4.3.3. CLASSIFIER MODULE  (driver board 0x08 – Rack Shifter)

The Classifier Module performs the function of movement of the sample-holder rack.

There are 3 motors: 1 for the movement of the belts for the Sample Holder Rack and two for the cams 1 and 2.
There are 4 sensors: Two for detect the Rack position and Two for the home position of the cams. + 1 microswitch.

The movement of the Rack (belt) is moving for a fixed time. This motor don’t use a sensor (home/end) for stop the movement.

The Cam movement have 2 position:
Open= Cam inside Home sensor.
Closed= Cam outside the Home sensor.

The Cam Lock1 and 2 are moving only by one direction, but 1 is moving in opposite direction respect to the other.
The position of the Classificator rack is detected by 2 different Photocells that are looking for some little windows present for each rows of hole positions in the Rack.

**PROBLEM**

In the last series of instruments, some new Photocells sensors are more efficient then previous, they can across the green plastic side of the Classificator rack, so sometimes they detect the little windows in a wrong position and the Classificator Stop in this wrong position. Then the Cam Lock move up (for block the rack) but don’t find the little area specific for the movement of the Cam inside the rack, but find just a little hole and it stop here, without possibility to moving. (it can’t go forward and the motor can’t move in the other direction, so the Rack remain stuck).

The only way is remove manually the Rack (pick up the rack).

**SOLUTION**

The solution is replace the **0x08 Rack Shifter Driver Board** with a **new rev1** ( some resistance value are changed).

(or fast solution color sensors with a black marker.)

You must remove the Classificator Group, using the Special Allen Wrench 2.5-3 (19900860) (side 3.0)

(three screw only loosen, no remove them ) then move it on the left side and Disconnect the connectors.

Then replaced the **0x08 Driver Board**.