**Solution: Cleaning Sensors**  
This Canvas will take you through the typical process to clean off sensors located around the machine. Keeping all aspects of the machine clean is important to maintain optimum performance. If sensors around the machine are dirty they won’t "see" what they need to, and cause sub-optimal performance. Follow the steps below to clean various sensors around the machine.

## **Cleaning Process:**

Cleaning the sensors is easy and quick. You will need:

* Isopropyl Alcohol
* Cleaning Towel/Rag
* Compressed Air Hose
* Windex or generic glass cleaner.

By following these steps you can clean the sensors:

1. Use the compressed air hose to gently blow air onto the sensor and clear away and debris that isn’t directly stuck to the sensor.
2. Apply an appropriate amount (rag doesn’t need to be dripping) of isopropyl alcohol to a shop rag/towel.
3. Gently wipe the face of the sensor, being careful not to damage or move it.
4. Check to see if the sensor has proper vision by putting a cone in front of the sensor and see if the output on the HMI triggers indicating it sees the cone.

## **Conveyor: Box Detection Sensor**

The machine won’t start looking for and picking cones if it does not see a cone box present. Sometimes this is because the sensor is dirty and can’t actually see the box, or if the box isn’t pushed far enough forward.

## **Load Robot: Cone Stack Detection Sensor**

The load robot won’t be able to accurately see and pick cone stacks to bring to the cone pull station if it can’t see properly. If the sensor is dirty, the load robot could potentially miss stacks entirely or grab multiple stacks at once. Area to clean circled in red.

To clean this sensor:

* Spray off the area completely.
* Wipe the circled area with a rag with iso or Windex.

## **Cone Pull Station: Upper/Lower Gripper Sensors**

The load robot knows whether or not to drop new stacks in the cone pull station from the upper gripper sensor seeing/not seeing a cone stack. If the sensor is dirty, it might not load stacks at all or drop multiple stacks into the cone pull station at once. The lower gripper sensor helps the puller find the bottom of the cone’s filter and chooses where it grabs the cone based off where the bottom of the filter is in space. If the puller grabs incorrectly there is potential for double pulls or no pulls. You will need to clean both sides of each set of sensors as one side shoots the laser and the other side receives it. Area to clean circled in blue.

To clean this sensor:

* Spray off the area completely.
* If problem persists, the sensor may need to be **lightly** wiped with a rag or wire brush.

## **Cone Pull Station: Cone in Dial Detection Sensor**

The last check for the cone pull station is to make sure the cone makes it into the dial. If the sensor doesn’t see properly it could potentially flag a good cone as a no fill.

To clean this sensor:

* Spray off the area completely.
* Wipe the lens of the sensor with a rag and isopropyl alcohol or Windex.

## **Cone Fill Station: Funnel Clog Sensor**

The funnel clog sensor looks for blockage in the cone fill funnel when filling cones. If the funnel clog sensor isn’t seeing properly then the machine might think it is filling cones properly when it isn’t, or it would say the funnel is clogged when it is clear.

To clean this sensor:

* Wipe the lens of the sensor with a rag with iso or Windex.

## **Cone Fill Station: Cone Detection Sensor**

The cone detection sensor looks to see if a cone is present to fill or not. It would be problematic to fill cones when in reality nothing is there. If the cone detection sensor is dirty, material will not dump into the cones. This will cause the number of No Fills to rise. Area to clean circled in blue.

To clean this sensor:

* Spray off the area completely.
* Wipe the circled area with a rag with isopropyl alcohol.

## **Offload Station: Cone in Dial Detection Sensor**

The cone dial detection sensor at offload helps the machine know if a cone was unsuccessfully offloaded and is stuck in the nest. It would cause problems if a nest with a joint in it got sent around to all the stations again. If this sensor doesn’t see properly something like this may occur.

# **🗺️ Links to Help**

<https://acceleranthq.slack.com/files/U0239EH4KK9/F078SCAEC77/accelerant_pro4_pre-roll_machine_manual_6-13-23__1_.pdf>