The tool length measurement program measures the distance from the tip of the tool to the surface of the sensor, not the spoil board! Since the sensor is mounted below the surface of the spoil board, the measured daylight value would be invalid unless it mathematically adjusts for the difference. A memory variable named "SWITCHSPOIL" is located in the M999 macro. The value assigned to the SWITCHSPOIL variable is subtracted from the daylight value it finds when running the program to the sensor. The new daylight value is then used to update the selected tool's daylight value. If the SWITCHSPOIL variable is incorrect, so will the tool's daylight value. This would result in either shallow cut tool paths, axis out-of-bounds error messages, or deep cuts in the spoil board. The SWITCHSPOIL variable must be correct.

Step 1 Determine Actual Daylight Value

a. Turn the vacuum system on so that the spoilboard is drawn flat to the permanent table.
b. Use the handheld to manually determine the actual daylight value to the surface of the table.
c. Record the daylight value to the surface of the table. The daylight value can be obtained either from the Part POSITION caption for the Z axis on the monitor or on the Handheld Programmer's LED display.

Daylight value is: _____

Step 2 Determine Distance to Sensor

a. F5 F1 Select and Load a program named "TOOL_LEN.NC3" from the D:\DATA\PART directory.
b. M999. Find the line in the program that says M999.
c. Press BLOCK STEP (+). Answer Yes to continue.
d. SET SWITCHSPOIL = ###.##. Find the line that states SET SWITCHSPOIL. To find it the quickest, press the PgDn key three times then use the ⇧ ⇩ arrows to move the cursor.
e. Press Tab to edit the line.
f. Change the current value following the equal sign (=) to 0.00.
g. Press the End to move the cursor to the M99 at the end of the program.
h. Press BLOCK STEP (+). Answer Yes to continue.
i. Press NC RESET and BLOCK STEP (-) to reset the machine.
j. Press the green START button to run the TOOL_LEN program.
k. Select the primary tool number from the list of measurable tools and press the SPACE bar.
l. Press Alt D to measure the tool.