



LOW PROFILE **ACREAGE PRO** **UTV SPRAYER**



OPERATOR'S MANUAL

For Sprayer Models:

517 S1BB-B050W-1EC4-1160, 517 S1BB-B050W-1EC5-1250

Revision: 10.24.01

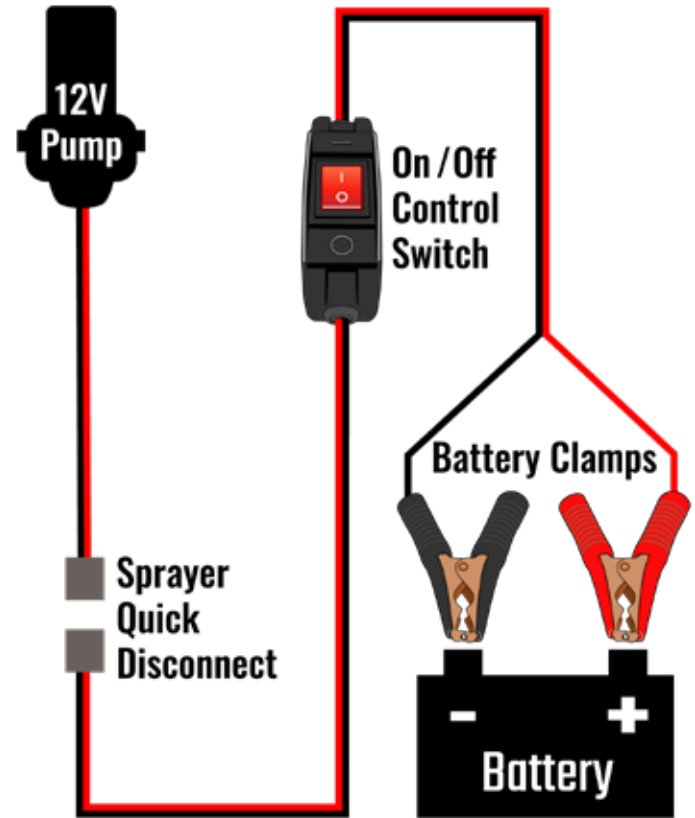


Get To Know the Acreage Pro



- 1** Heavy duty fifty gallon total drain tank with reinforcing ribs forms the backbone of the Acreage Pro.
- 2** Thick 3/16" powder coated steel legs with stainless steel tie down straps.
- 3** Drain port with garden hose threaded fitting makes quick work of draining the tank.
- 4** Left & right shutoffs for the boomless nozzles allow for easy fenceline spraying.
- 5** Boominator Boomless Nozzles spray 16' per side for 32' of total coverage per pass.
- 6** Boomless bracket folds up out of the way so you can easily open and close the tailgate.
- 7** Single 4.0 GPM pump pairs perfectly with Boominator 1160 Series boomless nozzles.
- 8** Big stainless steel fluid-filled gauge makes setting pressures easy.
- 9** Integrated line strainer keeps debris from clogging the system.
- 10** Pressure regulator is conveniently placed to make managing pressures simple.
- 11** Low profile hose stand with a 25' of single braid 3/8" rubber hose.
- 12** SG-2200 spray wand features the pattern adjustment by the trigger and a wind guard by the nozzle.
- 13** Power & control all in one! Single harness connects from battery to sprayer with the remote in the middle.

Wiring In Your BENCO Sprayer



Wiring the Power Harness with Control Box

Your BENCO Sprayer runs on standard 12V DC power. Simply hook the red cable in the harness to the positive side of the battery and the black wire to the negative side of the battery.

We do not recommend using auxiliary power ports or hooking into the fuse box. While the pump does not need an excessive amount of power, it does draw more than most circuits in your vehicle are designed to deliver. Connecting directly to the battery is the best way to ensure years of trouble-free use.

Depending on your vehicle, you may need to extend the power wires in your harness. Please use a comparable sized wire (12 gauge or heavier) to ensure the proper functioning of your sprayer. If you notice your wires or connections are getting hot during use, it is likely because they are not designed to carry the amount of amperage drawn by the pump (up to 13 max amps at startup).

