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Installation Instructions

Quick Water Wildland Pumps

Congratulations on your purchase of a Flamefighter 12V Electric Sprayer. Flamefighter 12V pumps and systems are the "Future in Sprayer Technology". With proper care and maintenance you will get dependable service from your Flamefighter 12V Electric Sprayer.

Some of the immediate benefits you will enjoy are:

- Green technology with zero emissions.
- No more gas engine noise, smell, maintenance, and trouble.
- 12V simplicity of "1-pull" start.
- Proven plunger pump design
- Low amp draw from high efficiency pump design.
- No diaphragms to fail during job.
- Easily rebuilt quickly with common tools.
- No crankcase oil to maintain or service.



Please Read:

This information packet comes with warranty cards for the respective, commonly available components used on the sprayer. Please read through and keep these documents for further information beyond what will be covered in this document regarding the warranty, proper use and maintenance of these components.

Installation Instructions:

- Proper care must be taken during electrical connection to battery and/or vehicle. Wiring into the vehicle's 12V system should be done by qualified personnel. Use proper gauge wire.
- Note: It is not necessary to wire the sprayer into the vehicle to use.
- To receive the maximum benefit from sprayer, it is recommended to use of a high quality 27 series, deep cycle battery (not included). For an excellent resource regarding batteries, chargers and battery systems, please go to: <http://www.schumacherproducts.com/applications>.
- Connect ring terminals according to polarity, color and size. Red wire with large ring terminals are positive (+) and connect to positive pole of battery. Black wires with smaller ring terminals are negative (-) and connect to negative pole of battery.
- Refer to Vehicle's Owner's Manual for guidance regarding bolting and securing sprayer to vehicle. The sprayer has several slotted mounting holes in frame to permit secure mounting to vehicle.

Start-up and Operation:

- Fill tank 1/2 full with water. Do not fill with chemical for initial start-up. NEVER fill with flammables.
- Connect spray gun to end of spray hose and make sure the trigger is closed.
- Rotate Power Selector to correct position before pulling On-Off switch. The sprayer is prewired for position "1" to be on-board battery. Other positions will be determined based upon whether installation was made into your vehicle's electrical system. The power selector switch is NOT an On-Off switch. Use of power selector switch in this way will damage it and void warranty. (Figure 1)
- Open ball valve next to line strainer and verify that liquid flows into strainer. (Figure 2)
- Refer to 9025 Multi-Function Control Valve. (Figure 3)
 - ✓ Open bypass/agitation valve.
 - ✓ Unscrew pressure adjusting cap about 4-5 turns.
- Pull On-Off switch to start sprayer. (Figure 4)
- Allow time for air to purge from pump system and return to tank.
- Close bypass/agitation valve completely to pressurize system.
- Adjust pressure to desired level with adjusting cap. (Figure 5)
- Squeeze trigger to clear hose of air and begin spraying. Note pressure while spraying.
- Adjust regulator to no more than 10-15 psi higher than spray pressure. Excess pressure will drain battery unnecessarily. Proper performance is 2.7 gpm, 150 psi, 30
- When initial start-up is completed: (Figure 6)
 - ✓ Push On-Off switch to Off position.
 - ✓ Rotate Power Selector to "OFF" to avoid accidental operation or unnecessary battery drain.
 - ✓ Empty tank of test water. (Figure 7)

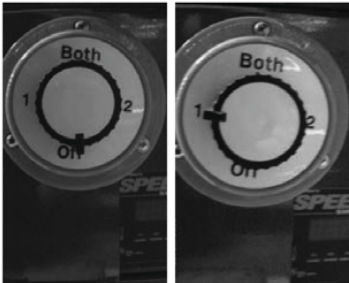


Figure 1

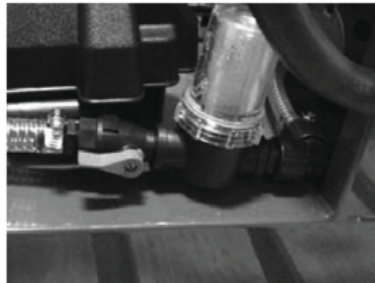


Figure 2

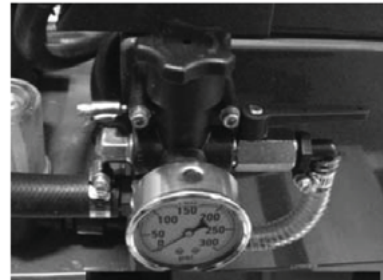


Figure 3



Figure 4



Figure 5



Figure 6



Figure 7

PUMP OPERATING INSTRUCTIONS FOR SYSTEMS

Each system is tested and inspected prior to shipment from our facility in Minnesota. This routine includes setting the pressure to optimum performance levels. Only through tampering or extremes during shipment should a unit need pressure adjustment upon arrival to end-user.

