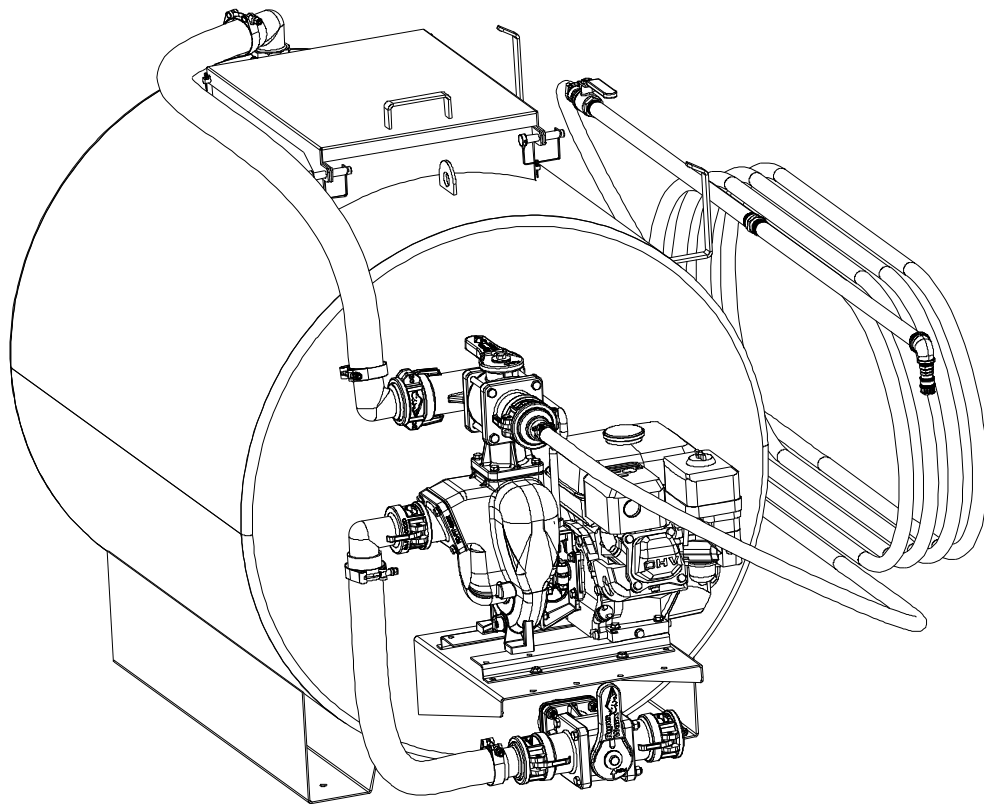


RynoWorx

Tank Sealcoating Spray Systems Operator's Manual



Aluminum Pump
Launtop Engine
RA-SSY-0008
RA-SSY-0009

Cast Iron Pump
Launtop Engine
RA-SSY-0002
RA-SSY-0006

Cast Iron Pump
Honda Engine
RA-SSY-0007
RA-SSY-0010
RK-SSY-0022
RK-SSY-0023

*RA-SSY-0007 Pictured Above
RC-SUM-0004 - Rev 4



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Warning

- ⚠ Failure to follow all safety precautions can result in serious injury or death
- ⚠ RynoWorx Inc. assumes no liability for any accident or injury incurred through improper use of machine
- ⚠ CHECK ENGINE OIL LEVELS BEFORE FIRST USE
- ⚠ Read all instructions and warnings in this manual as well as the engine manufacturer's manual before operating this equipment
- ⚠ Verify all seals and clamps for all connections are tightened before each use of this equipment
- ⚠ This equipment is designed for outdoor use only
- ⚠ Be sure to always wear personal protective equipment when operating this equipment. Eyes, Gloves, Hearing
- ⚠ Carefully read all Material Safety Data Sheets (SDS) for sealer products being used before operating this equipment. Refined coal tar, and Asphalt Emulsion sealers can cause health risks if not properly handled
- ⚠ Only genuine replacement parts should be used for any replacements or repairs. Do not attempt to modify or alter this product in any way
- ⚠ Observe all caution and warning signs on machine
- ⚠ Do not leave unattended when running
- ⚠ Never point the spray wand at another person
- ⚠ Keep all body parts out of lid opening when the unit is running
- ⚠ Keep hands and arms clear while opening and closing the lid
- ⚠ Keep the tank lid closed during operation
- ⚠ Do not let any sealer freeze or dry inside the unit's plumbing
- ⚠ Never enter the tank with sealer inside
- ⚠ Always drain the tank and let any residual sealer dry before entering the tank
- ⚠ Replace any hoses that show wear, fraying or splits. Be sure all joints are leak proof
- ⚠ Never operate near an open flame or use any type of flame to unclog the plumbing
- ⚠ Check all operation manuals for warnings, cautions and to ensure proper maintenance procedures are followed
- ⚠ Always turn the gas off on the engine before transporting

Required Tools

Required:

10" Pipe Wrench (with 1.5" Jaw) or Vice
Adjustable Wrench (1.5")

Optional:

Needle Nose Pliers
Ratchet set
Teflon tape
Adjustable wrenches to substitute for any wrench above

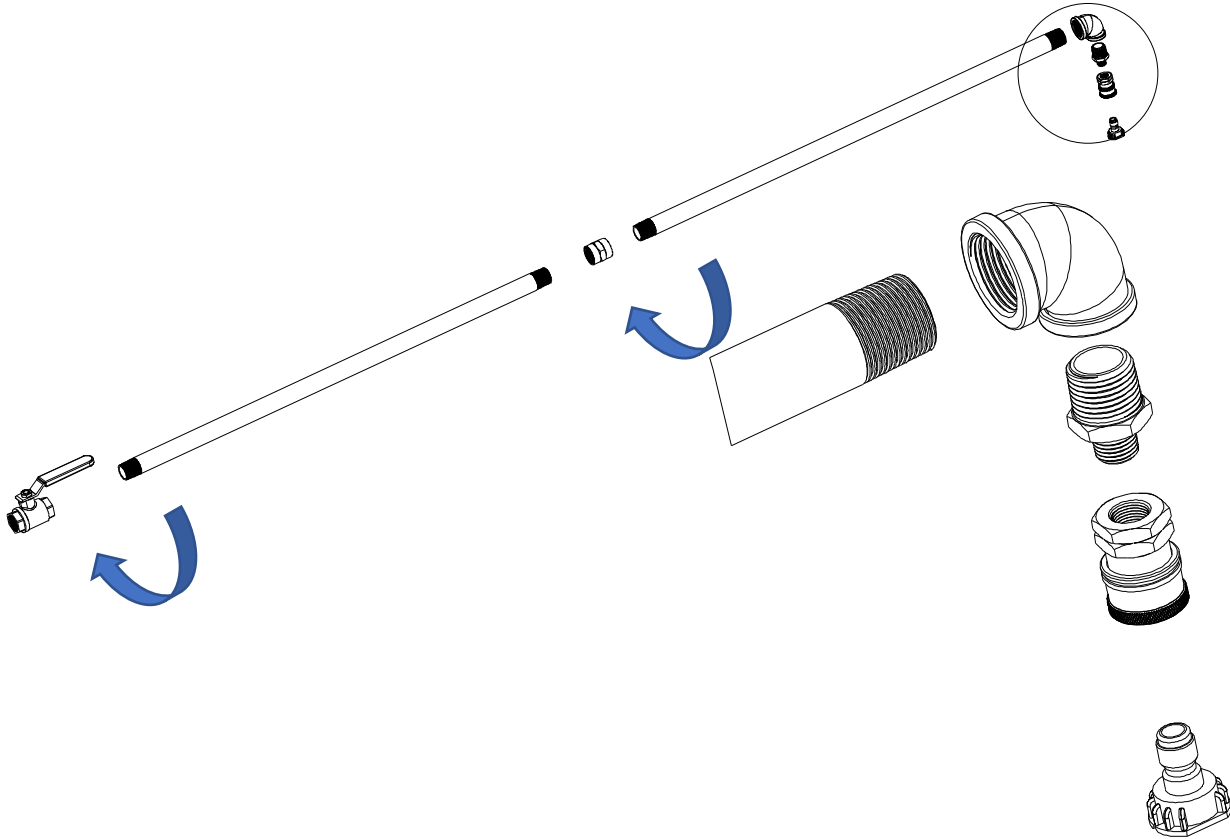
Additional Tools Required if Hose Reel purchased with System:

