

# Tool & Machine Clean-Up Policy

## Machining & Welding Shops

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M&IE Department

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## **1 Scope and Purpose of This Document**

This document describes tool and machine clean-up activities that need to be performed by machine shop users at the end of every working session in the M&IE machining and welding laboratories.

It is mandatory that all individuals who perform work in the laboratories are familiar with and understand this document as well as other training and safety requirements set by the M&IE Department, their instructors and shop supervisors.

## 2 Tool Clean-Up and Storage

### 2.1 Milling Tool Carts

- Milling machine tools stored in the milling tool carts (#1-7) must be returned to the tool cart in an orderly fashion as shown in Figures 1 & 2.
- After each use, mills and center drills must be wiped clean before returning them to the tool cart! Use a brush or a red shop towel. Be careful when using the shop towel - end mills have sharp edges!
- Wipe off the machinist square in case it is contaminated with oil or debris of any kind.

Fig. 1: Milling Machine - Top Drawer



- After each use, the parallel bars must be wiped clean before returning them to the tool cart! Use a red shop towel.
- When using files, frequently clean them with a file card. Doing so ensures that the files work properly and that you obtain best results.
- In order to avoid the accumulation of chips in the drawers, keep both drawers closed while performing machining work.

**Fig. 2: Milling Machine - Bottom Drawer**



## 2.2 Lathe Tool Carts

- Lathe tools stored in the lathe tool carts (A-F) must be returned to the tool cart in an orderly fashion as shown in Figures 3 & 4.
- After each use, brush off the tool tips, tool shanks and tool holders before returning them to the tool cart.
- After each use, brush or wipe off the center drills.

Fig. 3: Lathe Tool Cart - Top Drawer



- After each use, the chucks and live-centers must be wiped clean before returning them to the tool cart. Use a red shop towel.
- When using files, frequently clean them with a file card. Doing so ensures that the files work properly and that you obtain best results.
- In order to avoid the accumulation of chips in the drawers, keep both drawers closed while performing machining work.

**Fig. 4: Lathe Tool Cart - Bottom Drawer**



## 2.3 Tool Return and Storage

- All other cutting tools that are not stored in the tool carts, i.e., drill bits (Fig. 5), counter bores and counter sinks must be wiped clean before returning them into their storage bins (Fig. 6).
- Use a brush and a red shop towel. Be careful when using the shop towel – drill bits have sharp edges!

**Fig. 5: Standard Drill Bit Example**



**Fig. 6: Drill Bit Storage Bins**

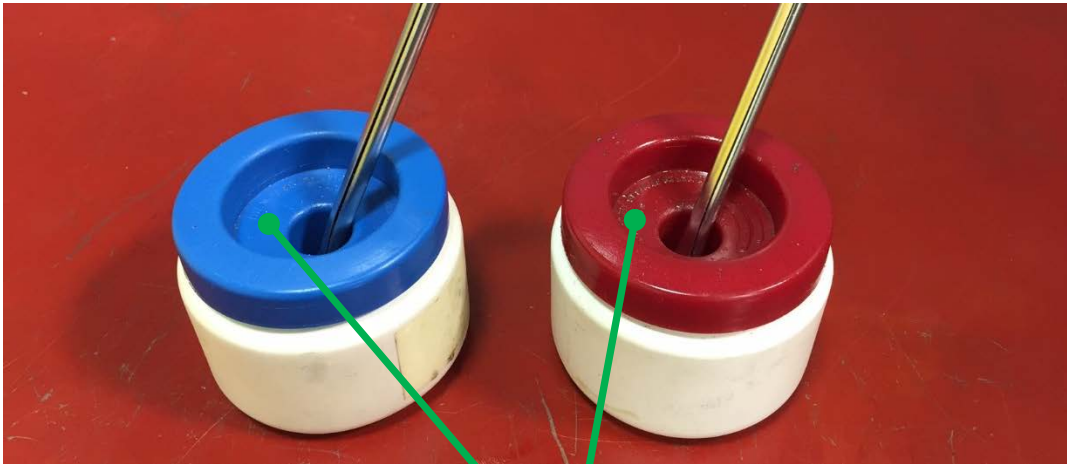




## 2.4 Cutting Fluid Return and Storage

- The tops of cutting fluid containers (Fig. 7) must be wiped clean before returning them to their storage location (Fig. 8). Use a red shop towel. Wash hands thoroughly after contact with machining oils or other lubricants.

