

**UNIVERSITY OF WASHINGTON LOCKOUT TAGOUT (LOTO) PROCEDURE**  
(WAC 296-803)

<b>DESCRIPTION:</b>	
University of Washington Department/Division: <i>Paul G. Allen School of CSE</i>	Building/Address: <i>Bill &amp; Melinda Gates Center for CSE</i>
Equipment ID: <i>1021956</i>	Equipment/System Description: <i>PCB Prototyping Laser Cutter, Diode</i>
Location: <i>CSE2 G15A</i>	Procedure last updated: <i>2023.01.10</i>

**PURPOSE:** (WAC 296-803-20005)  
This procedure establishes the minimum requirements necessary to protect employees from injury caused by the unexpected energization, start up, or release of stored energy during service or maintenance. Use this procedure to make sure the machine or equipment is stopped, isolated from all potentially hazardous energy sources, and locked out before any employee begins work

**AUTHORIZATION:** (WAC 296-803-20005)  
List any authorized persons authorized to lock and tag out the machine or equipment using this procedure:

Alexander Lefort, Fabrication Research Lab Manager

**SCOPE:** (WAC 296-803-20005)  
Provide a description of the scope of work for this service or maintenance work (include the work order #): Work order #:

Laser repairs  
Laser maintenance (i.e. lubrication, alignment, bulb change, cleaning, coolant refill/replacement)

**NOTIFY:** (WAC 296-803-20010)  
Notify all affected employees that the machine or equipment is to be shut down and locked out for service or maintenance:

Name/Job Title:	Notification Method:
<i>Listserv</i>	<b>Email</b>
Lab Personnel	Sign posted on equipment



**NORMAL SHUTDOWN:** (WAC 296-803-20010)  
Shut down the machine or equipment by normal stopping procedures (such as depressing a stop button, opening switches, or closing valves). List the types and locations of machine or equipment operating controls:

Shutdown Method:	Location:
Ensure the machine is powered down; Power button not lit up.	Front of machine case, below emergency-stop button.
To power down, shut down the windows computer via the monitor	
Once powered down, activate the emergency stop switch.	Front of the machine case.

**ISOLATE AND LOCKOUT:** (WAC 296-803-20001)

Isolate energy sources using appropriate isolating devices. Lock and tag out the energy isolating devices with assigned individual locks and tags:

**WARNING: The following are the known lockout steps. If additional steps are discovered, inform your supervisor, lock them out, and modify this procedure accordingly.**

<p>1</p>		<p>Energy source and magnitude:</p> <p>Type of energy source: <input type="text" value="Electrical"/></p> <p>Magnitude: <input type="text" value="120V, 20A"/></p> <p>Energy Isolating Device Location:</p> <p><i>Power cord, coming from back of unit.</i></p> <p>Isolation device/procedure:</p> <p><i>Ensure the machine is powered off via the attached monitor, mouse, and keyboard. Depress the emergency stop button. Unplug the power cord from the wall receptacle behind the machine.</i></p> <p>Control Method: Lock/Tag Info (Initial and Date)</p> <p><i>Apply cord cap to cord end using the cap-attached diagram for proper fitting and lock in the closed position around the cord with LOTO hasp.</i></p> <p>Method to relieve residual/stored energy:</p> <p><i>N/A</i></p> <p>Verification Method:</p> <p><i>Attempt to switch the machine on via power button.</i></p> <p>Restored by: (Initial and Date): <input type="text"/></p>
<p>2</p>		<p>Energy source and magnitude:</p> <p>Type of energy source: <input type="text" value="Electrical"/></p> <p>Magnitude: <input type="text" value="120V, 15A"/></p> <p>Energy Isolating Device Location:</p> <p><i>Power cord, coming from the left side of the machine.</i></p> <p>Isolation procedure:</p> <p><i>Ensure the machine is powered off by checking the active/standby light on the front of the unit. If blinking, press the power button until it stops blinking. Remove the power cord from both the machine-side and wall-side receptacles.</i></p> <p>Control Method: Lock/Tag Info (Initial and Date)</p> <p><i>Apply machine-side cord receptacle insert lock. Rotate knob to lock insert in place. Apply LOTO hasp through knob-lock hole.</i></p> <p>Method to relieve residual/stored energy:</p> <p><i>N/A</i></p>

