

# Saajhi™ Stepping Pump

PRODUCT MANUAL

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**CAUTION:** For use by one operator at a time.



**WARNING:** Moving parts may cause physical harm.  
Keep all body parts and loose clothing away from moving parts.



**CAUTION:** Extended use can cause physical fatigue. Take breaks often and when needed. Immediately stop use if you feel dizzy or lightheaded.

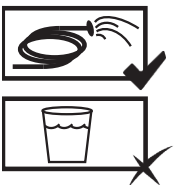


**CAUTION:** Use of this pump with liquids other than water will cause cross-contamination and may lead to illness or death.



**DANGER:** Use with any hazardous, caustic, corrosive, or flammable liquids or vapors could result in damage to the product and the surrounding environment; including but not limited to exposure to hazardous substances and personal injury.

**WARNING:** Uneven surfaces may cause tipping.



This pump is designed for use with fresh water only.  
This pump is designed for use with non-potable water only. Do not use for drinking water.

# DEFINITIONS

**Saajhi** - derived from the Hindi word saajhedaari, or partnership.

**Flow Rate** - the amount of fluid that flows in a given time. Units: gallons per minute (GPM), liters per minute (LPM), 1 GPM = 3.79 LPM or 10 GPM = 37.9 LPM

**Pressure** - amount of force acting per unit area. Units: feet of water (ft of water) at 4° Celsius (39° Fahrenheit)

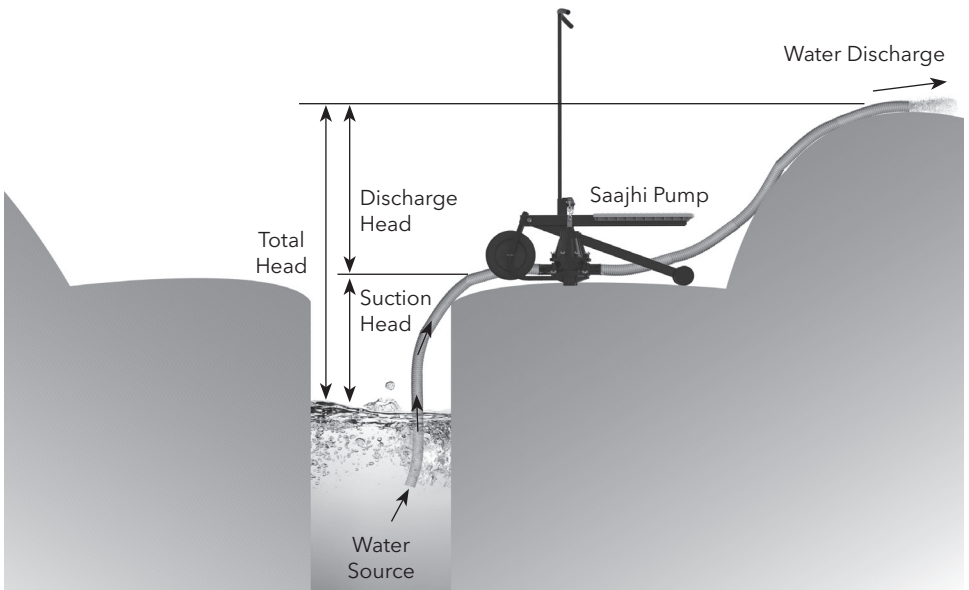
**Suction Head** - vertical drop from pump to water source. Units: feet (ft), meters (m), 1 ft = 0.3 m or 10 ft = 3 m

**Discharge Head** - vertical height from pump to water discharge. Units: feet (ft), meters (m), 1 ft = 0.3 m or 10 ft = 3 m

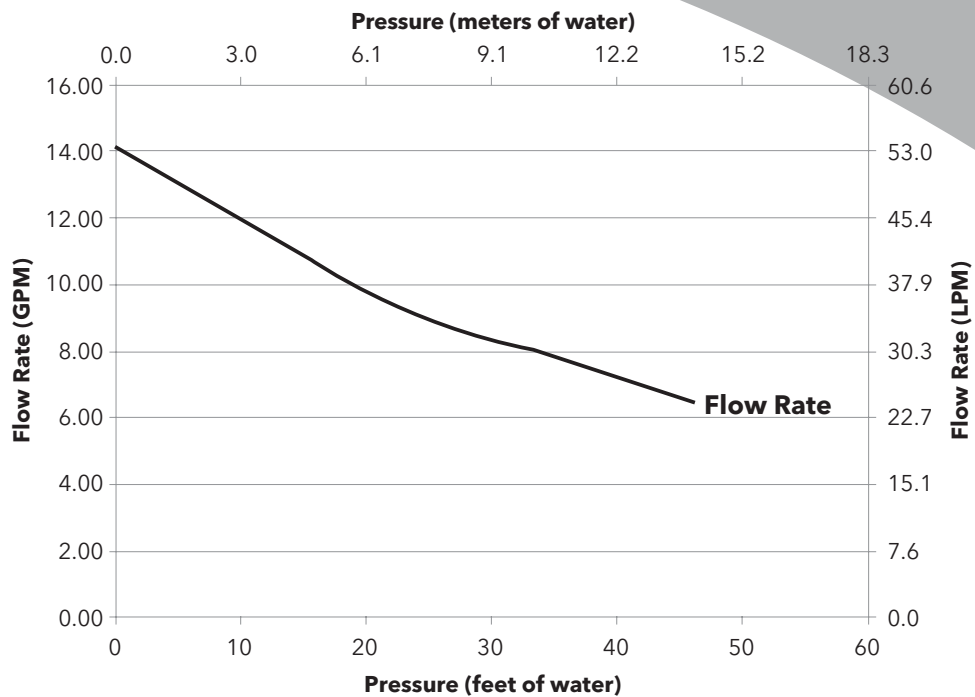
**Total Head** - suction head plus discharge head. Units: feet (ft), meters (m), 1 ft = 0.3 m or 10 ft = 3 m

