**[Unit Name] Machine Guarding and Safety Assessment Self-Inspection Checklist**

This form is intended for the shop safety coordinator (or designee) to complete for each machine/equipment initially and after modification. Environmental Health & Safety (EH&S) recommends completing this form for older equipment in use prior to a [shop safety inspection](https://www.ehs.washington.edu/workplace/shop-and-maker-space-safety/shop-safety-inspection-explanations). This form can be completed for typical shop equipment such as band saws, table saws, drill presses, laser cutters, lathes, milling machines, and CNCs. For questions about this checklist contact the EH&S Shop and Maker Space Safety Program at (206) 543-7388; ehsshop@uw.edu.

**Person conducting inspection:**      \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date:      \_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Unit or department**:      \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Shop safety coordinator:**      \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Building:**      \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **Room**:      \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Equipment type/name:**      \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Manufacturer:      \_\_\_\_\_\_\_\_\_\_\_\_\_\_ Model #:      \_\_\_\_\_\_\_\_\_\_\_\_ Serial #:      \_\_\_\_\_\_\_\_\_\_\_\_

New Equipment: Yes / No Retrofitted Equipment: Yes / No

Asset Tag #:      \_\_\_\_\_\_\_\_\_\_\_\_\_\_ Equipment #:      \_\_\_\_\_\_\_\_\_\_\_\_\_\_

***Instructions:*** *Place a check in the “Yes” column for acceptable conditions. Place a check in the “No” column for conditions that need to be addressed. Place a check in the “N/A” column for items that do not apply. Address any No checkmarks by documenting why not* ***and*** *writing corrective actions taken in the Corrective Action section. If safeguarding devices, distance, or PPE* *are used instead of a guard, provide a description in the column “If No, explain why.”*

# Requirements for all machines or equipment

| **#** | **Yes** | **No** | **N/A** | **ITEM** | **If No, explain why.** |
| --- | --- | --- | --- | --- | --- |
| 1 |  |  |  | Are point-of-operation guards or other safeguarding provided for any of the following: guillotine cutters, shears, alligator shears, power presses, milling machines, power saws, jointers, portable power tools, or forming rollers?  |  |
| 2 |  |  |  | Are all belts or chain drives fully enclosed by guards?  |  |
| 3 |  |  |  | Are all gears, sprockets, pulleys, or flywheels fully enclosed by guards?  |  |
| 4 |  |  |  | Are all rotating set screws, keyways, or collars fully enclosed by guards?  |  |
| 5 |  |  |  | Are all rotating parts, reciprocating or transverse motions fully enclosed by guards?  |  |
| 6 |  |  |  | Are all pinch point hazards fully guarded for the entire length of the pinch point?  |  |
| 7 |  |  |  | Are all openings to danger-areas of ¼ inch or greater size properly guarded?  |  |
| 8 |  |  |  | Do all machine safeguards prevent workers’ hands, arms, and other body parts from contacting dangerous moving parts? |  |
| 9 |  |  |  | Are the safeguards firmly secured to the machine and not easily removable?  |  |
| 10 |  |  |  | Are all safeguards tamper-resistant and difficult to accidentally remove or bypass? If no, provide the evidence that the safeguards have been tampered with or removed/by-passed. |  |
| 11 |  |  |  | Are existing safeguards adequate to keep safe all personnel from hazards associated with normal machine operation and possible malfunction?  |  |
| 12 |  |  |  | Do the safeguards permit safe, comfortable, and relatively easy operation of the machine?  |  |
| 13 |  |  |  | Are the guards free of hazardous projections, unfinished surfaces, weld splatter, sheared-exposed edges, or other types of sharp edge?  |  |
| 14 |  |  |  | Do the safeguards ensure that no objects will fall into the moving parts?  |  |
| 15 |  |  |  | Can the machine be lubricated without removing the safeguard? (No may be acceptable depending on age/style of equipment)  |  |
| 16 |  |  |  | Are there warning labels, color-coding, or markings to show hazardous areas?  |  |
| 17 |  |  |  | Do the safeguards provided meet the minimum [WAC 296-806 Machine Safety](https://app.leg.wa.gov/WAC/default.aspx?cite=296-806-200) requirements? |  |
| 18 |  |  |  | Is there a system for shutting down the machinery before safeguards are removed? |  |
| 19 |  |  |  | Are the existing safeguards effective and do not require be improvements? |  |
| 20 |  |  |  | Has the machine been evaluated to determine if changes can be made to eliminate the point-of-operation hazard entirely? |  |

