

## MACHINE EVALUATION CHECKLIST

<b>Machine Efficiency and Safety</b>	<b>Yes</b>	<b>No</b>
1. Are multiple or simultaneous cuts possible?	"	"
2. Are handles, wheels, and levers readily accessible?	"	"
3. Are handles, wheels, and levers designed for best mechanical advantage?	"	"
a. Are knobs at least 0.5-2 inches in diameter, with larger sizes for greater torque?	"	"
b. Are cranks and handwheels a minimum of 3-5 inches in diameter for low loads?	"	"
c. Are cranks and handwheels more than 8 inches in diameter for heavy loads?	"	"
4. Are fixtures used to, avoid holding with the hand?	"	"
5. Are guards or interlocks used, to prevent unintended entry?	"	"

<b>Design of General Controls</b>	<b>Yes</b>	<b>No</b>
1. Are different colors used for different controls?	"	"
2. Are controls clearly labeled?	"	"
3. Are shape and texture coding used for tactual identification?	"	"
a. Are no more than seven unique codes being utilized?	"	"
4. Is size coding used for tactual identification?	"	"
a. Are no more than three unique codes being utilized?	"	"
b. Are size differences greater than 0.5 inch?	"	"

<b>Design of Emergency Controls</b>	<b>Yes</b>	<b>No</b>
1. Are power-on controls designed to prevent accidental activation?	"	"
2. Do activation controls require a unique or dual action motion?	"	"
3. Are power-on buttons recessed?	"	"
4. Are activation controls colored green?	"	"
5. Are deadman controls utilized for continually activated controls?	"	"
6. Are emergency controls designed for quick activation?	"	"
7. Are stop buttons protruding?	"	"
8. Are emergency controls large and easy to activate?	"	"
9. Are emergency controls easily reachable?	"	"
10. Are emergency controls visible and colored red?	"	"
11. Are emergency controls placed away from other normally used controls?	"	"

<b>Control Placement</b>	<b>Yes</b>	<b>No</b>
1. Are primary controls placed in front of the operator at elbow height?	"	"
a. Are frequency-of-use and importance principles used to identify primary controls?	"	"
2. Are secondary controls placed next to primary controls, but still within reach?	"	"
3. Is twisting avoided in reaching for controls?	"	"
4. Are controls located in the proper sequence of operation?	"	"
5. Are mutually related controls grouped together?	"	"
6. Are hand operated controls separated by at least 2 inches?	"	"
7. Are three or less foot pedals utilized?	"	"
8. Are foot pedals located at floor level, to avoid raising the leg?	"	"
9. Is a sit/stand stool provided for extended foot pedal operation?	"	"

**Display Design****Yes No**

- |   |   |   |
|---|---|---|
| 1. Are displays located on the visual cone of sight (horizontal to 30E down)? | " | " |
| 2. Are indicator lights used to attract the operator's attention?             | " | " |
| 3. Are acoustic signals used for critical warnings?                           | " | " |
| 4. Are movable pointers used to indicate trends?                              | " | " |
| 5. Are counters provided for accurate readings?                               | " | " |
| 6. Are displays grouped so as to accentuate an abnormal display?              | " | " |
| 7. Are mutually related displays grouped together?                            | " | " |

**Control-Display Compatibility****Yes No**

- |  |   |   |
|--|---|---|
| 1. Is affordance (perceived property results in desired action) used?        | " | " |
| 2. Is feedback utilized to indicate completion of action?                    | " | " |
| 3. Does the control and display have a direct-drive relationship?            | " | " |
| 4. Does the display reading increase from left to right?                     | " | " |
| 5. Do clockwise motions increase settings?                                   | " | " |
| 6. Do clockwise motions close valves?  | " | " |
| 7. For stick controls, does upward or backward motion produce upward motion? | " | " |
| 8. For controls out of plane, does the right-hand rule apply?                | " | " |

**Label Design****Yes No**

- |   |   |   |
|---|---|---|
| 1. Is clear and concise wording used?                               | " | " |
| 2. Do the letters subtend at least 12 arcminutes of visual angle?   | " | " |
| 3. Are dark letters used on a white background?                     | " | " |
| 4. Are uppercase letters used for only a few words?                 | " | " |
| 5. Are symbols (preferably simple) used only if clearly understood? | " | " |