REPAIR-PARTS MANUAL

MANUAL NUMBER X054673 | REVISION A | ENGLISH (US)

GH/EH 675 and Mark HP Displacement Pumps

For repair of GH/EH 675 and Mark HP Displacement Pumps. For professional use only.

Important Safety Instructions

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

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MODELS

The part numbers reflect distinct features and characteristics of the GH/EH 675 and Mark HP Displacement Pumps.

Maximum Fluid Working Pressure: 6750 psi (46.5 MPa, 465 bar)

MODELS	DESCRIPTION
17U996	GE/EH 675 Displacement Pump
2015703	Mark HP Displacement Pump

RELATED MANUALS

Additional documents are available to support the operation, repair, and maintenance of the GH/EH 675 and Mark HP Displacement Pumps. Find English manuals and any available translations at www.graco.com.

Table 2-1: Related Manuals for the GH/EH 675 and Mark HP Displacement Pump Manual

ENGLISH MANUAL	DESCRIPTION
X011699	Electric Airless Sprayers Operation Manual
3A5369	DutyMax™ EH/GH 675 Hydraulic Sprayer Operation Manual

TRANSLATED MANUALS

Additional language documents are available to support all regions where the GH/EH 675 and Mark HP Displacement Pump is sold. Find any available translations at www.graco.com.

Table 2-2: Translations for GH/EH 675 and Mark HP Displacement Pump Repair Manual

LANGUAGE	MANUAL NUMBER
English	X018254EN
French	X018254FR
Spanish	X018254ES

SAFETY SYMBOLS

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

SYMBOL	MEANING
	Fire and Explosion Hazard
	Skin Injection Hazard
	Skin Injection Hazard
	Splash Hazard
	Toxic Fluid or Fumes Hazard
	Do Not Place Hands or Other Body Parts Near Fluid Outlet
	Do Not Stop Leaks with Hand, Body, Glove or Rag

SYMBOL	MEANING
	Eliminate Ignition Sources
	Follow Pressure Relief Procedure
	Ground Equipment
	Read Manual
	Ventilate Work Area
	Wear Personal Protective Equipment

Safety Alert Symbol

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

GENERAL WARNINGS

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

⚠ WARNING

FIRE AND EXPLOSION HAZARD

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

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

SKIN INJECTION HAZARD

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

- Do not spray without tip guard and trigger guard installed.
- Engage trigger lock when not spraying.
- Do not point gun at anyone or at any part of the body.
- Do not put your hand over the spray tip.
- Do not stop or deflect leaks with your hand, body, glove, or rag.
- Follow the **Pressure Relief Procedure** when you stop spraying and before cleaning, checking, or servicing equipment.
- Tighten all fluid connections before operating the equipment.
- Check hoses and couplings daily. Replace worn or damaged parts immediately.

⚠ WARNING

MOVING PARTS HAZARD

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

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

EQUIPMENT MISUSE HAZARD

Misuse can cause death or serious injury.

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

TOXIC FLUID OR FUMES HAZARD

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

- Read Safety Data Sheets (SDSs) to know the specific hazards of the fluids you are using.
- Store hazardous fluid in approved containers, and dispose of it according to applicable guidelines.

⚠ WARNING

PERSONAL PROTECTIVE EQUIPMENT

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

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

TECHNICAL SPECIFICATIONS

The table provides important information related to the GH/EH 675 and Mark HP Displacement Pumps, including product attributes, measurements, and performance characteristics that support the use of the equipment.

Table 5-1: Technical Specifications for GH/EH 675 and Mark HP Displacement Pumps

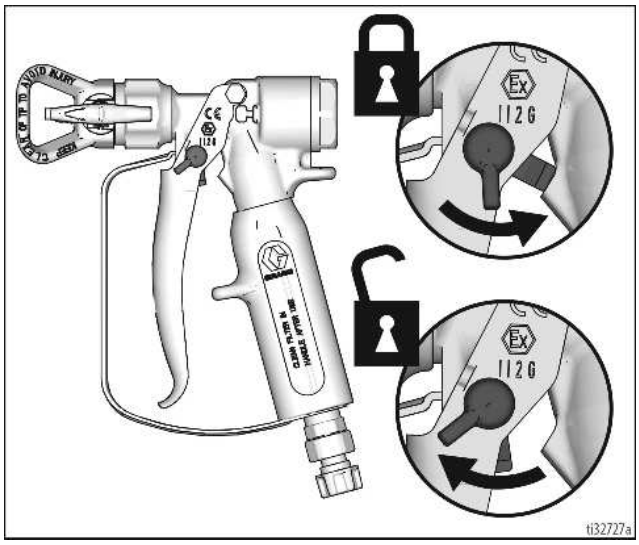
	US	METRIC
Maximum fluid working pressure	6750 psi	465 bar, 46.5 MPa
Inlet/Outlet Sizes		
Fluid inlet size	1-1/4 in. NPT male (17U996), 1/2 in. NPT female (2015703)	
Fluid outlet size	1/2 in. NPT female (17U996), 3/8 in. NPT male (2015703)	
Wetted materials on all models	Stainless steel, PTFE, leather, nylon, zinc-plated and nickel-plated carbon steel, tungsten carbide, chrome plating, UHMWPE, acetal, polyethylene, nylon	

PRESSURE RELIEF

Follow this process to relieve pressure on the sprayer when operation is stopped, and before cleaning, checking, or servicing the equipment.

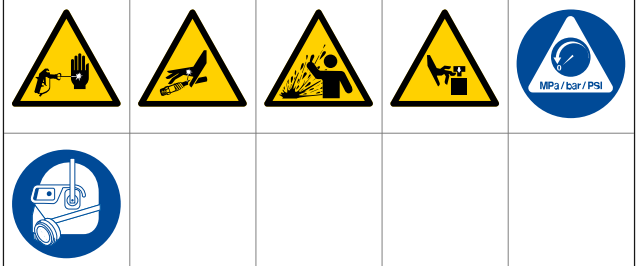
TRIGGER LOCK

Always engage the trigger lock when sprayer is stopped to prevent the gun from being triggered accidentally by hand or if dropped or bumped.



