



INSTRUCTIONS

This manual contains important  
warnings and information.  
**READ AND KEEP FOR REFERENCE.**

*First choice when  
quality counts.™*

## ELECTRIC-POWERED **TRIUMPH™ 9000** **Reciprocator**

### FOR USE WITH GRACO PUMPS

Includes the TRIUMPH Electric Motor,  
which is CSA, FM, and ISSeP approved.

#### **Part No. 239658, Series A**

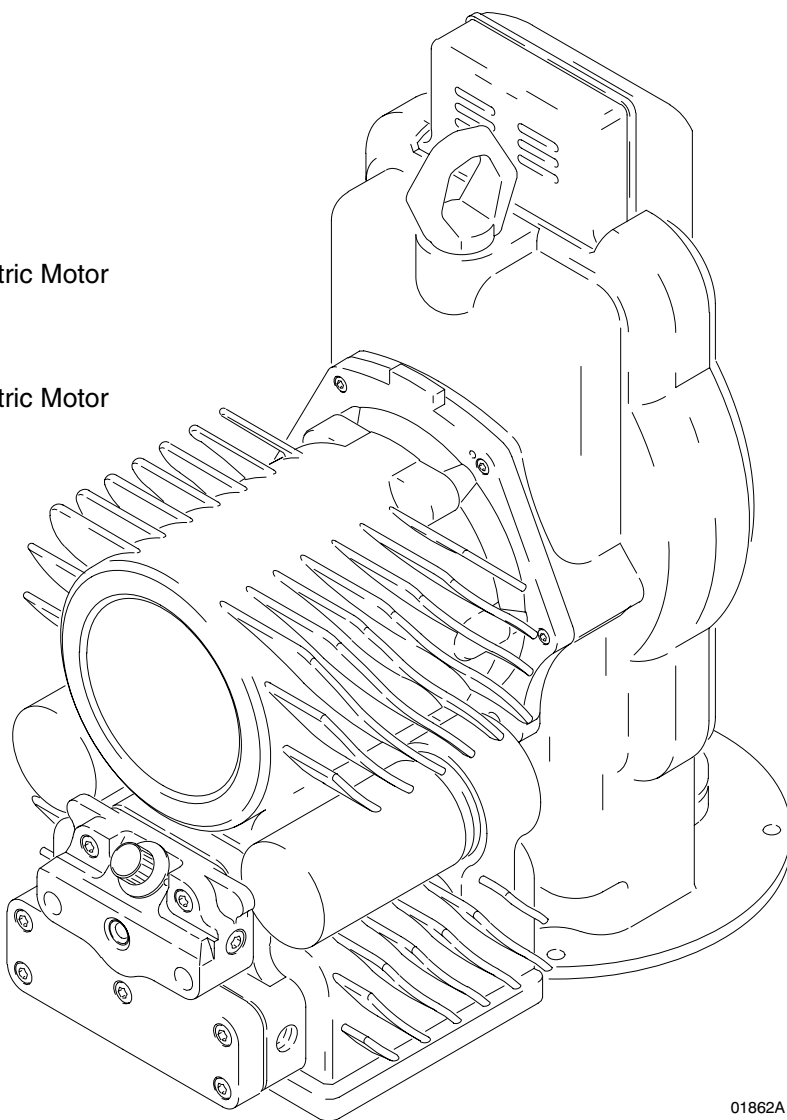
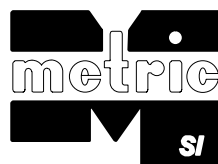
Includes 239338, TRIUMPH™ 100 to 240V Electric Motor  
(refer to motor manual 308254).

#### **Part No. 239659, Series A**

Includes 239339, TRIUMPH™ 240 to 480V Electric Motor  
(refer to motor manual 308254).

US Patent No. 5,220,259.

Other US and Foreign Patents Pending.



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# Table of Contents

Symbols .....	2	Pressure Relief Procedure .....	9
Warnings .....	2	Required Tools .....	9
Installation/Operation .....	5	Disassembly .....	10
Component Description .....	5	Reassembly .....	12
Startup Check List .....	5	Parts .....	15
Mount the Reciprocator to a Pump .....	5	Technical Data .....	18
Ground the Reciprocator and Pump .....	6	Related Publications .....	18
Lubrication .....	7	Dimensions .....	19
Troubleshooting .....	8	Graco Standard Warranty .....	20
Service .....	9	Graco Phone Number .....	20

## Symbols

### Warning Symbol



This symbol alerts you to the possibility of serious injury or death if you do not follow the instructions.

### Caution Symbol



This symbol alerts you to the possibility of damage to or destruction of equipment if you do not follow the instructions.

## ! WARNING



INSTRUCTIONS

### EQUIPMENT MISUSE HAZARD

Equipment misuse can cause the equipment to rupture or malfunction and result in serious injury.

- This equipment is for professional use only.
- Read all instruction manuals, tags, and labels before operating the equipment.
- Use the equipment only for its intended purpose. If you are uncertain about usage, call your Graco distributor.
- Do not alter or modify this equipment. Use only genuine Graco parts and accessories.
- Check equipment daily. Repair or replace worn or damaged parts immediately.
- Do not exceed the maximum working pressure stated on the equipment or in the **Technical Data** for your equipment. Do not exceed the maximum working pressure of the lowest rated component in your system.
- Use fluids and solvents which are compatible with the equipment wetted parts. Refer to the **Technical Data** section of all equipment manuals. Read the fluid and solvent manufacturer's warnings.
- Do not use hoses to pull equipment.
- Route hoses away from traffic areas, sharp edges, moving parts, and hot surfaces. Do not expose Graco hoses to temperatures above 82°C (180°F) or below -40°C (-40°F).
- Wear hearing protection when operating this equipment.
- Do not lift pressurized equipment.
- Comply with all applicable local, state, and national fire, electrical, and safety regulations.

# WARNING



## FIRE, EXPLOSION, AND ELECTRIC SHOCK HAZARD

Improper grounding, poor ventilation, open flames or sparks can cause a hazardous condition and result in a fire, explosion, or electric shock.

When installed and operated in accordance with its instructions, the TRIUMPH DC Motor is approved for operation in Class I, Division 1, Group C and D (ISSeP Group II B) hazardous locations.

- Electrical equipment must be installed, operated, and serviced only by trained, qualified personnel who fully understand the requirements stated in this instruction manual.
- Ground the equipment and all other electrically conductive objects in the spray area. Refer to **Ground the System** on page 6.
- Keep all covers tight while the motor is energized.
- *To reduce the risk of fire or explosion when the reciprocator is located in a hazardous area, disconnect the electric power and wait 60 minutes for the capacitors to discharge before removing any covers. If the reciprocator is located in a non-hazardous area, disconnect electric power and wait 15 minutes, to reduce the risk of electric shock.*
- If there is any static sparking or you feel an electric shock while using this equipment, **stop spraying/dispensing immediately**. Do not use the equipment until you identify and correct the problem.
- Provide fresh air ventilation to avoid the buildup of flammable fumes from solvents or the fluid being sprayed/dispensed.
- Keep the spray/dispense area free of debris, including solvent, rags, and gasoline.
- Electrically disconnect all equipment in the spray/dispense area.
- Extinguish all open flames or pilot lights in the spray/dispense area.
- Do not smoke in the spray/dispense area.
- Do not turn on or off any light switch in the spray/dispense area while operating or if fumes are present.
- Do not operate a gasoline engine in the spray/dispense area.



## HOT SURFACE HAZARD

- The electric motor becomes hot during operation, and the heat may be transferred to other connected equipment. To reduce the risk of burning yourself, do not touch the motor surfaces while it is operating. Before servicing, allow the motor to cool.
- Keep flammable material and debris away from the equipment.

# WARNING



## PRESSURIZED EQUIPMENT HAZARD

Spray from the gun/valve, hose leaks, or ruptured components can splash fluid in the eyes or on the skin and cause serious injury.

