Accutrac I Reader Alignment

The Accutrac readers rely on an array of infa-red LEDs and detectors to “read” the code cards. The “number” of the code card is carried in a series of punched holes (slots) placed on the code card. The slot size is nominally ½” long and 1” wide. The 1” width is oriented in the direction perpendicular to the conveyor track and allows for up to ±½” of side-to-side travel of the carrier. The diameter of the LEDs is approximately .2” and the detector will read the LED as long as no more than 50% of the LED is visible through the slot.

It is crucial to the operation of the card reader that the reader be properly aligned relative to the conveyor track; otherwise, normal side-to-side travel may result in the reader being unable to properly “read” the code cards.

The following paragraphs and pictures illustrate how the alignment may be checked and adjusted to insure reliable operation.

Step 1 – Place alignment marks on the side of the reader. The 1.9” marks correspond with the center of the LEDs and Detectors. Ideally, the center of the holes in the code card would align with this 1.9” mark.

Step 2 – In order to reliably judge the position of the code card during normal conveyor operation, it may help to place an alignment mark on the code card itself as shown in the following photograph. This photo illustrates a properly aligned reader, since the center of the code card hole is “perfectly aligned with the LEDs in the reader.

The following picture illustrates a “marginally aligned” reader. The reader will still read this code card; but, excessive side-to-side motion may cause some code cards not to be read, if the code plate hides the LED from view.

If possible, the use of a laser pointer or level can make the determination much easier as illustrated in the following photograph. You will have to be innovative in mounting the laser to the reader. I have found that liberal use of “duct tape” can provide a secure but temporary mounting. With the assistance of a laser beam, it is easily seen that this reader mounting only allows for a ¼” movement towards the reader and ¾” movement away. Thus, this reader will be less reliable than expected.