**Total Dynamic Head** - the total equivalent height that a fluid is to be pumped, taking into account friction losses in the pipe. Units: feet (ft), meters (m), 1 ft = 0.3 m or 10 ft = 3 m

**Diaphragm** - a shaped thin flexible sheet of material (rubber) forming a partition (between water and atmospheric air).



Saajhi Flow Performance Curve\*



The Saajhi Flow Performance Curve represents the product's total dynamic head. To calculate your flow output, simply add the suction head {depth} to the discharge head {height} to obtain the total head and read from the chart. In normal applications a user will not exceed 20 feet suction head.

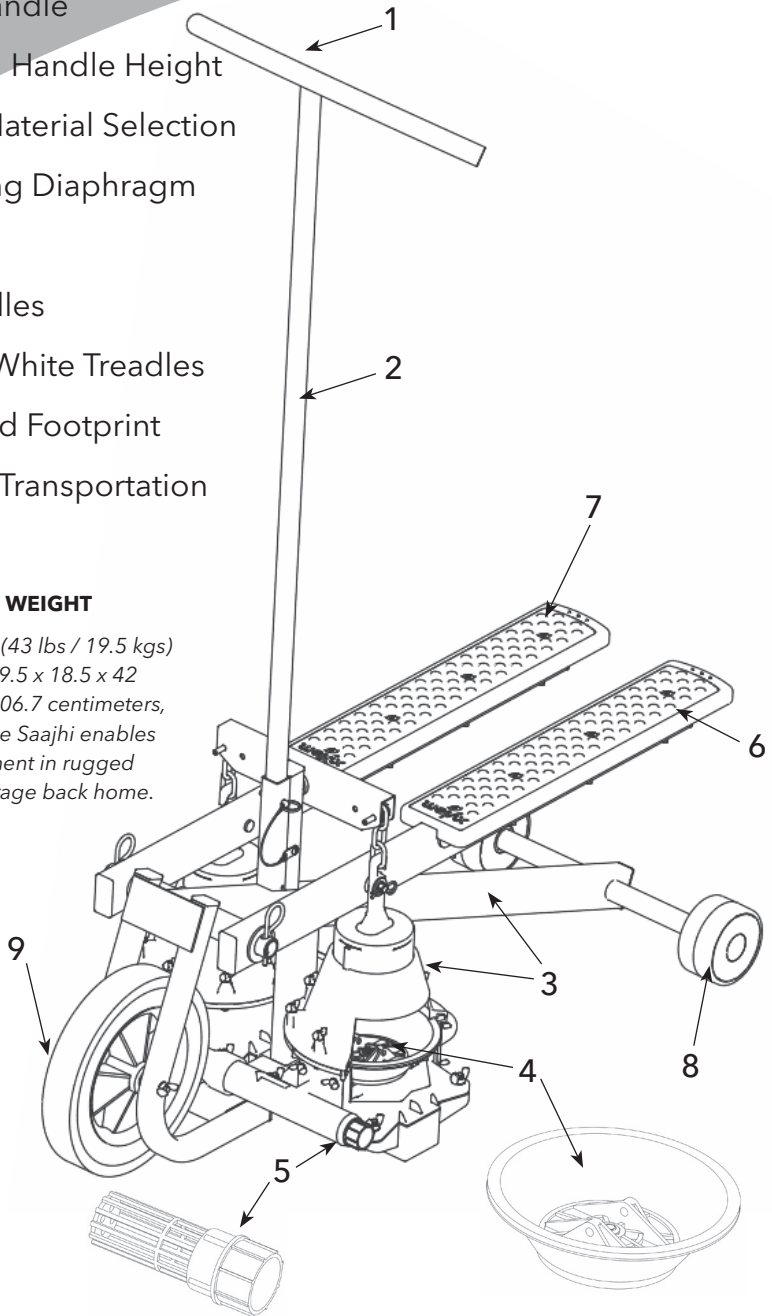
\* Flow rate is approximate and is subject to standard test conditions. Result may vary based upon human operator's speed and force and other conditions.

