

### R440 SERIES MODELS

- R440C** - Cast Iron Series (General AG Use)
- R440SS** - Stainless Steel Series (For use with harsh chemicals)
- R441C** - Cast Iron Series 1/2" Hollow shaft (General Ag Use)
- R441SS** - Stainless Steel 1/2" Hollow Shaft (For use with harsh chemicals)

### R440 SERIES SPECIFICATIONS

4 Roller Specifications	
Number of Rollers	4 Max Rollers
Roller Dimensions	1/2"
Port Size	3/4" FNPT
Shaft Diameter	5/8" Solid or 1/2" Hollow
Max Operating Speed	2600 RPM
Shaft Rotation	CW (See Rotation Arrow)
Cap Bolt Size	1/2" Head, 5/16"-18UNC Thread x 5/8" length

4 Roller Performance Chart			
PSI	1800 RPM	2200 RPM	2600 RPM
0	6.5	8.0	9.4
20	5.8	7.0	8.5
40	5.1	6.2	8.0
100	4.5	5.6	7.5
150	4.0	5.5	7.3

### PTO SHAFT INSTALLATION INSTRUCTIONS

1. Secure the PTO Coupling to the pump shaft by sliding the coupling forward and tightening the set screw(s) on to the pump's shaft. Do Not Allow coupling to touch pump's bearing.
2. Slide the Coupling onto the PTO Shaft and secure it by pulling the coupler collar back allowing it to lock onto the PTO Shaft.
3. Check pump's rotation arrow to ensure proper rotation.
4. To prevent the pump from rotating during operation, install a torque bar and chain (Remco PN: RMTAC).
  - a. Bolt one end of the chain to the torque bar.
  - b. Secure the other end to a stationary part of the tractor, be sure the chain is either directly above or below the torque bar.
  - c. Do not fasten pump rigidly to the tractor.
5. Once the pump is in position, install the inlet and outlet hoses according to the directional arrows located on the pump ports, 3/4" minimum hose size.

### GAS ENGINE/DIRECT DRIVE INSTALLATION GUIDE

1. Make sure that the speed (RPM) of the gas engine or electric motor is within the maximum RPM rating of your RollMax pump.
2. Make sure that the shaft rotation is correct between the pump and gas engine or electric motor.
3. Mount the gas engine or electric motor into position on base. Do not pump abrasive liquids.
4. Line up the pump shaft using a straight edge, shim the pump if necessary to match the shaft height of the gas engine or electric motor. Shaft ends should not be touching.
5. Mark the position of the pump and install the appropriate flexible coupler.
6. Tighten the pump mounting; then tighten the set screw of the couplers on each shaft.

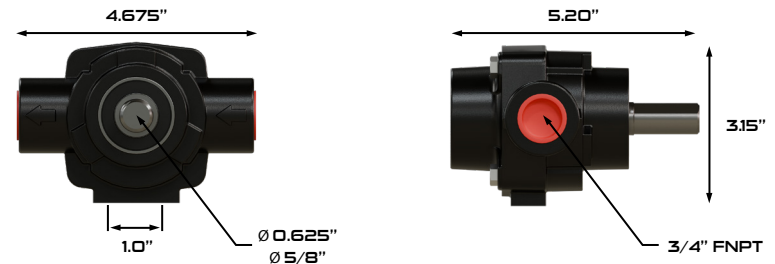
### INTENDED USE

RollMax Roller pumps are intended for creating or boosting pressure and, based on the materials of construction, will work with a variety of fluids. RollMax pump will work in a variety of environments but should never be used to pump liquids above 140F (60C) or below 34F (1C), or when the ambient temperature is above 140F (60C). Any uses outside of those specified in the manual are considered misuses and are prohibited. Contact Remco for any questions regarding specific applications.

### MATERIALS OF CONSTRUCTION

- Housing:** Cast iron (Black epoxy paint) or Stainless Steel
- Shaft Seals:** Viton
- O-Ring Seal:** Viton
- Shaft:** Stainless steel, hardened
- Roller & Rotors:** Steel over molded with hardened nylon
- Bearings:** Permanently lubricated, heavy-duty sealed ball/needle bearing

R440RK: RollMax Universal Repair Kit for R440 Series		
RP-R4	RollMax 1/2" Roller, Grilamid Hardened Nylon	4
RP-SSS	RollMax End Plate Shaft Seal, 5mm	2
RP-NBEP468	RollMax Needle Bearing	1
RP-ORING4	RollMax 4 Roller Body O-ring Seal	1
RP-PK4	RollMax 4 Roller Pill Key	1



### ROLLER PUMP OPERATIONAL INSTRUCTIONS

1. Be sure the inlet hose is clear, and the outlet (discharge) hose is open.
2. Begin rotating the pump, fluid should begin moving liquid within 10-15 seconds (Tip: Add a small squirt of oil to the inlet before operation to improve priming).
3. Never run the pump dry, this will create excessive heat and damage the internal components.
4. Do not pump abrasive liquids.
5. Do not use rusty or sandy water supply.
6. Do not dead head the pump. Closing off the outlet side of the pump without a pressure control valve installed will cause damage to the internal components (Install a simple relief or bypass valve to outlet side of the pump).

