

ReClaim™

ReClaim Operators Guide



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ReClaim Operation

ReClaim can be used for the following purposes:

Boom Priming Taking booms that are empty and filling them with product to be sprayed without spraying product on the ground. This saves product and avoids creating a small area of concentrated spray on the ground when priming through nozzles.

Boom Recirculation Recirculating product from the tank to the booms and back to the tank. This can be used for the following purposes:

1. Keeping product properly mixed/agitated through the booms and back to the tank. This can be used after filling or downtime to cycle chemical through the booms and back to tank for agitation.
2. Pushing fresh water into the booms and the chemical back to tank to prevent chemical in the booms from getting “hot” during downtime.
3. When cleaning out the sprayer, recirculating rinse water through the booms and eliminating “dead zones” at the end of each boom that can hold product that is difficult to clean out. This prevents operators from having to remove caps or open valves manually on the sprayer and increases operator safety by not exposing the operator to chemical.

Air Purge Use compressed air to push all of the product in the booms and recirculation lines back to the solution tank. This can be used for the following purposes:

1. Empty the product from the lines if the machine won't be used for a period of time. This would allow for remixing of the product with agitation in the tank before spraying again.
2. Purge the lines back to tank for more complete cleanout.
3. Blow air through the nozzles for cleanout.

Note: Some OEM monitors have been observed to give low pressure alerts when the Reclaim system is being operated. This is because the OEM system is not expecting to see the drop in pressure which naturally results from operation of Reclaim. Reinstalling the pressure sensors before the Reclaim reduction valve normally alleviates this issue. If pressure sensors cannot be installed this way, these messages should be expected and can be ignored.

Follow the steps below to recirculate product and prime the boom using ReClaim.

Step 1:

Turn on the ReClaim switch in the cab. The horizontal bar light on the bottom of the switch will also turn on. If looking at the valve on top of the tank you will notice that it moves to the open position, and the valve will have a green LED present.



Step 2:

Next, turn on the sprayer pump and press the master spray switch to start product flow. How to accomplish this will vary based on sprayer make and model.

- a: PWM and electronic on/off nozzle systems — The pump may be run at normal pressures as the PWM nozzles will be kept shut.
- b: Mechanical nozzle systems — If the restrictor valve is installed, the operator does not need to adjust the pressure (all John Deere sprayers and possibly other makes as well). If the sprayer does not have a restrictor valve that was installed with the ReClaim system, the pump will need to be put into a manual or test mode to turn the pump at a fixed speed, such that it is slow enough to maintain boom pressure lower than the cracking pressure of the check valves in the nozzles (usually around 10 psi). Worn out check valves may have a cracking pressure lower than new valves. If this is the case, they may need to be replaced.

Note: If you have mechanical nozzles and wish to ReClaim at higher pressures, you can turn the nozzle turrets off by hand.

Note: Some PWM systems will open the nozzles when the section valves are opened. If this is the case on your system, check with the display OEM if there is a “mode” that you can use to open the section valves without opening the PWM nozzles. If there is not, then the section valves will need to be opened and then the control harness unplugged so that ReClaim can operate without spraying out of the nozzles.

Step 3:

Once product begins to return into the tank, the circular green flow indicator light on the switch will also turn on.

**Step 4:**

Let product recirculate for some time after the green flow indicator light turns on. Testing has shown that it will take approximately 1 minute for a 120' foot boom to circulate its boom volume 1 time. Time for priming a boom will vary.

Note: If the booms were dry, some systems may struggle to push all of the air out of the booms. If this happens, follow the steps below. (Not needed if there is already liquid in the booms).

- a: Raise the boom tips up — run this way for 30 seconds.
- b: Tilt the boom tips all the way down — run this way for 30 seconds.
- c: If there is still air in the booms, repeat steps “a” and “b” again.
- d: If there is still air in the booms, shut off all but one of the section valves and prime each section individually, following steps “a” and “b” above.

Air Purge Process for ReClaim

It is an option with the ReClaim system to equip the sprayer with an air purge system. The air purge feature uses compressed air to purge product out of the sprayer lines for easy and safe cleanout when changing chemicals or finishing up for the year.

The air purge system can be connected to the sprayer's on-board compressor (if equipped), or to shop air.

It is recommended to tilt the booms up while air purging. This will help the remaining product in the nozzle bars to flow towards the center of the boom and return to the tank.

Note: This air purge process DOES NOT guarantee that all product is fully removed from the nozzle bars. Follow all OEM rinse cycles and winterizing procedures as normal.

In order to purge the nozzle bar and push product back to the tank using compressed air, follow the steps below:

Step 1:

Turn on the sprayer. Turn ON Reclaim switch in the cab to open the electronic ball valve at the top of the tank. The horizontal bar will illuminate indicating the switch is on.