# FEATURES

1. Curved Handle
2. Optimized Handle Height
3. Discrete Material Selection
4. Self-Priming Diaphragm
5. Filter
6. Long Paddles
7. Textured, White Treadles
8. Engineered Footprint
9. Wheel for Transportation

## **SMALL OVERALL DIMENSIONS AND WEIGHT**

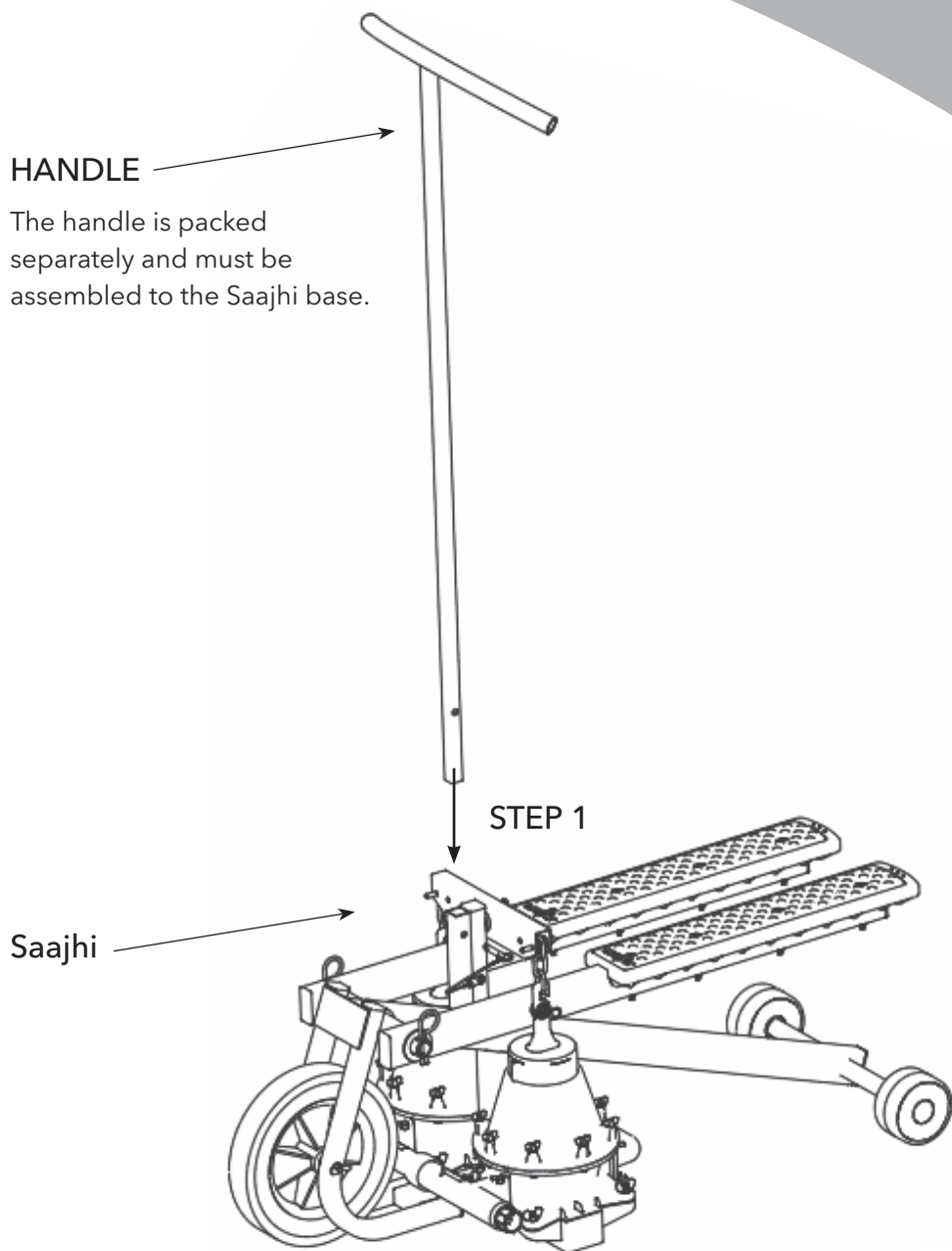
*With its light weight (43 lbs / 19.5 kgs) and compact size (19.5 x 18.5 x 42 inches, 49.5 x 47 x 106.7 centimeters, handle removed), the Saajhi enables both ease of movement in rugged terrain and easy storage back home.*



A

**HANDLE**

The handle is packed separately and must be assembled to the Saajhi base.