5/16"/ 8 mm Socket or Flat Head Screwdriver
10 mm wrench or socket
2 x 13 mm wrenches or sockets
2 x 17 mm wrenches or sockets
Utility Knife
#2 Phillips Screwdriver

2 ASSEMBLY

2.1 Spray Wand Assembly

Please refer to the below diagram for the assembly order of the spray wand. Teflon tape should be used on all threaded connections to ensure a tight seal. Note that any of the three included spray tips can be used depending on the Gallons Per Minute (GPM) of sealer required for the task.

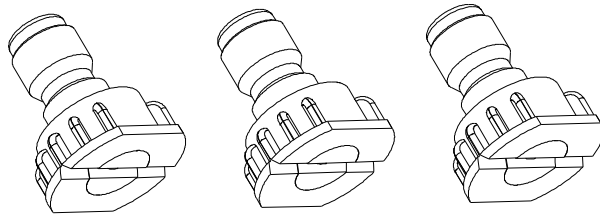


Set of 3 spray tips:

2 GPM

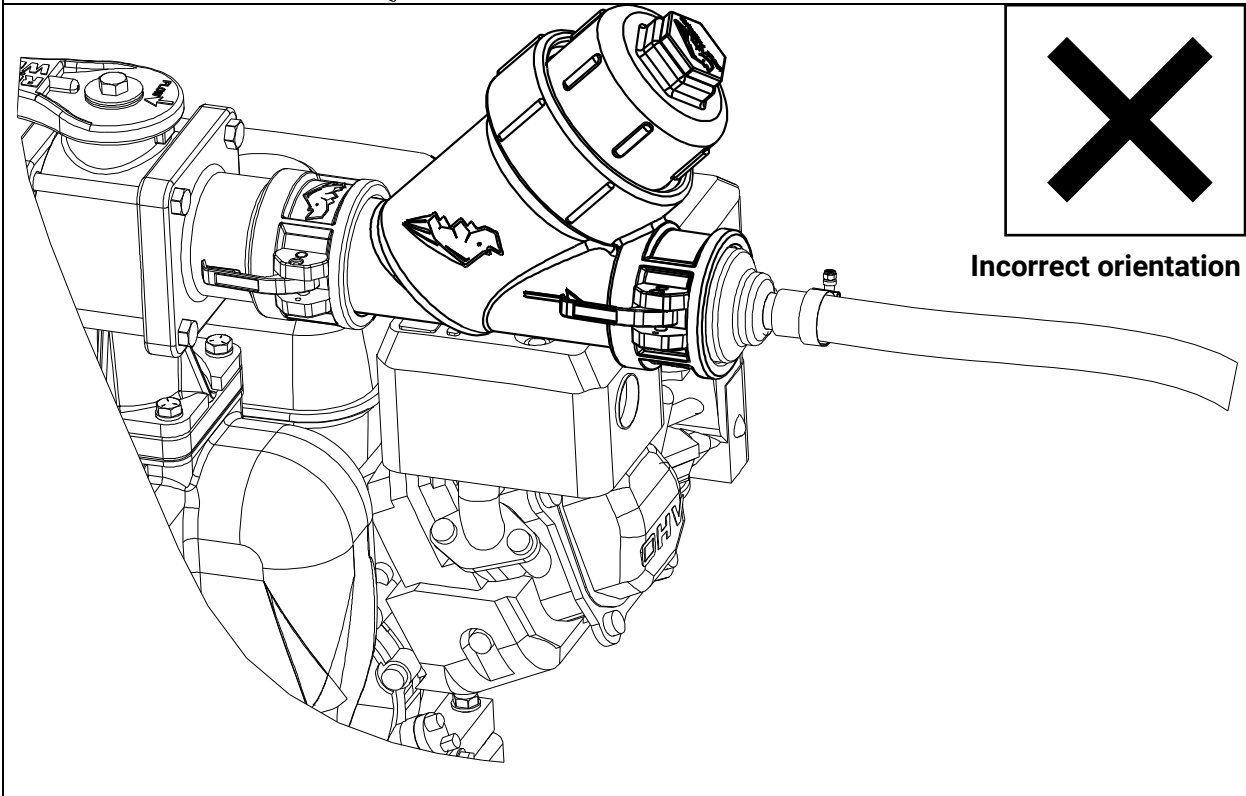
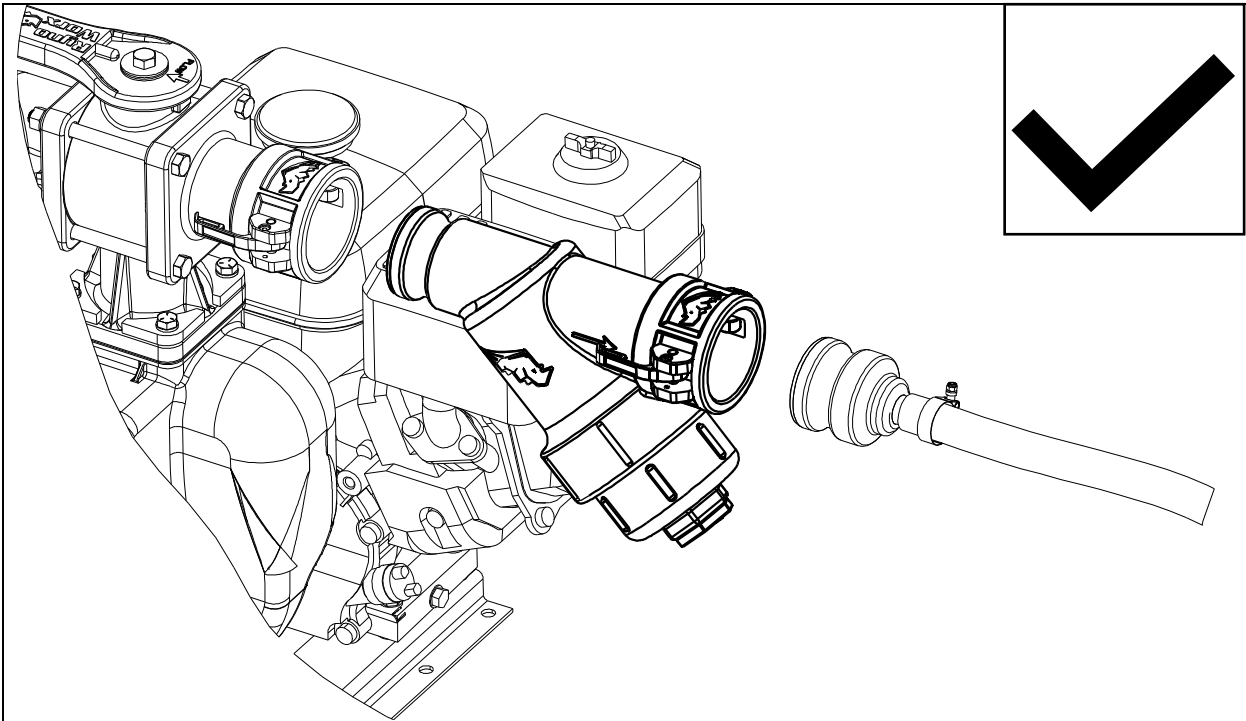
3 GPM

4 GPM



2.2 Connecting Filter Kit

The optional filter kit (RA-FIT-0002) is designed to connect inline with your spray hose with the angled portion facing down.



