UNC CHARLOTTE
Department of Engineering Technology

LABORATORY SAFETY ANALYSIS

OPERATING A DRILL PRESS

Location: Smith 330

Required Training: Drill presses are designed and intended for use by properly trained and experienced operators. If you are not familiar with the proper and safe operation of the equipment, do not use until proper training and knowledge have been obtained.

Required Personal Protective Equipment (PPE): Safety glasses face shield in addition to safety glasses if material chips severely, closed toed shoes.

Reference Materials: Manufacturer's safety rules and operating instructions

PHOTOS	TASK	HAZARDS	CONTROLS
	Remove all jewelry. Wrap long hair in net. Ensure clothing is sturdy and snug. Loose clothing, gloves, neckties, rings, bracelets, or other jewelry may get caught in moving parts.	Caught in drill press, struck by, lacerations, etc.	• Do not wear any jewelry that may get caught in the drill press. • Do not wear gloves when operating a drill press. • Loose clothing may get caught in moving parts.
	Wear clear safety glasses with side shields and if necessary use a dust mask.	Flying debris and dust particles	• Students are required to provide their own safety glasses. • See laboratory instructor or laboratory manager if you do not have safety glasses before proceeding to use equipment.
	Inspect safety glasses for cracks, scratches or other defects. Ensure the ANSI standard Z87.1 is stamped into the side of glasses. If necessary inspect leather gloves and face shield.	Flying debris and dust particles	• If defects are found report to your laboratory instructor before using.
	Put on all necessary PPE	Flying debris and dust particles	• Always wear safety glasses. Never wear gloves during operation of drill press.
	Inspect work area, walk around area looking for debris and ensure adequate lighting.	Slips, trips & falls	• Remove any debris that could possible cause an injury. • Keep work space around drill press free from scraps, oil and grease.
	Visually inspect the electrical power cord.	Electrical shock	• If the electrical cord is damaged or worn the electrical cord

			should be unplugged and tagged "Out of Service-Do Not Use". • This should be reported to the laboratory manager immediately. • Electrical cord replacement should only be conducted by a factory authorized technician.
	Ensure the electrical cord is connected to electrical outlet.	Electrical shock, injury	• Caution: Always remember to disconnect the electrical power cord before adjusting step pulley position.
	Visually inspect milling cutter.	Struck by, cut, injury	• When setting up to work, check the drill chuck. Make certain all loose hand tools, chuck keys, and measuring tools have been removed from the machine and put in the proper location.
	Before starting drill press.	Machine damage/injury	• Properly lock the drill bit, cutting tool, or sanding drum in the chuck. • Remove the chuck key before starting the drill press • Tighten all lock handles before starting the drill press. • Before starting the operation, jog the motor switch to make sure the drill bit does not wobble or vibrate. • Do not try to drill any material too small to be securely held. • Ensure that the belt guard on the drill press is locked in place. • Never climb or allow others to climb on the drill press table.
	Starting drill press	Machine damage/injury	• Never start the drill press with the drill bit, cutting toll, or sanding drum against the work piece. • Use only drill bits, cutting tools, sanding drums, or other accessories with a shank size recommended in the instruction manual.
	Operating drill press	Machine damage/injury	• Always use recommended speeds for all operations. This information is provided by the manufacturer in the instruction manual. • Use only accessories that are recommended by the manufacturer for this drill press..

			Accessories that may be suitable for one tool may create a risk of injury when used on another tool. • Make sure there are no nails or foreign objects in the part of the work piece to be drilled. • Do not overreach. Keep proper footing and balance at all times. • Keep arms, hands, and fingers away from the drill bit. Drill bits are **HOT** immediately after drilling. • Hold work piece firmly against the work table. Do not attempt to drill a work piece that does not have a flat surface against the table, or in not secured by a vise. Prevent the work piece from rotating by clamping it to the table. • Turn the machine "OFF" and wait for the drill bit, cutting tool, or sanding drum to stop turning prior to cleaning the work area, removing or securing work-piece or changing the angle of the table. • Properly support long or wide work pieces. Loss of control of the work piece can cause injury to the operator. • Never perform layout work, assembly or set-up work on the table/work area when the drill press is running. • Stay alert and always watch what you are doing when operating the drill press. • Use the drill press in a well-lit area and on a level surface clean and smooth enough to reduce the risk of trips, slips or falls.
	Turning off drill press	Injury	• Turn the machine "OFF", disconnect the machine from the power source, and clean table/work area before leaving the machine. • Lock the switch in the "OFF" position to prevent unauthorized use. Someone could accidentally start the drill press and cause injury to their selves.

	Clean work area and return all PPE to clean, dry storage area.	Injury	• To ensure adequate housekeeping measures to prevent accidents.

For more information about this LSA, contact the *Department of Engineering Technology* at UNC Charlotte (704) 687-2305
Please visit our website at: http://www.et.uncc.edu\

The development of Laboratory Safety Analyses is a very effective means of helping reduce incidents, accidents, and injuries in the workplace. It is an excellent tool to use for training purposes and can also be used to investigate "near misses" and accidents.