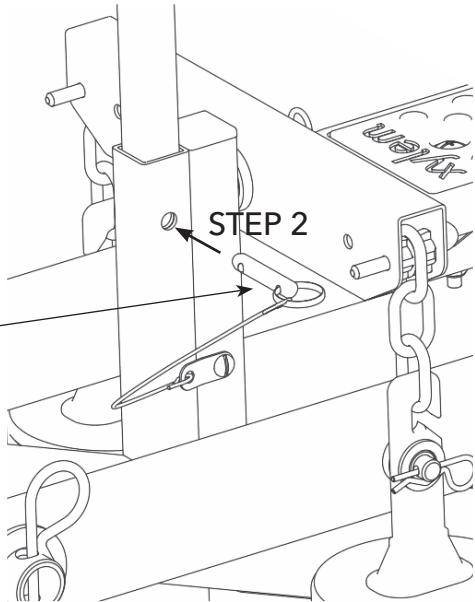


# ASSEMBLY

**B**

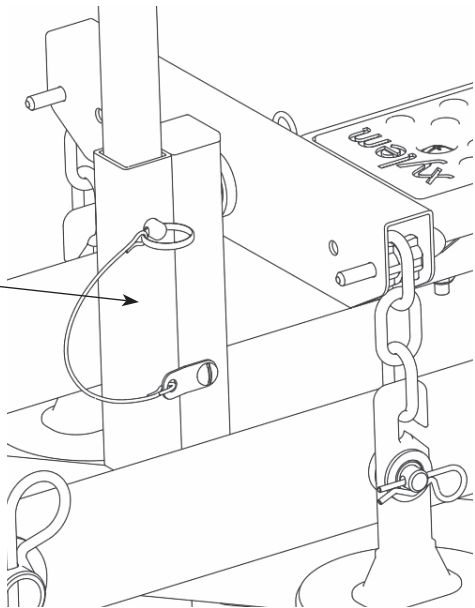
**PIN**

Line up the handle hole with the pump hole and push the pin into place.



**C**

The following is the fully assembled handle and pin.





## PRIOR TO OPERATION

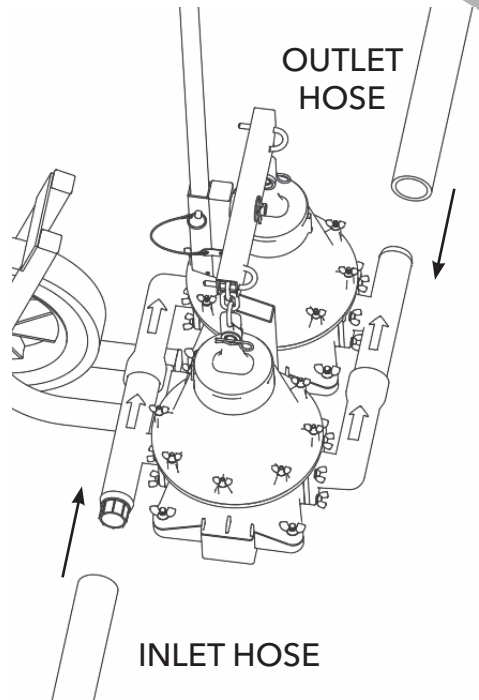
Push the inlet hose onto the inlet manifold identified by the arrow pointing AWAY from the point of entry.

Secure the inlet hose to the inlet manifold with a clamping device.

Push the outlet hose onto the outlet manifold identified by the arrow pointing TOWARDS the point of exit.

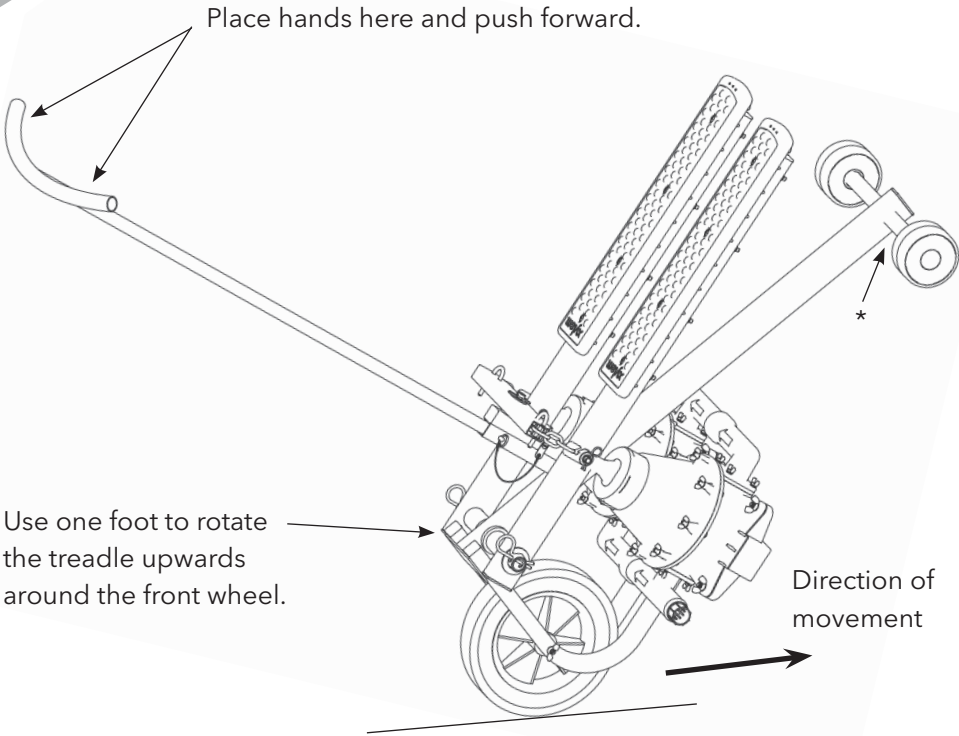
Secure the outlet hose to the outlet manifold with a clamping device.