3 OPERATION

3.1 Tank System Operation

3.1.1 Operation Guidelines

- Test your system using **WATER** to ensure you do not have leaks before moving onto sealant
- Ensure the pump is primed before starting your job
- Flush clean water through the pump and hoses at the end of each day
- Place spray tips into a soapy water solution at the end of each day
- Do not let sealant dry onto your spray tips
- Put spray tips into a container with soapy water when finished with them
- Clean spray tips with soft nylon brushes only
- Have clean water available at the job site for emergency rinsing
- Clean strainer daily to ensure proper sealant flow (strainer optional on some systems)
- Check engine oil levels daily
- Change engine oil after every 50 hours of operation, or at the end of the season, whichever comes first

Warning

- The main seal is critical to the operation of your spray system. We suggest that you keep a spare seal at all times. This part is a wear item and does need to be replaced during regular maintenance. Failure of this part will result in unexpected downtime.

Aluminum pump: RC-GCM-0047

Cast Iron Pump: RC-GCM-0033

-Failure to prime the pump prior to engine operation will destroy the pump seals. NEVER run the pump dry for longer than 10 seconds.

NOTE: FAILURE TO PRIME THE PUMP WILL VOID THE SEAL WARRANTY.

-Always start the pump in full recirculation mode

-Switch the pump to recirculate mode if you are not going to be spraying for more than 30 seconds.

NOTE: Failure to do so may result in excessive heating of the sealant, which will cause it to thicken and reduce the lifespan of pump parts.

-Turn the engine off for extended work stoppages, such as breaks, lunches, or other work stoppages.

NOTE: Apart from wasting fuel, this may cause your sealant to become foamy, which can introduce excessive air into the lines and cause your pump to lose its prime. Foamy sealant can take an hour or more to return to a useable state.

3.1.2 System Priming

Your spray system uses a CENTRIFUGAL pump, commonly known as a "TRASH PUMP". This style of pump requires priming before use. These pumps are NOT self priming and cannot move air.

To prevent damage to your pump, you must make sure that your pump and intake lines are full of water or sealant before you use them. Running the pump dry will cause damage to the pump components.

The pump can lose their prime over time, and you may have to re-prime if you do not use the system regularly.

This is only required if the amount of sealant in your tank is below the intake of the pump.

Cast Iron Pumps:

1. Close the valve on the bottom of the tank
2. Remove the fill plug on the top of the pump
3. Fill the pump with water
4. Replace the fill plug
5. Open the valve on the bottom of the tank
6. Begin your work as usual

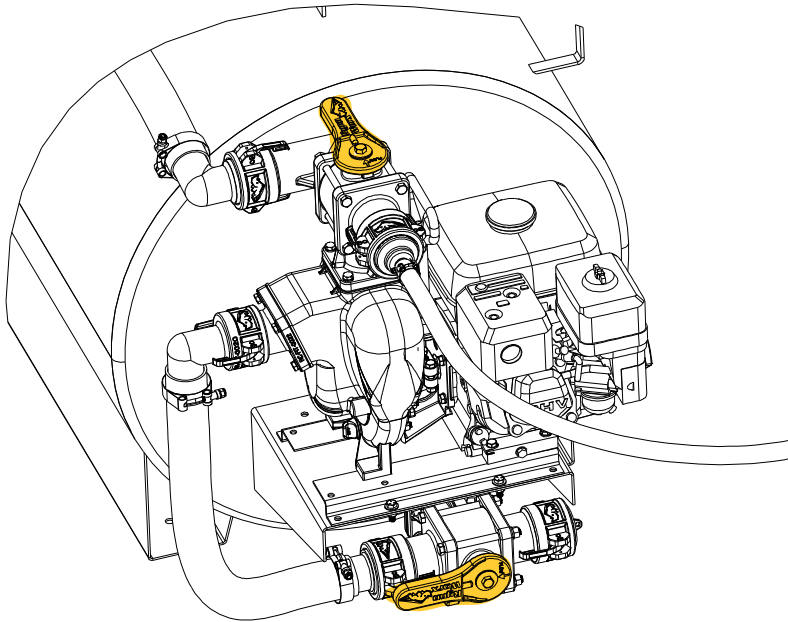
Aluminum Pumps:

1. Close the valve on the bottom of the tank
2. Place a container below the intake to catch any sealant drips
3. Remove the intake hose from the front of the pump
4. Pour water into the intake on the front of the pump until it is full
5. Pour water into the intake hose until it is full
6. Reconnect the intake hose to the front of the pump
7. Open the valve on the bottom of the tank
8. Begin your work as usual

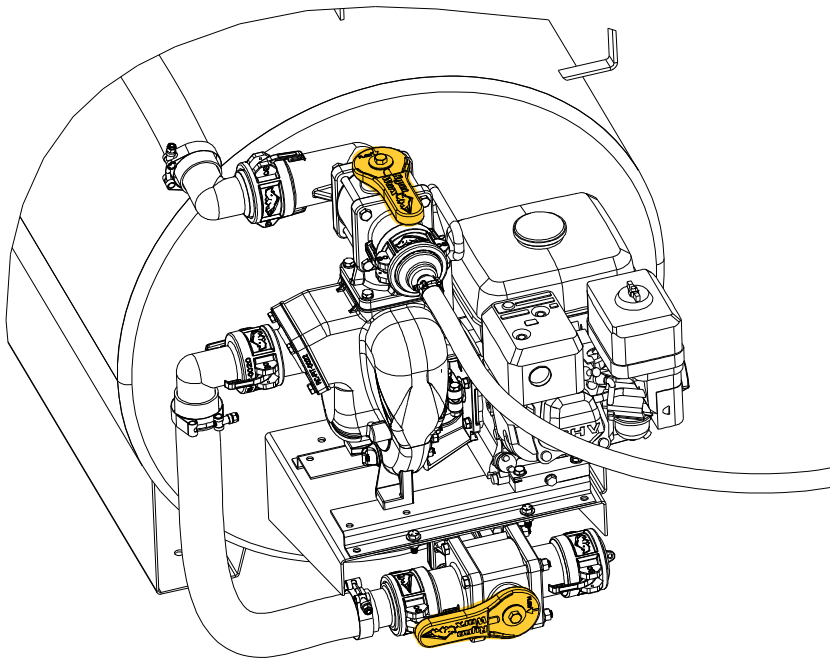
3.1.3 System Modes

The spray system can be easily switched between Recirculation Mode and Spray Mode by rotating the yellow handle on the pump valve. The yellow handle at the bottom tank outlet port should always be turned to the left when the pump is running. To ensure a long pump seal life, keep the system in Recirculation Mode except when spraying sealer. Please refer to the below diagrams for the valve handle position of the two operation modes.