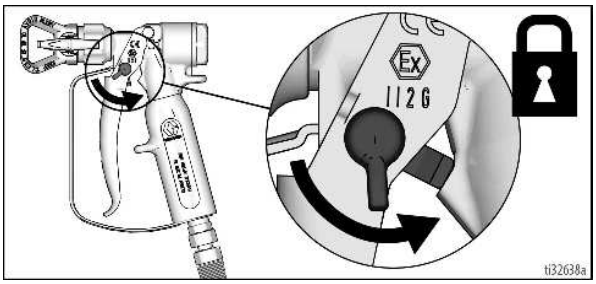
PRESSURE RELIEF PROCEDURE

⚠ WARNING

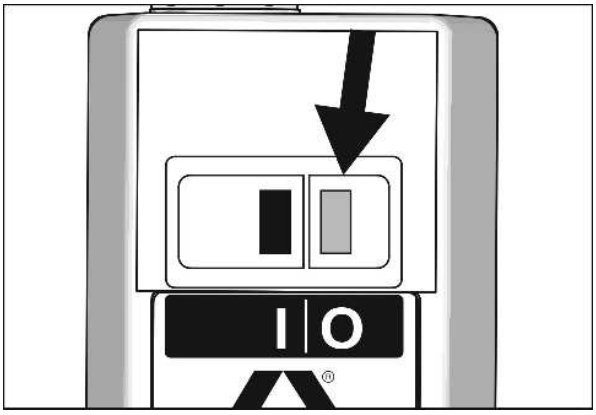


This equipment stays pressurized until pressure is manually relieved. To help prevent serious injury from pressurized fluid, such as skin injection, splashing fluid and moving parts, follow the Pressure Relief Procedure when you stop spraying and before cleaning, checking, or servicing the equipment.

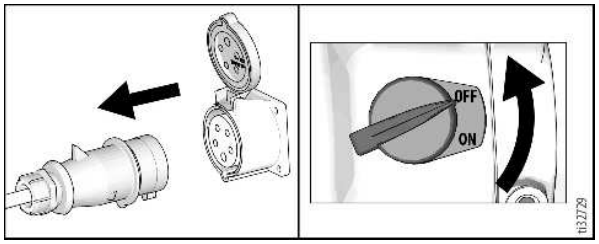
1. Engage the trigger lock.



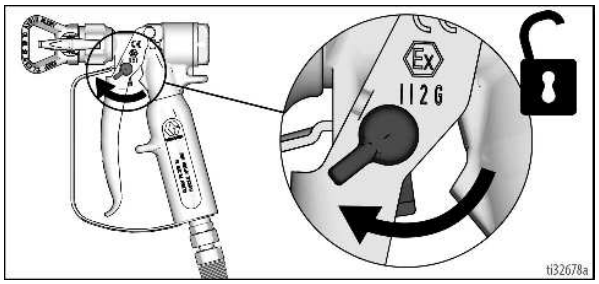
2. If applicable, turn the electric motor ON/OFF switch to the **OFF** position. Wait 7 seconds for power to dissipate.



3. Unplug power cord or shut engine off.



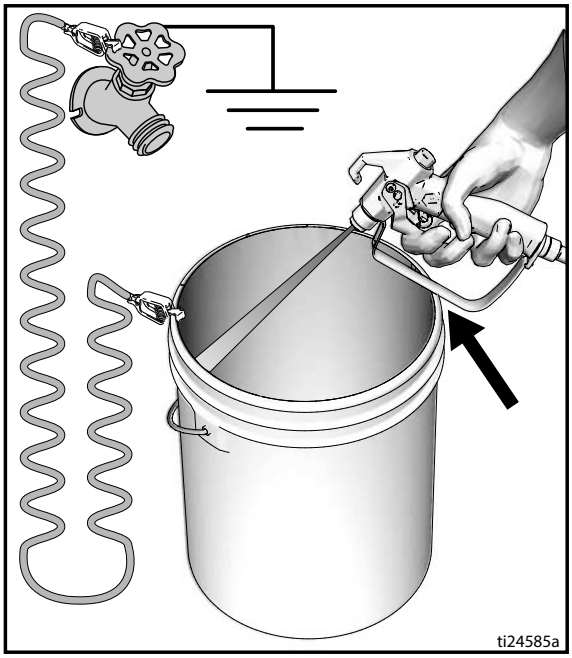
4. Disengage the trigger lock.



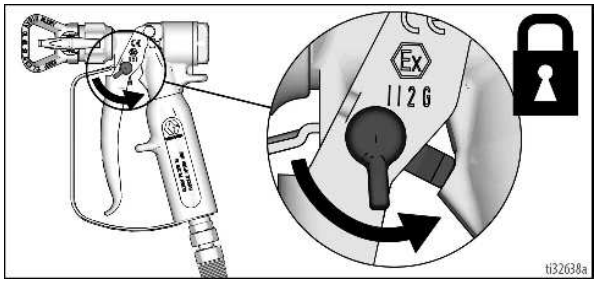
5. Hold a metal part of the gun firmly to a grounded metal pail. Trigger the gun to relieve pressure.

   Solvent and oil-based fluids: Follow local code. Use only conductive metal pails, placed on a grounded surface such as concrete.

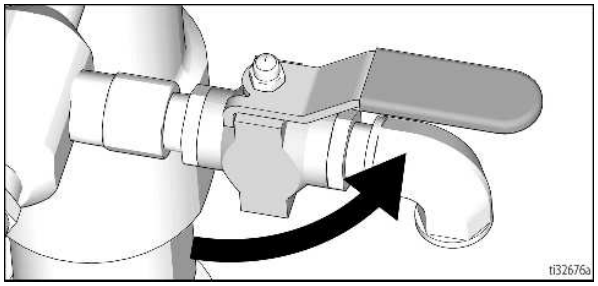
   Do not place pail on a non-conductive surface such as paper or cardboard, which interrupts grounding continuity.