**NOTE:** The pump may be used with or without the provided filter.



# TRANSPORTATION

SAAJHI EXCELS AT EASY  
TRANSPORTABILITY.



\* Alternately, a user may also grasp the rear support in this area and simply wheel the full pump forward.

Direction of movement

←

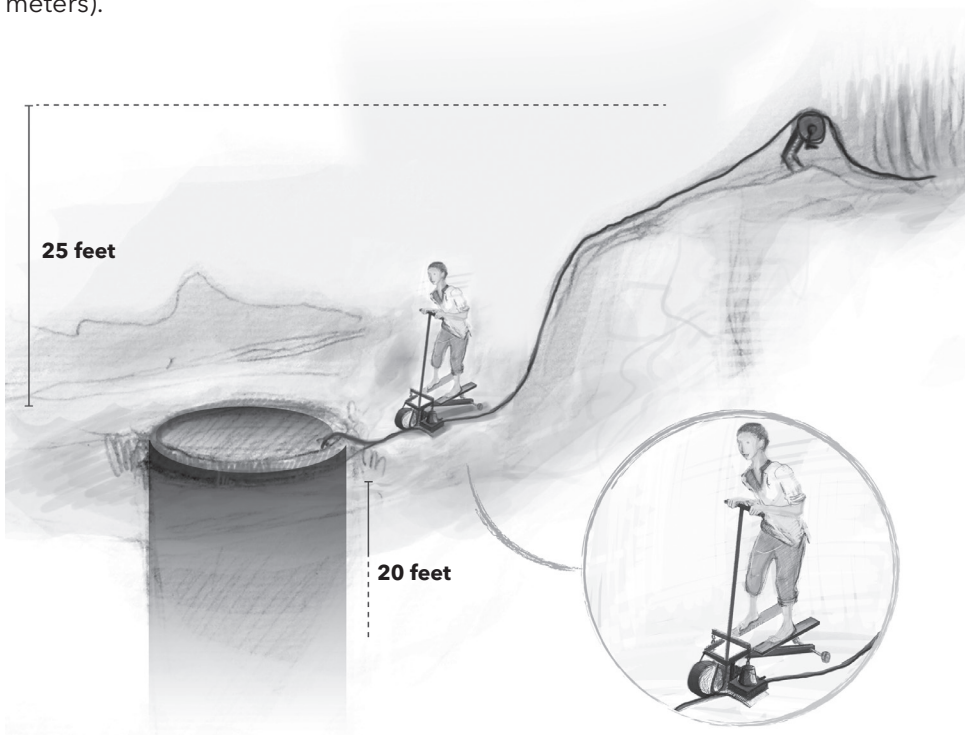
Place the Saajhi stepping pump a safe distance away from the water source and on a flat, level surface.

Place the inlet hose in water that has an INLET drop below the pump of between 0 and 20 feet (6 meters).

Place the outlet hose at a desired location with a maximum OUTLET height above the pump of 25 feet (7.6 meters).

Stand on the white pedals and push downwards, one pedal at a time as if climbing stairs.

Note that standing closer to the handles at low inlet and outlet heights will provide easier stepping. The opposite is true for high outlet and inlet heights.



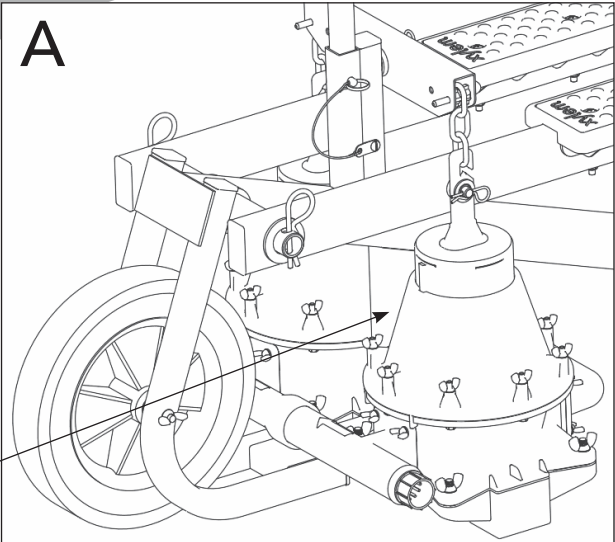
# MAINTENANCE

IF EITHER OR BOTH PUMPS ARE WORKING INCORRECTLY, THE DIAPHRAGMS MAY BE DAMAGED.

**FIGURE A:**

Locate the pump which is not working properly\*.