Recirculation Mode

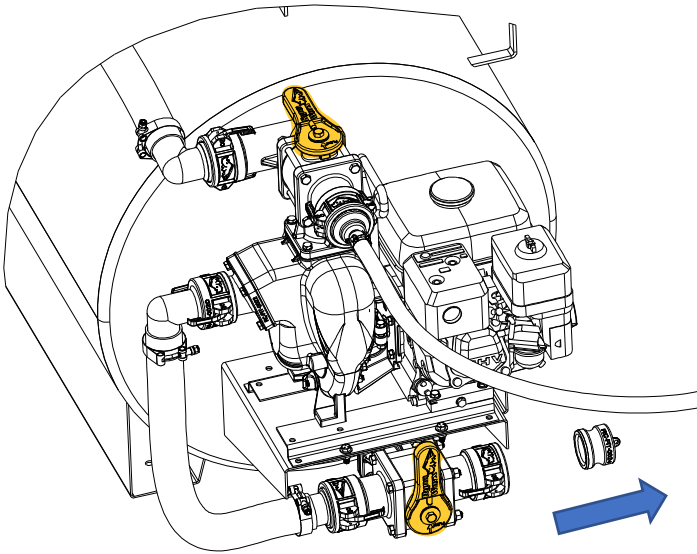


Spray Mode

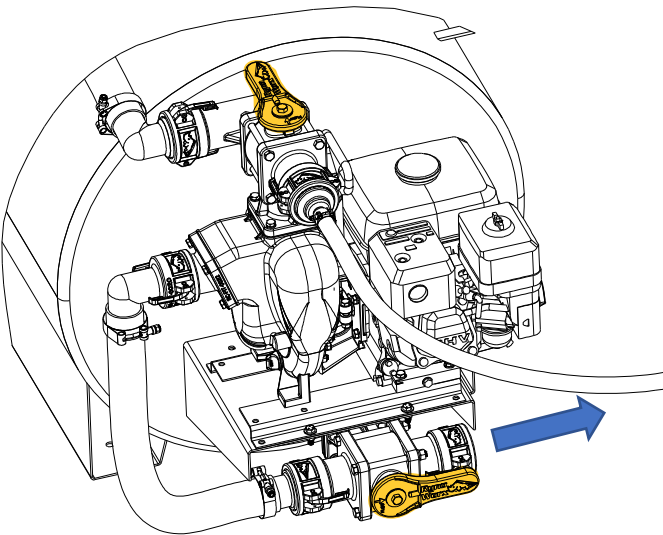


3.1.4 Draining The Tank

1. With the tank outlet valve in the closed position, remove the male camlock plug from the tank outlet valve at the bottom of the system.

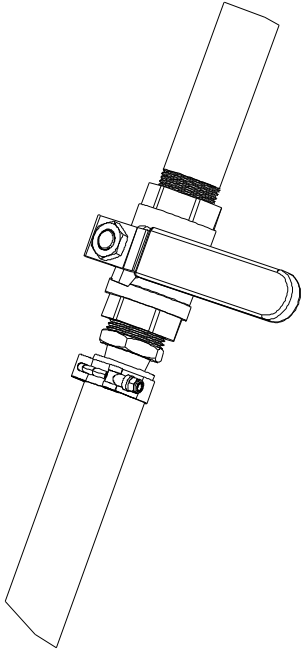


2. Turn the outlet valve handle to the right to empty the sealer from the tank.

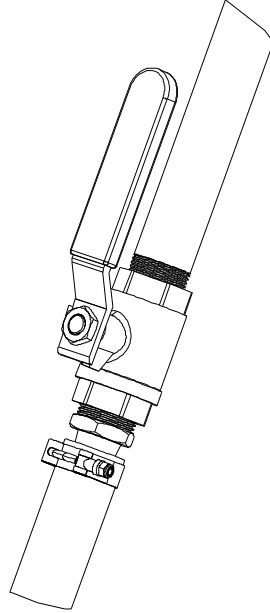


3.2 Spray Wand Operation

The spray wand included with this system has a ball valve handle to accurately control the flow of sealer. Please refer to the following diagram for the valve positions.



Spray wand valve closed

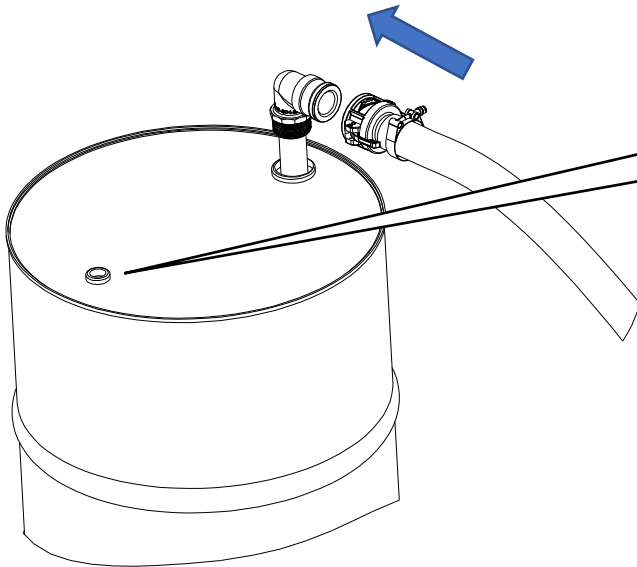


Spray wand valve open

3.3 Transferring Sealer from a Drum

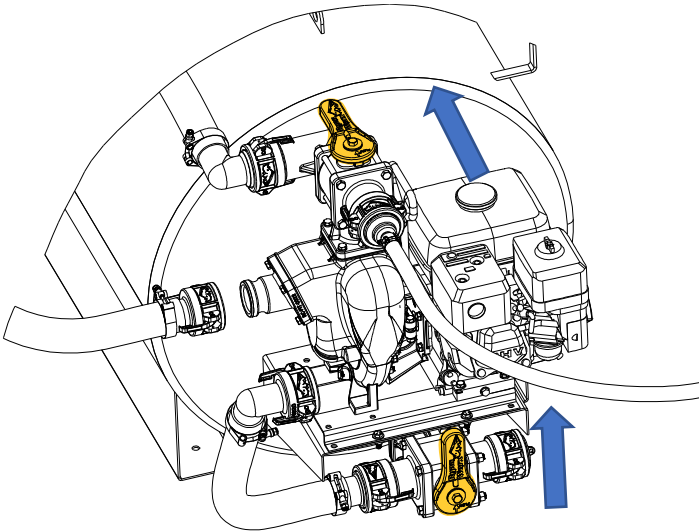
(Transfer kit sold separately)

1. Insert the transfer tube into the barrel's 2" NPT opening.
2. Connect the female camlock on the 15' transfer hose to the transfer tube.



⚠ Make sure to open the barrel vent before starting. If the vent is closed a vacuum will form inside the barrel.

3. Disconnect the female camlock on the pump intake (ensure that the tank outlet valve is closed by making sure the valve handle is in the upright position).
4. Connect the female camlock on the other end of the 15' transfer hose to the pump intake and turn the pump valve so that the handle is pointed towards the tank (see diagram below).

