

Guidelines for Assessing Students Work

To assure a certain level of quality and consistency these guidelines should be used to evaluate a student's work before instructors sign off on any skill.

Skill Sets

Forging

Drawing down, upsetting or spreading the material and thereby changing the cross section of the bar

Tapers should be free of hammer marks, straight sided, centered on the bar and following the square, octagon round method of forging.

Spreading should be free of holes and tears and be of a uniform thickness where appropriate.

Shoulders should be one distinct transition with no chatter from miss aligned starts and free of cracks.

In the case of necking-in the transition should be smooth and gradual, free of hammer marks and centered on the bar where appropriate.

Upsets should be free of cracks, lipping and cupping as well as centered on the bar where appropriate.

Forming

Bending or twisting, changing the orientation of the bar

Square corners should be free of cracks at the inside of the corner and show full stock width and thickness at the corner and on both sides of the corner. The outside of the corner is to be sharp.

Twisting should be free of cracks and tooling marks.

Scrolls should have no cracks at the scroll end (such as behind snub ended scrolls) and be free of kinks or straight sections.

Cutting

Splitting, punching and cutting off

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Punched holes should be centered in the bar (where appropriate). Sides of the hole should be a uniform thickness and shape and not thinned to a point of weakness.

Punched and drifted holes are to be centered in the bar where appropriate; straight in its orientation to the bar; free of cracks and show no evidence of the initial punched or chiseled hole.

Splitting should have uniform sides, free from rag and protected the root of the cut by fullering half round to prevent cracking. Where a split is opened out (as in a fork) the student is encouraged to neck-in (fuller) at a distance equal to the thickness of the sides of the split, behind the split, to prevent cracking.

Pass through holes should be of a sufficient size and shape to allow the pass through bar to move easily without being sloppy. Evidence of the initial slit or slot is deemed to be an incorrect match of tooling.

Joining

Forge welds when done properly is completely blended in to the bar with no evidence of a joint. Tolerance is given to the student if there is some evidence of the weld seam post welding. Cracks caused by overheating or taking an excessive number of heats are not acceptable. Cracks at either toe (of the scarfs) are not acceptable. A reduced cross section of the bar compared to the surrounding stock is not acceptable.

Riveting should show a sufficiently large mass at the head of the rivet to prevent them from being pulled from the work. The rivet head should be centered about the main body of the rivet. Students should be encouraged to make their own rather than use manufactured rivets.

Tenons should be free of cracks and cold shuts and have a fillet at the shoulder to prevent the formation of stress risers.

Specific Points

General work

The projects and exercises should be returned free of cracks, burns and gross hammer marks. The items can be finished with a file and hand sanding. Work shaped or cleaned up with an electric grinder or belt sander will not be accepted.

Hammer marks

Using a hand hammer at the anvil will produce a hammer texture on the iron. Excessive texture is defined as one leaving an uneven finish or where one edge (side) of the hammer has left a visible mark in the iron (such as found when not matching the angle of a taper when drawing down a bar and the heel of the hammer is leaving steps in the bar). A smooth hammer texture is expected in the work, but marks from erratic hammering or from the edge of the hammer are not.

Over forged or over heated

This description is given to any work that has been overly hammered or heated too many times or burned in the fire. The piece will be too thin for its intended use and may have cracks present in the bar. Students should be asked to repeat the project using fewer blows or heats.

Finish

Final projects may be finished in a wax, oil or clear coat finish. Exercises may be submitted without a finish applied.

Water leaves

Free of holes and cracks/tears. Crimps match (opposite each other). The end of the leaf must show a 'return' to the main leaf. Leaves should show a 'U' shaped channel to allow the placement of a scroll where needed. Edges should be thinned sufficiently to give the leaf a delicate image visually without being over forged or containing tears.

Acanthus leaves

Free of holes or cracks and tears and match the curve of the scroll.

Leafing Hammer

Punched and drifted eye. Appropriately shaped for use at either the anvil or the vise. Hardened and tempered or case hardened as appropriate for the steel used.