**Fig. 7: Cutting Fluid Containers**



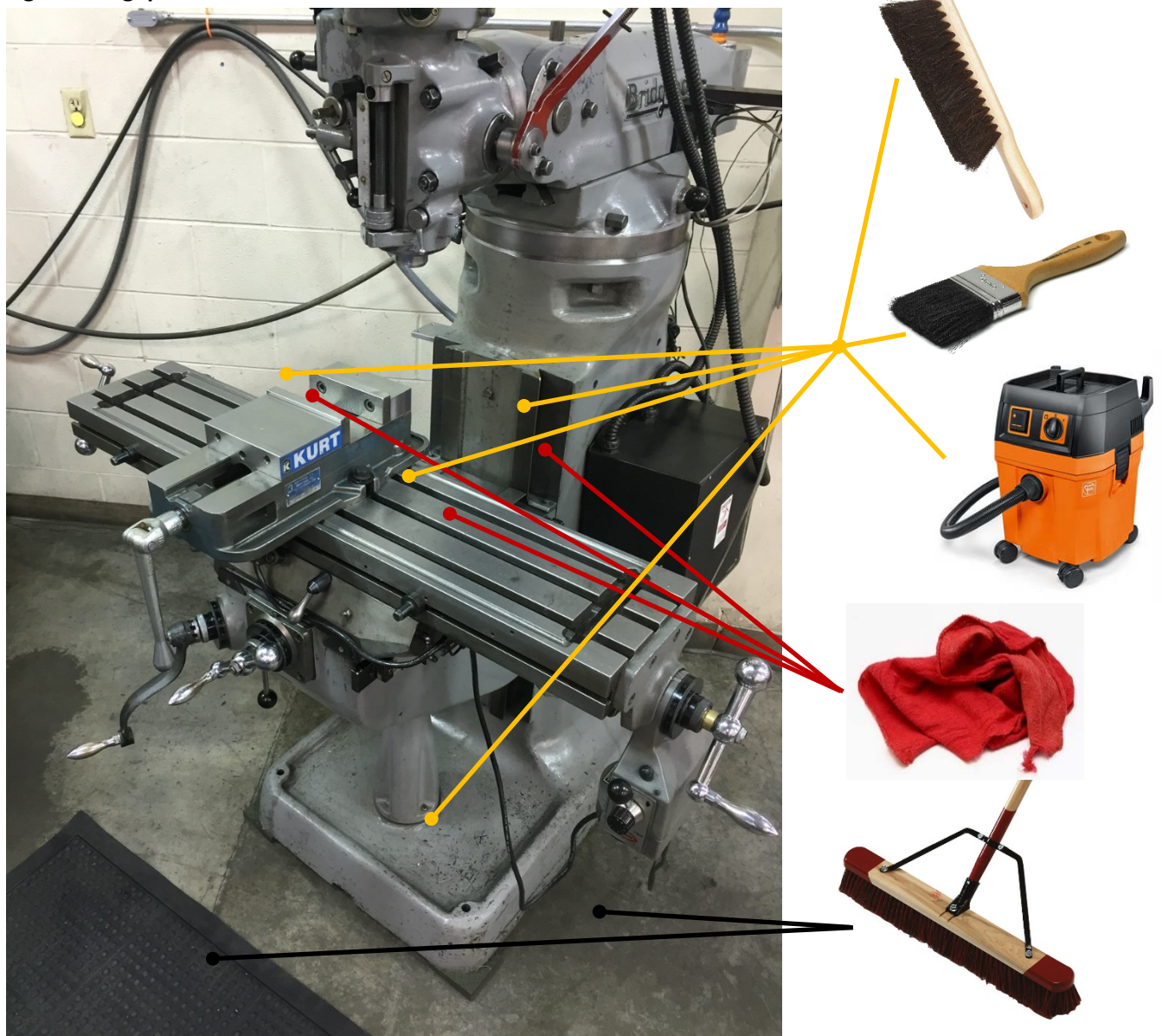
**Fig. 8: Cutting Fluid Storage Cabinet**



### 3 Mill Clean-Up

- At the end of every working session clean up your machine and surrounding area:
  - a. Use a hand broom for heavy chips
  - b. Use the brush or vacuum cleaner for smaller chips
  - c. Wipe off machine surfaces with the shop towel
  - d. Use a horse hair broom for the concrete floor
  - e. Use a synthetic broom for the rubber mats
- Start with the vise surfaces, followed by the T-slots, table top surface, and the table ways.
- Be careful not to apply vacuum to chips larger than 0.5". Larger chips may clog up the vacuum hose.

