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Model MG-01 Owner's Manual - Original Instructions

Doc. No. 100006

# Sealweld<sup>®</sup> Mongoose Sealant Injection Pump



Shown with OPTIONAL Wheel Assembly

By Sealweld Corporation

This document is for the purpose of operating the Sealweld Mongoose Pump and is not considered a guide for valve maintenance. We offer the ValvePro valve technician training program and trust you will find the lessons detailed within useful when maintaining valves at your facility. Should you have any questions regarding any of the ValvePro procedures or if you know of any successful procedures you would like to share, please contact us at:

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### **The information in this manual is intended as a guide only.**

Read our Disclaimer on page eleven (11).

Always consult the valve manufacturer's recommended maintenance procedures.

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**MADE IN CANADA**

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# Introduction

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## SAFETY EXPLANATIONS

Two safety symbols are used to identify where any action or lack of action can cause personal injury. It is very important that the user reads and understands the use of these symbols.

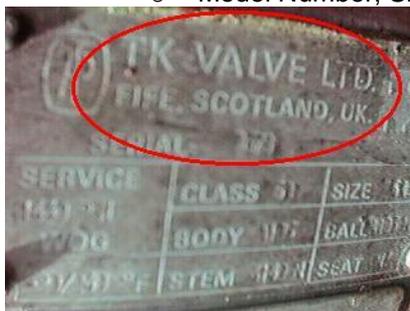
- ⚠ DANGER** – Danger is used only when an action or lack of action will cause serious human injury or death.
- ⚠ WARNING** – Warning is used when an action or lack of action can lead to a serious injury.
- IMPORTANT** – Important is used when an action or lack of action can cause equipment failure over a long period of time or immediately.

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## MONGOOSE SAFETY CONSIDERATIONS

The Sealweld Mongoose is a foot and hand-operated pump designed for injecting sealants, lubricants and cleaners into pressurized pipeline valves.

- ⚠ WARNING:** It is the operator's responsibility to read and understand the following safety statements.
  - Sealweld products are designed for industrial use and the Mongoose should only be used by a Certified Valve Technician who is familiar with the working principals, mechanical limitations & working pressures of the valve being serviced.
  - ALWAYS read and follow the valve manufacturer's recommendations before servicing a pressurized valve. If you have any questions, contact the valve manufacturer or a Sealweld office. When calling, have the following information available:
    - Valve Manufacturer's Name (and address if possible).
    - Model Number, Size & Pressure Rating.



*Nameplate: This information is usually found on the nameplate or on the body casting.*

Each Mongoose has a QT code laser-etched onto the backplate frame. Please scan the code to download the digital copy of this manual in accordance to your company's current document storage policy.

Regularly check our website for any amendments to this document.

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# GENERAL SAFETY PRECAUTIONS

## WARNING:

- All warning statements must be carefully observed and understood to help prevent a hazardous situation.
- When working with valves in a toxic or low O<sub>2</sub> environment, always wear a self-contained breathing apparatus and have backup safety watch standing by.
- Always consult the valve manufacturer's manual prior to commencing work on any valve. Do not exceed the working pressure of the valve when filling the body cavity. Be aware of the amount of energy this pump will generate and the mechanical limitations of the valve you are servicing.
- Never hit the Giant Buttonhead Coupler (#12) with a hammer or other objects to attach or remove the coupler from a fitting. Doing so may result in damage to the fitting which could cause serious personal injury or death.
- In the event where the internal checks in the valve under service fails, it can be very difficult or impossible to remove the Giant Buttonhead Coupler (#12). Ensure that all proper tools, procedures and products are readily available should such a problem arise. Product may push back into the sealant barrel contaminating the machinery. Never leave a contaminant in the sealant barrel.
- Do not operate the pump without a properly functioning pressure gauge. If the gauge shows signs of over-pressurization and is in poor operating condition, replace it immediately. The gauge should never exceed 10,000 PSI (690 bar).
- Do not use the machinery if it has been damaged. Use a mild solvent and cloth to keep the pump in clean, operating condition.
- Always repair or replace all worn, missing or broken pump parts before operating.
- Hydraulic pressure created inside the valve with a high pressure grease pump can stretch bolts on bolted plug valves and cause leakage. Should this occur, release pressure in the hydraulic pump and the flange should sit back down and the leakage should stop.
- Light valve lubricants, cleaners or liquid products can become a dangerous projectile in the event of a hose or fitting failure under high pressure.
- Test the pump before attempting to service a valve.
- Do not remove nameplates or labels.