# Machine controls

| **#** | **Y** | **N** | **N/A** | **ITEM** | **If No, Indicate why not** |
| --- | --- | --- | --- | --- | --- |
| 21 |  |  |  | Are all starting and stopping controls within easy reach of the operator? |  |
| 22 |  |  |  | Have separate controls been provided for equipment designed for use by more than one operator? |  |
| 23 |  |  |  | Are foot-operated controls located or guarded to prevent unintentional activation? |  |
| 24 |  |  |  | Do all machines not automatically restart after a power failure? |  |
| 25 |  |  |  | Do all machines have Emergency stops (E-stops) controls that are red in color, easily reached from the operator’s normal position, in good working condition and must be manually reset before a machine can be restarted? |  |
| 26 |  |  |  | Will this machine “fail safe” if the emergency stop is activated or if one or more utilities are impeded or removed?  |  |
| 27 |  |  |  | Have all interlock systems functionality been verified and tested? |  |
| 28 |  |  |  | Warning lights and alarms functional? |  |

# Electrical hazards

| **#** | **Y** | **N** | **N/A** | **ITEM** | **If No, Indicate why not** |
| --- | --- | --- | --- | --- | --- |
| 29 |  |  |  | Is the machine installed in accordance with National Fire Protection Association and National Electrical Code requirements? |  |
| 30 |  |  |  | Are all electric plugs three-prong with a ground, and plugged into a grounded outlet?  |  |
| 31 |  |  |  | Are all conduit fittings tight and appear to be in good repair and undamaged?  |  |
| 32 |  |  |  | All equipment, where required, has been designed to accept and OSHA approved locking device and tag when service or repair is required? |  |
| 33 |  |  |  | Is there an equipment specific LOTO procedure for shutting down the machinery and locking / tagging it out before safeguards are removed, where required? |  |

# Other requirements for machine safety

| **#** | **Y** | **N** | **N/A** | **ITEM** | **If No, Indicate why not** |
| --- | --- | --- | --- | --- | --- |
| 34 |  |  |  | Is the machine seismically restrained, if required or secured and will not move or change position during operation? |  |
| 35 |  |  |  | Have appropriate measures been taken to safeguard workers against noise hazards? |  |
| 36 |  |  |  | Have special guards, enclosures, local exhaust ventilation, filtration, or personal protective equipment been provided, were necessary, to protect workers from exposure to harmful substances used in machine operation? |  |
| 37 |  |  |  | Is there adequate placement, accessibility, and ergonomic positioning? |  |
| 38 |  |  |  | Are accessible surfaces smooth and free of sharp edges? |  |
| 39 |  |  |  | Is the area cleaned from debris? |  |
| 40 |  |  |  | Is there adequate illumination? |  |
| 41 |  |  |  | Has excess vibration eliminated? |  |
| 42 |  |  |  | Are hazard warnings required are in place? |  |

# Corrective actions

***Instructions****: Describe corrective action(s) below for all items marked “No” above. Indicate the item number and date completed for each item. Describe interim actions if the corrective action is not yet complete (e.g., “locked and tagged out equipment”). If modifications to the equipment or machine is required, complete the section below.*

Click or tap here to enter text.

Modifications Required? Yes / No

Follow-up date:      \_\_\_\_\_\_\_\_\_\_\_\_\_\_ Modification completion date:      \_\_\_\_\_\_\_\_\_\_\_\_\_\_

# REVIEW

Reviewer's signature below verifies personal review and approval of the aforementioned equipment for potential safety deficiencies and modifications required. **EH&S review is required** when modifications are made to the equipment electrical components (on/off buttons, selector switches, interlocks, E-stops, wiring, etc.)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **REVIEWERS** | **PRINTED NAME** | **SIGNATURE** | **INITIALS** | **DATE** |
| Shop Safety Coordinator |  |  |  |  |
| Principal Investigator/Manager, Shop |  |  |  |  |
| Environmental Health & Safety (review only) |  |  |  |  |
| OTHERS (as required): |  |  |  |  |