6. Engage the trigger lock.



7. Open any fluid drain valves in system. Leave drain valves open until ready to spray again.

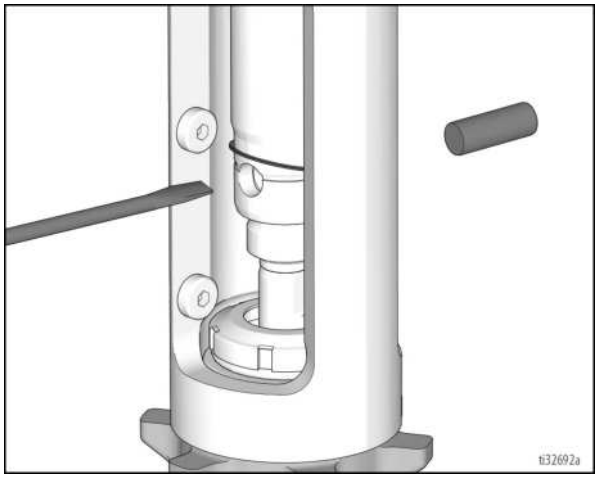


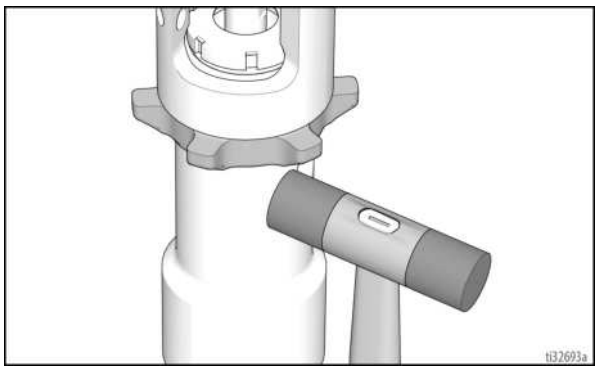
When replacing parts, follow the instructions to restore the components of the GH/EH 675 and Mark HP Displacement Pumps.

DISASSEMBLE PUMP

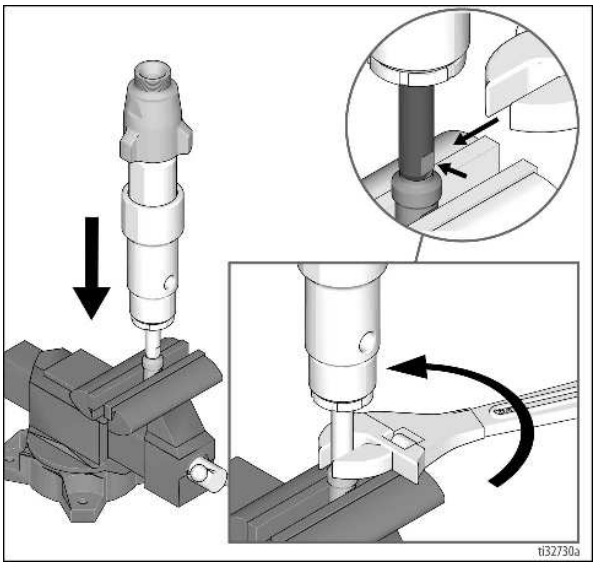
Pump removal includes disconnecting the fluid inlet and outlet and removing the pump.

1. Perform the **Pressure Relief Procedure**.
2. **For GH/EH 675 Pumps only:** Disassemble pin, then remove pump.

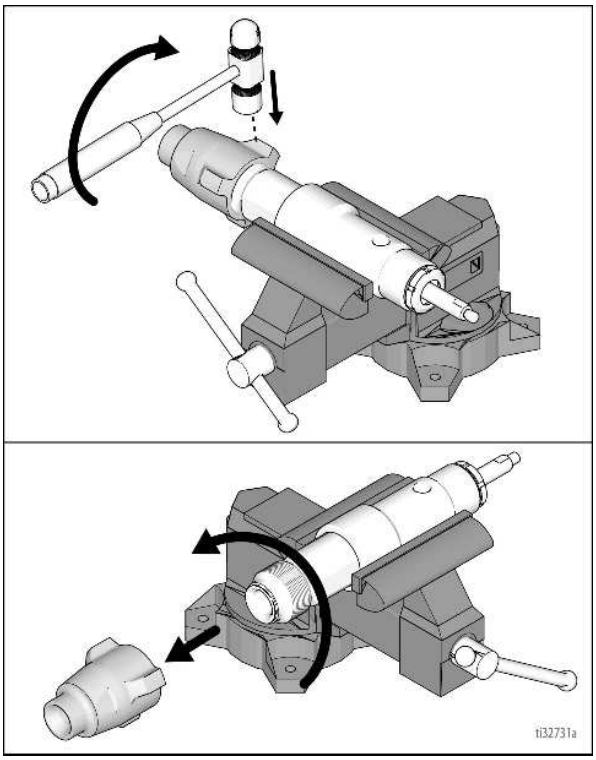




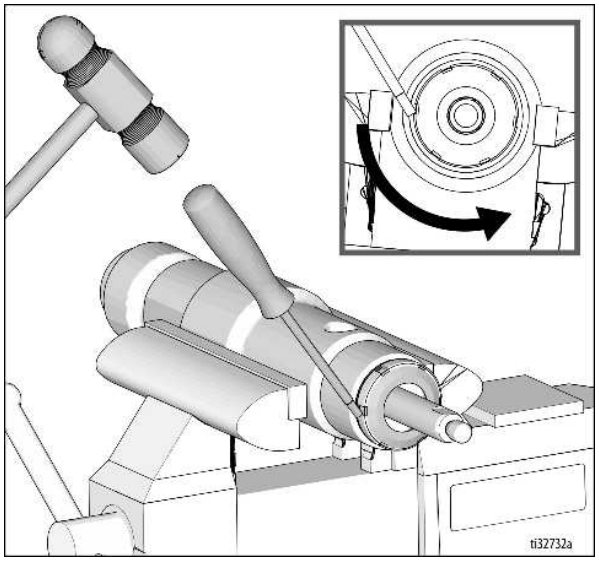
3. Remove Pump Rod Adapter.



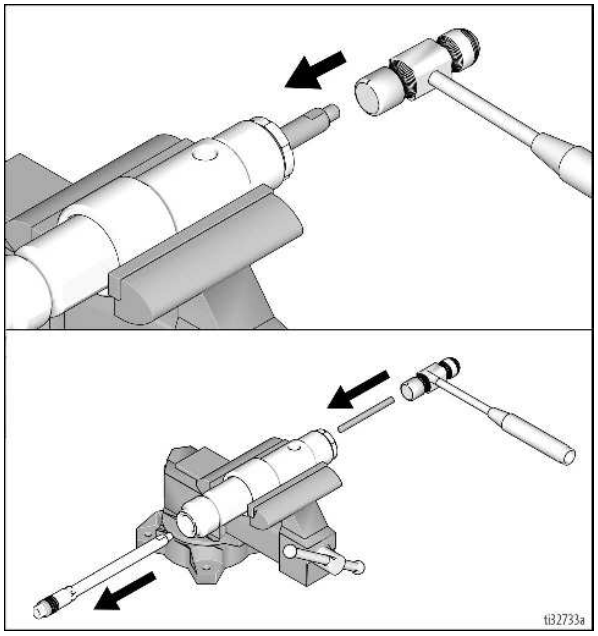
4. Unscrew cylinder from intake valve.