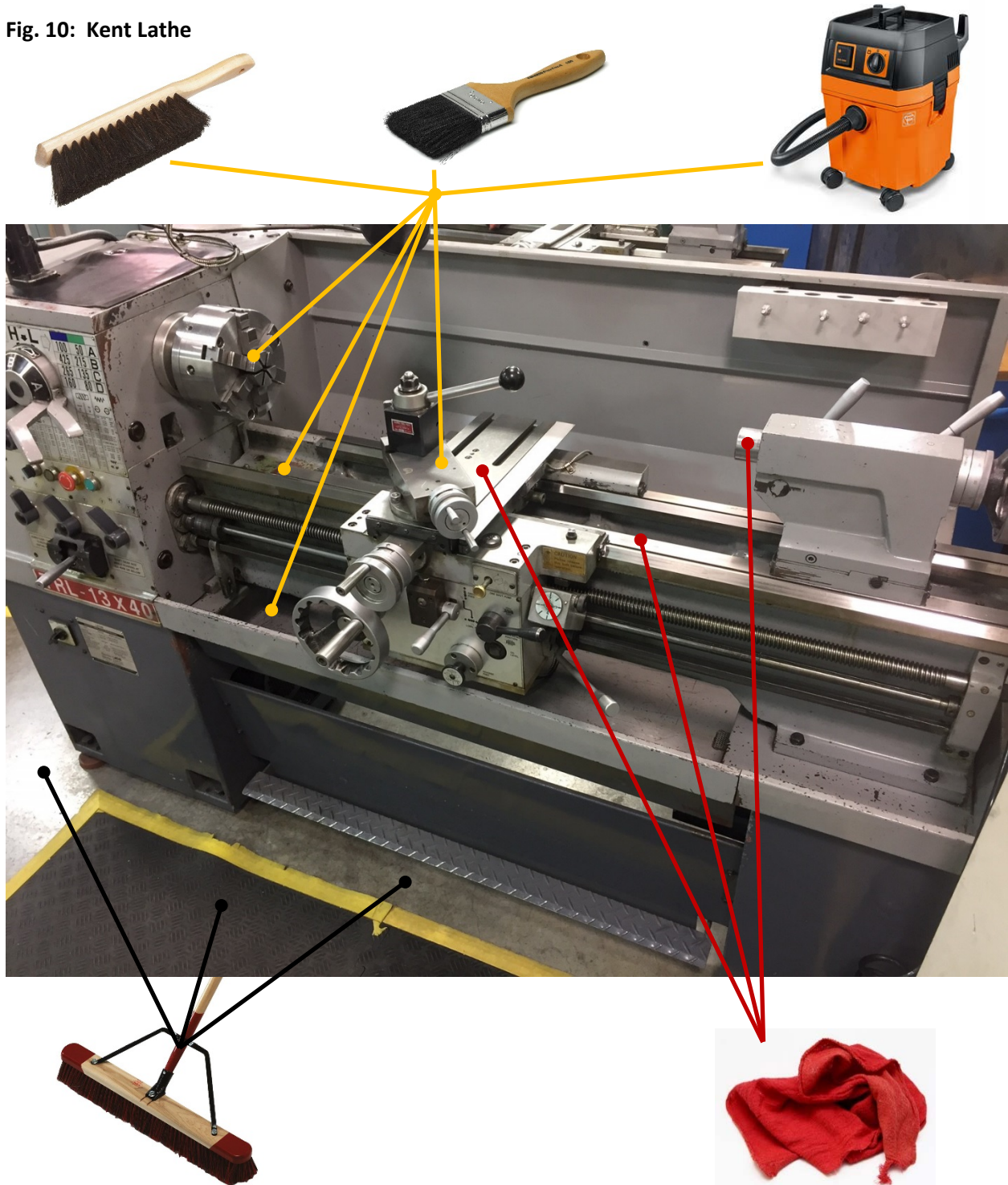
Fig. 9: Bridgeport Knee Mill



## 4 Lathe Clean-Up

- **Make sure that the lathe motor power is turned OFF before cleaning-up!**
- Start with the compound surface, followed by the cross-table, apron top, and the apron ways.
- Finish with the chip tray and floors.
- Make sure to also sweep the floor behind and underneath the lathe.