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# PERSONAL SAFETY

## WARNING:

- Stay alert - do not operate this pump while tired or under the influence of alcohol, drugs or medications.
- Dress appropriately - always wear approved PPE, especially eye protection, when operating the Mongoose. Do not wear loose clothing or jewelry. Tie back long hair and keep clothing and gloves away from moving parts.
- Keep proper footing and balance at all times, maintain a firm grip when using a pump and do not overreach. Hold the machinery steady with a hand on one of the handle grips (#33) while operating the pump.
- Maintain a safe work environment. Keep a clean work site, ensure that you have proper lighting and that you have completed a Job Hazard Assessment (JHA). Ensure that you have the proper work permits and that your fellow workers are aware of the procedures and scope of work that you are about to perform.
- Always turn off your vehicle and work well downwind of all sources of spark or ignition.

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# HOSES

## **WARNING:**

It is the user's responsibility to read and understand the pump operator's manual for the hydraulic pump. Ensure the latest version of the manual is easily accessible to valve technicians.

- Should a hose ever rupture, burst or need to be disconnected, immediately shut off the pump and release all pressure. Never attempt to grasp a leaking pressurized hose with your hands. The force of escaping hydraulic fluid or product could cause serious injury.
- Inspect and tighten all hose connections as required before operating.
- Use only Sealweld Corporation replacement parts and hoses.
- Before replenishing the fluid level, retract the system (push piston to bottom of barrel) to prevent overfilling the pump reservoir. Over filling can cause excess reservoir pressure.

## **WARNING:**

Be aware of the following factors that can reduce the hose life:

- Environment – Extreme temperatures, UV light, chemicals and ozone can degrade the rubber used in hydraulic hoses.
- Abrasions and cuts – Wear against other hoses or objects will weaken the outer cover and can lead to corrosion of the reinforcing mesh. Do not subject the hoses to sharp edges, extreme heat or cold, fire or heavy impact. Periodically inspect the hoses for wear and replace them if damaged.
- Extreme pressure fluctuations – Pressure surges above the hose's working pressure can damage its components.
- Improper length/routing – Excessive bending of the high pressure hoses causes high stresses in the hose's components and may also reduce pressure capacity. Avoid excessive bending/twisting as it can reduce the hose's lifetime severely.
- Corrosive Materials – The hydraulic hose material must be compatible with the hydraulic fluid used. Hoses must not come in contact with corrosive materials such as creosote-impregnated objects and some paints. Consult the manufacturer before painting a hose and never paint the couplers.

# Technical Data

Figure 1 Back, side and front views of the Mongoose with key dimensions and features.

