



HVLP 2000 Spray Unit Guide

The HVLP 2000 Spray Unit is a high volume, low-pressure pump system consisting of a Honda GX 160 5.5 HP gas engine (electric available) and two Comet diaphragm pumps. The pumps are belt driven and calibrated by pressure with tip sizes to help give the correct ratio. The pump is capable of delivering 1.5 GPM and is designed to run up to two guns at once depending on the size of the project and the time frame.

The lightweight R-08 spray gun features a strong urethane coated handle with a comfortable trigger grip. The system is fully tested and comes ready to spray with a 200' roll of welded dual hoses, 6 spray tips, 1 pump rebuild kit and 1 gun valve repair kit.



Starting Procedures for the HVLP 2000

1. Ensure both pressure regulators are set to minimum pressure by turning the regulator knob counterclockwise until it stops.
2. Ensure that the grey pressure regulator levers are both in the off position facing left.
3. Check the oil levels in the motor and pumps are at the proper level. The oil fill cups are on the left and right sides of the pump. The oil filler cap on the engine is on the bottom right. Use 20W/40 oil for the pumps and 10W/30 oil for the engine.
4. Connect the larger clear hoses to the return outlets, the larger green hoses to the inlet outlets, the smaller black hose to the A line 1 outlet and the small blue hose to the B line 1 outlet.
5. Connect the black and blue hoses to the spray the gun.
6. Connect the Part A (Liquid Rubber product) inlet hose (green) to the plastic intake pipe.
7. Connect the Part B (Calcium Chloride) inlet hose (green) to the filter. **Make sure the inlet hoses are in the proper drums.**
8. Start the engine. You should see or feel the liquids circulating through the inlet and return hoses on both sides.
9. For the Part A (Liquid Rubber) side:
 - a. Shift the grey Pressure Regulator lever from the left to right into the ON position.
 - b. Pressurize the Part A pump by turning the grey pressure regulator knob clockwise to set the pressure between 200-300 psi.
 - c. Turn the black lever for the Part A Line 1 (on the right side of the pressure gauge) to the ON position, moving it from pointing down to pointing to the right.
 - d. Point the spray gun into a pail without the tip and pull the trigger for the black hose until the product sprays through.
10. For the Part B Side (Calcium Chloride) side:
 - a. Shift the grey pressure regulator lever from the left to right into the ON position.
 - b. Pressurize the Part B pump by turning the grey pressure regulator knob clockwise to set the pressure between 50-100 psi. The ratio of Part A to Part B should be 3:1
 - c. Turn the black lever for the Part B Line 1 (on the left side of the pressure gauge) to the on position, moving it from pointing down to pointing to the left.
 - d. Point the spray gun into a pail without the tip and pull the trigger for the black hose until the product sprays through.
11. Turn the spray gun valves off. Install the 4015 or 4008 tip on the emulsion side (black) of the spray gun and the 4001E on the salt side (blue). Ensure that the tips are matched with the proper side of the hose.

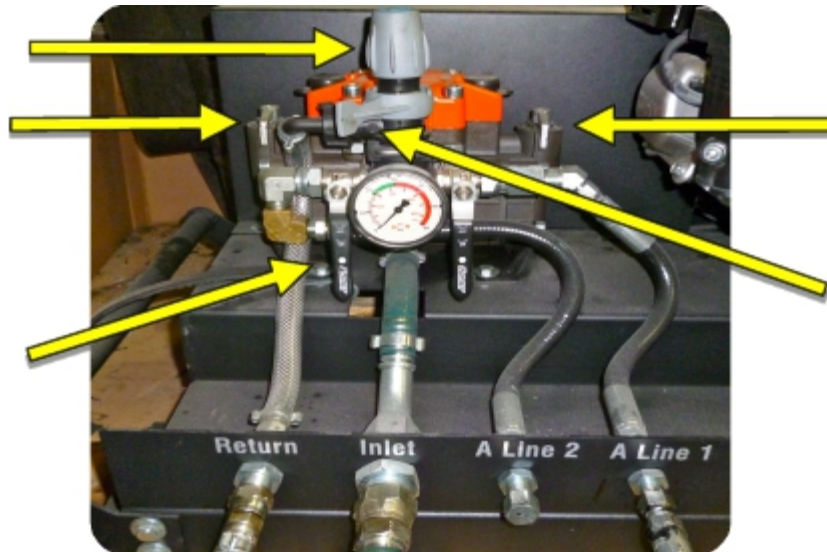
Pressure Regulator Valve

Check Valve #1

Check Valve #2

Part A Line 1 Tap Lever

Pressure
Regulator Lever



Spray Techniques

Spray techniques will be demonstrated during training. Below are some important factors that must be understood:

- Avoid spraying the salt solution directly on the substrate.
- The spray pattern must be perpendicular to the substrate.
- Do not spray excess material into internal or external corners or angles.
- For vertical applications, always begin by spraying from the lowest point working up to the highest point.
- When spraying into a breeze, the salt solution needs to be facing the wind.
- Extra precautions must be taken to avoid over-spray.
- DO NOT SPRAY IN HIGH WIND CONDITIONS.