Operating Your Sprayer

Operating your sprayer is very simple. The On/Off switch can sit anywhere in the cab that is convenient for you. It directly controls whether power flows to the pump. When the switch is on, power flows to the pump and you start spraying. When the switch is off, the pump is essentially unplugged and no water flows. Easy!

Installing the Hose Stand

For shipping reasons, your sprayer will likely arrive in a few pieces. The sprayer itself, the hand wand, the hose bracket, and the folding boomless nozzle bracket with nozzles. The pieces should come with all the hoses and plumbing assembled, the brackets just need to be bolted to the tank.

1. Unbox your hose reel or stand. You should have the **hose stand bracket, the hand wand, 3 bolts, 3 washers and hose clamps**. The hose should already be attached to the pump and have the spray gun fitting attached to the loose end.
2. You will mount this assembly to nuts cast directly into the tank itself on the tall rib at the edge of the tank by the pump (driver's side of the UTV). The bracket will wrap over the outermost elevated rib and the holes in the bracket should line up with the nuts embedded in the tank. The hose should hang down over the outside of the tank.
3. Put washers on 3 of the supplied bolts and hand thread them through the bracket into the nuts molded into the tank.

USE A HAND TOOL TO TIGHTEN THE BOLTS TO THE TANK. Do not over-tighten the bolts. You want the bolts nice and tight to eliminate vibration and rattling, but do not over-tighten. The aluminum cast-in-place nuts are very strong and should last a lifetime, but given enough force, the bolts will win. Benco cannot warranty tanks that are damaged by the use of drills, impact guns, or bad decisions.

4. **Attach the hand spray gun.** The brass fitting may already be mounted on the loose end of the hose. Just thread the fitting on the end of the gun and tighten.

If not, you may have to put the hose on the gun. Slide the supplied hose clamp onto the loose end of the hose. Next, insert the hose barb on the end of the spray gun into the hose and push the hose all the way onto the hose barb. We recommend wetting the interior of the hose first to make it easier. Position the clamp over the barb and tighten the clamp.
5. Wind the hose onto the freshly installed bracket and hang your spray gun on it's holder.

Congratulations! Your hose stand is securely mounted and you are ready to start hand spraying!

Note: We generally use the same 28-30 PSI for the hand wand that we do for the boomless nozzles, but experiment to find your favorite pressure setting for the way you spray.



Installing the Boomless Bracket

The folding bracket for the boomless nozzles bolts onto the elevated center rib of the tank. It is made up of the mounting bracket that wraps around the rib and has 3 holes that line up to the nuts embedded in the tank rib and the folding boom bracket. The holes on either side are to help with hose management.

1. Unbox your sprayer. You should have the **boomless bracket (the tank mounting plate bolted to the folding boomless "L" bracket with shutoffs, boomless nozzles, and hoses attached), 3 bolts, 3 washers**.
 2. Place the mounting bracket on the center rib of the tank and line up the holes in the plate with the nuts cast into the tank. Use the supplied bolts with washers to fix the mounting plate to the tank.
- USE A HAND TOOL TO TIGHTEN THE BOLTS TO THE TANK.** Do not over-tighten the bolts. You want the bolts nice and tight to eliminate vibration and rattling, but do not over-tighten. The aluminum cast-in-place nuts are very strong and should last a lifetime, but the bolts could strip them or pull them loose. Benco cannot warranty tanks that are damaged due to over-tightening.
3. **Congratulations!** Your sprayer is assembled and ready to spray!