We recommend that you perform an initial set up and test of your system with clean water to check for leaks. Do not install chemicals before completely testing pumping module and all connections.

Note: Always flush and rinse system after every use. Never change chemicals without completely rinsing tank and whole pumping system. Always read chemical label and exactly follow recommendations for system flushing .

1. Check/water chemical supply. Water/chemical in supply tank?
2. Do you have adequate filtration? Check line strainer/filter to make sure it is clean and free of debris.
3. If it is necessary to disassemble the filter to inspect or clean, be certain to seat the gasket properly, along with the screen and tighten extra firmly. Any air leakage at this point will cause drop in pressure and loss of pump prime. It may be necessary to lubricate gasket prior to re-assembly.
4. Check all plumbing connections to make sure they are tight.
5. Check your power source. Make sure your power source is connected correctly.
6. Prime your pump before using or connecting spray hose to outlet of pump.
7. To prime your pump open prime valve on regulator.
8. Start pump (pull on-off switch out) and allow all air to purge from system (5 to 15 seconds).
9. Connect spray gun assembly to discharge end of spray hose. Note: The pressure may be factory set as a result of the water/chemical flow restriction unique to the OEM system. Changing tips or guns will affect system performance.
10. Hold trigger open on spray gun and start pump. Allow all air to purge from system and liquid to spray. Trigger the spray gun a few times to check pressure and nozzle function. If you are happy with spraying pressure and nozzle performance you will not need to make any adjustments.
11. With spray gun triggered, you can adjust the spraying pressure by adjusting the regulator valve. Note: Do Not adjust regulator valve except in small increments. Over-adjustment in either direction will cause damage to the spring.

12. Never adjust to a back pressure greater than machine rating. There are two easy ways to lower your pressure:
 - a. Turn the regulator knob counter clockwise.
 - b. Change to larger size nozzle tip and then adjust the regulator to 5-10 psi above spray pressure. Note: The opposite of either will raise the pressure to maximum pressure setting of the regulator.
13. Adjust the nozzle tip on the gun supplied
 - a. Note: Higher pressure requires more amperage. Use only the pressure you need. Do not unnecessarily overload system. Should the system overload, a breaker will trip resulting in a power interruption.
14. To shut down unit, push on-off switch in. DO NOT use the power selector switch as ON/OFF switch.
15. Open bypass valve on regulator to relieve system pressure.
16. Disconnect the trigger gun for safe storage.
 - a. Always flush and rinse system after every use.
 - b. Use the entirety of tank mix.
 - c. Chemical not used can be easily drained and stored using the tank drain hose.
 - d. Never change chemicals without completely rinsing tank and pumping system.
 - e. Always read chemical label and exactly follow recommendations for system flushing .
 - f. Tighten all screws periodically to insure safety and proper performance.
 - g. Make sure water soluble packs fully dissolve.
 - h. It is recommended to keep repair kits in stock (see diagram).

STORAGE: Flush unit after each use with solution specified by the chemical manufacturer. See label on chemical container. Store in a protected area.

WINTER STORAGE: If freezing is a possibility, flush completely and store with solution of antifreeze and water.

RECOMMENDED PUMP MAINTENANCE INTERVALS

Hours of Service

500 Hours

1000 Hours

Replacement of Parts

Install Kit A (Plunger & Seals) & C (Cam Bearing)

Install Kit B (Valves & O-rings)

TROUBLE SHOOTING GUIDE

PROBLEM	POSSIBLE CAUSE	REMEDY
No Water Flow		
	Tank is empty	Fill tank
	Loose fittings/air leak	Check fittings
	Lost prime	Prime pump according to directions on Operation page
Loss of Pressure		
	No water flow	See above Check alignment - filter gasket/screen
	Worn nozzle(s)	Replace with new nozzles
	Regulator set incorrectly	Re-adjust to desired pressure
	Air leak	Check fittings
Erratic Pressure		
	Air in water line	Check fittings/check alignment
	Regulator Leaks	(Filter gasket/screen)
	Pump check valves	Check for water in regulator Check/clean valves
Motor Stopped		
	Fuse/Circuit is blown	Reset Check wiring for problems Replace fuse/circuit breaker
	Pump froze (mechanical)	Repair pump, install Kit A
	Too much pressure/flow	Adjust pressure lower
Motor Won't Start		
	Fuse blown	Check wiring for problems
	Pump froze (chemical)	Disassemble and clean parts
	Pump froze (temperature)	Thaw out, install Kit B
	Motor froze	Take to repair shop for exam
	Pressure Regulator stuck	Adjust/clean