN	Part No.	Description	Qty.
41	278139	SEAL, follower plate, 2 liter models	1
	16F472	SEAL, follower plate, 4 liter models	2
	16V763	SEAL, follower plate, 8 liter models	2
42		PLATE, follower, grease models	1
43		ROD, follower plate, grease models	1
44		SPRING, compression, grease models	1
45†	24D838	BAFFLE, low level, 2 liter models	1
	24E246	BAFFLE, low level, 4 liter models	1
	24F836	BAFFLE, low level, 8 liter models	1
57	117156	BEARING, sleeve	1
58▲	196548	LABEL, shock warning	1
60	16D984	WASHER, low level models	2
61		RESERVOIR, mid-section, 8 liter models	1
62		ADAPTER, reservoir 4 and 8 liter models	1
66	126417	NUT	1
67	24N806	FLOAT, oil models	1

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

‡ Also order Ref 31 and Ref 34.

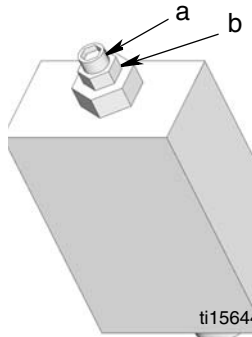
† Also order Ref. 57 when ordering this part.

## Pressure Relief Valves

**Important Information regarding Pressure Relief Valve 16C807.**

**Pressure Relief Valve 16C807 can only be used on the G1 and G3 Pumps.** It is not intended for use with any other products.

The pressure relief valve uses a pressure adjustment screw (a) to set the pressure release point. **It is not intended as a way to relieve pressure during normal operation,** but as a protective measure in the event there is an unintended pressure increase in the system. Do not use this pressure relief valve as a means of relieving pressure in day-to-day, normal cycle operation.



a = adjustment screw  
b = locking nut

The pressure adjustment screw will require periodic adjustments. Whenever the valve is set/adjusted (after the set point is found) it is important to ensure that the valve is not bottomed out and there is at least 1/2 turn of adjustment remaining. This is determined by turning the screw (a) 1/2 turn and then back turning it out again.

**NOTE:** Turning adjustment screw (a) clockwise increases pressure.

Part	Description	Qty
16C807◆	VALVE, pressure relief, 500-3500 psi (3.44 MPa, 34.4 bar - 24.1 MPa, 241 bar), Set pressure 3000 psi ± 10% (20.68 MPa, 206.8 bar ± 10%) Included in Kit 571028	1
563156	VALVE, pressure relief, 750 psi (5.17 MPa, 51.71 bar)	1
563157	VALVE, pressure relief, 1000 psi (6.89 MPa, 68.95 bar)	1
563158	VALVE, pressure relief, 1500 psi (10.34 MPa, 103.42 bar)	1
563159	VALVE, pressure relief, 2000 psi (13.78 MPa, 137.89 bar)	1
563160	VALVE, pressure relief, 2500 psi (17.23 MPa, 172.36 bar)	1
563161	VALVE, pressure relief, 3000 psi (20.68 MPa, 206.84 bar)	1
563190	VALVE, pressure relief, 5500 psi (37.92 MPa, 379.21 bar)	1

## Fuses

Part	Description	Qty
571039	FUSE, 12 volt DC	1
571040	FUSE, 24 volt DC	1

## Installation and Repair Kits

Kit No.	Description	Manual Number
571028	KIT, return to reservoir NPT, includes pressure relief valve 16C807	3A0525
571071	KIT, return to reservoir BSPP, includes pressure relief valve 16C807	
571030	KIT, remote manual run, 12 volt DC	3A0528
571031	KIT, remote manual run, 24 Volt DC	
571036	KIT, cover with "G" label	NA
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, 4-8 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
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	

# Technical Data

Maximum Working Pressure	5100 psi (35.1 MPa, 351.6 bar)
Power	
100-240 VAC	88 - 264 VAC; 0.8 A current, 90 VA Power, 47/63 Hz, Single phase, inrush/locked rotor, max 40A (1ms)
12 VDC	9 - 16 VDC; 5 A current, 60 W, inrush/locked rotor 12 A
24 VDC	18 - 32 VDC; 2.5 A current, 60 W, inrush/locked rotor 6 A
Fluid	
Grease Models	Grease NLGI 000 - #2
Oil Models	At least 40 cSt oil.
Pumps	1
Pump Output	0.25 in. <sup>3</sup> (4 cm <sup>3</sup> ) / minute
Pump Outlet	1/4-18 NPSF. Mates with 1/4-18 NPT male fittings
Reservoir Size	2 Liters, 4 Liters, 8 Liters
IP Rating	IP69K
Ambient Temps	-40°F - 158°F (-40°C to 70°C)
Weight (Dry)	
Without follower plate	13.3 lbs (6.03 kg)
With follower plate	14.2 lbs (6.44 kg)
Wetted Parts	nylon 6/6 (PA), trogamid T5004-060, zinc plated steel, carbon steel, alloy steel, stainless steel, nitrile rubber (buna-N), bronze, nickel plated alnico, chemically lubricated acetal, aluminum, PTFE, Grillamid
Sound Data	<60 dB