- Do not point the gun/valve at anyone or at any part of the body.
- Do not stop or deflect leaks with your hand, body, glove or rag.
- Follow the **Pressure Relief Procedure** on page 9 whenever you: are instructed to relieve pressure; stop spraying/dispersing; clean, check, or service the equipment; and install or clean the spray tip/nozzle.
- Tighten all fluid connections before operating the equipment.
- Check the hoses, tubes, and couplings daily. Replace worn, damaged, or loose parts immediately. Permanently coupled hoses cannot be repaired; replace the entire hose.



## TOXIC FLUID HAZARD

Hazardous fluid or toxic fumes can cause serious injury or death if splashed in the eyes or on the skin, inhaled, or swallowed.

- Know the specific hazards of the fluid you are using.
- Store hazardous fluid in an approved container. Dispose of hazardous fluid according to all local, state and national guidelines.
- Always wear protective eyewear, gloves, clothing and respirator as recommended by the fluid and solvent manufacturer.



## MOVING PARTS HAZARD

Moving parts, such as the cam and drive mechanism, can pinch or amputate your fingers.

- Keep clear of all moving parts when starting or operating the pump.
- Never remove the drive section shield while operating the pump.
- Before servicing the equipment, follow the **Pressure Relief Procedure** on page 9 to prevent the equipment from starting unexpectedly.

# Installation/Operation

## Introduction

Read this manual and the manuals for all of the components in your system thoroughly before installing or operating the equipment.

Reference letters and numbers used in the text refer to the callouts in the illustrations and the parts lists on pages 15–17.

## Component Description

See Fig. 1. The Triumph 9000 Reciprocator consists of the electric motor (A) and the drive section (B). The reciprocator can be mounted on a displacement pump (D).

The electric motor (A) drives a shaft and cam (C), which converts rotary motion to vertical linear force by engaging the carriage follower (F) in the drive section (B). The vertical motion of the carriage follower drives a rod (E) and piston up and down. See Fig. 3. Fluid enters the pump through the fluid intake (G), is pressurized inside the displacement pump (D), and exits through the pump outlet (H). See Fig. 1.

## Startup Check List

Before installing and operating the reciprocator, perform the following checks.

### WARNING



#### **FIRE, EXPLOSION, AND ELECTRIC SHOCK HAZARD**

The electrical wiring shall be performed only by trained and qualified personnel to reduce the risk of serious injury and electric shock.



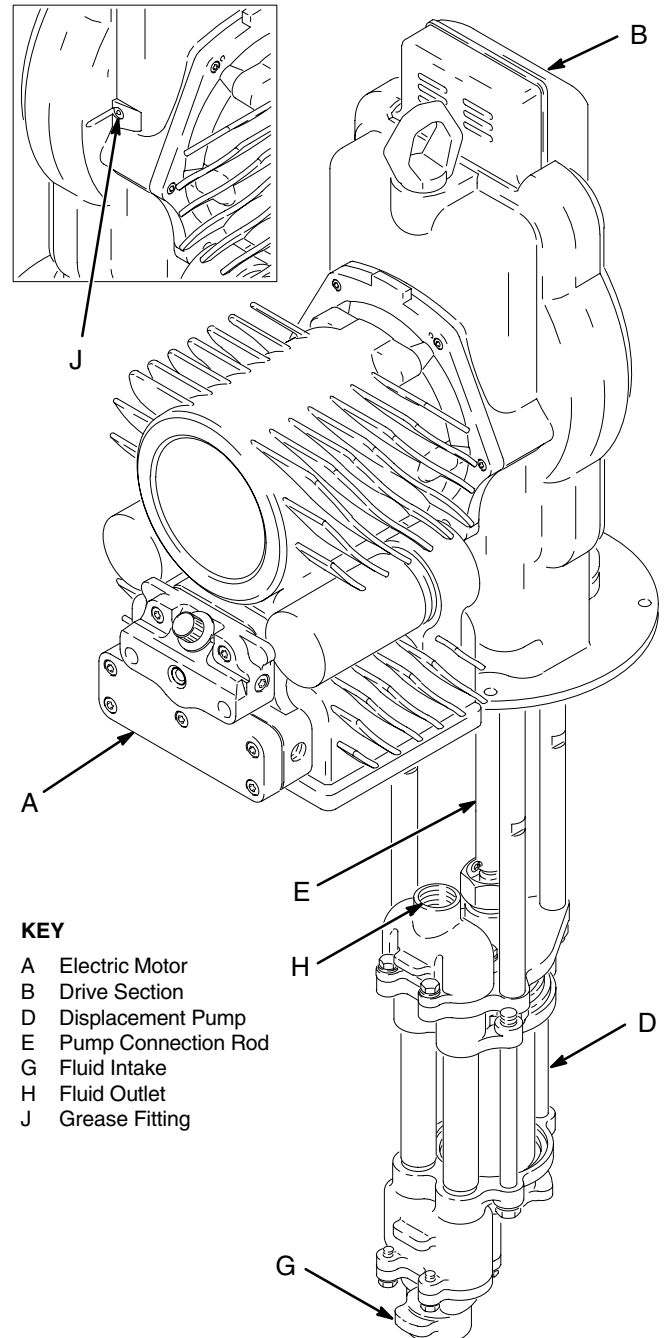
Observe all local codes and regulations regarding electrical wiring. Some localities require that certified hazardous location motor shops perform all maintenance and service.

1. When installing in a flammable atmosphere (hazardous location) refer to Article 500 of the US National Electric Code or other applicable agency standards to plan the work. Refer to the separate motor manual 308254.
2. Install the electrical service. See manual 308254.
3. Connect the electrical wiring. See manual 308254.
4. Ground the system. See page 6.

## Mount the Reciprocator to a Pump

To connect the reciprocator to a Graco displacement pump, refer to the separate instruction manual 308366 included with Connection Kit 236717.

### *Reciprocator Shown Mounted on a High-Flo Displacement Pump*



**Fig. 1**

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# Installation/Operation

## Ground the System

To reduce the risk of static sparking, ground the pump, object being sprayed, and all other spray/dispensing equipment used or located in the spray/dispensing area. Check your local electrical code for detailed grounding instructions for your area and type of equipment. Be sure to ground all of this spray/dispensing equipment:

The electric motor is grounded through the electrical wiring. However, the drive section of the reciprocator and the displacement pump must also be grounded.

1. *Electric motor:* ground through the electrical wiring. Refer to motor manual 308254 for instructions.
2. *Displacement pump and reciprocator drive section:* Use a ground wire and clamp, as shown in Fig. 2. The power supply's ground wire to the electric motor **does not** provide grounding for the pump and drive section.
3. *Fluid hoses:* use only electrically conductive fluid hoses.
4. *Air hoses (if used for ram or other accessories):* use only electrically conductive air hoses.
5. *Spray gun/dispensing valve:* obtain grounding through connection to a properly grounded fluid hose and pump.
6. *Object being sprayed:* according to local code.

7. *Fluid supply container:* according to local code.

8. *All solvent pails used when flushing,* according to local code. Use only metal pails, which are conductive. Do not place the pail on a non-conductive surface, such as paper or cardboard, which interrupts the grounding continuity.

9. *To maintain grounding continuity when flushing or relieving pressure,* always hold a metal part of the gun/valve firmly to the side of a grounded metal pail, then trigger the gun/valve.

### To ground the pump and reciprocator drive section:

Loosen the grounding lug locknut (W) and washer (X). Insert one end of a 1.5 mm<sup>2</sup> (12 ga) minimum ground wire (Y) into the slot in lug (Z) and tighten the locknut securely. See Fig. 2. Connect the other end of the wire to a true earth ground. Order Part No. 237569 Ground Wire and Clamp.

