CNC Machine Virtual Sim E-Learning Exercises

This link to this website covers the CNC Machine Virtual Simulations. This CNC Machine Virtual Sim E-Learning Exercises deliverable was developed for the Trade Adjustment Assistance Community College and Career Training (TAACCCT) Grant Program Round 2 Grant, Innovations Moving People to Achieve Certified Training (IMPACT): TC-23752-12-60-A-31.

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Exercise 1: Objectives

In the following exercise, you will demonstrate your understanding of the basic steps necessary to machine a part using a CNC milling machine. This particular procedure requires the following sequence of operations:

1. **Spot drilling** starts the four holes at each corner of the work piece.
2. **Drilling** completes the four holes at each corner of the work piece.
3. **Slot milling** creates the slot in the work piece.
4. **Pocket milling (end milling)** widens the hole in the center of the work piece.

For each step, you will be required to:

1. Read and interpret the part design blueprint.
2. Identify the type of machining operation.
3. Select the proper type and size of machining tool.
4. Identify the X, Y, and Z absolute coordinates and block code corresponding to the given tool path from program zero.
5. Identify special codes and modes of movement.
6. Understand the order of steps.
7. Determine proper mill setting including spindle speed, feed.

Please review the prerequisite list of Tooling U courses above that should be completed prior to performing this exercise.

**Note 1:** Throughout the exercise you may need to refer to the Hass control to answer questions.

**Note 2:** All measurements are in inches unless otherwise specified.