5. Loosen and remove packing nut.



6. Tap piston rod out of cylinder with a plastic hammer, being careful not to damage the threads. Use a thin, soft, rod if necessary.



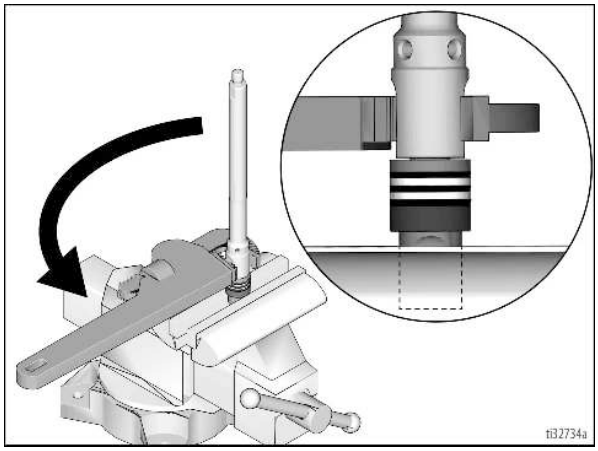
⚠ WARNING

To help avoid serious bodily injury from splashing fluids, do not clean or wipe the piston valve threads. Cleaning the piston valve threads could destroy the special sealing patch and cause the piston valve to come loose.

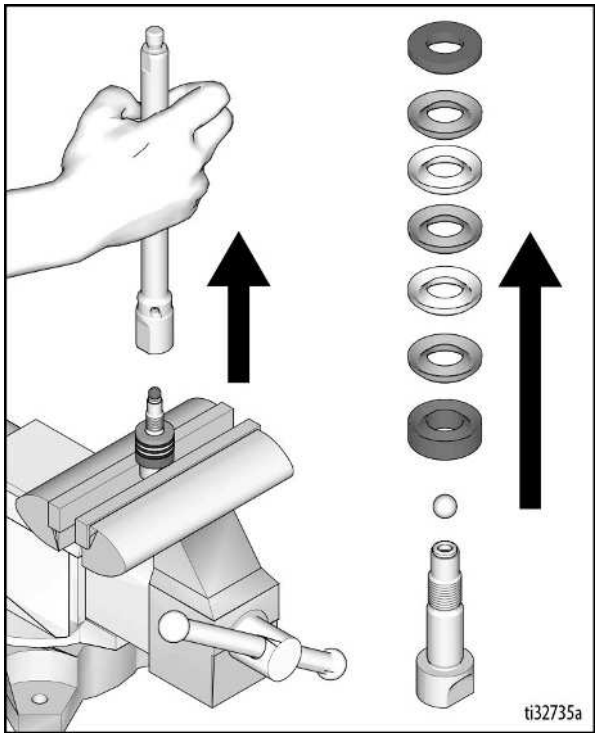
NOTICE

To avoid a pump failure, do not clean or wipe the piston valve threads. Cleaning the piston valve threads could destroy the special sealing patch and cause the piston valve to come loose.

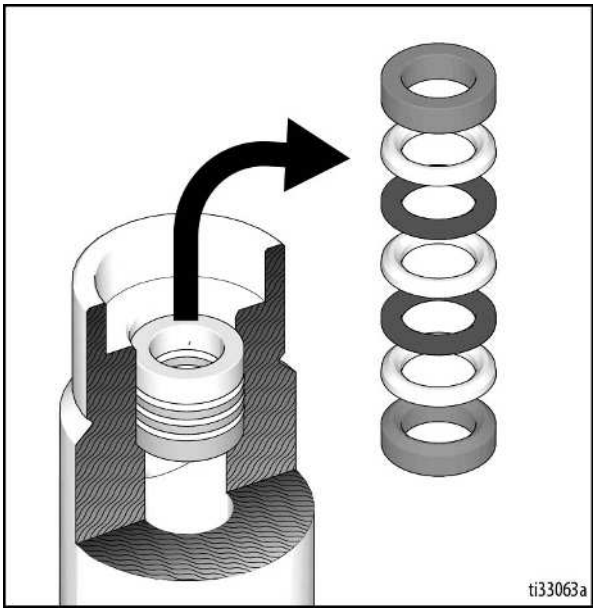
7. Unscrew piston valve from piston rod.



8. Remove piston from displacement rod. Clean and inspect parts.



9. Remove and discard throat packing and glands from the cylinder.

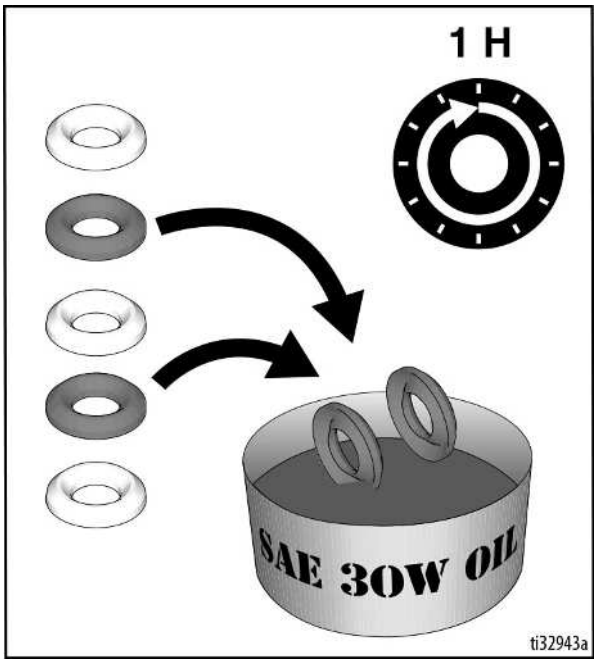


ASSEMBLE PUMP

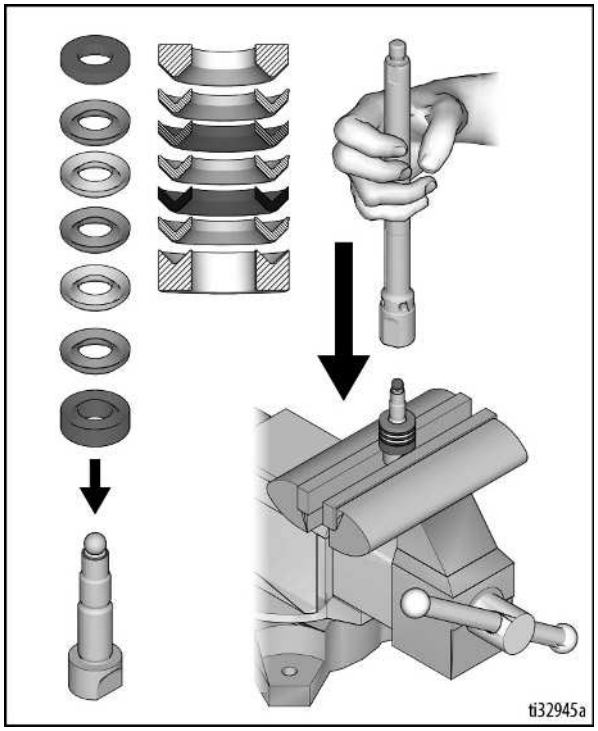
Properly install the GH/EH 675 and Mark HP Displacement Pumps equipment to ensure optimal performance during use.