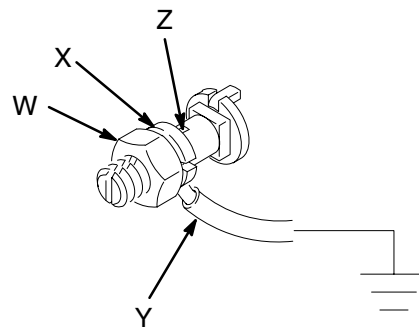


Fig. 2

# Installation/Operation

## Lubrication

1. Lubricate the drive section bearings every 1000 hours of operation. Order Graco Part No. 110293 Grease. Use a grease gun on the three fittings (J). Apply 4 pumps of grease to each fitting. See Figs. 1 and 3.
2. Check the Teflon bar (33, see Fig. 4) at least once a year. If the bar is less than 1 in. (25 mm) long, replace it. See **Service** to replace the bar.

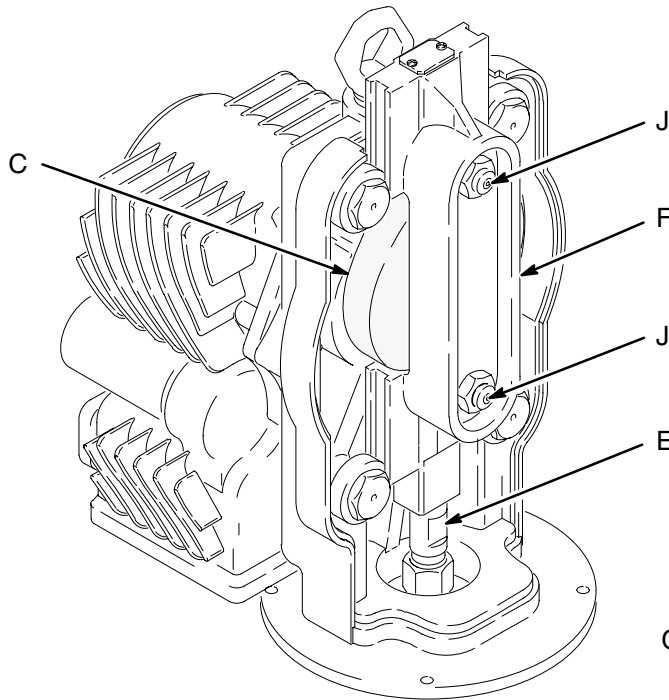
## ⚠ WARNING



### MOVING PARTS HAZARD

The reciprocator is shown in Fig. 3 with the drive section shield removed, for clarity. ***Never operate the reciprocator with the drive section shield removed.*** The cam and carriage follower move when power is supplied to the reciprocator, and can severely injure or amputate a hand or finger.

Reciprocator Upstroke



### KEY

- C Cam
- E Pump Connection Rod
- F Carriage Follower
- J Grease Fittings

Reciprocator Downstroke

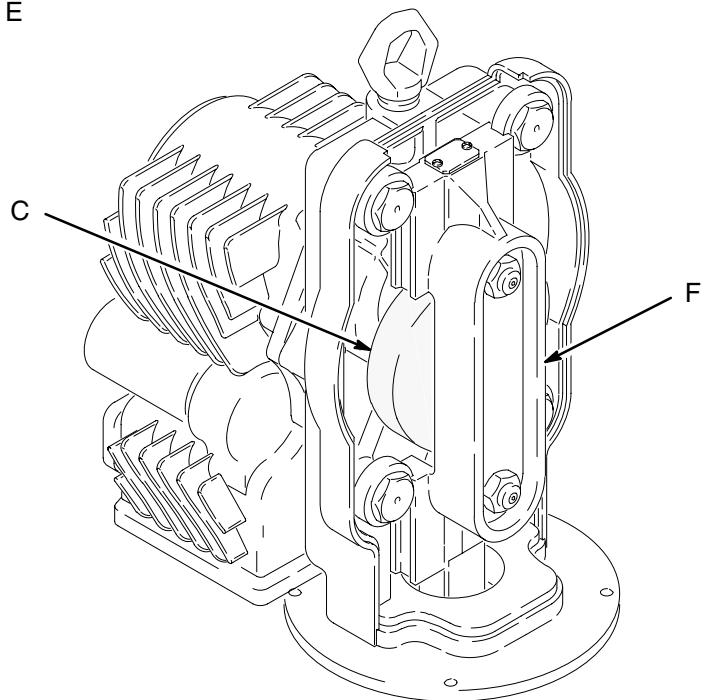


Fig. 3

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# Troubleshooting


PROBLEM	CAUSE	SOLUTION
Motor does not run (green power indicator will not light).	Power source is shut off.	Turn power source on.
	Defective electronic control module.	Contact your Graco distributor for proper service.
	Power wires hooked up incorrectly.	Correct wiring. Refer to 308254 for proper installation.
Motor runs but green power indicator will not light.	Bad signal cover.	Replace signal cover. See 308254.
Motor is vibrating.	Bad capacitor.	Replace capacitors. See 308254.
Motor running slowly.	Motor has overheated and has automatically slowed down to reduce temperature.	Motor will return to normal speed when temperature drops to factory set level. You may shut off motor and allow it to cool, or reduce the ambient temperature in the operating area.
	Motor external surfaces are dirty.	Clean motor surfaces and cooling fins, for proper cooling.
Motor running slowly or erratically.	Motor sensors (optos) are bad.	Contact your Graco distributor for proper service.
Motor does not run, and green power indicator is on.	Motor has shut off because pump speed exceeded 60 cycles per minute.	Correct system causes of excessive pump speed (exhausted fluid supply, broken supply line, worn seals, etc.).  To restart, shut off power to the motor, set the torque control to zero (0), turn on power to the motor, and turn the torque control slowly clockwise until the pump runs at less than 60 cycles per minute.
Drive section fails to operate.	Electric motor is turned off.	Turn motor on.
	Power source is turned off.	Turn power source on.
	Inadequate power supply to motor.	Supply correct power. See 308254.
	Wire size to motor is too small.	Use correct gauge wire. See 308254.
Loud squeaking noise in drive section.	Dry or worn cam followers.	Replace cam followers. See <b>Service</b> .
Pump stops and will not move. Green indicator light is on and motor is warm.	Gear tooth is broken and has jammed gear.	Replace gear. See <b>Service</b> .
Pump hesitates and pressure drops during the pump stroke.	Motor not properly timed with lower pump.	Disconnect power and turn torque control to 0. Reconnect power and slowly increase torque control to desired setting.



# Service

## Pressure Relief Procedure

**WARNING**

**PRESSURIZED EQUIPMENT HAZARD**

The system pressure must be manually relieved to prevent the system from starting or spraying accidentally. To reduce the risk of an injury from accidental spray from the gun/valve, splashing fluid, or moving parts, follow the **Pressure Relief Procedure** whenever you:

- are instructed to relieve the pressure,
- stop spraying/dispensing,
- check or service any of the system equipment,
- or install or clean the spray tip/nozzle.

1. Lock the gun/valve trigger safety.
2. Set the motor torque control to zero (0).
3. Shut off the electrical power source.
4. Unlock the gun/valve trigger safety.
5. Starting at the last gun/valve station, hold a metal part of the gun/valve firmly to the side of a grounded metal pail and trigger the gun/valve to relieve pressure. Repeat for each station.
6. Lock the gun/valve trigger safety.
7. Open the drain valve (required in your system), having a container ready to catch the drainage.

