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Setting Spindle Orientation on a 0 Control- analog drive

There are two styles of spindle drives used on the Excel machines.   Most machines using the 0 control have an analog drive. A spindle orientation board is attached to the front of the spindle drive. In the lower right corner of this board are three potentiometers. The pot on the left is for course adjustment, the middle is medium and the right is for fine adjustment.

Without a tool in the spindle, bring the tool holder into the spindle area. Manually move the spindle to line it up with the keyway. Place a mark on the spindle to set the orientation position. Move the ATC back to its home position. DO NOT OPERATE THE SPINDLE WHILE THE ATC IS ENGAGED WITH IT!

In MDI mode command a spindle orientation using M19. Observe the mark you just made on the spindle to determine if the position is correct. Adjust one or more of the pots to alter the position. Note that the spindle position will not change until you have pressed reset and commanded another M19 command.

The pots are used to establish a binary pattern for the spindle drive. They are not analog pots, so the spindle will not move as you change them.

Once the mark lines up orientate the spindle without a tool and bring the ATC into it using the jog function. Observe that there is no load on the spindle load meter.

Setting Spindle Orientation on a 0 Control- serial drive

Some of the newer style Excel machines used a serial spindle. The orientation position is determined by a parameter setting instead of pot adjustments.   Follow the same procedures as above but set parameter 4077 to alter the stop position of the spindle. If your machine displays parameter 4077 then this is where you will make the orientation adjustments. Analog systems will not display this parameter.

Just like the analog system, you must reset and command a new M19 command after changing the parameter.

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