PUMP



**FIGURE B:**

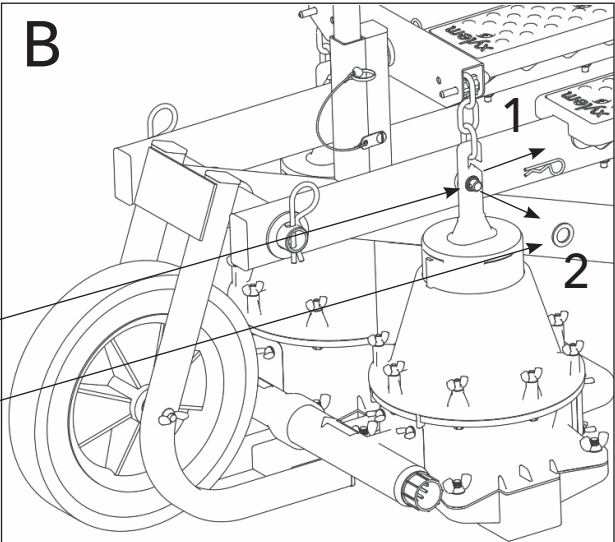
Locate the cotter pin and washer.

Remove the pin in STEP 1.

Remove the washer in STEP 2.

COTTER PIN

WASHER

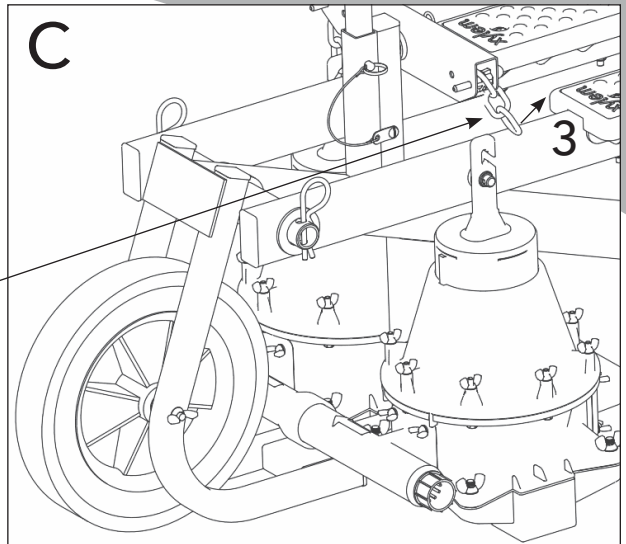


\*You may quickly identify the non-functioning pump by looking for water leakage between the cylinder and cone. Also, the non-functioning pump may push down easily, with little to no resistance.

**FIGURE C:**

Unhook the chain from the metal hook in STEP 3. You will need to hold up the adjacent pedal to accomplish this unhooking.

CHAIN

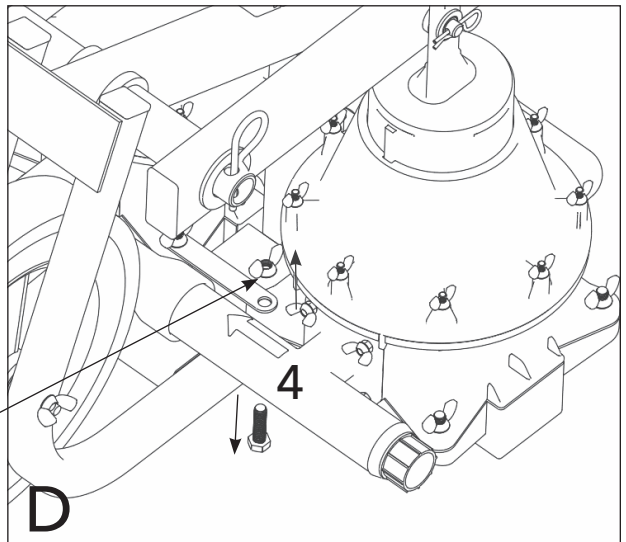


**FIGURE D:**

Remove the wing nut and screw in STEP 4.

Wing nuts allow easy disassembly and assembly operations in-field and are a unique feature to the Saajhi stepping pump.

WING NUT

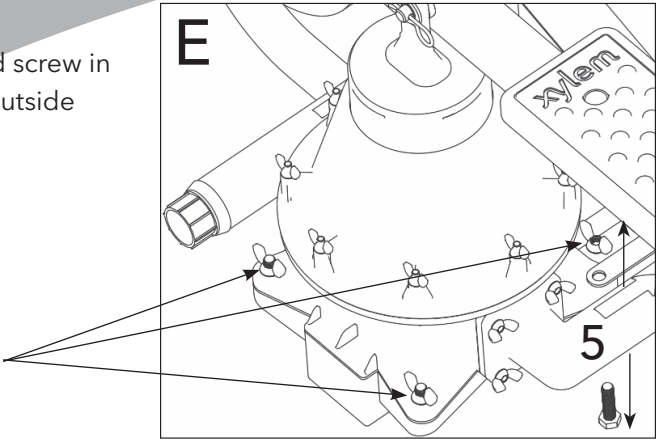


# MAINTENANCE

**FIGURE E:**

Remove the wing nut and screw in STEP 5. Loosen the two outside wing nuts.