8. Leave the drain valve open until you are ready to spray/dispense again.

*If you suspect that the spray tip/nozzle or hose is completely clogged, or that pressure has not been fully relieved after following the steps above, **very slowly** loosen the retaining nut or hose end coupling and relieve pressure gradually, then loosen completely. Now clear the tip/nozzle or hose.*

## Required Tools

- large adjustable wrench
- torque wrench
- 3/4 in. square driver or breaker bar
- arbor press
- vise
- 1-5/8 in. socket, 3/4 in. drive
- set of Phillips screwdrivers
- thread lubricant
- thread sealant
- grease gun
- Graco Part No. 110293 Lithium Base Grease  
Use to repack bearings and gears. For complete rebuild, order two 0.38 pint (0.18 liter) containers.
- 17 mm box wrench
- 4 mm Allen wrench

# Service

## Disassembly

### ⚠ WARNING

To reduce the risk of serious injury whenever you are instructed to relieve pressure, always follow the **Pressure Relief Procedure** on page 9.

1. Disconnect the displacement pump as explained in your separate pump manual.
2. Remove the screws (5) and washers (4), and pull the electric motor (1) away from the drive housing (11). See Fig. 5.
3. Remove the gasket (6) and gear reducer (3). Be sure the balls (2), which are heavily greased, remain in place. Inspect these parts for wear or damage.
4. Remove the screws and washers (37, 38, 39) from the drive section shield (28). Pull the shield off the drive housing (11). See Fig. 4.
5. Remove two shoulder screws (26) and guide wheels (25) on the same side of the carriage follower (22). Remove the carriage follower. Remove the other two shoulder screws and guide wheels.
6. Inspect the guide wheels and replace if worn. Inspect the two cam followers (23) attached to the carriage follower (22). If worn or damaged, remove the cam followers.
7. Remove the screws (36), washers (21), and retainer (35) from the top of the carriage follower (22). Slide the spring (34) and Teflon bar (33) out of the follower. Inspect the spring for damage. If the bar is less than 1 in. (25.4 mm) long, replace it.
8. Insert a 3/4 in. square driver or breaker bar in the square hole of the cam (16) to hold it steady. Using a large adjustable wrench, unscrew the nut (17).

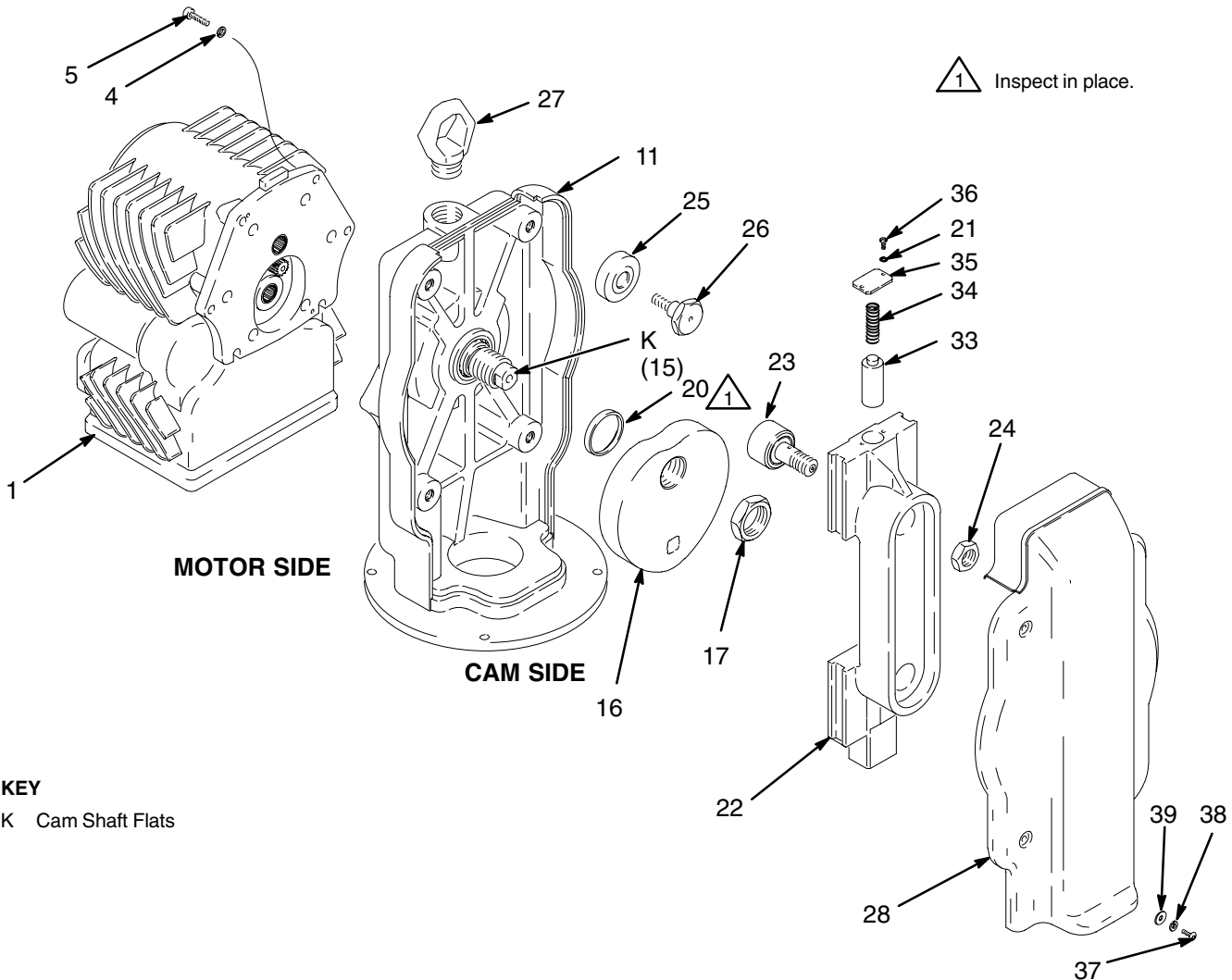


Fig. 4

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# Service

9. With the cam shaft (15) in place in the drive housing (11), as shown in Fig. 4, hold the flats (K) of the cam shaft with a wrench to keep it from turning. Using the 3/4 in. square driver or breaker bar, unscrew the cam (16) from the shaft. Clean any grease from the cam.
10. Pull the cam shaft (15) out of the drive housing (11). Remove the thrust washer (7). See Fig. 5.

**NOTE:** As the reciprocator runs, the gear (19) tightens itself on the shaft (15). The torque level reached may be very high. Disassembly of these two parts will be very difficult.

11. Inspect the gear (19) in place for broken teeth or other damage. If the gear is damaged, clamp it in a vise. Remove the nut (17) and the thrust bearing (18) from the shaft (15). Then, using a large adjustable wrench and a cheater bar, grip the flats of the shaft and unscrew the shaft from the gear.
12. Inspect the bearing (12) inside the drive housing. If the bearing does not have visible damage, do not remove it from the housing. Inspect the seal (20) in place. Remove if damaged.
13. Inspect the bearing (13) inside the drive housing. If the bearing does not have visible damage, do not remove it from the housing.

