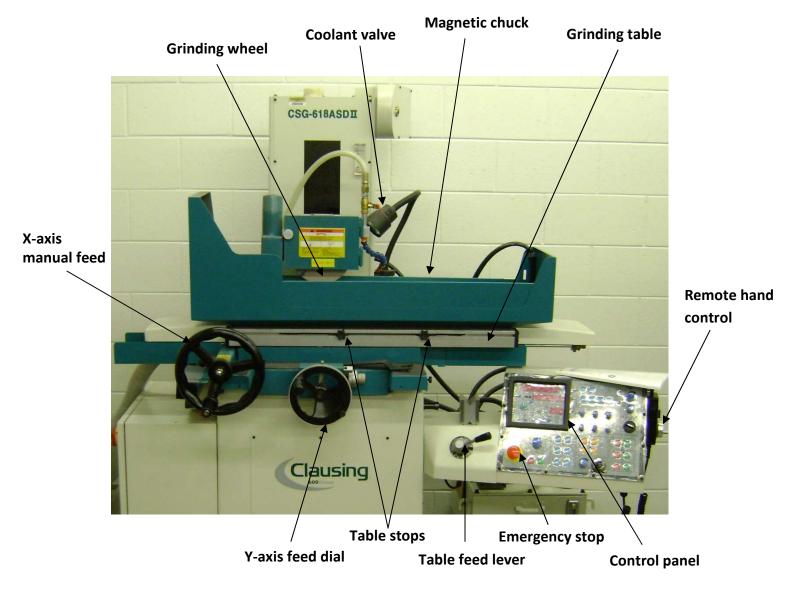
Armstrong Hall of Engineering Artisan and Fabrication Laboratories (AFL) Safety and Operational Procedure

Clausing Surface Grinder



PPE Required: Safety Glasses

Prohibited Clothing: gloves, loose clothing, neckties, jewelry

Machine Access Level: Supervised Only

Materials Allowed: Metals

Note: Metals only may be ground on this machine!

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Operating Procedure

1. Machine Safety Inspection and Work Area Check-Out

- A. **PPE:** Make sure you are wearing the proper PPE and not wearing any equipment listed on the first page that could get caught in the grinder.
- B. **Machine Warning Signs:** Make sure you read and follow the machine warning signs that are attached to the machine. If you have any questions, ASK!!
- C. **Work Area:** Make sure the work area is clean and the work area around the machine is free and clear of debris and personnel.

2. Work Supervision

A. This machine requires supervision by an AFL employee. A supervisor or TA will assist you in the set-up and operation of the machine. You may not operate this machine without supervision.

3. Machine Adjustment

- A. Note: The machine adjustment is to be done with the machine OFF!
- B. **Select the wheel:** Ask the TA to help you locate the correct grinding wheels for your job. Note: Anytime a wheel is changed it needs to be re-dressed with diamond wheel dresser.
- C. Check condition of wheel: Inspect the wheel for cracks. Inform the TA if any cracks are found.
- D. Check guards and enclosures: Make sure that all guards and enclosures are in place.
- E. **Secure the part:** This machine has a magnetic chuck to hold the work piece. For non-magnetic parts you will need to use a different method to hold the part(such as a magnetic fixture). The part MUST be held to the table. You may NOT use your hand to hold the part to the table! The TA will assist you with this step.
- F. Adjust the depth of cut: Depending on the finish that you are trying to get you will need to set the depth of cut differently(there is a rough cut for stock removal and spring, or finish passes for final flatness, thickness and surface finish). The TA will assist you with this step.
- G. **Adjust feeds and speed:** Adjust the feeds and speeds depending on the application. The TA will assist you with this step.
- H. **Identify the machine controls:** Identify the red emergency stop button. This will stop the machine in case of an emergency.

4. Machine Operation

- A. **Turn the machine on:** Check with the TA that it is safe to turn on the machine, and push the green start button when instructed to do so.
- B. **Coolant:** Open the coolant valve so that the appropriate flow of coolant goes on the part. The TA will assist you with this step.
- C. **Safely grind the part:** Do not rush! Always keep hands and fingers away from the wheel and part and never stand on the left end of the machine. Ask the TA for help.
- D. **Turn the machine off:** When finished grinding, push the red stop button to shut the machine off. Let the wheel come to a stop. Never touch a moving grinding wheel.

5. Clean Up

- A. **Disassemble work set-up:** Disassemble any fixturing used in the grinding operation. Return all parts to their proper location and the appearance of the grinder to how it looked when you started.
- B. **Clean up the area:** Clean up all messes (for example: use a shop vacuum to clean), return all tools, etc. The TA will check that the area is clean before you can sign-out of the AFL.

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