Cleaning and Replacing the Board Sensor

Most issues encountered with the board sensor are dust related. Properly cleaning the board sensor regularly will ensure the sensor's optimal performance. Please review the sections concerning checking, cleaning, and troubleshooting the board sensor found in the *Troubleshooting* section of the Owner's Manual. In the event that board sensor issue persists please contact CarveWright service for further diagnosis and direction.

Cleaning of the Board Sensor

From time to time the board sensor can become obscured by dust. The sensor system consists of an infrared LED and an infrared detector. The sensor bounces infrared (IR) light off of the workpiece and monitors how much gets reflected back to the sensor detector. The machine is looking for a sharp transition that happens as the end or edge of the workpiece passes under the sensor. The sensor is located underneath the Y-Truck and is only visible from underneath the head (see Figure 1). The sensor elements are mounted behind the clear window in a plastic case.

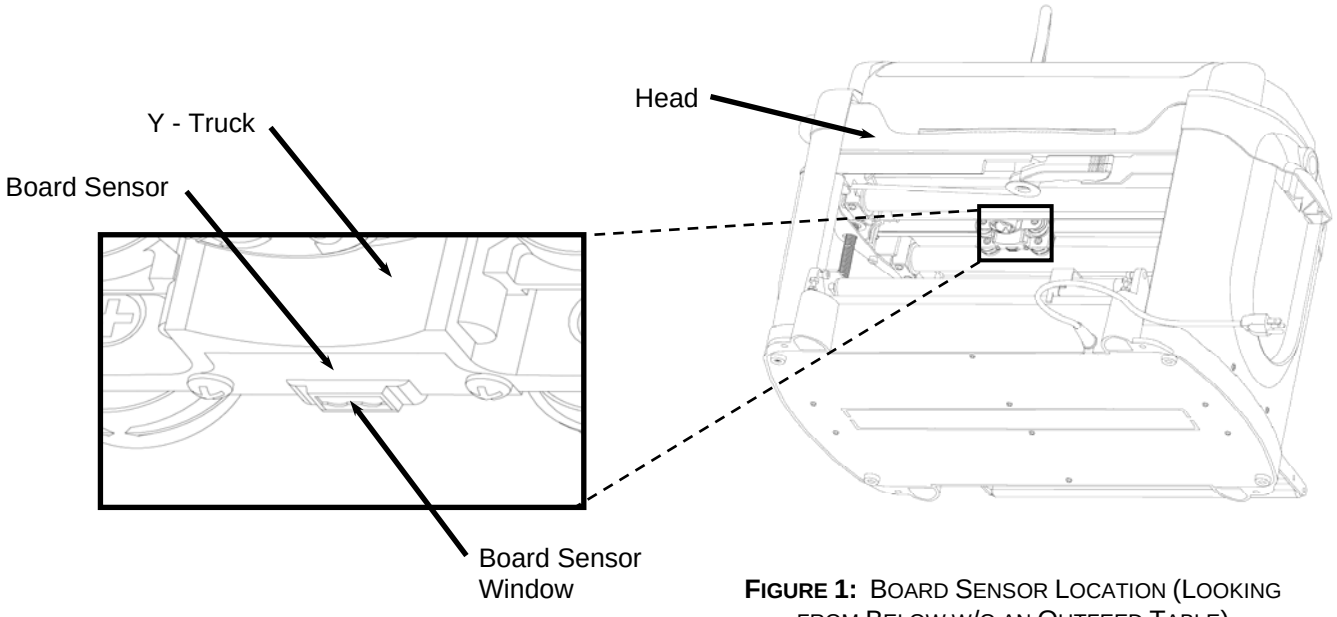

FIGURE 1: BOARD SENSOR LOCATION (LOOKING FROM BELOW W/O AN OUTFEED TABLE)

When the sensor is operating correctly, the typical reading should be between 100 and 160 over a medium colored wood workpiece with the head cranked down. Moving the board out from under the sensor should cause the sensor to read 0. If the sensor is reading low, the machine LCD will display *Please Clear Board Sensor*. To clean, simply blow low-pressure compressed air (<80 psi) onto the sensor window or wipe with a clean cloth. It is recommended that this sensor be cleaned after every project.

Replacing the Board Sensor

To remove and replace the Board Sensor you will need the following tools:

- #2 Phillips magnetic tipped screwdriver
- Small mirror

1. **Ready the machine.** Unplug the machine from the power outlet and place it on a stable work platform. Raise the head up to within 1/2" of the top and move the Y-truck to the center of the machine for best access.

2. **Remove the board sensor screws.** First place a towel or cloth over the base sandpaper belts. This helps keep any dropped parts from getting into the drive of the machine. The screws are very difficult to see and it can be helpful to use a small mirror for visualization. Remove the 2 screws (with washers if provided) securing the board sensor to the y-truck. Use a magnetic tipped screwdriver and make sure the screws do not fall into the machine.