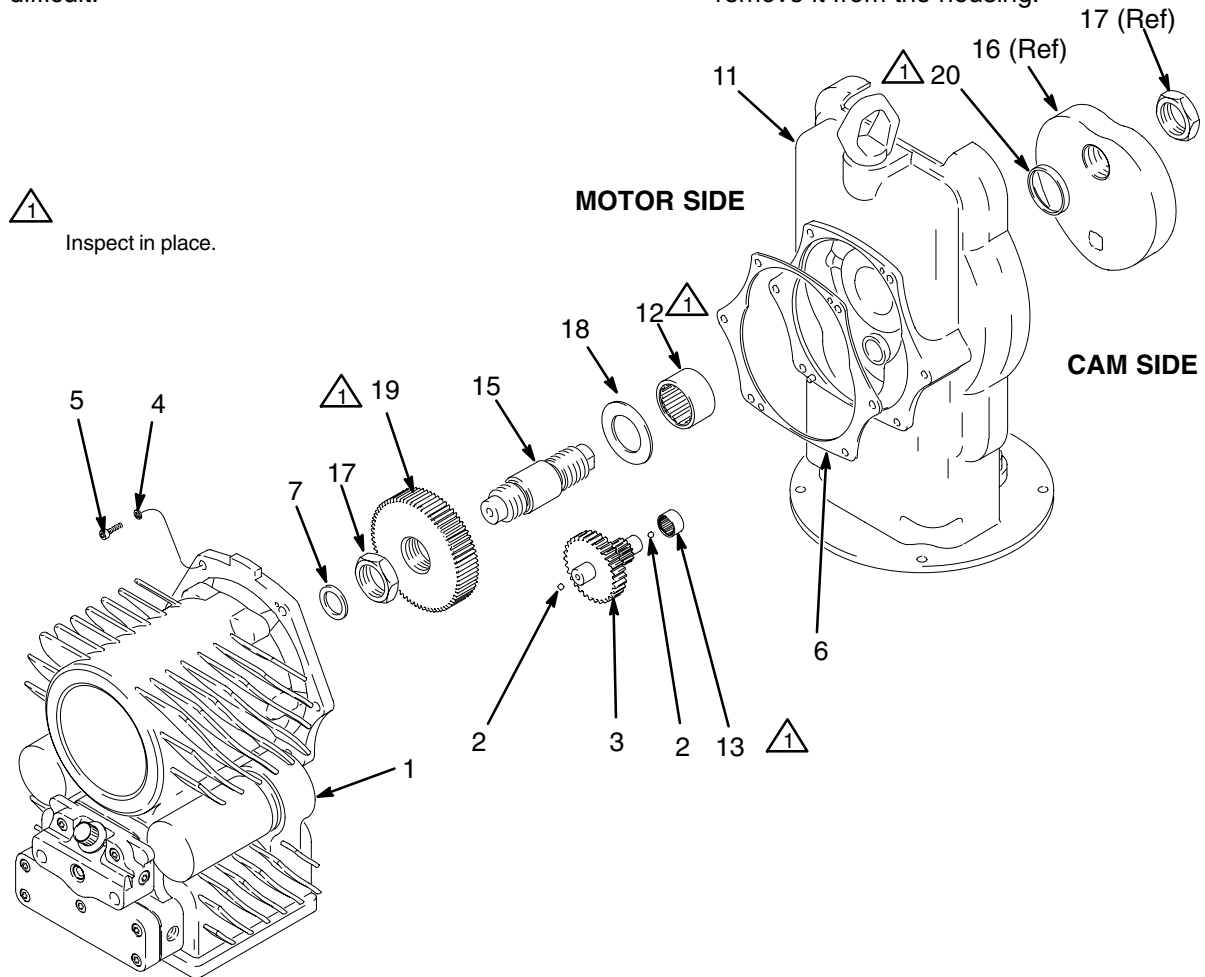


Fig. 5

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# Service








## Reassembly

**NOTE:** Follow all notes in Figs. 6 and 7. When grease is specified, use Graco Part No. 110293.

**NOTE:** Perform steps 1 through 3 if the seal (20), large bearing (12), and/or small bearing (13) have been removed from the drive housing (11). If these parts are not removed, skip to step 4.

1. Place the drive housing (11) in a press with the motor side down. Press-fit the seal (20) into the large hole in the housing from the cam side, so it is flush with the face of the housing. See Fig. 6.
2. Turn the drive housing so the cam side is down. Press-fit the bearing (12) into the drive housing (11) until it seats. Pack the bearing with grease.
3. Press-fit the gear reducer bearing (13) into the small hole in the drive housing (11) until it seats. Pack the bearing with grease.

4. Place the flats (K) of the cam shaft (15) in a vise. Screw the large gear (19) onto the shaft. Install the nut (17) and torque to 128–136 N•m (95–100 ft-lb).
5. Slide the thrust bearing (18) onto the cam shaft (15), then push the shaft through the housing (11) so the end with the flats (K) is on the cam side of the housing. Grease the teeth of the gear (19). Install the thrust washer (7) on the shaft.
6. Screw the cam (16) onto the cam shaft (15). Insert a square driver in the square hole (M) of the cam. Hold the shaft steady with a large adjustable wrench on the flats (K). Torque the cam (16) to 203–210 N•m (150–155 ft-lb). See Fig. 7.
7. Screw the nut (17) onto the cam shaft and torque to 128–136 N•m (95–100 ft-lb).

-  Press fit.
-  Pack with grease.
-  Torque to 128–136 N•m (95–100 ft-lb).
-  Grease gear teeth.
-  Grease.
-  Torque to 203–210 N•m (150–155 ft-lb).
-  Torque to 28–31 N•m (20–23 ft-lb).