Folding the Boomless Nozzle Mount for Storage

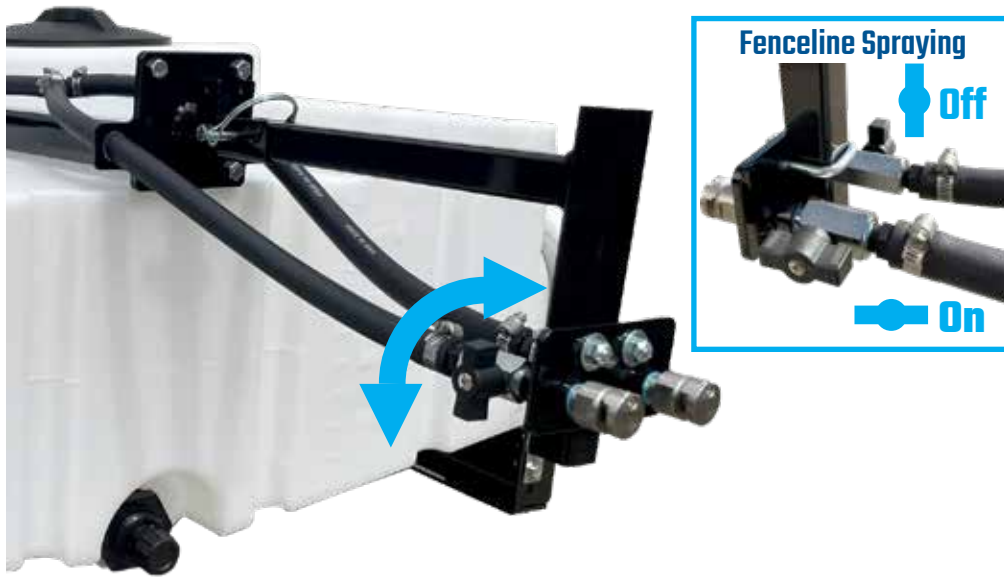
Your Benco Boomless kit comes with a folding boomless nozzle mount. This is a simple convenience feature that makes it easier to open and close your tailgate and more compact for storage. Folding or unfolding is a simple toolless operation.

Folding Up the Boomless Mount:

1. Remove the pin that holds the mount in place.
2. Rotate the boom ninety degrees upward.
3. Line up the boom's pin holes with those on the vertical arm of the mounting bracket.
4. Insert the pin.
5. Check the rubber feed lines for pinching. You may have to manually adjust them to keep a smooth arc in the hose.
6. To unfold, repeat in the reverse order.



Hand Wand / Fenceline Spraying



Your BENCO Acreage Pro Sprayer is designed with **simple manual shutoffs at each nozzle**. Turning off the flow to both nozzles allows you to use the hand wand without the boomless nozzles. Turning off one side at a time allows for easy fenceline spraying.

The shutoffs are mounted behind the nozzles on the opposite side of the mounting plate. Just turn them 90° to turn the flow of liquid on or off. When the handles are in line with the valve's barrel water flows through the valve to the boomless nozzle. When the handle is perpendicular to the valve flow is shut off.

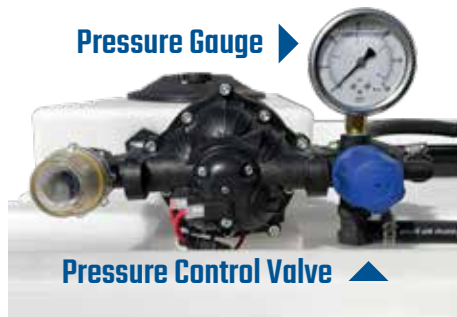
Adjusting Pressure

Adjusting pressure on the Acreage Pro couldn't be easier. The pressure regulator is attached directly to the pump on the driver's side of the sprayer.

Turn the blue knob located under the pressure gauge to adjust pressure going to both the boomless tips and the hand wand. Rotate the knob clockwise to increase pressure, counter clockwise to decrease pressure. The adjustments will be immediately reflected in the pressure gauge right above the knob.

Your system will not come with a preset pressure. Please reference the speed and pressure chart on the back cover for the tips you are using to determine the correct pressures for your desired application rate.

If you are running the standard Boominator 1160 Boomless Nozzles at 28-30 PSI, you should achieve a perfect 10 Gallon Per Acre application rate at a speed of 3.6 MPH. If you have the upgraded 5.5 GPM pump with 1250 series nozzles, you should run at 5 MPH.



Using the Spray Gun



On a BENCO sprayer, **the hand wand is run by the LEFT pump**. The hand wand will always be active any time the pump is running.