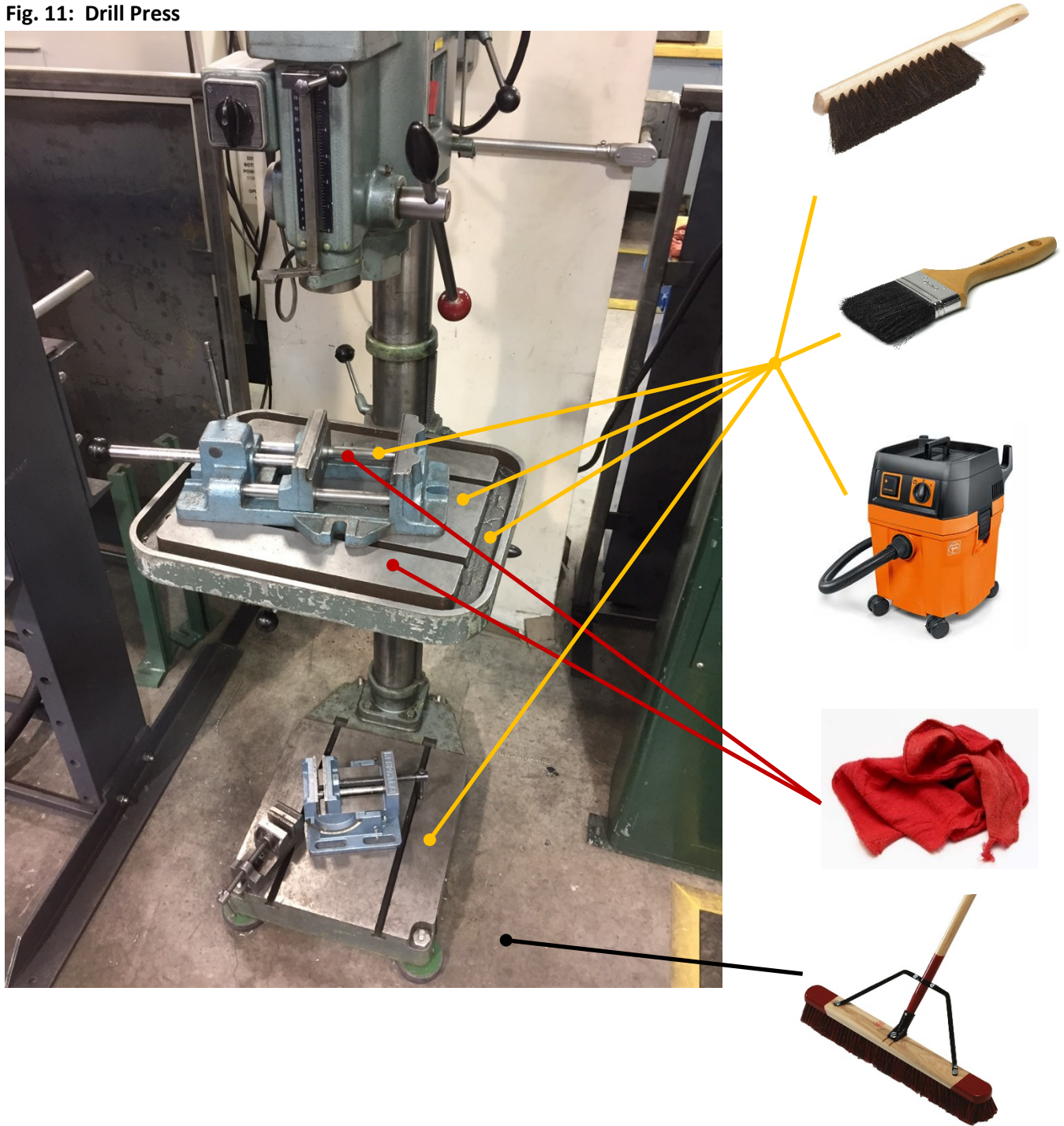
Fig. 10: Kent Lathe



## 5 Drill Press Clean-Up

- Start with the vice. When done, take vice off the table and clean table.
- Remove any oil spills from floor, and sweep floor around drill press.

