 <b>THOMPSON RIVERS UNIVERSITY</b> Occupational Health & Safety	<b>Number:</b> OH&S 18.44.1
	<b>Revision Date:</b> 07/11/2014
	<b>Durma Press-Brake Safety Procedures</b>

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1. **PURPOSE**






1.1 The purpose of these safety procedures is to provide guidance in the safe operation of the Durma Press-Brake machine in the Metal Fabricating Area.

2. **SCOPE**






2.1 These procedures apply to all Trades Instructors and students using this machine on TRU property.

3. **PRECAUTIONS**

**POTENTIAL HEALTH & SAFETY HAZARDS**

<b>HAZARD</b>		<b>TO PROTECT YOURSELF</b>
<b>PINCH POINTS</b> There are gears and exposed moving parts on machinery.		Use <b>LOCK-OUT</b> procedures when performing maintenance or conducting any work within 12” of an exposed pinch point. <b>NEVER</b> put your hands or feet near an exposed pinch point or gears!
<b>ELECTRICAL HAZARD</b>		Ensure that all switches, wires, and plugs are in good operating condition.
<b>HIGH SOUND LEVELS</b> Sound levels exceed 85 dB		<b>HEARING PROTECTION</b> is required when working in designated areas.
<b>FOOT INJURY</b>		Approved protective footwear is needed when there is the risk of foot injury due to slipping, uneven terrain, abrasion, crushing potential, temperature extremes, corrosive substances, puncture hazards, electrical shock and any other recognizable hazard
<b>Rings and Dangling jewelry</b>		<b>Rings and any loose or dangling jewelry must not be worn</b> while operating any equipment or machines

4. PERSONAL PROTECTIVE EQUIPMENT

	<p>Safety glasses must be worn at all times in work area!</p>
	<p>Long and Loose hair must be contained by a hat or hairnet to prevent contact with moving parts on equipment and machines</p>
	<p>Work Boots must be worn at all times when working in an area where there is risk of serious foot injury due materials falling onto the foot.</p>
	<p>Work Gloves should be worn when there is a risk of hand injury during the course of work tasks.</p>
	<p>Close fitting clothing or protective clothing must be worn.</p>



**5. Operator Requirements:**

- At least second year apprentice.
- Job training conducted by Instructor
- Operator may act as a helper
- All steps of procedures are to be reviewed by oral instructions, demonstration and review of trainee's techniques.
- Proficiency must be demonstrated prior to becoming an operator.

**6. Helper Requirements:**

- All steps except for the activation of the press are to be reviewed following all outlined procedures.
- Apprentices may act as helpers

**7. PROCEDURES**

With the press-brake's versatility, it is a vital piece of equipment to the operation of a metal fabrication shop. When the press-brake is used by trained operators utilizing the proper operating procedures, work can be performed safely to fabricate a wide variety of custom metal pieces. However, it is very important to always remember that the press-brake is a powerful piece of equipment and if it is operated improperly, this machine can pose the threat of injury to employees.

**7.1. Safety Practices:**

- The Shop Instructor will be responsible for: inspecting the Press-Brake and tools to be certain that they are being used in a safe manner, making certain that job site conditions do not present a hazard to the other staff or students.
- All Instructors and students shall follow safe practices, use personal protective equipment as required, render every possible effort to safe operations and report all unsafe conditions or practices to his/her Instructor or Chairperson.
- No one will be allowed to operate the Press-Brake with impaired ability or alertness caused by fatigue, illness or other factors which might cause the student or others to be exposed to an accident or injury.
- All work shall be well-planned and supervised to prevent injuries.
- Operators will ensure that all guards and other protective devices are in their proper places and adjusted prior to the operating of the press-brake.
- Appropriate Personal Protective Equipment (i.e. hard hats, safety glasses, goggles, gloves) will be worn by all operators.
- The Press-Brake shall not be repaired or adjusted while in operation.
- Operators are responsible for maintaining a clean work area, free of loose materials or tools.

- Instructors and students who operate the Press–Brake are not the only ones who must be protected from the point of operation hazards. TRU will also address the safety of protection for non-operating students can be utilized by restricting machine areas access only to Operators and helpers. This can be achieved signage or a painted line on the floor.

## 8. Operations of the Press-Brake

### 8.1 Setup of the Press-Brake

**Hazards:** Improper handling could result in the worker receiving cuts or lacerations from contact with materials or strains from, not properly positioning the materials and their body.

- Clear area of any excess debris or materials that are not to be used.
- Check the weight of the material and get help if necessary.
- Be sure to keep area free of debris during operation.
- Stage the materials in a way to make them easily accessible.

### 8.2 Placing the material in the operating area

**Hazards:** Strains, cuts or getting a hand or finger caught in the machine.

- When materials are of a dimension or weight that is too much for an individual to handle, the operator should always get help.
- Since it is easy to cut one's self on the materials being fabricated, Operators must always be aware of sharp edges and not to let the material slide in the hand.
- The present hazard also exists of getting a body part caught in the machine. Operators must never reach into the die area.

### 8.3 Machine set-up

Prior to operating the power press-brake, you must inspect the machine and be sure that the proper die is in place.

At all times when the Press-Brake is not in operation:

- The foot treadle should be removed, or in an up position.
- When the foot pedal is used, they must be properly guarded.
- The ram should be placed at the bottom of the stroke.
- The controls should be turned off.

### 8.4 Operating the Press-Brake

**Hazards:** There is the potential to get a body part caught in the press or have the material torque out of the operator's hands and strike them or the helper

- Keep thumbs up and lower fingers at or behind lower Warning Barrier at all times.
- Never allow fingers to go beyond the Warning Barrier.
- Always recheck the position of the helper.
- Maintain a solid grip.
- Watch for the material to swing when the brake is made.
- After press-brake stroke is complete remove foot from treadle.
- Maintain a stable body position.
- Keep a firm grip on the material.
- Be sure that both the operator and the helper stay out of the die area.
- Clear area of unneeded material
- Maintain a clean and debris free area to prevent tripping and slipping.

9. **RECORDS/VERIFICATION OF UNDERSTANDING**

9.1. Records of training of all workers and students who have completed training on the Press-Brake are to be maintained by the Instructor and the Chairperson.

10. A training master log will be maintained by the Trades Chairperson.

11. **SUMMARY OF CHANGES**

Revision #	Date	Change (include section #)	Issued By
1	07/11/2014	NEW	OHS Officer