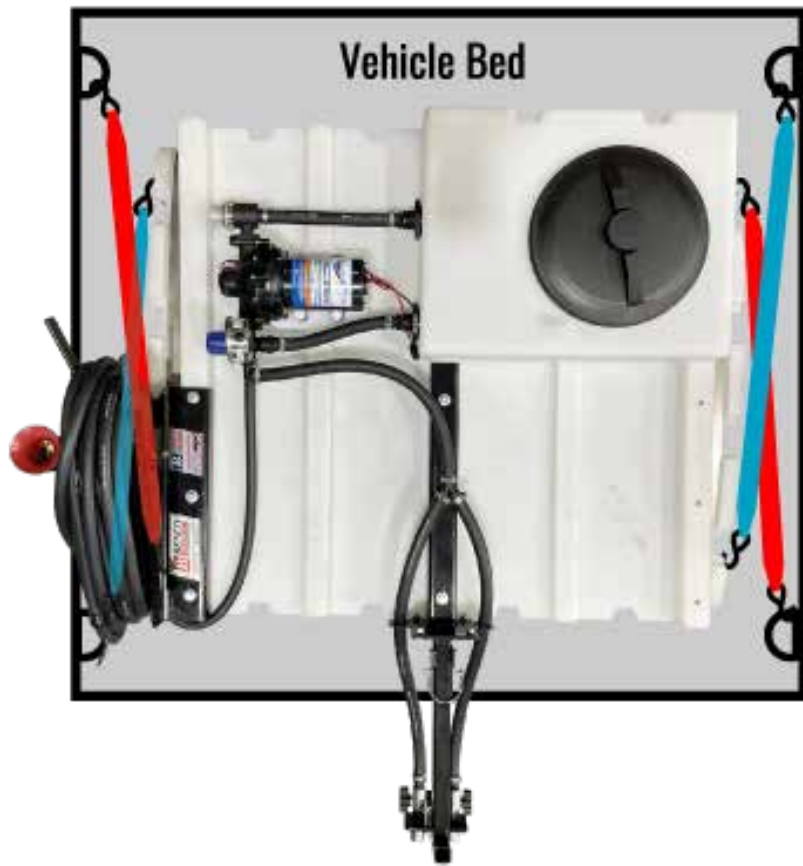
For maximum pressure, we recommend using the spray gun without running the spray tips. There is a handy valve right behind the spray nozzle plate that will allow you to shut off liquid flow to the nozzles. Turn the valve's handle perpendicular to the valve body to shut off flow. To resume spraying with the boom, turn the handle parallel to the valve's body.

However, the spray gun will be active any time the pump is running, so you do NOT need to shut off the left boom to use the hand wand. Your BENCO sprayer is designed so that you can spot spray with the wand while you are spraying with the boom. You just may not have quite as much reach with the spray gun as you are dividing pressure between the boomless tips and the spray gun.

You **may notice the pump surging** when in wand-only spraying mode. This is a normal safety feature of the pump. Surging is the result of the pump turning off and on due to the pressure building up and triggering the pressure safety switch on the pump.

To eliminate surging, adjust the pressure using the blue throttling valve until the surging subsides and the desired hand gun pressure is achieved. Adjusting the pressure regulator adjusts the amount of pressurized water being diverted back to agitate the tank. With enough water recirculating, the pump will keep running.

There are several professional quality **spray gun options** available for your BENCO Sprayer. Our newest and most popular is the rugged SG-2200 adjustable spray gun. This hand wand can easily reach out 30+ feet and allows you to adjust the spray pattern from mist to stream from the side of the gun as you spray without getting any chemicals on your hands.



Securing Your Benco Sprayer

One of the most popular features of the Acreage Pro is the ability to spray over the top of a closed tailgate. However, closing the tailgate does not truly secure the sprayer in your UTV. It can still slide around in your UTV's bed, possibly causing damage to the vehicle or the sprayer.

For the safety of yourself, your UTV and your sprayer, you **MUST** securely fasten your Benco Sprayer to your vehicle before use. The sprayer only weighs 57 pounds, but it holds over 400 pounds of sloshing water being driven over uneven ground. If not properly secured, it may move around in the field where bad things can start to happen quickly.

Use ratchet straps with the proper load rating to tightly **secure the sprayer frame to the vehicle bed in an "X" pattern**, securing the back of the sprayer to the front of the bed and vice versa on each side. Connect the straps to the sprayer using square handles or any of the round holes cut into the side of each frame rail.