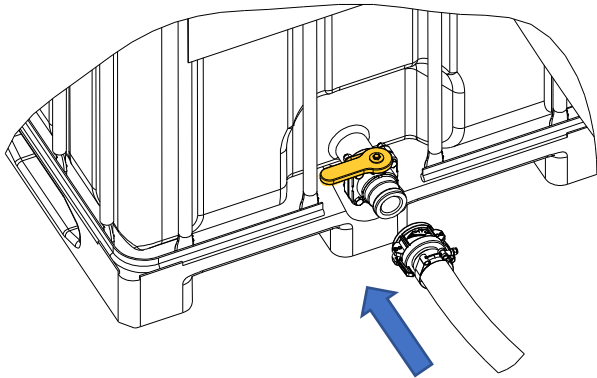


5. Start the engine and pump the sealer from the drum to the tank.

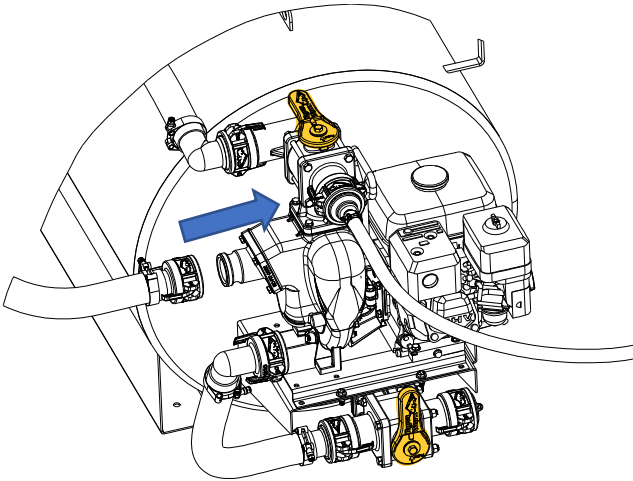
3.4 Transferring Sealer from a Tote

(Transfer kit sold separately)

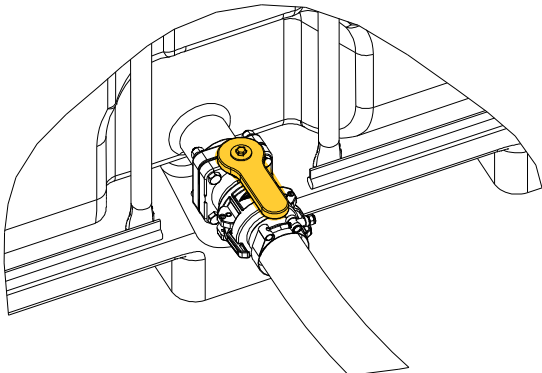
1. Connect the female camlock on the 15' transfer hose to the 2" male camlock fitting at the tote outlet.



2. Disconnect the female camlock on the pump intake (ensure that the tank outlet valve is closed by making sure the valve handle is in the upright position).
3. Connect the female camlock on the other end of the 15' transfer hose to the pump intake and turn the pump valve so that the handle is pointed towards the tank.



4. Open the valve at the tote outlet.



5. Start the engine and pump the sealer from the tote to the tank.

4 MAINTENANCE

Regular maintenance is crucial to ensure that this equipment will perform correctly on the job site. Please follow Table A as well as the maintenance schedule laid out in your engine manufacturer's manual to keep your machine operating at peak efficiency.

4.1 Table A: Maintenance Schedule

Maintenance Procedure	Before Each Use	After Each Use	End of Day	Every 50 Hours
Check all connections for all hoses, spray wands, and transfer kits.	X			
Check sealer consistency inside tank. Add water to compensate for evaporation.	X			
Use agitation cycle to circulate sealer for 2-3 minutes.	X			
Clean spray tips		X		
Remove filter kit and clean strainer.			X	
Flush lines with water			X	
Replace pump seals.				X
Change engine oil				X

4.2 Spray Tip Maintenance

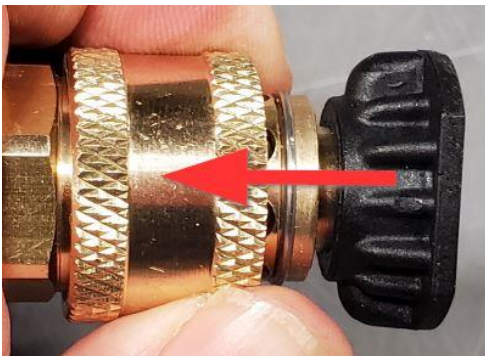
It is important to keep the spray tips clean to insure even flow every time.

- DO NOT let the spray tips dry out after each use
- DO NOT use metal brush for cleaning.



Required Tools: Poly Brush, Bucket, Warm Water, Soap.

1. Disconnect the spray tip by pushing down the brass sleeve at the end of quick connect fitting (See picture below) and gently pulling the spray tip out.



2. Insert the spray tip(s) in warm soapy water bucket to loosen up any build-up residue. Leave the tips in water for several minutes or more.
3. Once the build-up loosens up use the poly brush or nonmetal brush to remove any residue.
4. Rinse the spray tips with clean water.
5. Let them air dry.

4.3 Changing Engine Oil

Place the engine on a level surface and place a suitable container under the drain plug bolt

1. Remove the oil filler cap
2. Remove drain plug bolt and drain plug washer
3. Drain the oil into a suitable container.

Please dispose of used oil in a manner that is compatible with the environment. We suggest you take used oil in a sealed container to your local recycling center or service station for reclamation. Do not throw it in the trash, pour it on the ground, or pour it down a drain.

4. Install the drain plug bolt with a new drain plug washer and tighten it to the specified torque.
5. Add the specified amount of recommended oil into the engine.
 - a. Honda GX160: 0.58 Liter (0.61 US qt, 0.51 Imp qt). SAE 10W - 30 is recommended for general use.
 - b. Launtop LT210: 0.6 Liter (0.63 US qt, 0.52 Imp qt). SAE 15W-40 mineral oil is recommended for general use.

Do not add commercial additives to the oil

Do not mix gasoline into the oil

6. After adding the oil, check the oil level on the dip stick.
7. Install and tighten the oil filler cap securely
8. Make sure there are no oil leaks.

4.4 Winterize Spray System

Drain & clean the tank, hoses and pump:

1. Connect the spray system intake to a clean water source. (ie: a barrel or tote with clean water)
2. Run the pump in re-circulate mode until all sealant is expelled from the recirculate hoses
3. Run the pump in spray mode and spray into your main tank until all sealant is expelled from the spray hoses
4. Connect the recirculate hoses to your clean water source from step 1
5. Run the system for a few minutes in recirculate mode to clean out as much residual sealant from the recirculate hoses as possible
6. Run the system in spray mode, and spray into your clean water source from step 1 for a few minutes to remove as much residual sealant from the spray hoses as possible.
7. Stop the engine
8. Disconnect and drain all your hoses, and spray wand.
9. Remove the drain plug from your pump and ensure that all water has been emptied
10. Replace drain plug
11. Drain any remaining sealant in your tank into a smaller container
12. Power wash both the inside and outside of the bulk tank.
13. Drain the tank
14. Remove spray tip from spray wand
15. Submerge spray tip(s) and the quick connect end of the spray wand in soapy water for several minutes.
16. Clean the tips and quick connect fitting with a **NYLON** bristle brush (not brass or other metal brush)

Perform an oil change (see section 4.3)

Fog & Stabilize engine:

1. Add fuel stabilizer to the gas tank
2. Run engine for 10 minutes to circulate.
3. Turn off engine.
4. Remove the air filter cover
5. Start the engine
6. Spray engine fogger into the air intake until you see heavy smoke and the engine stalls.
 - a. If the engine does not stall on its own, turn the kill switch to off manually while spraying until the engine completely stops
7. Re-install the air filter
8. Remove spark plug
9. Pull the pull cord gently until the piston is near the bottom
10. Spray engine fogging oil into the spark plug hole
11. Turn the crank 2 full revolutions by pulling the pull cord gently this is to assure even coating on cylinder wall.
12. Replace the spark plug and spark plug wire

If possible, store equipment out of weather in a shed or garage.

If this is not possible, cover up with a tarp.

Store spare sealant in a place where it will not freeze.