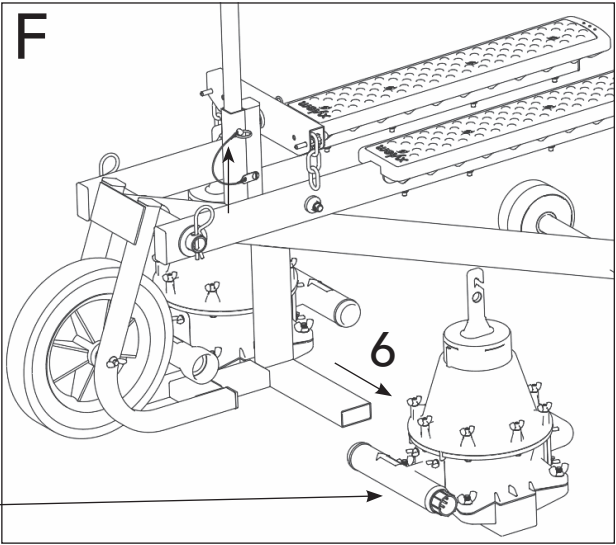
WING NUTS



**FIGURE F:**

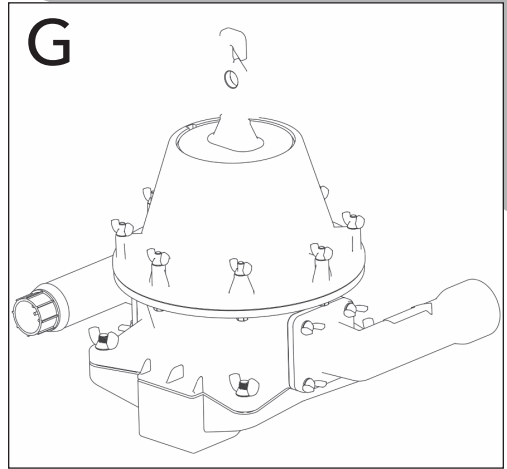
Pull the pump assembly from the Saajhi in STEP 6.

PUMP



**FIGURE G:**

The pump is now separate from the frame.



**FIGURE H:**

Remove the wing nuts in STEP 7.

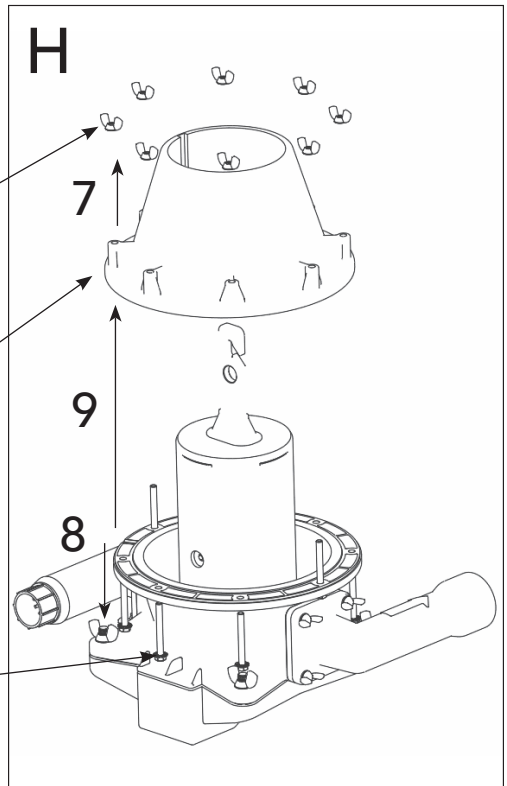
Remove all bolts in STEP 8.

Lift and remove the pump cone in STEP 9.

WING NUTS

PUMP CONE

BOLTS



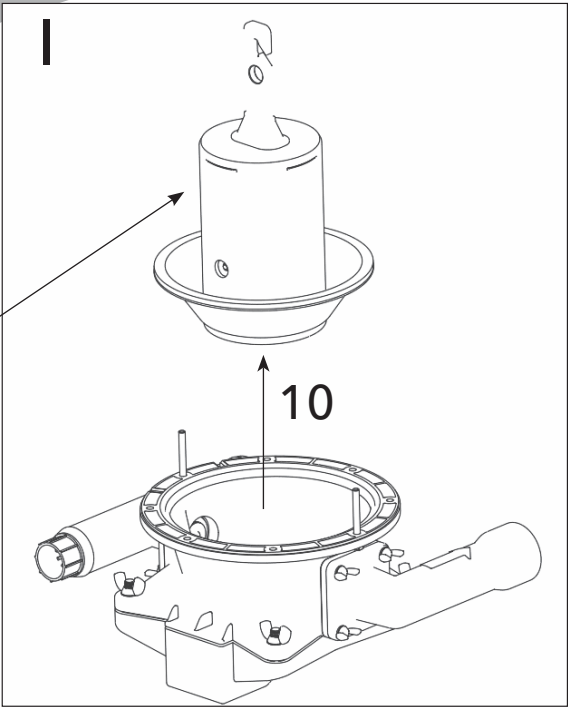
# MAINTENANCE

**FIGURE I:**

Lift the cylinder from the pump base in STEP 10.

While the cylinder and diaphragm are removed from the pump, check the valves for proper operation. The valves should flap back and forth easily by hand.