Pump installation includes securing the pump and connecting to the fluid inlet and outlet.

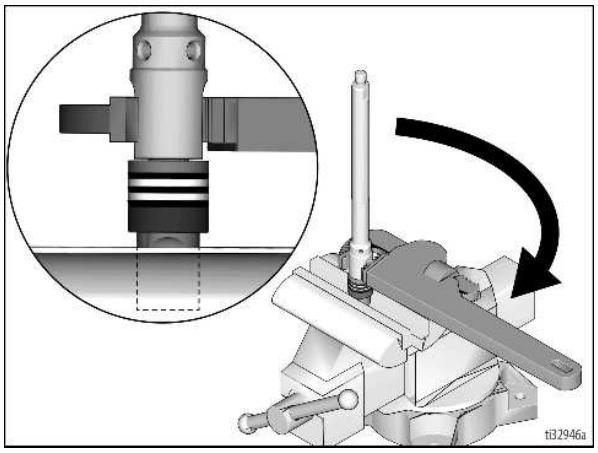
1. If applicable, soak leather packings in SAE 30W oil for 1 hour before assembly.



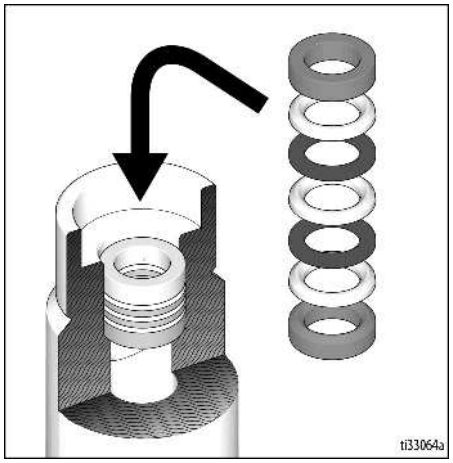
2. Assemble packings and ball to piston and piston rod.



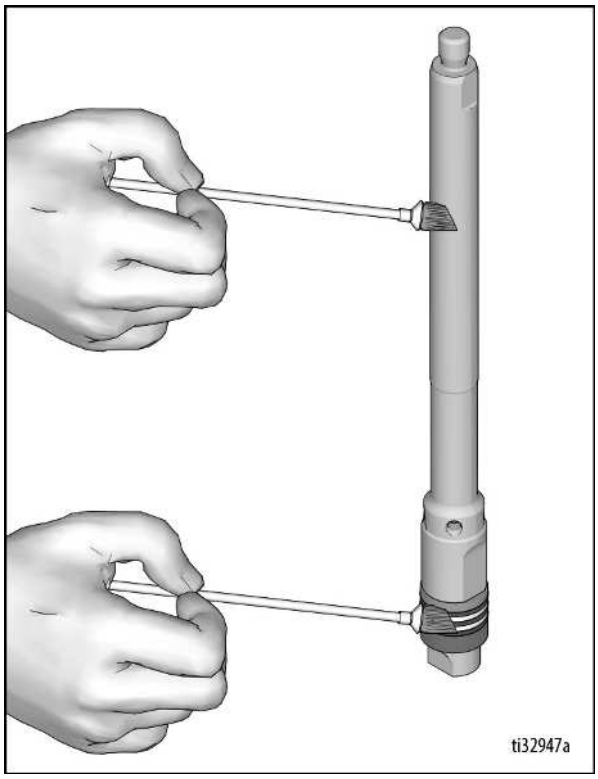
3. Torque to 85 +/- 5 ft-lb (115 +/- 7 N·m)



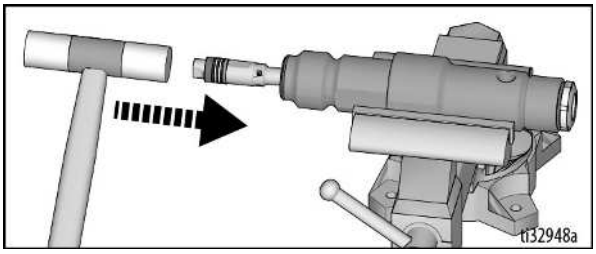
4. Assemble throat packings and place in pump cylinder.



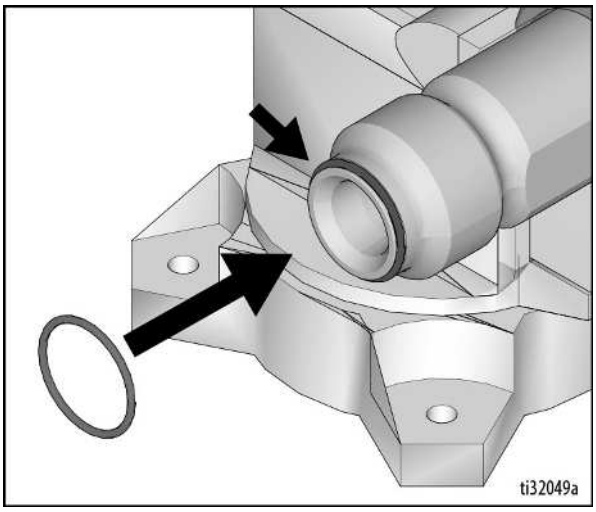
5. Apply liberal amounts of grease or oil to piston packings. Grease top inch or two of piston rod that will go through the cylinder throat packings.