This double X configuration will help prevent the sprayer from sliding backward and forward during use and help maintain proper nozzle positioning during spraying.

Make sure all the straps are taut, but do not over-tighten them. The goal is to hold the sprayer stationary in the bed without putting excess stress on the stands.

Filling or Draining the System

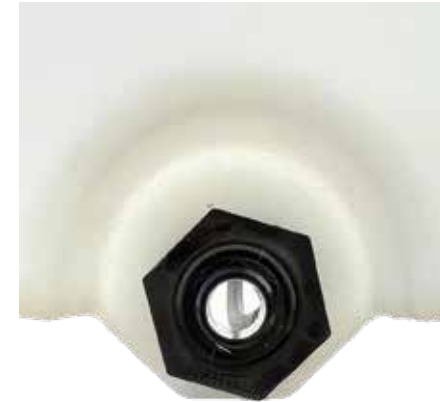
Filling the tank

The easiest and most obvious way to fill your sprayer is to remove the lid on top and fill the tank with a garden hose.

Draining the tank

To drain the system, just take the cap off of the drain port. The drain port comes with a garden hose adapter installed for your convenience.

If you like, you can remove the garden hose adapter and add any 3/4" male pipe thread valves or fittings you like to make the task of draining the tank even easier.



Winterizing

If your sprayer will be stored anywhere where the temperature will drop below freezing, we recommend winterizing your sprayer before storing it. Draining the system may not be sufficient as the pump will not drain completely. Using compressed air to purge the system is also not recommended as it could damage the valves in the pump. **The safest way to winterize your sprayer is to run some antifreeze through it.**

We recommend using a standard glycol based antifreeze (nothing fancy). **Do NOT** use alcohol based antifreeze (like many RV & Marine products) as it may cause the rubber seals to swell, causing leaks the next year.

Winterizing your sprayer

1. Drain the system as completely as possible
2. Add some **GLYCOL based antifreeze** to the tank, mixed as directed. You don't need a lot, just enough to flush the system.
3. Run the sprayer until the water coming out is the same color as the antifreeze in the tank. Work all the valves. Don't forget the spray gun.
4. Tuck it away in the shed. You're ready for the winter.

Getting the sprayer ready in the spring

5. Drain any remaining antifreeze from the system.
6. Fill the tank at least halfway with a good quality tank cleaner & neutralizer (we like Erase). Thirty gallons should be sufficient, but use your best judgment. You can't over-clean the system.
7. Run the sprayer until empty to flush the system completely.
8. Fill with your favorite product and start spraying!

Useful Tips & Disclaimers

Most of this is common sense, but these are good reminders of the best practices when operating your sprayer. We have engineered your sprayer to be as safe, reliable, and as easy-to-use as possible. But this is still machinery. Always use your best judgment and be mindful that things can, and sometimes do, go wrong. Please use your sprayer as safely as possible. Always use your best judgment when operating your UTV.

- Follow the chemical manufacturer's safety handling procedures for any products used in the sprayer. Some of that stuff can get nasty.
- **Make sure your UTV can handle the weight of the sprayer and all the water and chemical it can hold before you buy your sprayer.** The limiting factor on tank size is usually the weight the suspension can reasonably be expected to handle. BENCO is not responsible for damage to your UTV from overloading.
- The sprayer and all the water in the tank will **greatly change the center of gravity of your UTV.** Take hills and uneven ground slowly. BENCO is not responsible for any damage that occurs to your UTV while using your sprayer. Always use your best judgment when operating your UTV.
- **Don't spray people or animals with your sprayer.** Bugs are okay.
- If using the hand-sprayer, it is recommended to leave the machine running to keep the battery charged.
- Be VERY careful if you are spraying when it's breezy out. **Drift is a very real concern** and you can quickly kill things you didn't plan to. (Including the neighbor's field, or worse, your wife's flowerbed.)
- When you lift the sprayer, don't be a hero. Drain it first and get a friend or two to help you **TEAM LIFT the sprayer.** It's only 57 pounds, but it's an awkward 57 pounds.
- **Do not move the sprayer when it is full of water.** 50 gallons of water weighs 417 pounds. Moving the sprayer with water in it probably won't hurt the sprayer, but dropping it may. Not to mention what it does to your back. Please drain the tank before moving the sprayer.
- **The Acreage Pro is not designed to be moved by machinery.** We can't stop you, but be careful. BENCO is not liable for any damage that may result. Our Farm Pro line features fork receivers built into the steel skid for exactly this purpose.
- Don't let the sprayer fall on you. Serious injury or death can occur.
- Strap down each side of the sprayer using properly rated straps in a X pattern, strapping the front of the sprayer to a rear tie down and vice versa on each side. This should keep the sprayer from shifting when accelerating or traversing uneven surfaces. Gravity alone will only keep the sprayer in place until it doesn't.
- If you have to extend the power wires for your sprayer, use **12 gauge or heavier** wire and connectors. If the wires or connectors are getting hot, they aren't designed to move the amperage the pumps are drawing. Cool is good, warm may be okay, but hot is a problem.
- Use your sprayer only as intended by the manufacturer. If you come up with an interesting new use, please let us know.
- BENCO does not warranty damage, only manufacturing defects which arise during normal use.