Figure 1.
Reclaim Switch

Step 2:

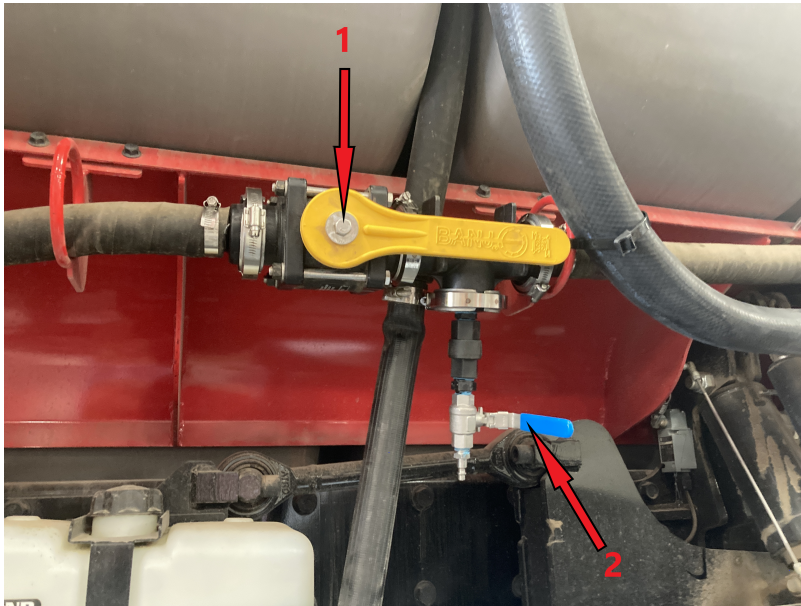
If the air purge system is not connected to the sprayer's on-board air system, you will need to connect shop air to the quick connect port at the air inlet.

Step 3:

Purge the boom system.

Note: To properly air purge the system, the boom needs to be purged one section at a time, with the center section being the **last** section to be flushed. If the center section is not the last section to be flushed, it is possible that fluid will remain trapped in the center boom.

- a: Close the manual valve (1) on the supply line between the air inlet and the pump. If a manual valve does not exist between the air inlet and the pump, one will need to be installed.



- b: Use the manual section switches in the cab to close all but one section valve.
- c: Turn on both the pump switch and master spray switch. This will allow the active section valve to open. The closed manual valve should prevent pump flow from entering the supply line. If you are using onboard air, the sprayer engine needs to remain on. If you are using shop air, the sprayer's key can be turned to the accessory position. This will allow the section valves to be opened and closed while keeping the pump turned off. Note that you still need a manual valve on the supply line between the air inlet and pump to prevent all the air from moving upstream into the tank.
- d: Open the airline valve to allow air to flush the active section. If you have a pressure sensor downstream of the air inlet, you should see a large initial pressure reading and then a drop to 1-3 psi. Once the pressure drops to 1-3 psi, this indicates that air has a path back to the tank and the section is purged.
- e: Repeat the steps for the remaining sections, ending with the center section. If you have a small air tank, it may be necessary to allow it to build pressure between section purges.
- f: Once all sections are purged, close the airline ball valve (2). In the cab, turn off the pump, master, and ReClaim switch. Open the large manual valve (1) on the supply line.

Step 4:

(Optional) Blow the product out of the nozzles using the compressed air.

- a: Turn off the ReClaim switch in the cab.
- b: Close the large ball valve (1) and turn on the air valve (2).
- c: Turn on all section valves and the master spray switch (for some systems it may be best to open one section at a time)
- d: Any remaining product should now spray out of the nozzles.
- e: Once the product is purged out of the nozzles; close the air valve, master spray switch, and section valves in that order.
- f: Open the large ball valve (1).

Sprayer Cleanout with ReClaim

Caution: Always follow the label recommendations for cleanout of the sprayer. Anything found in this manual is ONLY guidance for what we have found to be helpful. Label guidance for the chemicals used should always be followed and takes precedence over any guidance from this document. When cleaning out the sprayer, make sure you also clean out the ReClaim lines!

Banjo recommends opening and closing ball valves 15-20 times while flushing fluid (or air) through them to clean out any chemical that may be trapped within the valve. This applies to all ball valves on the sprayer, not just the ReClaim ball valves. Furthermore, during winterization, the ball valves should be left in a partially open position to prevent any trapped liquid from cracking the housing.

It has been found in the industry that three rinses of 30 gallons each is more effective than a single 600 gallon rinse. If a triple rinse is not needed, perform what cleanout is needed per the label, just **make sure you also cleanout the ReClaim lines by running the ReClaim system at an appropriate point in the cleanout process.**

Note: Add a detergent or ammonia (if needed) at whatever step the label recommends. Detergents and ammonia are NOT the same. Detergent should be used with emulsifiable concentrates (ECs) as the active ingredient is an oil soluble. Ammonia raises the pH to enhance solubility, it does not neutralize chemical. Pay particular attention to the sulfonyl urea (SU) products (some group 2 products) as they tend to have lower solubility due to lower pH and adding ammonia can be helpful.