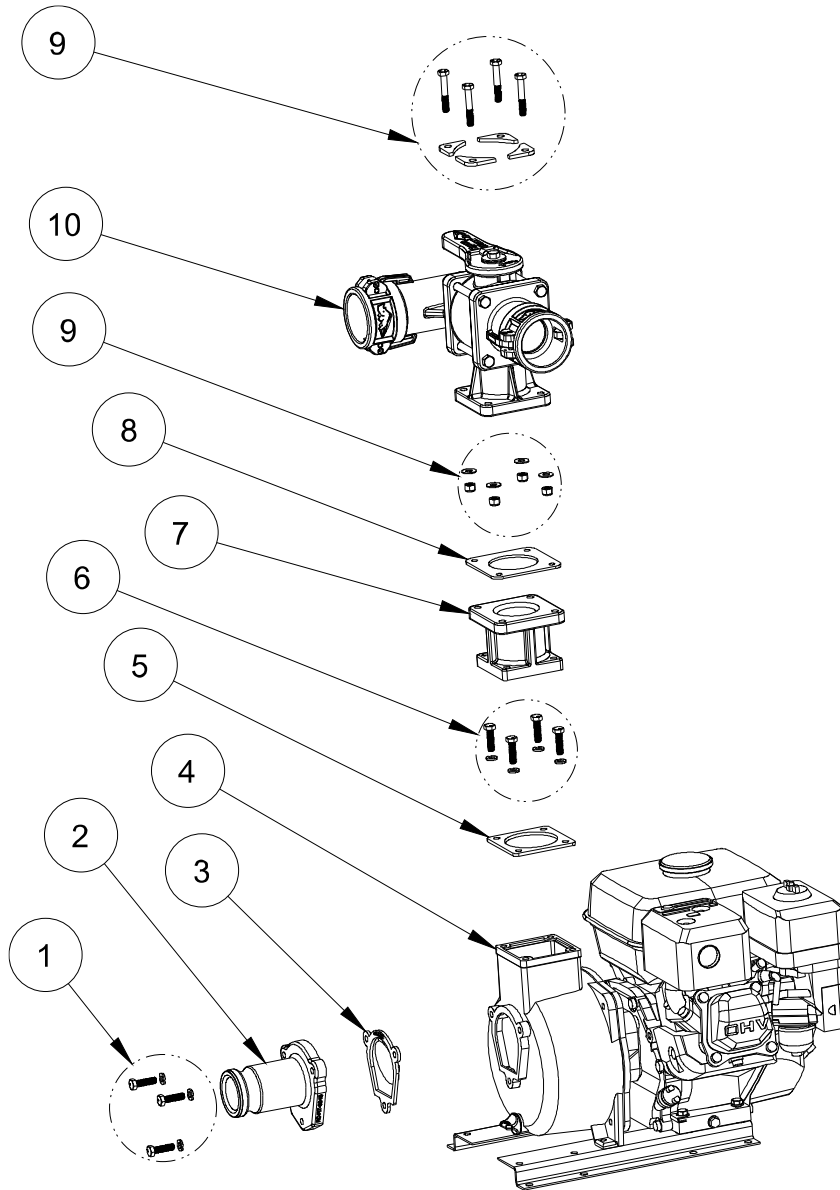
5 TROUBLESHOOTING

Please be sure to read the Operation and Maintenance sections of this manual. Some common questions are covered in Table B below.

5.1 Table B: Troubleshooting Guide

Description of Problem	Possible Causes	Solution Procedure
Sealer is leaking from connection of pump to engine.	Seals have worn out.	Disassemble pump housing and replace main seal.
Pump is not circulating sealer.	Pump has lost prime due to low volume of sealer in tank. Settled sealer has created a blockage at bottom of tank.	Add sealer or water to tank. Add water and agitate sealer to mix.
Low spray pressure.	Pump has lost prime due to low volume of sealer in tank. Settled sealer has created a blockage at bottom of tank. Filter kit has a blockage. Spray wand or hose has a blockage. Incorrect type of sealer is being used with the system.	Add sealer or water to tank. Add water and agitate sealer to mix. Remove filter kit and clean strainer. Disconnect spray wand and hose, flush both with water. Verify that the sealer being used has no additives or polymers.
Sealer is foaming during circulation.	Circulation cycle is too long. Incorrect type of sealer is being used with the system.	Reduce circulation time to 2-3 minutes. Verify that the sealer being used has no additives or polymers.

No	P/N	Description
1	RK-FAS-0028	Fastener Kit - Aluminum Pump Intake Flange
2	RC-FIT-0045	2" Male Camlock to Aluminum Pump Flange
3	RC-GSK-0025	Aluminum Pump Intake Gasket
4	RA-EPA-0004	Engine Pump Assembly - Base w Brackets
5	RC-GSK-0024	Aluminum Pump Outlet Gasket
6	RK-FAS-0029	Fastener Kit - Aluminum Pump Outlet Flange Adapter
7	RC-FIT-0046	Aluminum Pump To 3 Way Valve Flange Adapter
8	RC-GSK-0030	2" Custom Pump Flange Gasket - Red SBR Dur 80 Fabric Finish
9	RK-FAS-0038	Fastener Kit - Aluminum Pump Flange with Braces
10	RA-VLV-0010	3 Way 2" Straight-90° Female Camlock Flange Valve



*Note: This configuration is included with Aluminum/ Launtop systems (RA-SSY-0008 & RA-SSY-0009)



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MPN:

RA-EPF-0004

Model:

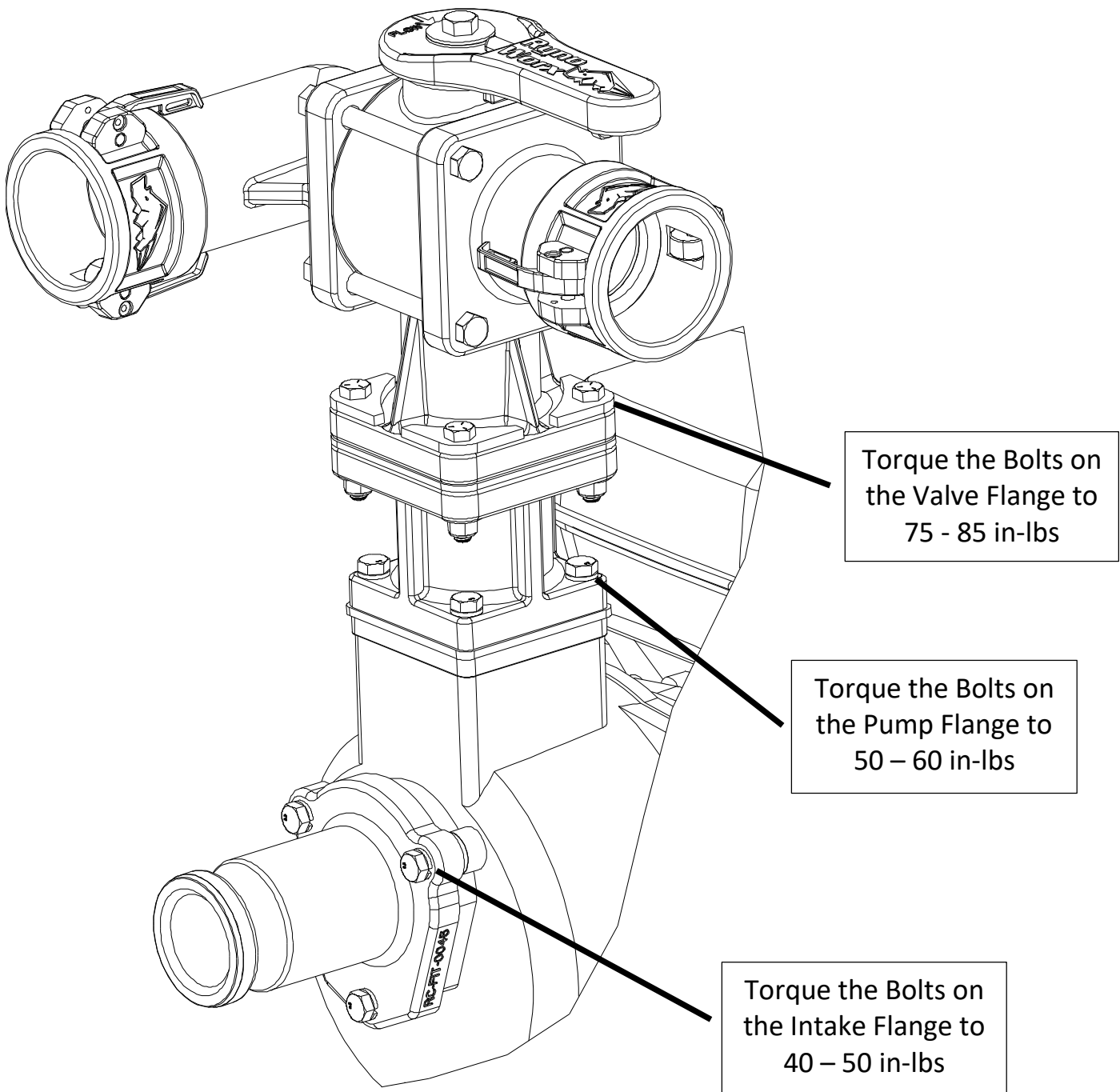
Engine Pump – Base

Description:

Engine: Launtop

Pump: Aluminum

RA-PMP-0002 – 2" Aluminum Pump

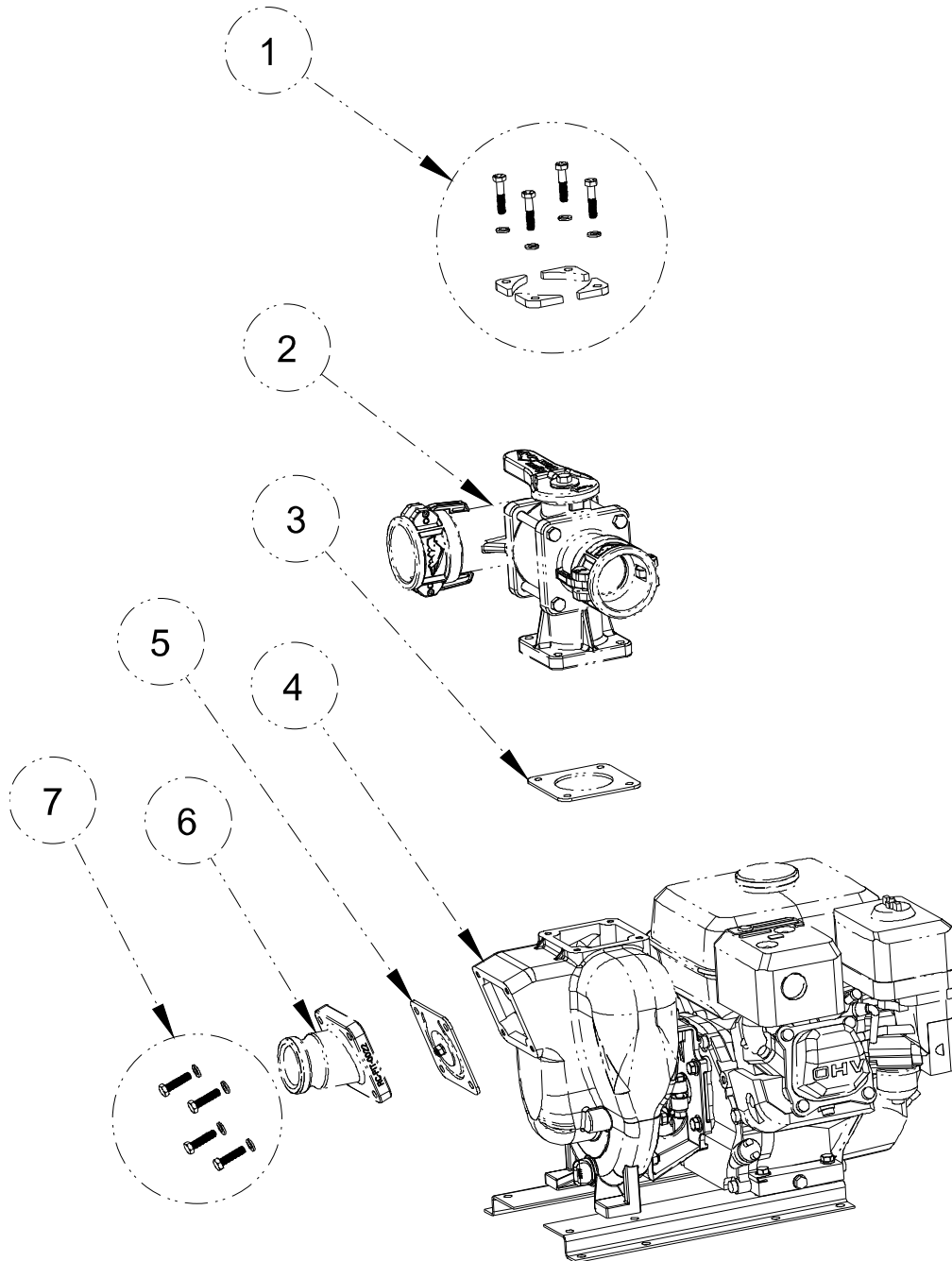


Use these torque specs with **ALL ALUMINUM** systems
(RA-SSY-0008 & RA-SSY-0009)

⚠ WARNING

Always pressure test your system with water before using with sealer.
Make sure the pump is primed before using. NEVER run the pump dry.

No	P/N	Description
1	RK-FAS-0039	Fastener Kit - Cast Iron Pump Flange with Braces
2	RA-VLV-0010	3 Way 2" Straight-90° Female Camlock Flange Valve
3	RC-GSK-0030	2" Custom Pump Flange Gasket - Red SBR Dur 80 Fabric Finish
4	RA-EPA-0001	Engine Pump Assembly - Premium
5	RC-GSK-0014	Pump Flange Gasket - Pump Intlet Port
6	RC-FIT-0022	2" Angled Male Camlock flange
7	RK-FAS-0022	Fastener Kit - Pump Flange mounting Kit



*Note: This configuration is included with Cast Iron/ Launtop systems (RA-SSY-0002 & RA-SSY-0006)