- Our pumps use **VITON** seals, which are very chemical resistant, but there are a few nasty things that will still eat it. Dicamba in particular. Choose your chemicals wisely.
- **BENCO does not warranty any damage from chemicals.** However, most major parts on the sprayer are very chemical resistant and easily serviceable, including the pumps. Give us a call and we can help you get it back up and running as affordably as possible.
- Don't forget to **winterize your sprayer.** BENCO does not warranty any damage from water freezing in the sprayer or any of its components. We recommend a glycol based antifreeze (the old green stuff). The alcohol in many RV antifreezes can make rubber seals swell and then leak over time. See page 9.
- **If you need parts, we are here to help.** Most of the liquid handling components in your sprayer are fairly standard and should be readily available locally nationwide. But, to ensure you get the right parts for your sprayer, give us a call at **605-213-1010** to have OEM parts delivered directly to your door.



**THE BENCO
1 YEAR
LIMITED
WARRANTY**

Normally, a one year warranty is nothing to brag about. The BENCO difference is that we stand behind our products long after the warranty expires. We want to know what issues our customers have so we can help them solve those problems. This feedback helps us design better and better products with more useful features that last even longer than those that we make today.

Our warranty period is mostly limited by the warranties on the components we use to assemble your sprayer. But the support you get from BENCO will last a lifetime. Please let us know if you ever have any problems with your sprayer, no matter how long you have owned it so we can try to make it right.

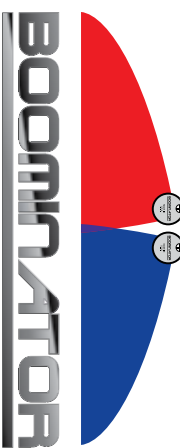
Speed & Pressure Chart for Standard Boomless Nozzles

All Regular Pattern Spray Nozzles were tested at a height of 36 inches. (Recommended operating height is between 18 & 48 inches.) Fresh water used for all testing. These nozzles are designed for left-hand or right-hand mounting and provide a wide spray pattern with approximately 15° of kickback under the nozzle.

When using left-hand and right-hand nozzle together, adjust nozzles to allow for enough kickback overlap between the nozzles to prevent streaking in spray coverage. Nozzles can be rotated to adjust distance of spray pattern outward or amount of kick back under the nozzle.

1160 LEFT or RIGHT 1/4" MNPT	PSI	GPM	SPRAY PATTERN	SPEED (MPH)						
				2	3	4	5	6	7	
	20	1.0	16 ft.	15.5	10	8	6	5	4.5	
	30	1.2	16 ft.	18.5	12.5	9	7.5	6	5.5	
	40	1.4	16 ft.	21.5	14.5	11	8.5	7	6	

1250 LEFT or RIGHT STANDARD TIP 1/4" MNPT	PSI	GPM	SPRAY PATTERN	SPEED (MPH)						
				2	3	4	5	6	7	
	20	1.5	16 ft.	23	16	12	9	8	7	
	30	1.7	16 ft.	26	18	13	11	9	8	
	40	2.0	16 ft.	31	21	16	12	10	9	



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