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| Author: Kevin Arne Title: Prototyping Labs Supervisor Date: 4/13/2022 | |
| #1 Process  (if applicable) | Carve wood or metal by rotating stock and removing material a little at a time. |
| #2 Equipment | Wood or metal lathe |
| #3 Personal Protective Equipment (PPE) | Safety glasses and hearing protection, plus minimum shop PPE. |
| #4 Environmental /  Ventilation controls. | Ensure equipment is secure so it doesn’t move when in use. If cutting wood, a dust collection system should be attached near the cutting area. |
| #5 Required training or approval | * Metal lathe training * Review and observe general safety practices outlined in the Machine Shop Equipment Safety Guidelines. * Refer to the manufacturer’s operating manual for all operating procedures. |
| #6 Inspection requirements before use | * Ensure all safety shields and guards are in place prior to turning the machine on. * Ensure all body part, clothing, hair, jewelry and other objects are clear of the cutting area and other moving parts before starting the machine and engaging its moving parts. * All stock must be properly secured in the lathe chuck or mounted prior to the machining process taking place. Use the correct sized clamp or vise for the stock being machined. * Turn the chuck or faceplate by hand to ensure there is no binding or danger of the work striking any part of the lathe. * Check to ensure the cutting tool will not run into the chuck or lathe dog. If possible, feed away from the chuck or dogs. * Before starting the lathe, ensure the spindle work has the cup center imbedded; tail, stock and tool rests are securely clamped; and there is proper clearance for the rotating stock. * Prior to starting the lathe, ensure that small diameter stock does not project too far from the chuck without support from the tail stock center. A 3:1 ratio of length to diameter is the upper limit, but lower is safer and will result in better surface finish. * When using wood, do not mount a split work piece or one containing knots. * When roughing stock, do not force the tool in the work piece or take too big a cut. * The operator must always be aware of the direction and speed of the carriage or cross-feed prior to engaging the automatic feed. |
| #7 Safe operating procedures or precautions | * Never leave the key in the chuck. Do not let go of the key until it is free of the chuck and secured in its proper holding place. * Select turning speed carefully. Large diameter stock must be turned at a very low speed. Always use the lowest speed to rough out the stock prior to final machining. * The correct speed and feed for the specific material and cutting tool must be used. Stop the machine before making adjustments or measurements. * Never attempt to run the chuck on or off the spindle head by engaging the power. * Do not stop the rotation of the chuck by reversing power to the lathe unless tapping holes. * Do not stop the rotation of the any rotating or moving machinery parts by hand. * Do not leave tools, bits or excess pieces of stock on the lathe bed. * Leave gear guard on. * Stop the machine immediately if odd noise or excessive vibration occurs. * Only properly sharpened drill bits and cutting tools in good condition should be used. Dull drill bits and chipped or broken cutting tools must be removed from service. * Disconnect the lathe from power source if making repairs or servicing. * When an operator has finished working on the lathe, and before leaving the lathe for any reason, the power must be shut off and the machine must come to a complete stop. * When sanding on the lathe, keep both hands on the front of the lathe. Never reach over the lathe while it is turning. |
| #8 Chemicals/ spill procedures/waste disposal | Avoid waste material build up and clean as you go. Check the dust collection system and make sure it is properly maintained and material is removed frequently. |
| Author Signature: Date: | |