		<p>Verification Method:</p> <p><i>Attempt to turn the vacuum on via the power button.</i></p> <p>Restored by: <i>(Initial and Date)</i>: <input type="text"/></p>
3	<p>Click to insert picture (portrait photo only)</p>	<p>Energy source and magnitude:</p> <p>Type of energy source: <input type="text"/></p> <p>Magnitude: <input type="text"/></p> <p>Energy Isolating Device Location:</p> <p><input type="text"/></p> <p>Isolation device/procedure:</p> <p><input type="text"/></p> <p>Control Method: Lock/Tag Info <i>(Initial and Date)</i>:</p> <p><input type="text"/></p> <p>Method to relieve residual/stored energy:</p> <p><input type="text"/></p> <p>Verification Method:</p> <p><input type="text"/></p> <p>Restored by: <i>(Initial and Date)</i>: <input type="text"/></p>
4	<p>Click to insert picture (portrait photo only)</p>	<p>Energy source and magnitude:</p> <p>Type of energy source: <input type="text"/></p> <p>Magnitude: <input type="text"/></p> <p>Energy Isolating Device Location:</p> <p><input type="text"/></p> <p>Isolation device/procedure:</p> <p><input type="text"/></p> <p>Control Method: Lock/Tag Info <i>(Initial and Date)</i>:</p> <p><input type="text"/></p> <p>Method to relieve residual/stored energy:</p> <p><input type="text"/></p>

		Verification Method: <input style="width: 95%;" type="text"/>
		Restored by: <i>(Initial and Date)</i> : <input style="width: 95%;" type="text"/>
5	<p>Click to insert picture (portrait photo only)</p>	Energy source and magnitude: Type of energy source: <input style="width: 95%;" type="text"/> Magnitude: <input style="width: 95%;" type="text"/> Energy Isolating Device Location: <input style="width: 95%; height: 30px;" type="text"/> Isolation device/procedure: <input style="width: 95%; height: 60px;" type="text"/> Control Method: Lock/Tag Info <i>(Initial and Date)</i> <input style="width: 95%; height: 30px;" type="text"/> Method to relieve residual/stored energy: <input style="width: 95%; height: 30px;" type="text"/> Verification Method: <input style="width: 95%; height: 30px;" type="text"/> Restored by: <i>(Initial and Date)</i> : <input style="width: 95%;" type="text"/>

**GROUP LOTO: (WAC 296-803-50050)**  
Determine which procedures to use if more than one person will be involved in the LOTO procedure:

<p style="color: red; text-align: center;"><b>Will more than one person will be involved in this procedure?</b></p> <p><i>If you select NO, group LOTO <u>will not</u> be used, skip to next section</i></p> <p><i>If you select YES, a group LOTO <u>will</u> be used, and describe your group LOTO method below</i></p>	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
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**Choose a group LOTO method:**

A hasp will be used for this procedure

A lock box will be used for this procedure    Lock Box Identification #:

A Primary Authorized Person    Name:

Name:

During shift or personnel changes, make sure there is continuous LOTO protection and record the new PAP and date each time there is a change.

**THE MACHINE OR EQUIPMENT IS NOW LOCKED OUT AND SERVICE OR MAINTENANCE CAN BE DONE**



**RESTORE:** (WAC 296-803-50035)

Restore the machine or equipment to service after the service or maintenance is completed.

**Step 1:** Check the machine or equipment and the immediate area around it to make sure all non essential items have been removed and that the machine or equipment is in operating condition and ready to energize.

**Step 2:** Make sure all employees are safely positioned for starting or energizing the machine or equipment.

**Step 3:** Verify that the controls are in neutral.

**Step 4:** Remove the lockout devices and reenergize the machine or equipment.

**Note:** Some forms of blocking may require re-energization of the machine before they can be safely removed.

**Step 5:** Notify affected employees that the servicing or maintenance is completed and the machine or equipment is ready to use.