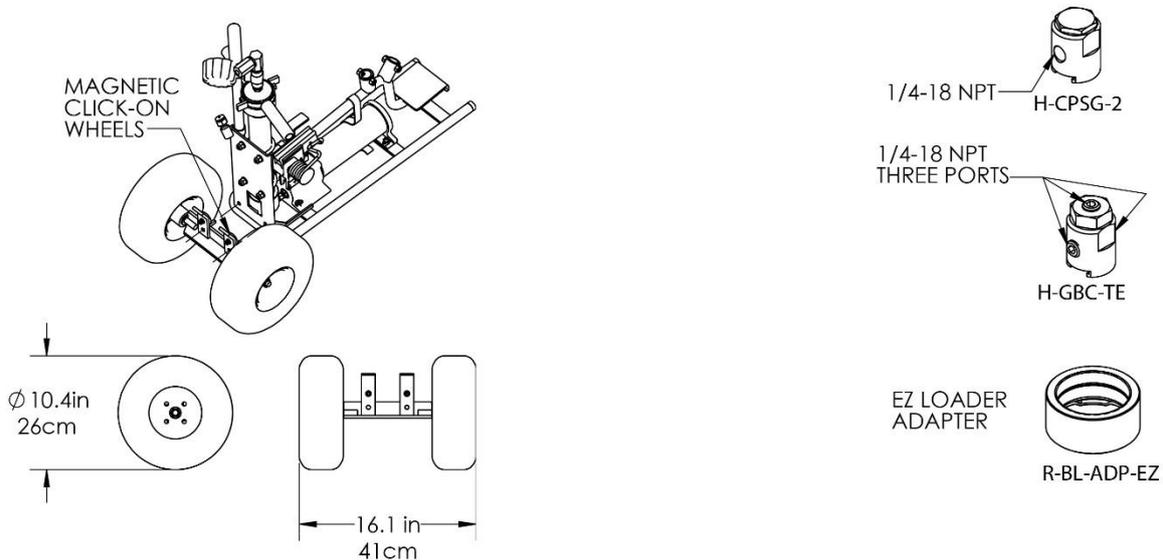
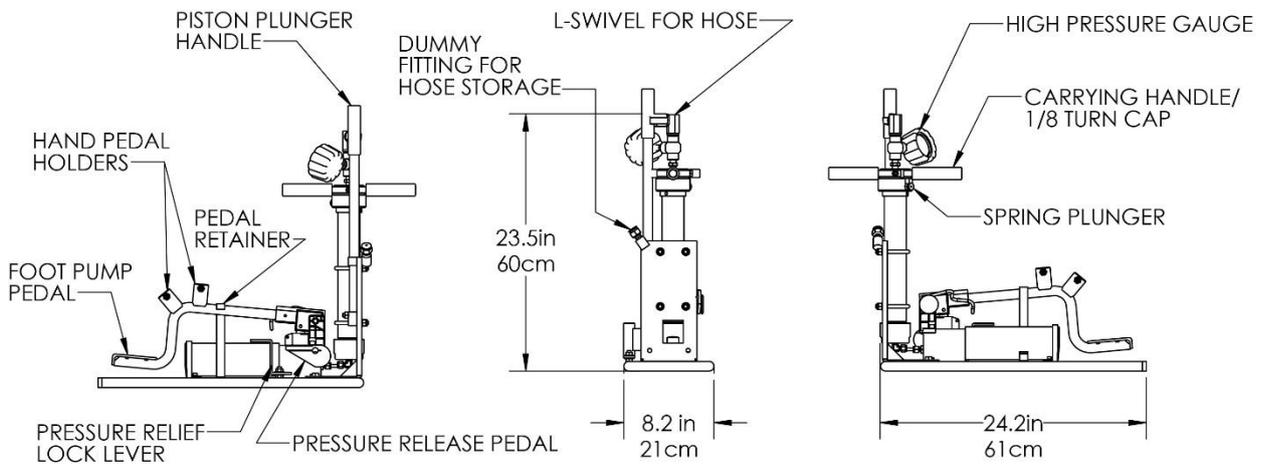


Figure 2 Optional magnetic click-on wheels

Figure 3 Couplers and loading adapter

The Sealweld Mongoose is a portable sealant injection pump designed for use with grease sticks and cartridges with a new patented 1/8<sup>th</sup> turn cap for extremely fast and easy reloading. The pump can also come with an EZ-loader adapter for rapid loading of grease cartridges. The cap rotates 45° to open/close and locks with a pull-and-twist pin lock. The pump can generate injection pressures up to 10,000 psi (690 bar) and has a total barrel capacity of 11.5 oz. (340 ml) which is discharged at a rate of 11 strokes per ounce (30 ml). An ergonomic carrying handle and a unit weight of 39 lb. (18kg), and optional magnetic click-on wheels allow for easy transportation of the pump.

