CNSI Innovation Workshop
PM-25MV Milling Machine Users Outline
Revised July 2019

This guide may be found online through the Innovation Workshop GauchoSpace page.

Location

The PM-25MV is located in 2448 Elings Hall.

Safety Issues

- Leaving chuck key in
- not closing cover
- hand near tool while spindle on or table moving
- hand getting pinched in vice
- trying to remove too much material
- wearing jewelry or long sleeves
- eye protection for flying chips
- part or tool not being secure
- handling sharp tools with bare hands
- dropping heavy objects

Training

Attend the in-person training and consult the PM-25MV manual and PM DRO manual. Both documents are found on the Innovation Workshop GauchoSpace page.

Overview

The system consists of the following main components.

- Mill
  - DRO
  - Vice
  - Collets
  - Tooling
User Guide

Sequence of operation:
- Secure part
  - Load part in vice
    - If part can't fit in vice, use hold-downs which are in the “mill supplies cabinet”
  - Use parallels if required
  - Make sure part does not interfere with motion of the table and cannot collide with anything
  - Make sure the area of the part to machine is within reach of the tool
- Locate part
  - Edge find
- Secure tool
  - Find proper R-8 collet
  - Tool changing procedure
- Set speed & direction
○ Use the knob under the Emergency Stop button to adjust the speed.
○ Use the toggle under the Power On switch to set direction

• Move table
  ○ make sure that axis is not locked
  ○ Use the handles to move the table in X and Y axes

• Drilling
  ○ place drill chuck in collet
  ○ place drill in drill chuck
  ○ tighten chuck with chuck key
  ○ remove chuck key
  ○ set proper speed
  ○ position drill over center-drilled hole
  ○ peck drill, add coolant periodically

• Milling
• Tapping
• Useful DRO commands