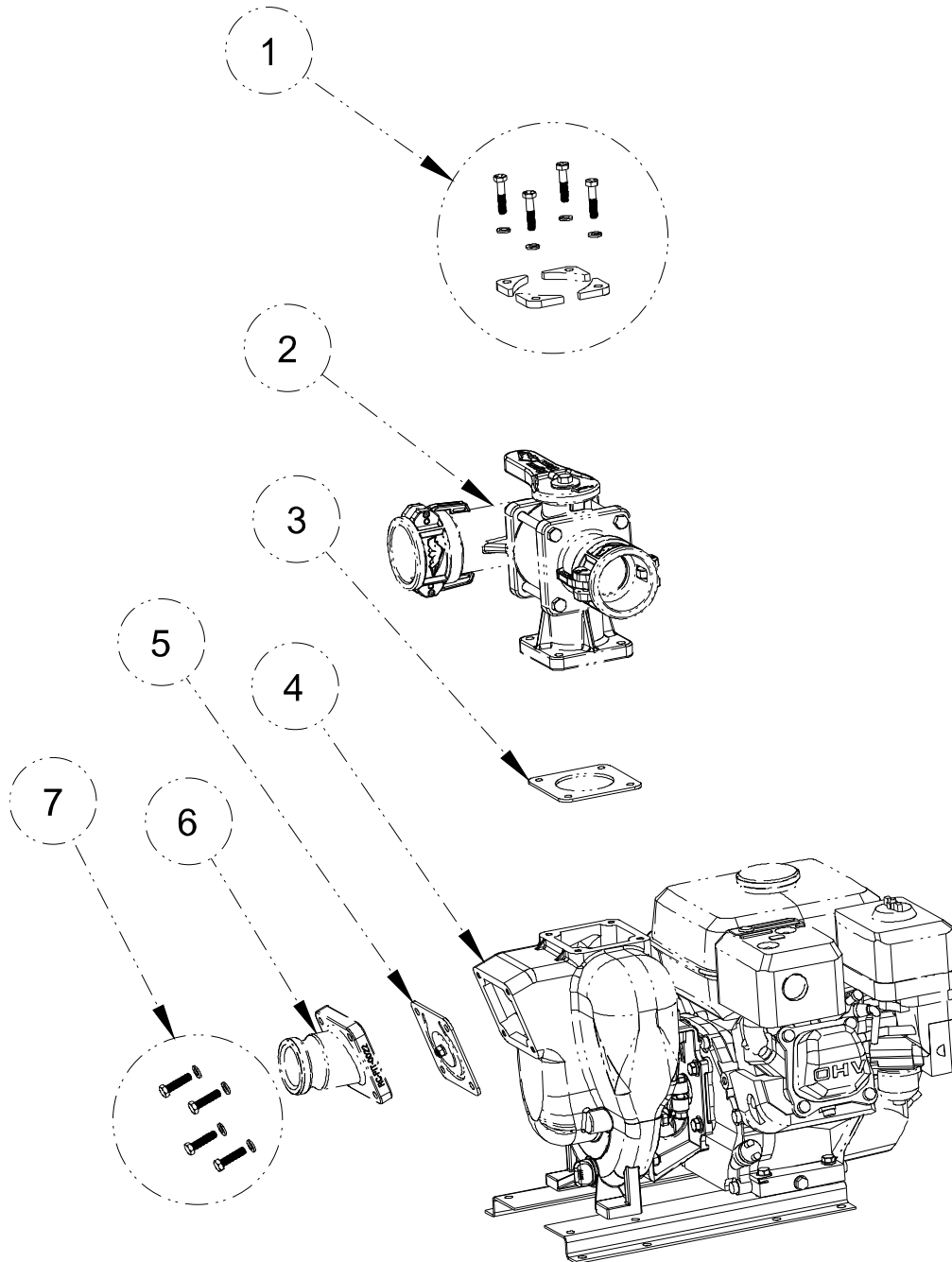
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MPN:
RA-EPF-0001

Model:
Engine Pump – Premium

Description:
Engine: Launtop
Pump: Cast Iron

No	P/N	Description
1	RK-FAS-0039	Fastener Kit - Cast Iron Pump Flange with Braces
2	RA-VLV-0010	3 Way 2" Straight-90° Female Camlock Flange Valve
3	RC-GSK-0030	2" Custom Pump Flange Gasket - Red SBR Dur 80 Fabric Finish
4	RA-EPA-0003	Engine Pump Assembly - Pro
5	RC-GSK-0014	Pump Flange Gasket - Pump Intlet Port
6	RC-FIT-0022	2" Angled Male Camlock flange
7	RK-FAS-0022	Fastener Kit - Pump Flange mounting Kit



*Note: This configuration is included with Cast Iron/ Honda systems (RA-SSY-0007, RA-SSY-0010, RK-SSY-0022 & RK-SSY-0023)



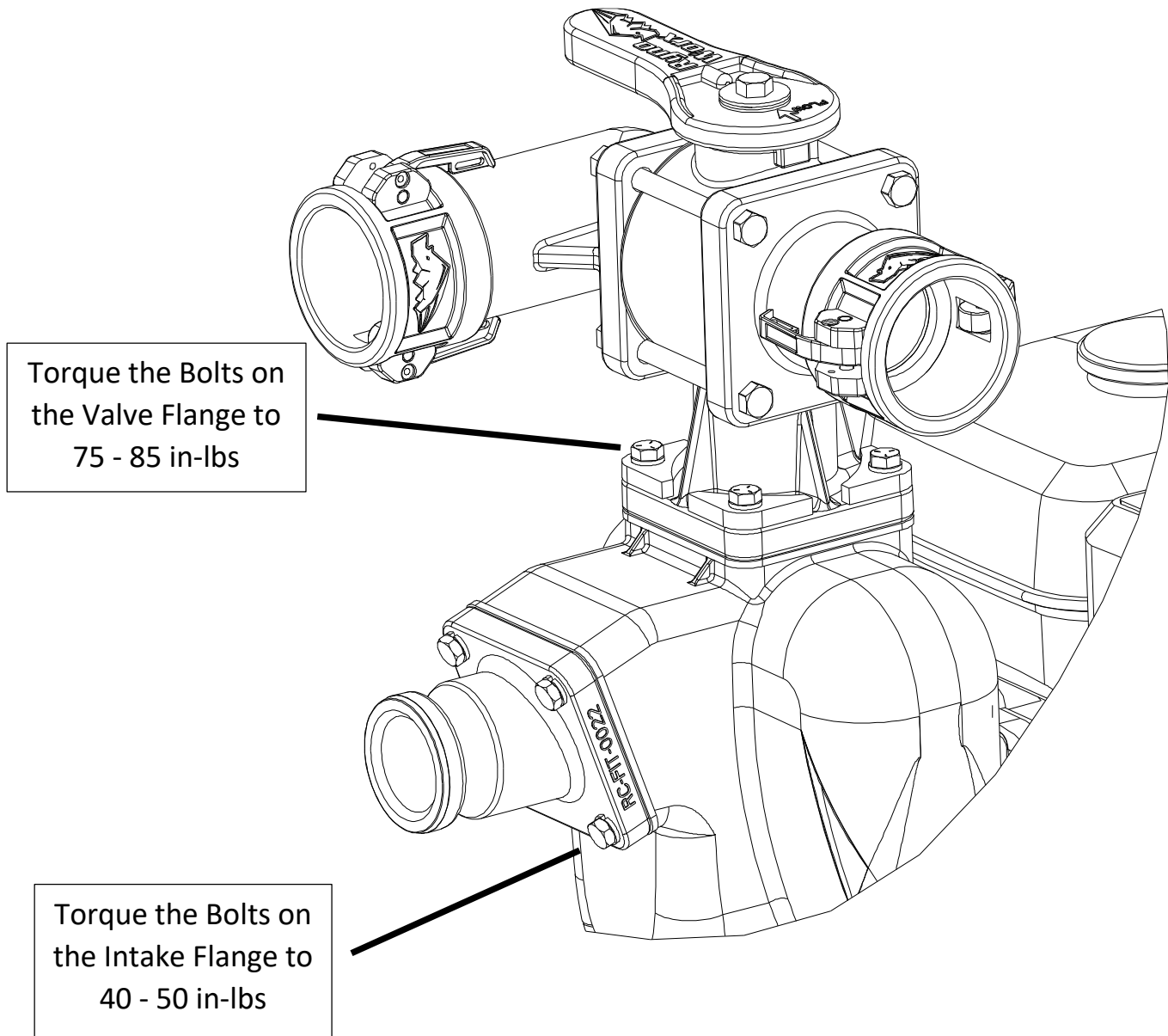
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MPN:
RA-EPF-0003

Model:
Engine Pump – Professional

Description:
Engine: Honda
Pump: Cast Iron

RA-PMP-0001 – 2” Cast Iron Pump



Use these torque specs with **ALL CAST IRON** systems
(RA-SSY-0002, RA-SSY-0006, RA-SSY-0007, RA-SSY-0010, RK-SSY-0022, &
RK-SSY-0023)

⚠ WARNING

Always pressure test your system with water before using with sealer.
Make sure the pump is primed before using. **NEVER** run the pump dry.