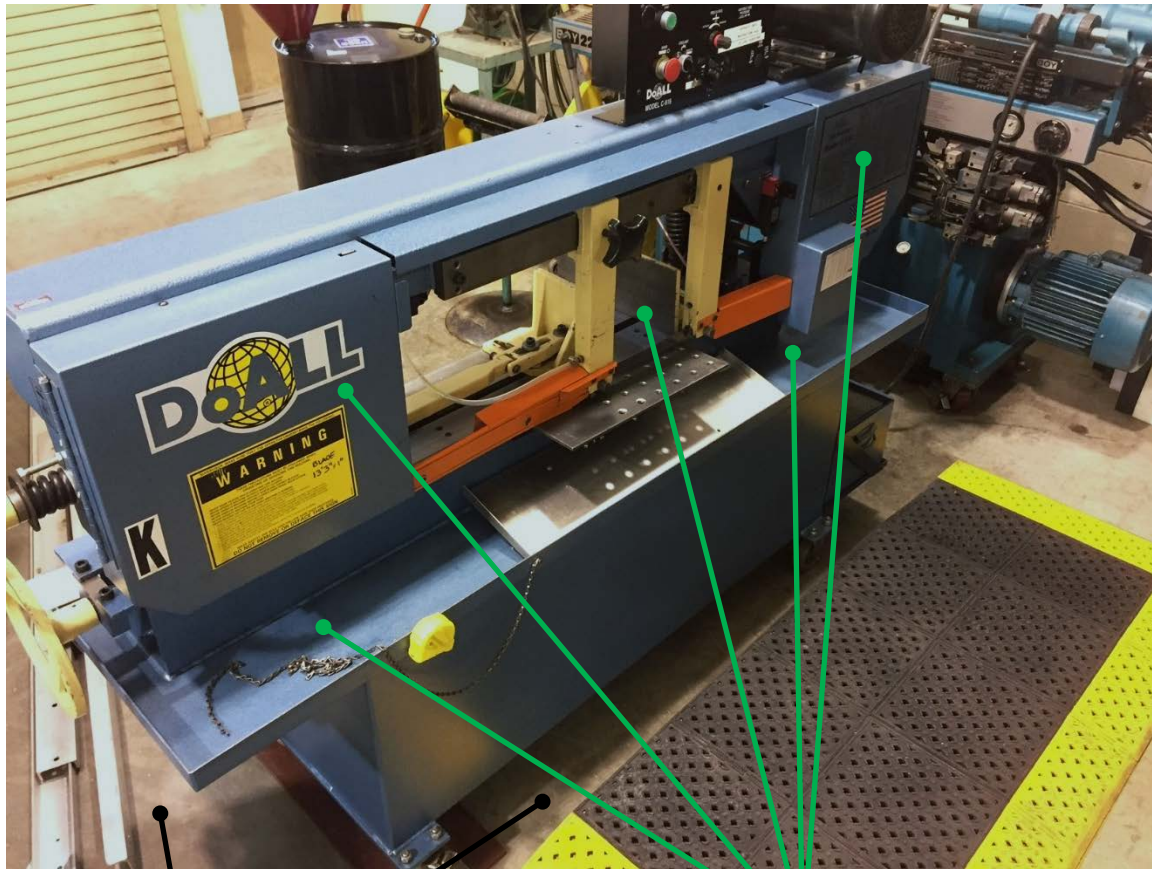
Fig. 11: Drill Press



## 6 Horizontal Band Saw Clean-Up

- Use hand broom or vacuum to remove saw chips and dust.
- **Do not use vacuum if excess cooling fluid is present!**
- Start with the vice, followed by the transport wheels, and spill tray. Open the transport wheel doors for access to the wheels!
- Mop floor if coolant fluid has spilled onto the floor! **Wet or greasy floors are a safety risk!**

Fig. 10: Horizontal Band Saw



## 7 Vertical Band Saw Clean-Up

- Use hand broom or vacuum to remove saw chips and dust.
- Start with the table top, followed by the transport wheels, and bottom spill tray. Open the transport wheel doors for access to the wheels!



## 8 Grinding Room Clean-Up

- Sweep and vacuum the table surfaces and floor after using the grinding room.