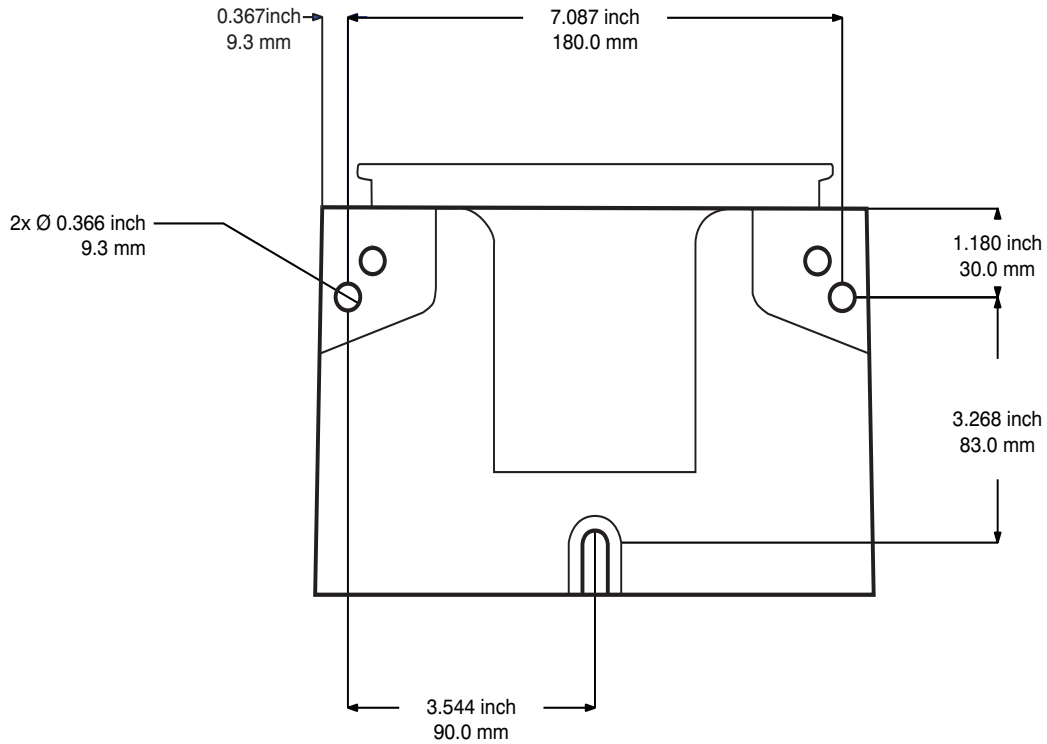
# Dimensions

Model	Height		Width		Depth	
	Inches	cm	Inches	cm	Inches	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
8L	18.50	47.00	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

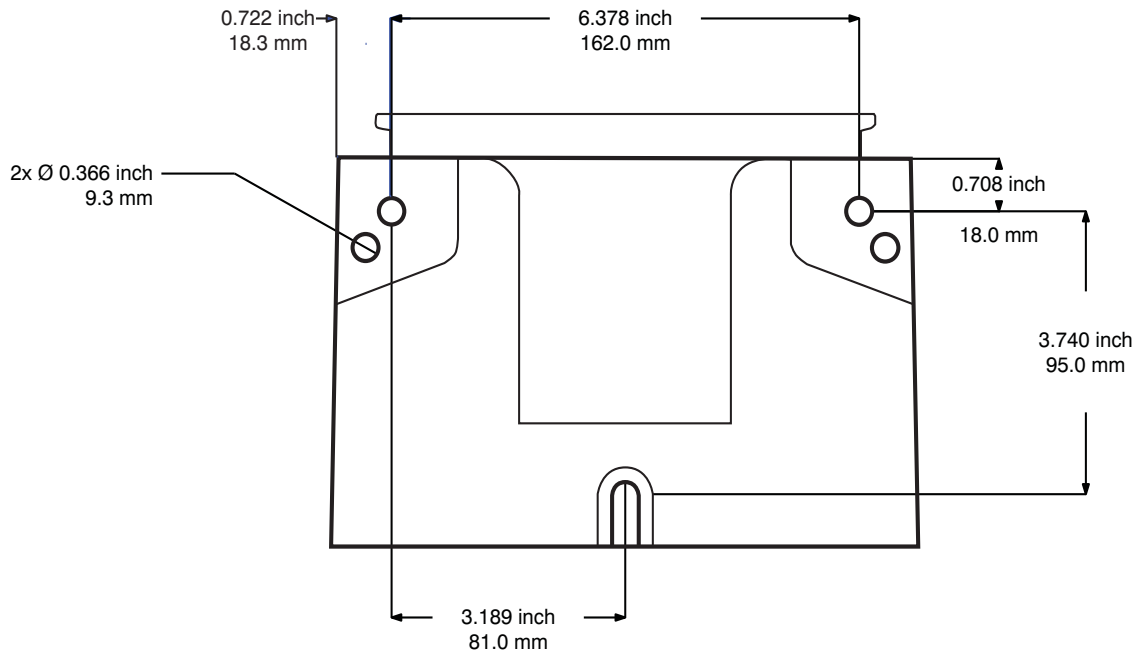


FIG. 19



# 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.

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

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

**GRACO MAKES NO WARRANTY, AND DISCLAIMS ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, IN CONNECTION WITH ACCESSORIES, EQUIPMENT, MATERIALS OR COMPONENTS SOLD BUT NOT MANUFACTURED BY GRACO.** These items sold, but not manufactured by Graco (such as electric motors, switches, hose, etc.), are subject to the warranty, if any, of their manufacturer. Graco will provide purchaser with reasonable assistance in making any claim for breach of these warranties.

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

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For the latest information about Graco products, visit [www.graco.com](http://www.graco.com).

**TO PLACE AN ORDER**, contact your Graco distributor or call to identify the nearest distributor.

**Phone:** 612-623-6928 **or Toll Free:** 1-800-533-9655, **Fax:** 612-378-3590

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*For patent information, see [www.graco.com/patents](http://www.graco.com/patents).*

Original instructions. This manual contains English. MM 332316

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**International Offices:** Belgium, China, Japan, Korea

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