



CHECK & CLEANING PROCEDURE

Cleaning of the EMEC injectors will ensure that the lifespan and injection consistency remains accurate. If the valves within the injector are not cleaned, buildup of the fertilizer can occur over time, making the injector malfunction or completely stop working. Follow the procedure below if you are experiencing any issues with your injectors.



STEP BY STEP GUIDE

STEP 1

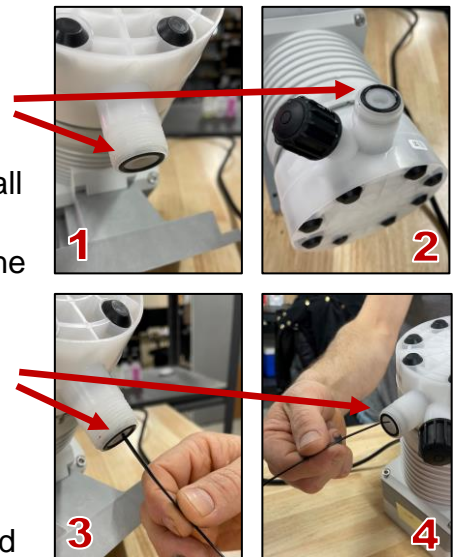
- Unplug the power connection from the injector to the receptacle on the machine.
- Protective gloves and eye wear should be worn throughout the entire process below.
- Ensure all or as much fertilizer is removed from the injector head before any further work is performed.
- Take a picture of the injector before removing for cleaning as a backup to the position and reassembly of the unit.
- This procedure can be used as a basic maintenance service or to address issues with the injector functionality.

STEP 2

- It is easiest to remove the injector from the framework to work on it after being disconnected properly by removing all electrical connections and valve connections.

STEP 3

- Visually inspect the bottom check valve assembly for any crystallization and debris. (See Image 1)
- Visually inspect the top check valve assembly for any crystallization and debris. (See Image 2)
- Take a toothpick or zip tie and insert it into the check valve carefully until you have made contact with the ball inside. Move the ball up and down carefully to ensure that it has easy movement and is not stuck. Perform the same step for the both the top and bottom valves. (See Image 3, 4)
- If the ball is not able to easily move around, follow the steps outlined in the **Check Valve Assembly Instructions** to clean them properly.
- If the Ball Assembly is not moving freely and check valve assembly cleaning Instructions have not resolved the issue of easily moving the interior ball, initiate the following steps...



• STEP 4

- Locate the **8** black rubber plugs located on the injector head.
- Carefully remove the 8 rubber plugs from the back of the injector. Use a small screwdriver and insert along the edge of the plug and pull out. They should be able to be removed with little resistance. (See Image 1)
- Next, remove the 8 screws housed under the black plugs using a 5/32 sized Allen key. Each screw has a washer. Make sure to carefully remove the screws, keeping all components together. (See Image 2)
- Once all the screws have been loosened completely, it is easy to put the complete injector head upside down and the injector head should pull straight up with the screws still attached. (See Image 3)
- Take the removed head and carefully remove the screws and washers and store in a safe place.



• STEP 5

- Use a container that can fit the entire injector head and can completely submerge the head in a liquid.
- Using CLR (a Calcium, Lime and Rust Remover) (See Image 1), combine 50/50 (water to CLR solution), into the container and submerge the pump head leaving it to soak in the solution for 1 hour.
- After soaking the pump head, remove from the solution. Remove the solution from the container, carefully cleaning out the container. Fill the container with clean water only. Put the pump head into the clean water and agitate the pump head in the solution. The purpose is to see if any debris pulls away from the pump head and clean the remaining CLR solution from the soaking.



• STEP 6

- Carefully recheck the upper and lower check valves with a toothpick/zip tie to ensure that the ball inside moves freely. (See Image 1)
- If the balls are moving freely, finalize the cleaning of the head by rinsing the head one more time in clean water ensuring full cleanliness of pump head.
- Carefully dry off the pump head with a clean cloth.



• STEP 7

- Inspect the diaphragm for any visible debris and crystallization buildup on the surface. (See Image 1)
- If dirty, clean with a combined solution of CLR and clean water (50/50) using a toothbrush, thoroughly but gently brushing all areas of the diaphragm ensuring that any dirt has been lifted from the surface.



- While cleaning the diaphragm, inspect the surface for any cracking. If a crack is found, contact our CCS service department at 519-322-2515 for assistance.
- Once the entire diaphragm has been brushed with a clean brush, take fresh water and a new small fine brush, brush the entire surface of the diaphragm and surrounding area with clean water only (no CLR).
- Once fully cleaned, pat dry the diaphragm with a clean cloth.

• STEP 8

- Reassemble the pump head to the injector body attaching the two together. Insert the screws and washers into the 8 holes.
- Ensure that the Bleeder Valve cap is pointing upwards when assembling. This is important to ensure that the check valves are properly positioned on the injector before hookup. (See Image 1)
- Tighten the screws back onto the injector. Do not over tighten as this could cause damage to the threading and cause seal issues in the future.
- It is recommended when tightening the screws to do it in a Criss Cross fashion. This will ensure an even and tight distribution of the seal.
- Once the screws have been tightened, cover the screws with the 8 black rubber plugs by inserting them over top. These plugs ensure that the screw heads remain protected during use.



• STEP 9


- Final Cleaning of the outside of the injector body is important to ensure that dirt does not enter the injector and cause it to malfunction.
- Use a solution of CLR/clean water (50/50) and with a toothbrush, carefully scrub the injector body thoroughly.
- Once the injector body has been brushed and all dirt has been lifted, use a wet cloth (only clean water – NO CLR) and wipe down the exterior of the injector.

• STEP 10

- Once the injector has been safely mounted on the frame again and all hookups have been successfully attached, plug in the electrical power for the injector. Ensure that the injector is tightened down to the frame before operating.

To test the injector, use the following steps to Manual Priming

• STEP 11





- Press and Hold  button for 5 seconds
- All the lights will start to flash (See Image 1)
- When lights are flashing, press  button again once until one light is flashing
- Next, press the  button until the light is highlighting “Constant”. (See Image 2)



- Open black bleeder knob by turning it counterclockwise. Do not take the cap fully off. Only 2 full turns to loosen for priming. (See Image 1)
- Connect a small hose to the lower small barb fitting located under the bleeder valve. Ensure that the hose is long enough to drain the injector into a small bucket. (See Image 2)



- **STEP 12**

- Turn small injector knob clockwise all the way to the 100% position. (See Image 1)
- The injector will automatically start to pulse.
- Monitor the Fertilizer coming through the bleeder hose.
- Once properly primed, turn the small injector knob counterclockwise back to 0%
- Hand tighten black bleeder cap on back of injector and disconnect hose priming hose.
- Press and hold  for 5 seconds until lights flash, Press  again.
- Press  3 times until the light is flashing beside “DIV 1÷10” (See Image 2)
- Press  again to set
- Now the program will automatically run. Start the system up again and monitor the pump for a few minutes to ensure that all is working correctly based off your programmed schedule.



- **STEP 13 – IF APPLICABLE**

- If the ball is still not moving, then contact our support team for additional assistance.