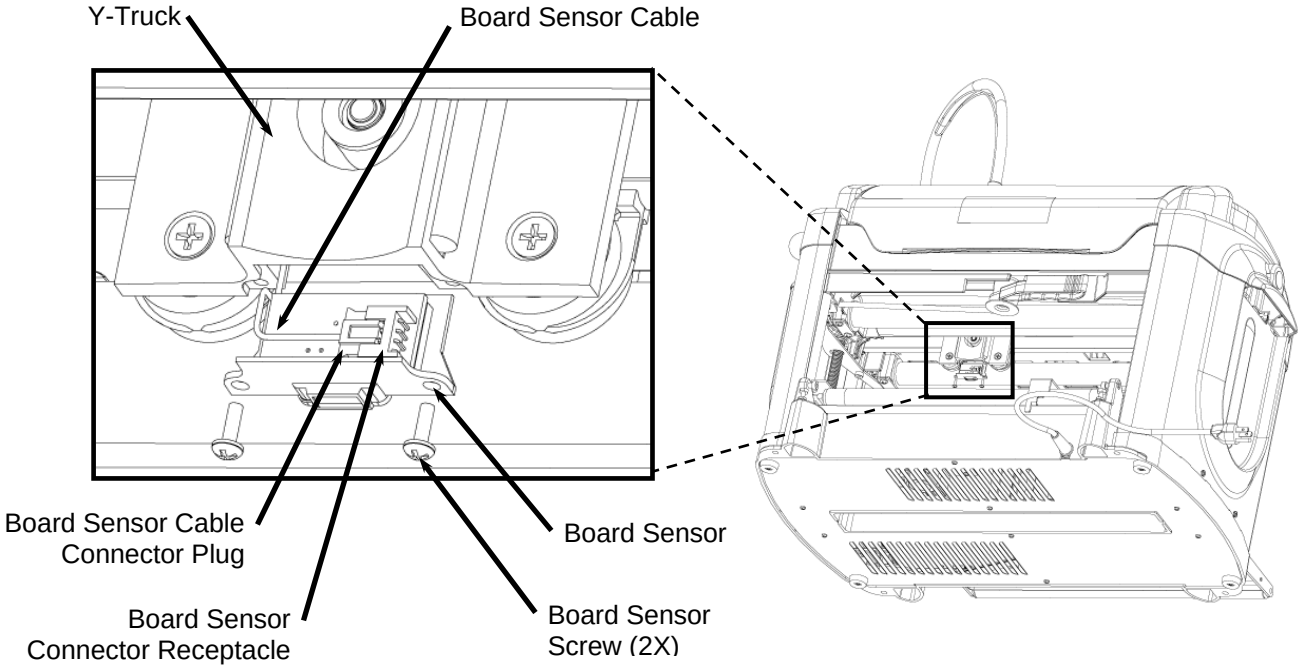

FIGURE 2: REMOVAL OF THE BOARD SENSOR

3. **Disconnect the board sensor cable plug.** Gently pull down on the board sensor. There should be about 1/2" of slack in the cable. Do not try to pull any more length from above as you can damage the cable. Work the cable connector loose from the board sensor.

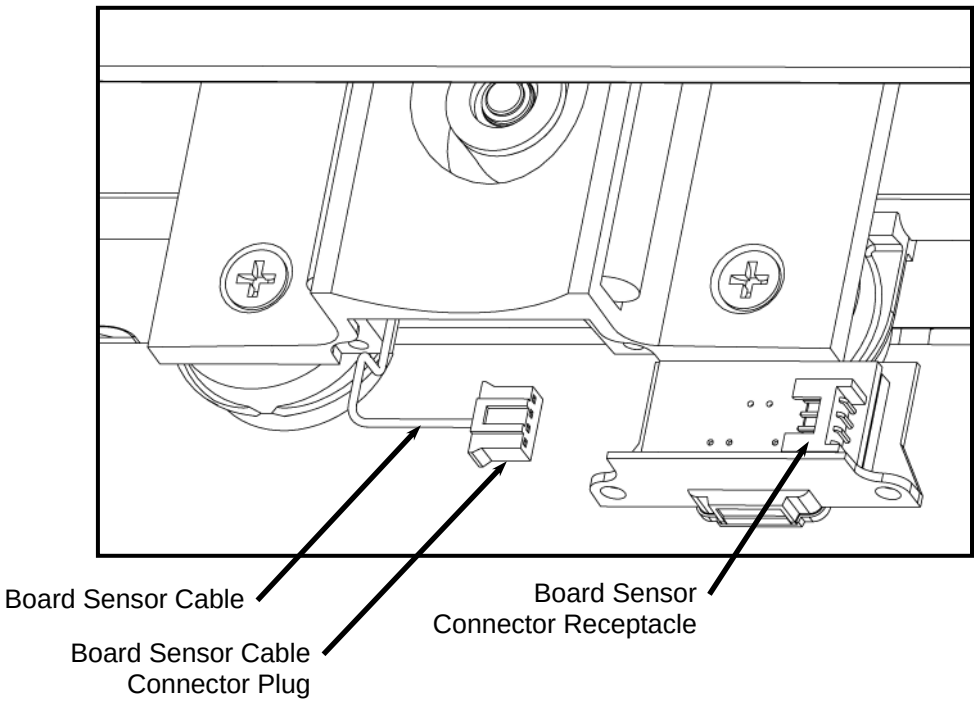

FIGURE 3: THE BOARD SENSOR CABLE AND CONNECTOR

Reassembling the board sensor

1. **Reconnect the board sensor.** Plug the end of the board sensor cable into the board sensor connector. Be sure to line up the alignment ribs on the plug to the slot in the connector. Plugging the connector in backward will lead to damage to the sensor and possible the machine electronics. This connector can be difficult to fully seat, so verify that there is no space between the end of the plug and the bottom of the connector receptacle on the board sensor.

2. **Test the board sensor.** Turn the machine on and test the sensor by moving a board up against the window and then slowly away. Please see the specifics of the test in the Owner's Manual. If the sensor is showing a reading within specifications proceed with Step 3. If not, contact a CarveWright service technician.

3. **Replace the board sensor screws.** Gently slide the board sensor cable back up into the sensor cavity and push the sensor in after it. Align the screw holes and make sure that there are no wires visible around the sensor with the mirror. Replace the two screws (with washers if provided) and firmly hand-tighten. Do not mechanically over-tighten because the plastic can be damaged.

4. **Test the board sensor.** Turn the machine on and test the sensor again.