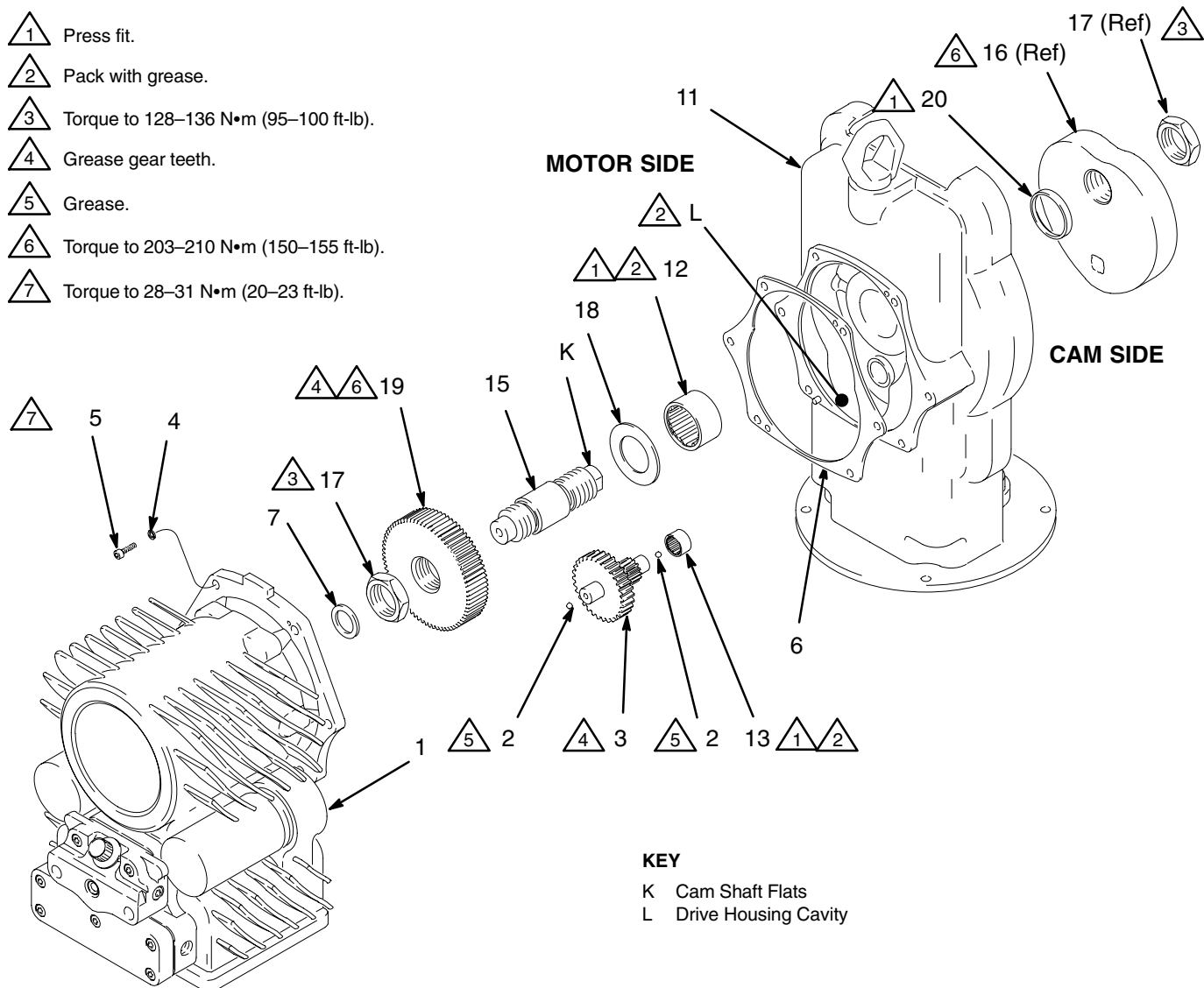


Fig. 6

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# Service

8. Install the Teflon bar (33) and spring (34) into the top of the carriage follower (22). Secure with the retainer (35), screws (36), and washers (21).
9. Install the cam followers (23) on the carriage follower (22), so the lubrication holes (S) face **away** from the cam (16) surface. Secure with the nuts (24) and torque to 128–136 N•m (95–100 ft-lb).
10. Apply thread sealant and install two guide wheels (25) and shoulder screws (26) along the same edge of the drive housing (11). Torque to 45–50 N•m (34–36 ft-lb). Install the carriage follower (22) so the guide wheels (25) engage the follower track (N). Install the other two guide wheels in the opposite track, and torque the screws (26).
11. Install the gasket (6) on the face of the drive housing (11). Fill the drive housing cavity (L) with grease. See Fig. 6.
12. Be sure the balls (2) are in place in the gear reducer (3). Grease the balls and the gear teeth. Slide the gear reducer into the drive housing (11). See Fig. 6.
13. Grease the teeth of the motor gear (P). Pack the motor bearings (R) with grease. See Fig. 7.
14. Align the motor (1) with the drive housing (11) and secure with the screws (5) and washers (4). Torque to 28–31 N•m (20–23 ft-lb). See Fig. 6.
15. Reinstall the drive section shield (28) and secure with the screws and washers (37, 38, 39). Torque to 4.5–5.5 N•m (40–50 in-lb). See Fig. 7.
16. Reconnect the displacement pump as explained in your separate pump manual.

