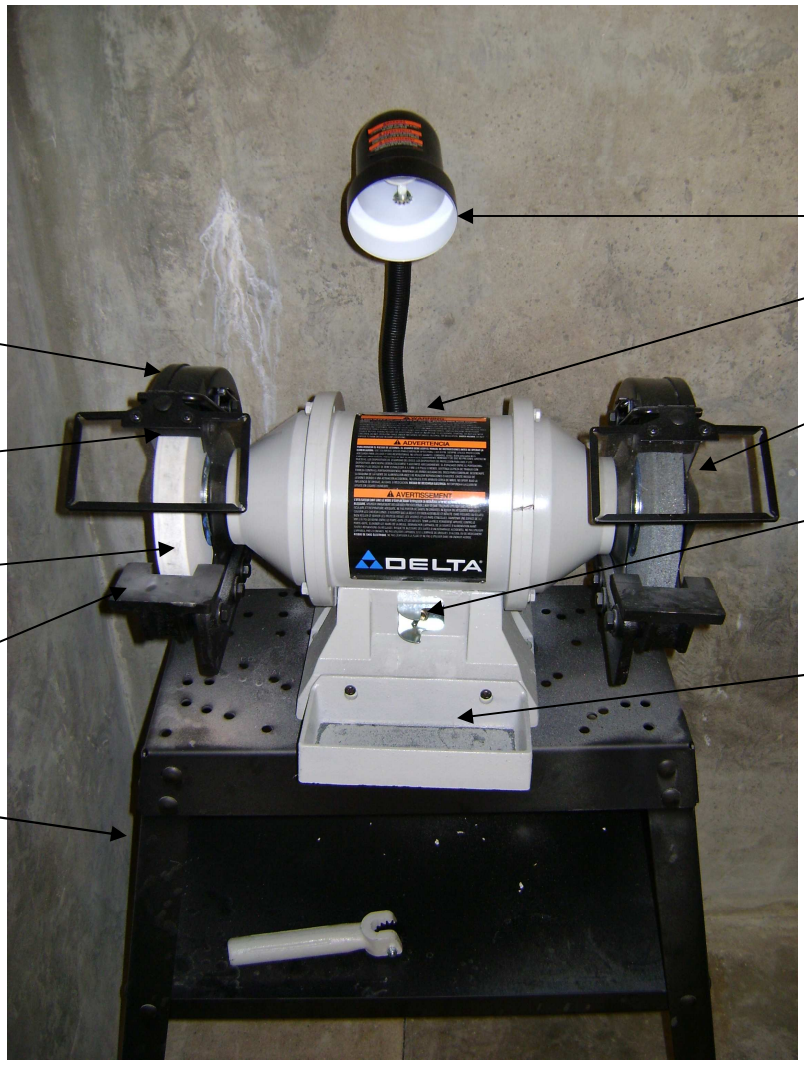
Armstrong Hall of Engineering
Artisan and Fabrication Laboratories (AFL)
Safety and Operational Procedure

PEDESTAL GRINDER



PPE Required: **Safety Glasses, Face Shield**

Prohibited Clothing: gloves, loose clothing, neckties, jewelry

Machine Access Level: **Supervised Only**

Materials Allowed: **Ferrous Metals Only, Not Aluminum**

Note: no wood or plastics can 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 grinding wheels.
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 area is clean and the 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. **Identify controls:** identify the on/off switch. This switch is used to start/stop the machine.
C. **Check safety shields and wheel guards:** make sure the safety shields and wheel guards are in place and operating correctly. Report any damaged components to the TA.
D. **Check condition of grinding wheels:** inspect the grinding wheels for cracks. Inform the TA if any cracks are found.
E. **Adjust spark deflectors:** make sure the spark deflectors are adjusted to within 1/16 inch of the grinding wheels.
F. **Adjust tool rests**: make sure the tool rests are adjusted to within 1/16 inch of the grinding wheels. Ask the TA for help making adjustments if you are unsure.
G. **Adjust safety shields:** adjust the safety shields so that the shields cover the grinding wheel. You should be able to see through the safety shield, but it should not be contacting the grinding wheel.
H. **Determine how part will be held:** depending on the application and size of the parts being ground, vice grips or other fixturing may be needed. The TA will help you determine the best way to hold and fixture the part.
I. **Determine which grinding wheel to use:** there are two grinding wheels that can be used. One is more course than the other. Determine the correct one for your application. Ask the TA for help.

4. Machine Operation

A. **Turn the machine on:** stand to one side when starting the machine. Check with the TA that it is safe to turn on the machine, and turn the switch ON when instructed to do so.
B. **Allow for machine to come to full speed:** the machine will take a few seconds to come up to full speed. Listen and visually inspect for interferences between the grinding wheel and the guards during the warm up. If any interferences are found, immediately turn the machine off and inform the TA.
C. **Safely grind the part:** Go slow! Always keep hands and fingers away from the grinding wheels. Using the proper fixturing and tool rests when possible, slowly move the part against the grinding wheel. Ask the TA for help.
D. **Turn the machine off:** when finished grinding, turn the switch OFF to shut the machine off. Let the grinding wheel come to a stop by itself, not leaving the machine until the wheel comes to a stop. **Never touch the moving grinding wheels.**

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 up any additional metal dust), return all tools, etc. The TA will check that the area is clean before you can sign-out of the AFL.