# Loading Instructions

**IMPORTANT:** Read and understand these instructions before attempting to load the Mongoose.

1. Relieve any pressure in the pump by pressing the pressure release pedal down; rotate the lock tab (#25) to keep the pedal depressed.
2. Remove the piston plunger handle (#28)
3. Pull and twist the retractable spring plunger (#41) 90°
4. Rotate the cap (#43) counterclockwise 45° then lift.
5. When switching to a new product, make sure to wipe off any old product using a mild solvent on the top of the piston stop (#36) and inside the cap (#43). If the cap is tough to pull off, smear a bit of Equa-Lube 80 or a similar product on the O-ring (#15) and cap threads to ensure smooth operation.
  - a. If using a cartridge product, use the EZ-loader to load the cartridge. Loading the cartridge product into the barrel will push the piston to the bottom of the barrel.
  - b. If using a stick product, first push the piston down to the bottom of the barrel using the plunger handle (#28). Insert the desired stick product.
6. Firmly push the cap (#43) vertically onto the breech lock adapter (#14).
7. Twist the retractable spring plunger (#41) back again until it snaps into the groove and rotate the cap clockwise 45°. Make sure that the cap is firmly locked on.
8. Twist the lock tab (#25) back to raise the pressure release pedal before pumping.

Note: the cap can connect to the breech lock adapter in four different positions. Always make sure that the cap is locked on so that the pressure gauge is easily readable from your point of view while pumping. The carrying handles should either be parallel or perpendicular to the direction of the pump when locked in.

# Testing Instructions

 **WARNING:** Always use the proper PPE when doing a high-pressure test.

1. Load a low-viscosity lubricant, Equa-Lube Eighty or a similar product, into the sealant barrel using the loading instructions above.
2. Connect the injection hose coupler (#12) to a deadhead assembly (a buttonhead injection fitting threaded into a quarter-turn release valve).
3. Close the deadhead assembly.
4. Using the foot pump pedal, slowly build pressure on the deadhead assembly while watching the injection pressure gauge (#20).
5. Once the pressure reaches 10,000 psi (690 bar), stop pumping.
6. Observe the pressure gauge for 2 minutes and watch for any indications of pressure loss.
7. Slowly release the pressurized lubricant into a rag or pail using the deadhead release valve.
8. Repeat steps 3 through 7 several times until you are satisfied that the pump is working to specifications.

# Operating Instructions

**⚠ WARNING:** Read all instructions before operating the Mongoose.

## INJECTION PROCEDURES

Attach the Giant Button Head Coupler to the sealant injection fitting on the valve to be serviced.



Figure 3

**⚠ WARNING:** Ensure that the cap is firmly locked on before pressurizing the pump.

1. Ensure the pump is loaded as instructed on the previous page.
2. Push the pump pedal down and rotate the pedal retainer off when you are ready to begin pumping.
3. Start injecting product by engaging the pump pedal by foot or by inserting the piston plunger handle (#28) into one of the hand pedal holders (#22) and engaging by hand.

Always monitor the pump gauge to keep track of the injection pressure. Damaged injection fittings may not seal properly against the coupler. If this is the case, reposition the coupler until a seal is achieved. If the sealant coupler continues leaking, inspect the fitting and install a Leak-Lock adapter if required. Keep in mind that the discharge rate is approximately 11 strokes per ounce (30ml) with full strokes on the pump.

In the case of a plugged sealant fitting, the pressure gauge will climb rapidly and hold when pumping stops. Consult a Sealweld valve maintenance technician for specific advice on remedies for plugged fittings.

When the sealant barrel is empty, the piston assembly will reach the top of the barrel and the pressure gauge will drop and the pump will become difficult to operate. When this happens, it is time to reload; refer to the Loading Instructions.

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## HOW TO TRANSPORT

**IMPORTANT:** When you are finished servicing a valve, ALWAYS depress the pressure release pedal and engage the lock lever to secure it in place before disconnecting the coupler from the valve.

1. Coil the hose around the cap and hook the coupler onto the dummy fitting on the sealant barrel as shown.



2. Keep the hose and L-swivel in place, insert the piston plunger into the receptacle loops found on vertical back plate.
3. Lift and carry the pump by the breech cap handles or attach the optional magnetic click-on wheels and move it to the next valve.