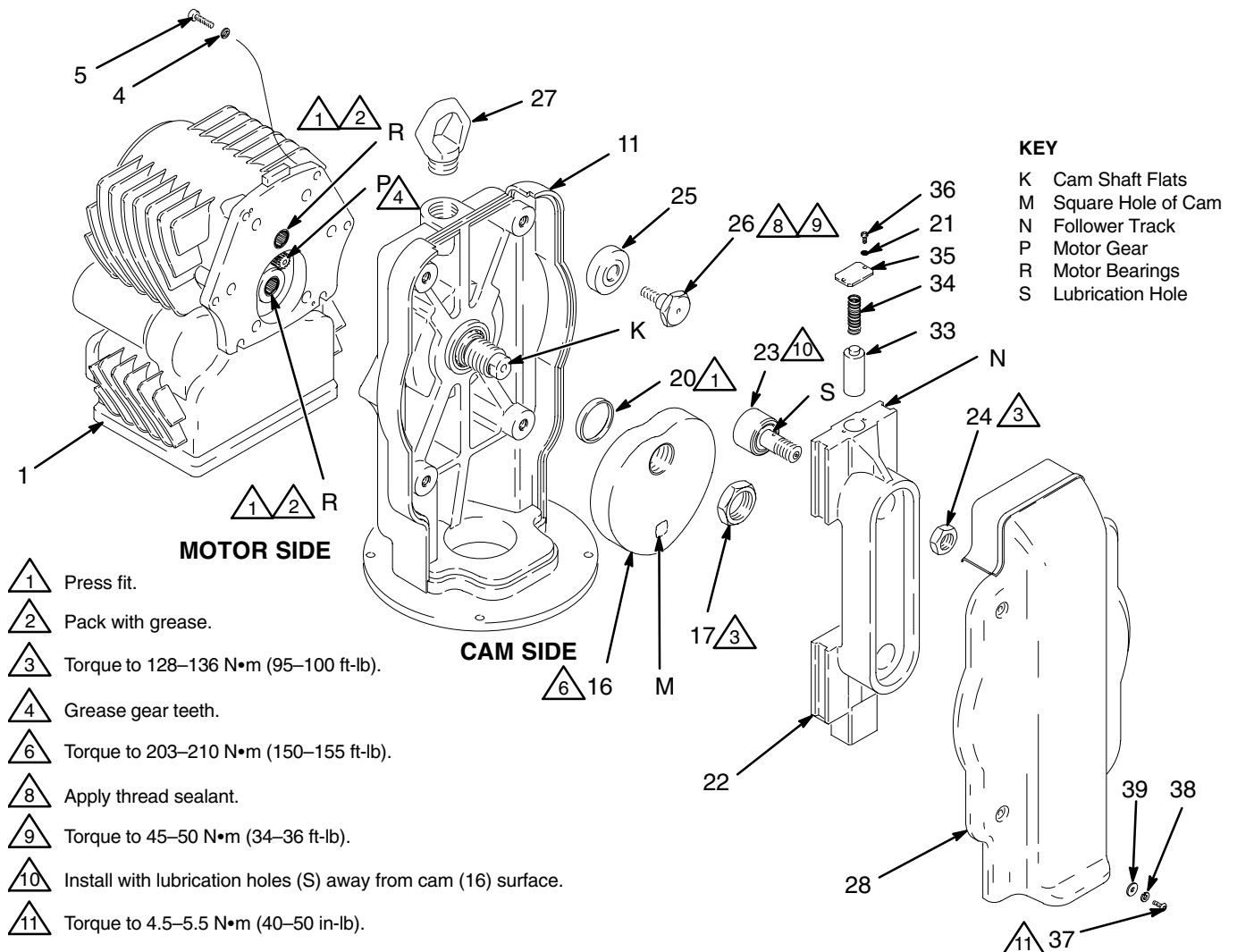


Fig. 7

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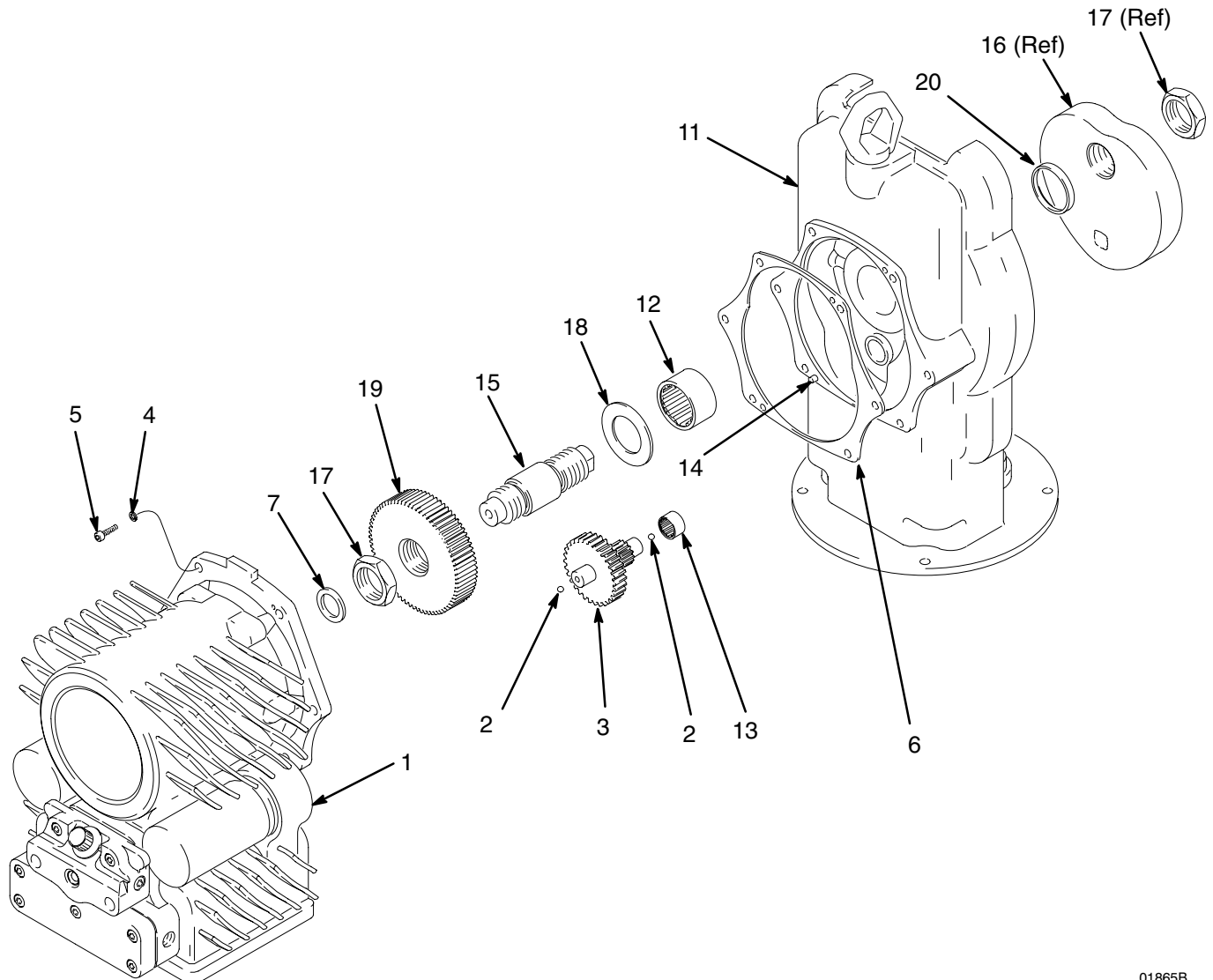
# Parts

**239658, 100 to 240V Triumph™ Reciprocator, Series A**

**239659, 240 to 480V Triumph™ Reciprocator, Series A**

**NOTE: Motor Side shown; see page 16 for Drive Side.**

Ref No.	Part No.	Description	Qty	Ref No.	Part No.	Description	Qty
1	239338	MOTOR, electric; 2.7 HP; 100 to 240V <i>Used on Model 239658; Refer to manual 308254</i>	1	10		RECIPROCATOR, bare; includes items 11 through 20; see page 16 for additional parts	1
	239339	MOTOR, electric; 2.7 HP; 240 to 480V <i>Used on Model 239659; Refer to manual 308254</i>	1	7	187292	WASHER, thrust; UHMWPE	1
2	100069	BALL; 6 mm (1/4 in.) diameter; chrome steel	2	11	192256	HOUSING, drive	1
3	239398	GEAR REDUCER	1	12	111388	BEARING, needle	1
4	111033	WASHER, lock, spring; no. 10	6	13	107088	BEARING, needle	1
5	111390	SCREW, cap, hex hd; M10 x 1.5; 35 mm (1.375 in.) long	6	14	105489	PIN, dowel	2
6	193295	GASKET, reciprocator	1	15	192370	SHAFT, cam	1
				16	192371	CAM	1
				17	192367	NUT, retaining; M39 x 1.5	2
				18	187281	BEARING, thrust; UHMWPE	1
				19	114011	GEAR, spur	1
				20	111391	SEAL, shaft, spring loaded; Viton® and steel	1



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# Parts

**239658, 100 to 240V Triumph™ 9000 Reciprocator, Series A**

**239659, 240 to 480V Triumph™ 9000 Reciprocator, Series A**

**NOTE: Drive Side shown on page 17; see page 15 for Motor Side.**

Ref No.	Part No.	Description	Qty	Ref No.	Part No.	Description	Qty
1	239338	MOTOR, electric; 2.7 HP; 100 to 240V <i>Used on Model 239658;</i> <i>Refer to manual 308254</i>	1	29▲	187288	LABEL, warning	1
	239339	MOTOR, electric; 2.7 HP; 240 to 480V <i>Used on Model 239659;</i> <i>Refer to manual 308254</i>	1	30▲	188068	LABEL, warning	2
10		RECIPROCATOR, bare; includes items 11 through 43; see page 15 for additional parts	1	31	104029	LUG, grounding	1
11	192256	HOUSING, drive	1	32	111392	FITTING, grease	3
16	192371	CAM	1	33	192366	BAR; Teflon®	1
17	192367	NUT, retaining; M39 x 1.5 (one shown)	2	34	187290	SPRING, compression	1
21	157021	WASHER, lock, internal tooth; no. 8	2	35	187291	RETAINER, spring	1
22	192257	CARRIAGE, follower	1	36	105335	SCREW, machine, pan hd; M4 x 0.7; 10 mm (0.4 in.) long	2
23	111389	FOLLOWER, cam	2	37	111409	SCREW, cap, button hd; M6 x 1.0; 12 mm (0.5 in.) long	4
24	100056	NUT, jam, hex; 7/8-14	2	38	100016	WASHER, lock, spring; 1/4 in. size	4
25	192369	WHEEL, guide; acetal	4	39	100086	WASHER, plain; 1/4 in. size	4
26	192368	SCREW, shoulder	4	40	104582	WASHER, tab, grounding	1
27	176537	RING, lift	1	41▲	188067	LABEL, instruction	1
28	187285	SHIELD	1	42▲	188070	LABEL, warning	1
				43▲	188071	LABEL, warning	1