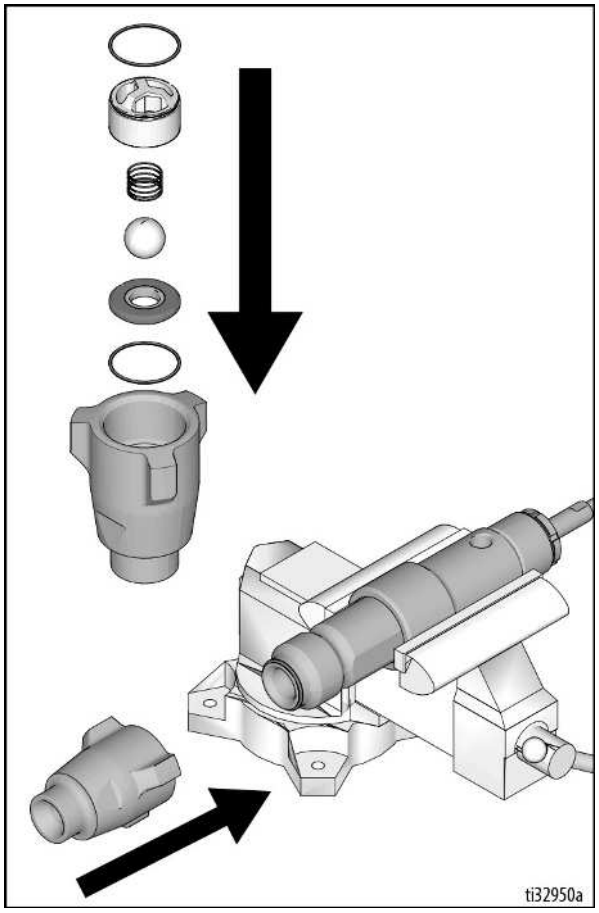
6. Gently guide displacement rod up through throat packings. Tap bottom of piston valve as necessary with a leather or plastic hammer.



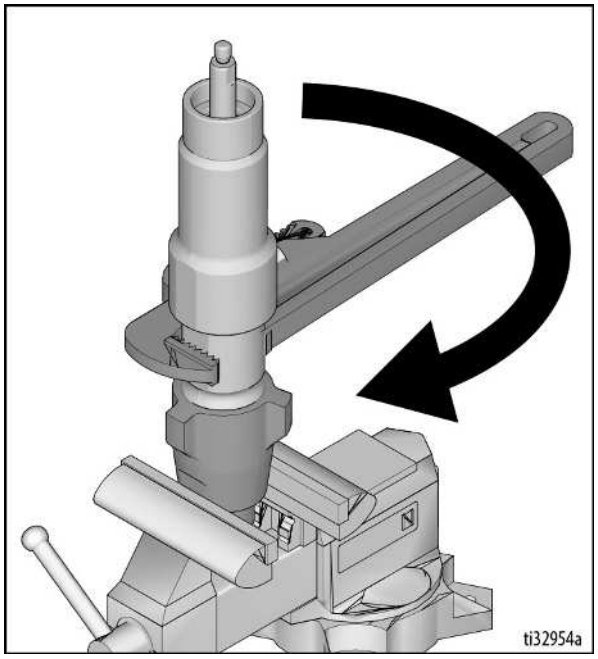
7. Grease o-ring and place on outside diameter ring groove.



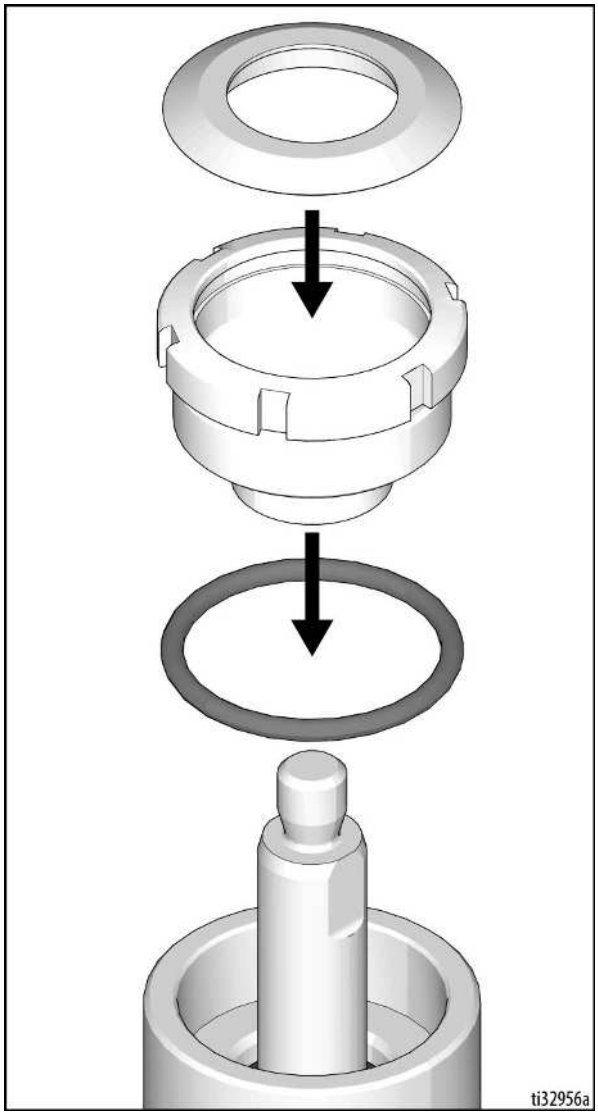
8. Clean seat thoroughly. Reassemble intake valve with a seat, ball, and new o-ring. Seat may be flipped over and used on other side.



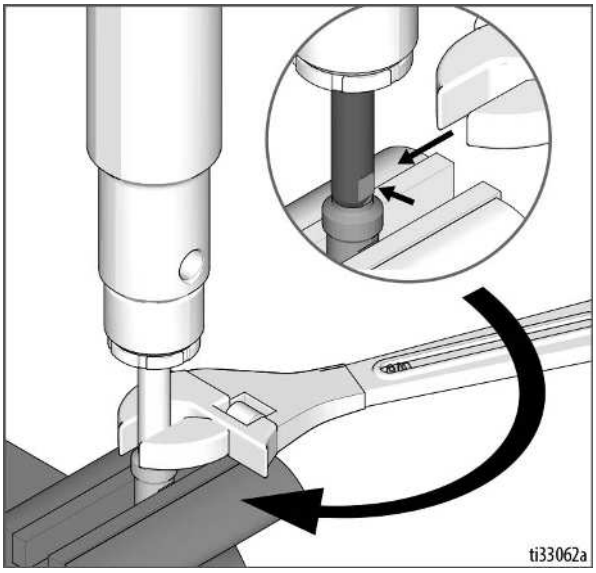
9. Torque foot valve to 290 +/- 10 ft-lb (393 +/- 14 N·m).