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## HOW TO CHANGE PRODUCT

**IMPORTANT:** Dispose of used product at an appropriate hazardous waste disposal facility

1. When changing products, always purge the old material out of the sealant barrel and hose assembly before servicing the next valve.
2. Load the barrel with the new lubricant type as per the Loading Instructions.
3. Pump the old material out of the hose assembly and into an old pail to avoid wasting any material.
4. It may take some time to purge the old material from the sealant barrel and hose assembly, especially with highly viscous products. Carefully watch the product coming out of the coupler for remnants of the old product.
5. Keep the inside and outside surfaces of the Breech Lock Cap (#43) and mating adapter (#14) clean and well lubricated.

# Troubleshooting Hints

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## MINOR REPAIRS AND MAINTENANCE

**⚠ WARNING:** Consult this manual or the manufacturer before attempting repairs to the Mongoose.

### Problem

The pump piston is sluggish or moves in short spurts.

### Possible Causes and Solutions

1. The oil level in the pump reservoir is low.  
Return the piston to the bottom of the sealant barrel. Remove the vent/fill cap and fill the reservoir to the level mark. Replace the cap.
2. A hydraulic coupler is loose.  
Inspect all couplers and tighten any loose connections.
3. Air is trapped in the system.  
Return the piston to the bottom of the barrel. Remove the hydraulic cylinder plug and ensure that there is sufficient hydraulic oil inside. Tip the Mongoose onto its back with the cylinder in a vertical position, depress the hydraulic release pedal and pump the handle 3-4 times. Top up the oil as necessary and replace the hydraulic cylinder plug.
4. The pump pack cylinder plunger is binding.  
Check for damage to the cylinder. If damaged, have it serviced by a qualified hydraulic technician.

### Problem

The piston advances but doesn't hold pressure.

### Possible Causes and Solutions

1. A hydraulic connection is leaking.  
Inspect all couplers and tighten any loose connections.
2. A hydraulic seal or internal connection has failed.  
Have the pump serviced by a qualified hydraulic technician.

### Problem

The piston doesn't retract, retracts partially, or retracts very slowly.

### Possible Causes and Solutions

1. The pump reservoir fluid level is too high.  
Drain excess fluid and level to the mark.
2. A hydraulic coupler is loose.  
Inspect all couplers and tighten any loose connections.
3. Air is trapped in the system.  
Remove the hydraulic cylinder plug and return the piston to the bottom of the barrel; ensure there is sufficient hydraulic oil in the cylinder. Tip the Mongoose onto its back with the cylinder in a vertical position, depress the hydraulic release pedal and pump the handle 3-4 times. Top up the oil as necessary and replace the hydraulic cylinder plug.
4. The piston or sealant barrel may be damaged.  
Manually pump the piston out of the barrel and check for damage. Replace any worn or damaged components. If the problem cannot be resolved, send the pump in for servicing.