Pump Maintenance During Operation

Regular checks of the pump should be made during the operation. When not in use, return the pump to a pressure off position with the pressure regulator left/closed and spray the lever down/closed. During the operation, ensure the following:

- Sufficient product is in the drums for both Parts A & B.
- Pressures are consistent at levels of 200-300 psi for Part A and 50-100 psi for Part B.
- The filter is not blocked.
- There is sufficient gas in the motor and the oil is checked.

Daily Cleaning Procedures

- Shut down the pump by shifting the Part A & Part B Line 1 tap levers to closed/down and the pressure regulator to the closed/left.
- Placing the drum lid on the ground, remove the Part A Inlet and Return hoses from the drums and drain as much product as possible from the hose. It helps to have the spray unit higher than the hoses.
- Place the Inlet hose into a 5 gal pail of mineral spirits.
- Start the engine to circulate the mineral spirits through the engine to circulate the mineral spirits through the Part A pump for 5 minutes. Be sure not to open the Part A Line 1 lever or pressure regulator because you will contaminate the rubber in the lines. The spray hoses should be flushed with mineral spirits and the end of the season and rinsed with clean water.
- Shut off engine and gravity drain the mineral spirits back in the pail. The mineral spirits can be re-used several times.
- Sludge will begin to accumulate on the bottom of the pail holding the mineral spirits. If too much sludge accumulates, pour the liquid mineral spirits into a new pail and continue flushing.
- Remove the check valves from Part A pump (4 valves and 4- O-rings), disassemble and clean with mineral spirits. Be sure not to soak the rubber O-rings in the mineral spirits.
- Remove the Part A tip from the spray gun and soak it in mineral spirits.

Do's

- -Follow the pump maintenance schedule.
- -Protect hoses from damage due to high vibration.
- -Keep spare parts clean and ready to use.
- -Clean and flush the pump system at the end of a workday.

Don't

- -Don't switch drums while the pump is operating.
- -Don't contaminate Part A material with Part B mineral spirits.
- -Don't leave hoses in mineral spirits for a long period of time or dispose of waste in an irresponsible manner.
- -Don't leave the pump unattended while operating.

Common Troubleshooting Tips

Symptom	Common Cause	Remedy
The pump does not prime	Dirty or worn check valves Air inlet is blocked	Change or check valves Check that the intake hoses and fittings are tightly connected Check inlet for blockage and clean
The pump does not reach the desired pressure	Dirty or worn check valves Insufficient RPMs	Change or clean check valves Increase motor speed
Pressure irregular or with pulse	Dirty or worn check valves Dirty or clogged screen	Change or clean check valves Check screen on Part A intake pipe and clean
The products are not instant setting	The salt level is incorrect The wands on the spray gun are not aligned properly	Check the inlet and return hoses on Part B side for blockages and clean Check the salt filter Check the valves Adjust the wands so that the product and salt solution meet approx 18 in from the tip of the wands
Uneven fan while spraying	The tip is clogged	Clean or replace tip
Excessive consumption of oil and/ or is whitish in colour or sudden lack of oil	Rupture of one or more diaphragms	Replace the diaphragm
Diaphragm vibrations	Pressure accumulator discharged or there is incorrect air pressure	Charge to the correct pressure of 70 psi for A side 30psi for the B side

Suggested Accessory Material When Using the HVLP 2000

The following items are commonly available at most hardware stores:

- WD 40 spray can
- Roll of metal window screen
- 1x25 pc pack of 12`` standard cable ties
- Box of disposable rubber gloves
- 4`` paints brushes and masonry brushes
- Diesel oil (20w40) Diaphragms Pumps-small funnel
- Sheer nylon socks
- Garbage bags
- Safety glasses
- Shop towels/rags
- 2x10`` crescent wrench
- Mineral spirits/Varsol- 5 gallons
- Large Scissors
- Utility knife
- Rubber mallet
- 2x Broom handles
- Metric Allen Keys (8mm & 4 T handle, 6mm L-type)
- Regular gas for Honda engine
- Dental pick set
- Baby oil / mineral oil & Vaseline
- 2x12 `` crescent wrench
- Pair of two way radios
- Extra pails