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

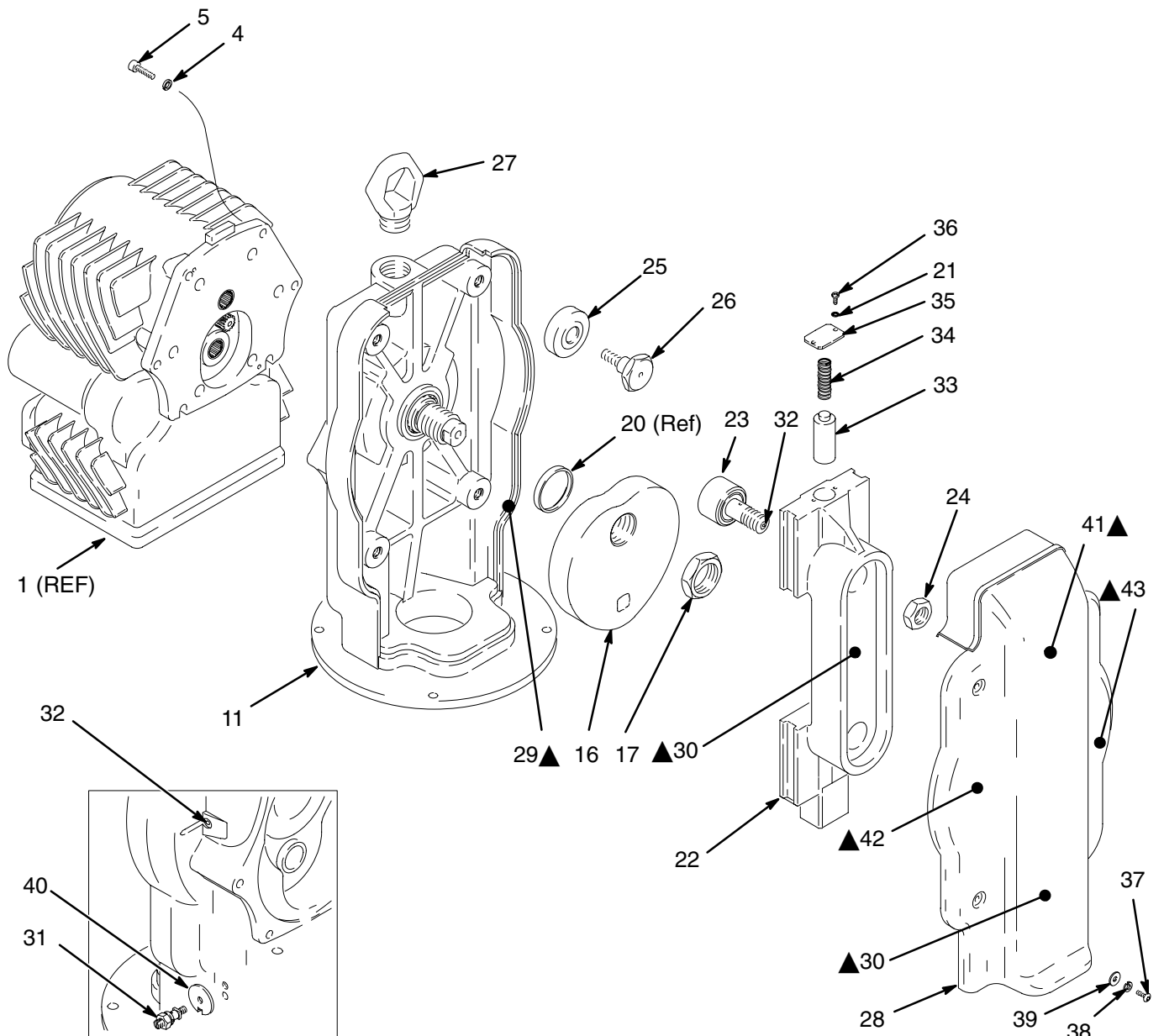


# Parts

239658, 100 to 240V Triumph™ 9000 Reciprocator, Series A

239659, 240 to 480V Triumph™ 9000 Reciprocator, Series A

NOTE: Drive Side shown; see page 15 for Motor Side.



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# Technical Data

Category	Data
Operating Voltage Range	<i>Part No. 239658:</i> 100 to 240 VAC <i>Part No. 239659:</i> 240 to 480 VAC
Cycles	<i>Part No. 239658:</i> 50/60 Hz, single-phase <i>Part No. 239659:</i> 50/60 Hz, three-phase
Maximum Current Draw	15 Amperes rms
Power Output at 2500 rpm, 25°C ambient	2.7 H.P. (2 kW) out
Power Output at 2500 rpm, 40°C ambient	1.7 H.P. (1.3 kW) out
Ambient Temperature Range	–40 to 40°C (–40 to 104°F)
Maximum Operating Temperature	85°C (185°F) (motor automatically slows down to cool down, then returns to speed)

## Related Publications

### Product

TRIUMPH™ DC Motor

TRIUMPH™ Pumps

### Form#

308254

308366

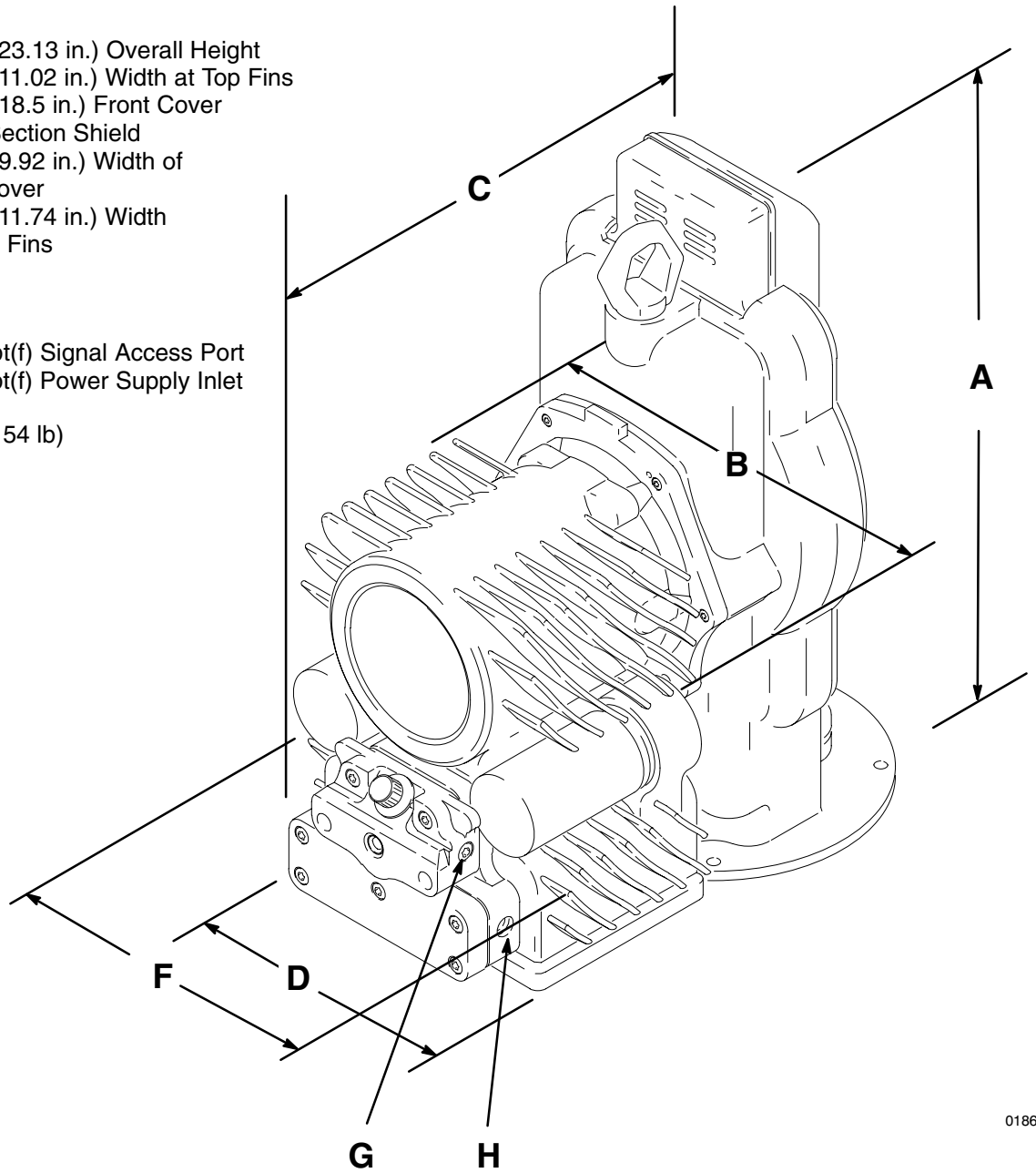
# Dimensions

- A** 587 mm (23.13 in.) Overall Height
- B** 280 mm (11.02 in.) Width at Top Fins
- C** 470 mm (18.5 in.) Front Cover to Drive Section Shield
- D** 252 mm (9.92 in.) Width of Bottom Cover
- F** 298 mm (11.74 in.) Width at Bottom Fins

## Port Sizes

- G** 3/8–18 npt(f) Signal Access Port
- H** 1/2–14 npt(f) Power Supply Inlet

**Weight** 69.8 kg (154 lb)



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# Graco Standard Warranty

Graco warrants all equipment manufactured by Graco and bearing its name to be free from defects in material and workmanship on the date of sale by an authorized Graco distributor 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.

## **FOR GRACO CANADA CUSTOMERS**

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# Graco Phone Numbers

**TO PLACE AN ORDER**, contact your Graco distributor, or call one of the following numbers to identify the distributor closest to you:

**1-800-367-4023 Toll Free**

**612-623-6921**

**612-378-3505 Fax**

*All written and visual data contained in this document reflects the latest product information available at the time of publication.*

*Graco reserves the right to make changes at any time without notice.*

**Sales Offices:** Minneapolis, Detroit

**International Offices:** Belgium, Korea, Hong Kong, Japan

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