# Parts List

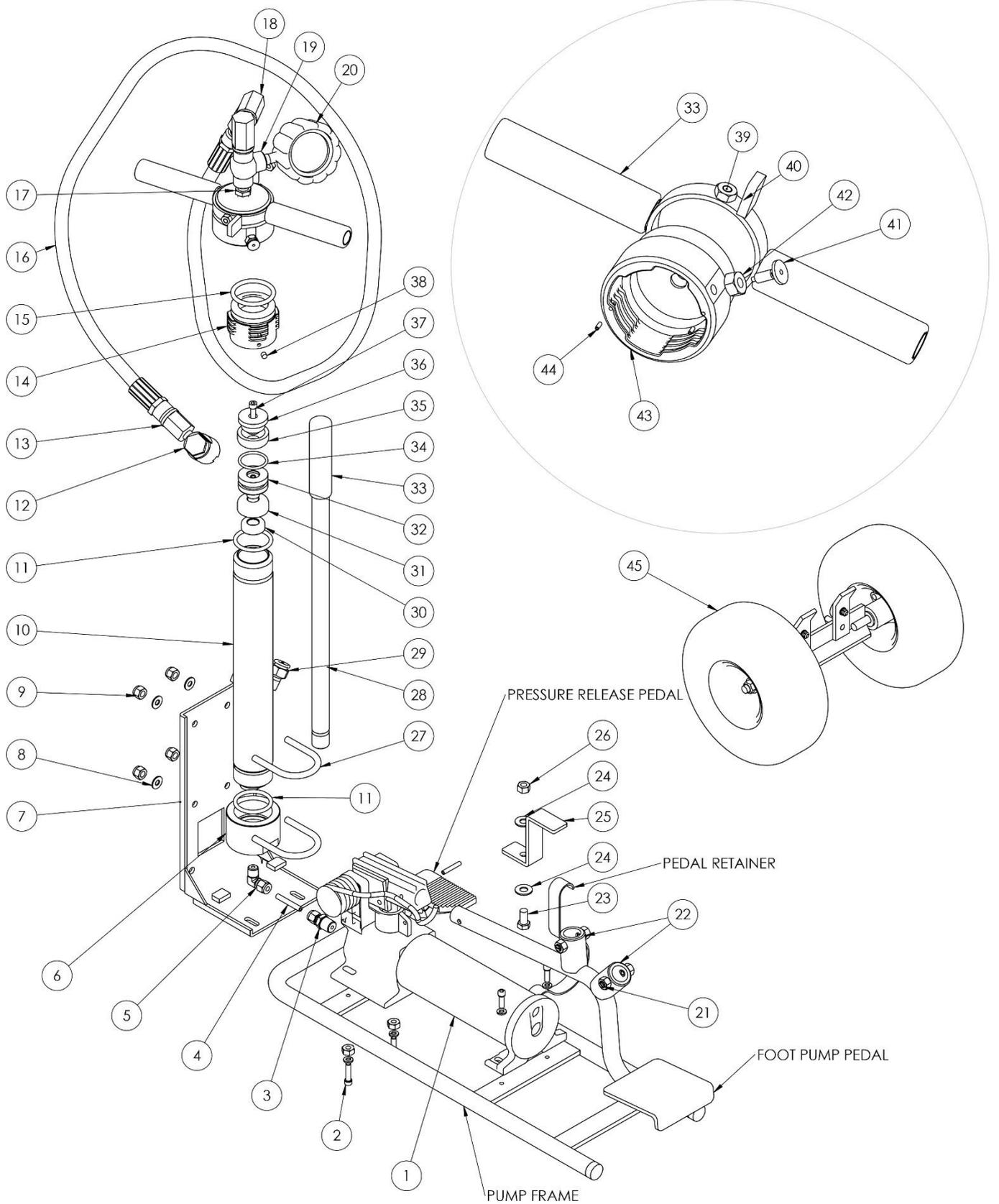
## MONGOOSE PART NUMBERS AND DESCRIPTIONS