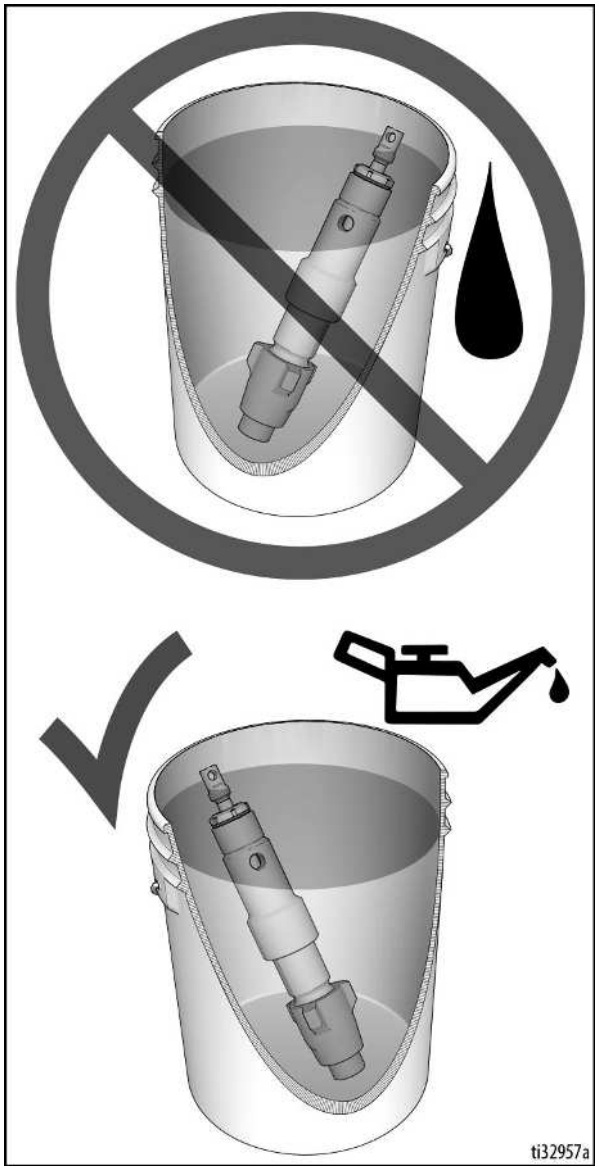
10. Intall o-ring and packing nut. Torque packing nut to 25 +/- 5 ft-lb (34 +/- 7 N·m).



11. Install pump rod adapter, torque to 35 +/- 5 ft-lb (47 +/- 7 N·m).

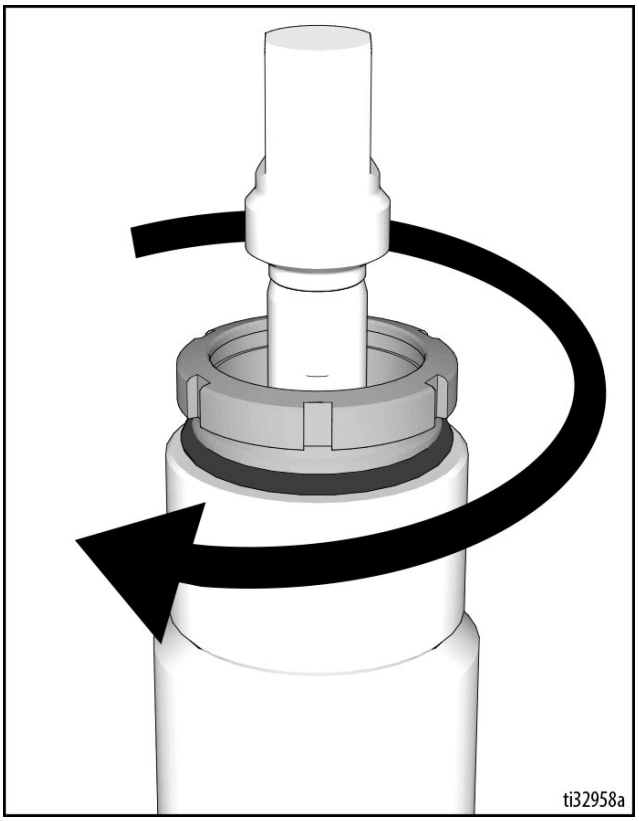


12. Store pump submerged in bucket of oil. Do not store pump in water.



THROAT PACKING ADJUSTMENT

When pump packings begin to leak after much use, perform **Pressure Relief Procedure** and tighten packing nut down until leakage stops or lessens. This allows approximately 100 gallons of additional operation before a repacking is required. Packing nut can be tightened without o-ring removal.



The parts illustration and list shows the components of the GH/EH 675 amd Mark HP Displacement Pumps and the connections that are required for assembly, repair, and maintenance.