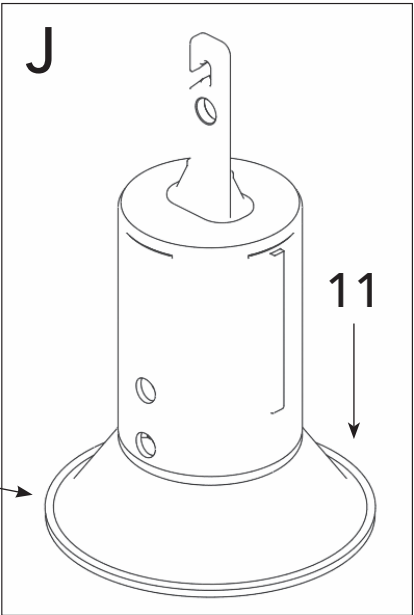
CYLINDER



**FIGURE J:**

Flip the diaphragm downwards from the cylinder in STEP 11.

DIAPHRAGM



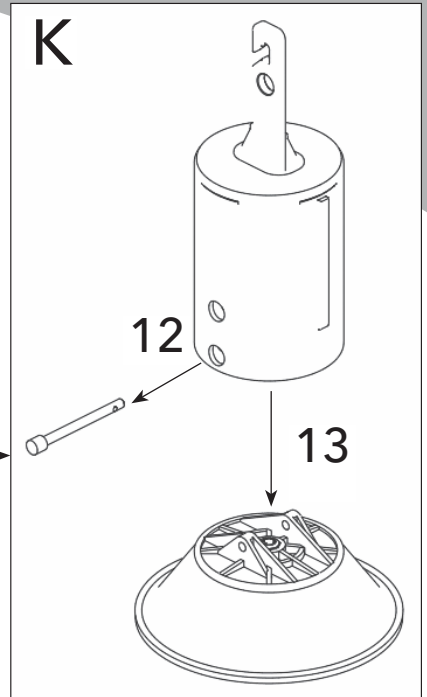


**FIGURE K:**

Push the pin outwards from the cylinder in STEP 12. You may use either your finger or a bolt from STEP 8 to push out this pin. Push the pin from its smaller end.

Remove diaphragm assembly in STEP 13.

PIN

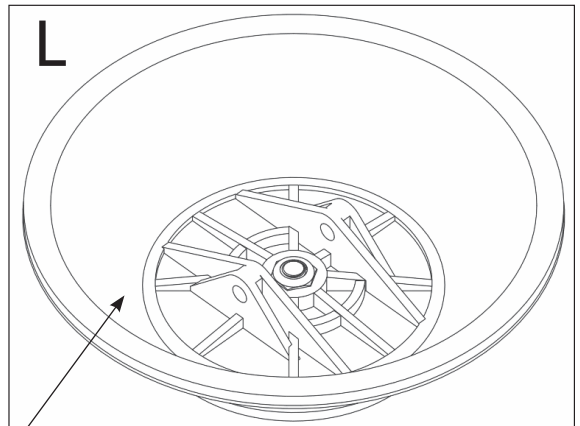


**FIGURE L:**

The diaphragm assembly is now separate from the pump.

Inspect the diaphragm assembly for holes. Replace the diaphragm assembly (Part Number M-6012) if damaged. If the diaphragm assembly is not damaged, check the screw under the diaphragm for tightness. If this screw is loose, tighten to reseal the diaphragm.

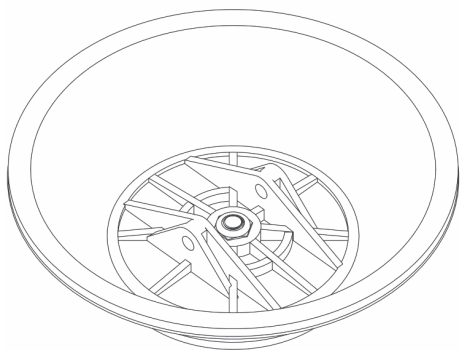
DIAPHRAGM



## STORAGE

When not in use, the Saajhi should be stored in a dry, safe place away from external elements. The pump should be emptied of all water and the outside surfaces should be cleaned or wiped down. For long term storage, the pedals should be level with each other.

## ACCESSORIES



**Diaphragm Assembly:**  
Part Number M-6012



**Chain:**  
Part Number M-6017



**Bundled Hose**  
(limited regional availability):  
Part Number SAJ15-109-HOSE

## CHECK

1. Inlet and outlet hoses for blockage
2. Inlet and outlet hose clamps for looseness
3. Filter for clogging
4. All wing nuts for looseness
5. Pump manifolds for correct connections
6. Attachment of chains to pump assemblies
7. All plastic bushings for wear

## CONTACT INFORMATION

Discover more about Xylem's alternative energy products and rural community engagement strategy by exploring our "Essence of Life" activity on-line at [www.EOLRippleEffect.com](http://www.EOLRippleEffect.com).



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# Xylem |'zīləm|

- 1) The tissue in plants that brings water upward from the roots;
- 2) a leading global water technology company.

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