ITEM	PART NUMBER	QTY.	DESCRIPTION
1	R-MG-PUMP	1	MONGOOSE PUMP
2	U-BOLT-1/4X1.25	2	BOLT, 1/4-20 UNC HEX SOCKET x 1.25 LONG
3	H-TF-3/8X1/4-SS	1	TUBE FITTING, 3/8 MNPT x 1/4 TUBING - SS316
4	H-TUB-1/4X1.65	1	TUBING, 1/4 DIA x 1.65 LONG - SS316
5	H-TF-1/4X1/4-ELB	1	TUBE ELBOW, 90 DEGREE 1/4 MNPT x 1/4 TUBING
6	R-A8-19D	1	CAP, BARREL END
7	R-MG-BP	1	MONGOOSE BACKPLATE
8	R-A8-32	4	WASHER, 5/16" NOMINAL SIZE - STEEL
9	R-A8-45	4	NUT, 5/16-18 UNC LOCKNUT - STEEL
10	R-MG-SB	1	MONGOOSE SEALANT BARREL
11	R-A8-19C *	2	BARREL O-RING,#326 3/16 x 1 5/8 x 2 NITRILE
12	H-CPSG-2	1	GIANT BUTTONHEAD COUPLER
13	H-SV-ST1	1	STRAIGHT SWIVEL - 1/4 NPT x 1/2-27 NS TAPER
14	R-BL-ADP	1	BREECH LOCK ADAPTER
15	U-OR-328 *	1	O-RING, #328 3/16 x 1-7/8 x 2-1/4 NITRILE
16	H-HS-60XHP	1	5FT HP HOSE 1/4 DIA - 10,000 PSI
17	H-AD-4M4M	1	ADAPTER, 1/4 MNPT x 1/4 MNPT
18	H-SV-L1	1	L-SWIVEL 1/4 NPT x 1/2-27 NS TAPER
19	H-T-444	1	HIGH PRESSURE TEE - 1/4F x 1/4F x 1/4F NPT
20	H-GD-01C	1	HP GAUGE ASSEMBLY - 15,000 PSI
21	U-SSCREW-3/8	5	SET SCREW, 3/8-16 UNC SPRING LOADED BALL
22	R-MG-HPH	2	HAND PEDAL HOLDER
23	U-BOLT-3/8X3/4	1	BOLT, 3/8-16 UNC x 3/4 LONG STEEL
24	U-WASH-3/8	2	WASHER, 3/8 NOMINAL SIZE - STEEL
25	R-MG-RPLT	1	RELEASE PEDAL LOCK TAB
26	U-LNUT-3/8	1	LOCK NUT, 3/8-16 UNC - STEEL
27	R-A8-22B	2	U'-BOLT - 5/16-18 UNF X 1 7/8 MUFFLER CLAMP
28	R-MG-PH	1	PLUNGER HANDLE
29	R-MG-CRF	1	COUPLER RETENTION FITTING
30	R-A8-20F	1	PISTON CUP RETAINING NUT
31	R-HG-08H *	1	PISTON SEAL CUP 1 1/2 DIA. - LEATHER
32	R-A8-20D	1	PISTON ACTIV8 FW STYLE
33	R-MG-HAN-GRIP	3	MONGOOSE HANDLE GRIP
34	R-A8-20E *	1	PISTON QUAD-RING 1/8 x 1 1/4 x 1 1/2 - NITRILE
35	R-A8-20C *	1	PISTON SEAL CUP 1 1/2 DIA. - NYLON
36	R-A8-20B	1	STOP, ACTIV8 PISTON
37	R-A8-20A	1	SCREW, 1/4-20 UNC x 1 ALLEN CAP
38	U-SSCREW-12X3/16	2	SET SCREW- #12-24UNC x 3/16 LONG
39	U-SSCREW-1/4X3/8	2	SET SCREW, 1/4-20 UNC X 3/8 LONG
40	R-MG-HAN	1	MONGOOSE HANDLE
41	R-MG-HRSP	1	HAND RETRACTABLE SPRING PLUNGER
42	U-HNUT-1/4	1	HEX NUT, 1/4-20 UNC - STEEL
43	R-BL-CAP	1	BREECH LOCK CAP
44	U-RPIN-3/32X1/4	2	ROLL PIN 3/32 DIA x 1/4 LONG - STEEL
45	R-MG-WH-ASM	1	*OPTIONAL* MONGOOSE WHEEL ASSEMBLY

\* Included in Soft Seal Repair Kit – Part No. R-MG-RK-SS

The Major Repair Kit includes the Soft Seal Repair Kit parts – Part No. R-MG-RK-MAJ, as well as the Enerpac repair kit P392FPK1 and hydraulic oil.

# PARTS BREAKDOWN



# Warranty

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## PUMP WARRANTY

Sealweld Corporation warrant our products only against defects in materials and workmanship.

Sealweld Corporation's liability and customer's exclusive remedy under this warranty extends for a period of one (1) year from the date of Sealweld Corporation's shipment and is expressly limited to repayment of purchase price, repair or replacement, at Sealweld Corporation's option, during said period, upon proof satisfactory to Sealweld, and upon customers returning and prepaying all charges on such products to factory or warehouse designated by Sealweld. Warranty excludes normal wear items such as packing's, seals and filters. Also excluded is equipment subject to corrosion, contamination, negligence, accident, or units, which have been altered in any way.

This warranty is made expressly in lieu of all other warranties, express, implied or statutory, with respect to quality, merchantability, or fitness for a particular purpose.

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The information contained within this manual is solely advisory.

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