### ROLLMAX IS REBUILD READY

Remco's RollMax series can easily be serviced and rebuilt in a matter of minutes, the only tool required is a wrench. All of this is possible while the pump remains attached to the drive shaft and the plumbing remains intact.

1. Loosen and remove the 4 cap bolts.
2. Easily slide the pumps endplate off the shaft.  
- Be careful not to damage the shaft seal, and lubricate before reinstalling.
3. Inspect and replace worn rollers as needed with our universal repair kits (Remco PN: R440RK).
4. Lubricate and carefully reinstall the pump endplate and cap bolts.
5. RollMax is rebuilt and ready to spray.

Symptom	Probable Cause(s)	Corrective Action
<b>Pump Does Not Prime</b>	Leak in the Line	Check hose/fittings for leaks, tighten as needed
	Obstruction in the inlet line	Inspect hose and remove any obstructions
	Inlet hose suctioned to bottom/side of tank	Cut or notch a "V" in the end of the inlet hose
	Rollers stuck in pump	Remove end plate and inspect/replace rollers
	Pump seals leaking air	Replace seals
	Pump turning in wrong direction	Correct the pump rotation
<b>Loss of Pressure</b>	Clogged inlet strainer	Regularly check and clean stainer
	Kinked or blocked inlet hose	Inspect and repair inlet hose as needed
	Air leak on inlet side of pump	Check hose/connections for leaks, use pipe thread sealer and re-tighten as needed
	Low relief valve setting or weakened spring	Check relief valve and correct the setting or replace the spring
	Faulty gauge	Replace gauge
	Pump seals leaking air	Replace seals
	Worn out nozzle orifices	Replace nozzels
<b>Pump Will Not Turn</b>	Worn out pump	Repair pump using RollMax universal repair kit
	Corrosion (rust), scale, or residue inside pump	Clean if possible or replace pump
	Solid object lodged in pump	Disassemble pump and remove obstruction
<b>Excessive Noise/Vibration</b>	Loose or damaged coupler	Replace coupler
	Bent pump shaft	Replace pump
	Worn out rollers	Repair pump using RollMax universal repair kit
	Incorrect pump rotation	Correct the pump rotation
	Excessive speed over 2600RPM	Reduce shaft speed to 2600RPM or below

### LIMITED WARRANTY INFORMATION

Remco warrants its products to be free from material and workmanship defects (under normal use and service) for a period of one (1) year from the date of manufacture, or one (1) year use with proof of purchase, not to exceed two (2) years in any event. The limited warranty will not apply to pumps that were improperly installed, misapplied, or incompatible with fluids or components not manufactured by REMCO. REMCO will not warrant any pump which is damaged or modified outside the REMCO factory.

All pumps/products must be flushed of any chemicals before shipping. All warranty considerations are governed by Remco's written Return Policy.

Returns are to be shipped postage prepaid to our service center in Osakis, MN. REMCO shall not be liable for freight damage incurred during shipping. Package returns carefully and include the RMA number on the packaging. REMCO INDUSTRIES, 10425 Wildlife Loop SE, Osakis, MN 56360.

Upon receiving a pump, it will be tested per REMCO's test criteria. REMCO's obligation under this warranty policy is limited to the repair or replacement of the unit. Pumps found not defective (under the terms of this limited warranty) are subject to charges to be paid by the returnee for the testing and packaging of "tested good" units. No credit or labor allowances will be given to the returnee for pumps returned as defective. Warranty replacements will be shipped on a freight allowance basis. REMCO reserves the right to choose the method of transportation.

This limited warranty is in lieu of all other warranties, expressed or implied, and no other person is authorized to give any other warranty or assume obligation or liability on REMCO's behalf. REMCO shall not be liable for any labor, damage, or other expenses, nor shall REMCO be liable for any indirect, incidental, or consequential damages of any kind incurred by the reason of the use or sale of any defective product or part. This limited warranty covers pumps distributed within the United States of America. Other world market areas should consult with the distributor for any deviation from this document.