GH/EH 675 PARTS

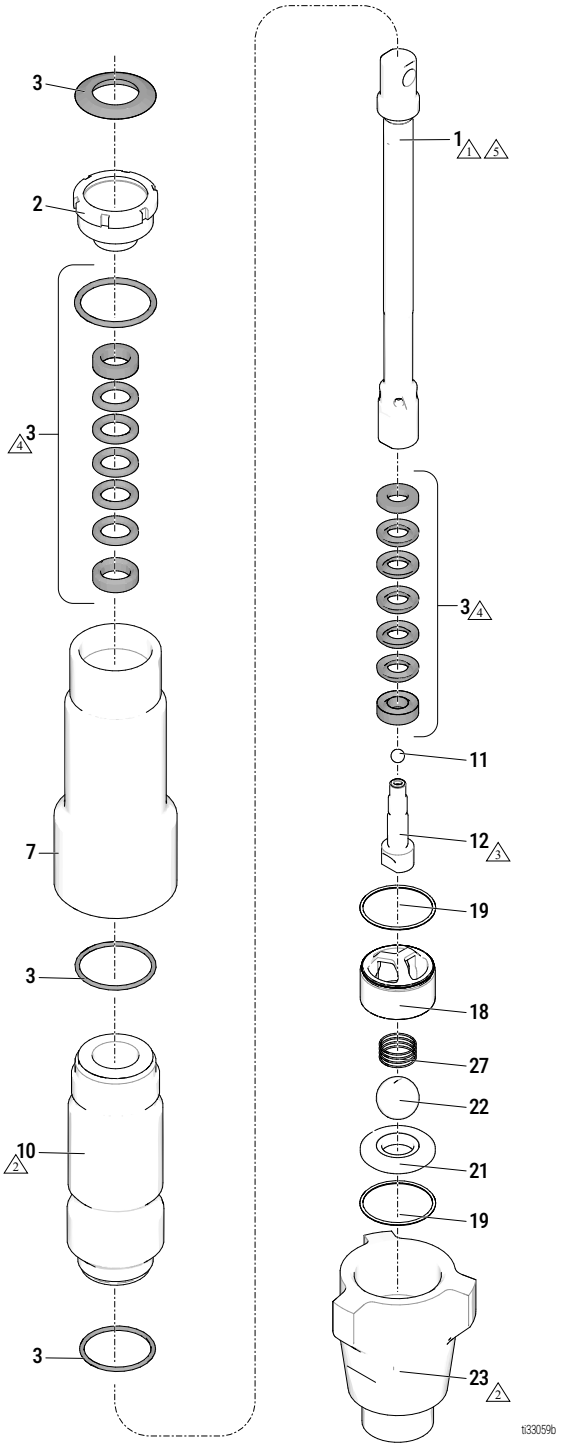


Figure 8-1: GH/EH 675 Parts Diagram

GH/EG 675 PARTS LIST

REF.	PART	DESCRIPTION	QTY.
1	17V630	ROD, displacement	1
2	17S991	NUT, packing	1
3*	17U997	KIT, repair, packing	1
7	17S981	HOUSING, outlet, pump	1
9*	288067	PACKING, o-ring, PTFE	1
10	17V631	CYLINDER, pump	1
11	262485	BALL, 0.3125 in.	
12	17V632	VALVE, piston assembly	1
17▲	124169	PACKING, o-ring, 129	1
18	16D472	GUIDE, ball, 1 in.	1
19▲	262512	PACKING, o-ring, PTFE	1
21▲	15F665	SEAT, 1 in. ball	1
22▲	244899	BALL, SST	
23	15F667	HOUSING, inlet	1
24*	157195	PACKING, o-ring, Buna-n (not shown)	1
25*	112590	PLUG, throat seal (not shown)	1
27▲	124007	SPRING, compression	1

* Included in Packing Repair Kit 17U997

▲ Included in Intake Valve Repair Kit 17U998

1 35 +/- 5 ft-lb. (47 +/- 7 N·m)

2 290 +/- 10 ft-lb (393 +/- 4 N·m)

3 85 +/- 5 ft-lb (115 +/- 7 N·m)

4 Soak in SAE 30W oil for 1 hour prior to assembly

5 Apply threadlocker

MARK HP PARTS

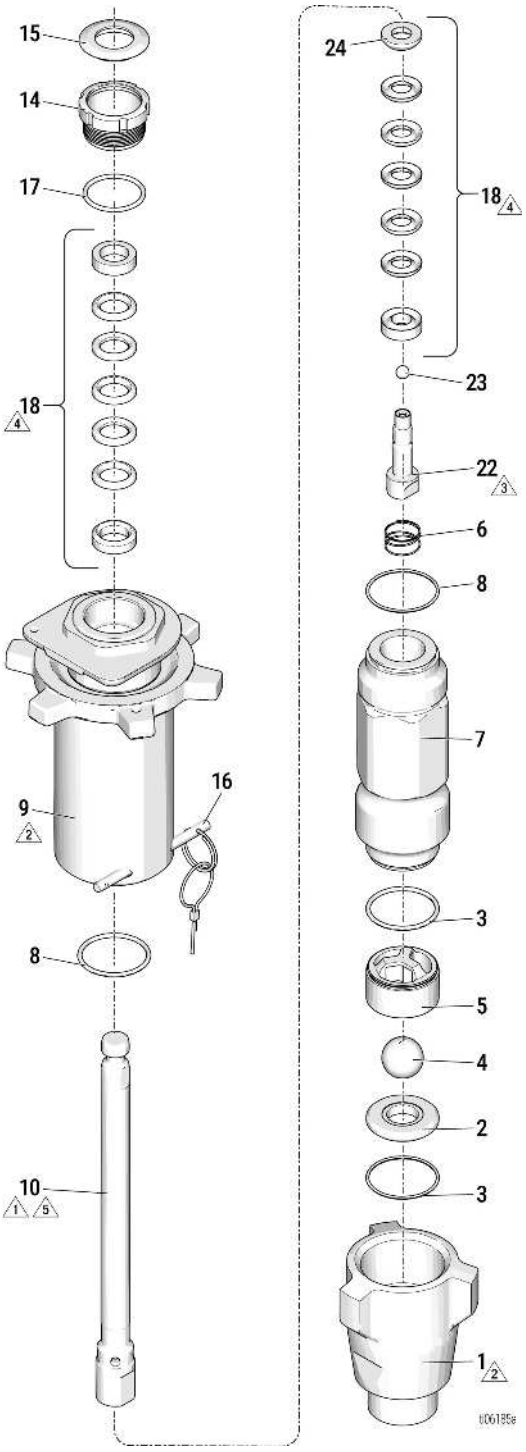


Figure 8-2: Mark HP Parts Diagram

MARK HP PARTS LIST

REF.	PART	DESCRIPTION	QTY.
1	2012671	HOUSING, inlet	1
2▲	15F665	SEAT, 1 in. ball	1
3▲	262512	PACKING, o-ring, PTFE	2
4▲	244899	BALL, SST	1
5	16D472	GUIDE ball, 1 in.	1
6▲	124007	SPRING, compression	1
7	2015704	CYLINDER, pump	1
8▲	124169	PACKING, o-ring, 129	2
9	2015694	HOUSING, outlet, pump	1
10	2012670	ROD, displacement	1
14	193032	NUT, packing	1
15*	183171	PLUG, throat seal	1
16	244826	PIN, self-locking	1
17	C20987	PACKING, o-ring	1
18*	17U997	KIT, repair, packing	1
22	17V632	VALVE, piston assembly	1
23	262485	BALL, 0.3125 in.	1
24	157195	PACKING, o-ring, Buna-n	1

* Included in Packing Repair Kit 17U997

▲ Included in Intake Valve Repair Kit 17U998

△1 35 +/- 5 ft-lb. (47 +/- 7 N·m)

△2 290 +/- 10 ft-lb (393 +/- 4 N·m)

△3 85 +/- 5 ft-lb (115 +/- 7 N·m)

△4 Soak in SAE 30W oil for 1 hour prior to assembly

△5 Apply threadlocker

CALIFORNIA PROPOSITION 65

CALIFORNIA RESIDENTS

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

NOTES

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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.

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

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