ReFab

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# Material Exploration


HOSFORD & CO.

Hosford Metal Works
Ann Arbor, MI

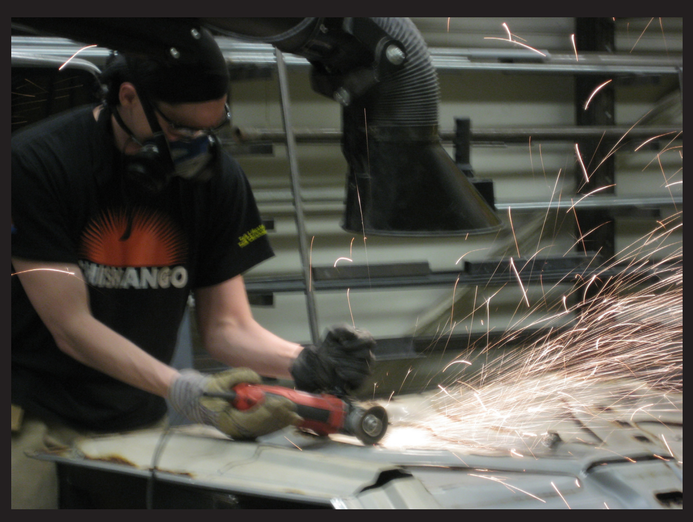
Fabrication facilities lying on the north-side of ann arbor. Large scale fabrication tools, including: arbor presses, massive drill presses, routers, CNC milling machines, breaks, and shears. A framework was developed utilizing the new-found understanding of fabrication tools, including their limitations. Conceptualization of the hand tools and home-brew manipulators for obtaining the curvatures of the designs that we visualized and the shapes that emerged from material and structural tendencies.


Angle Grinder

Pry Bar

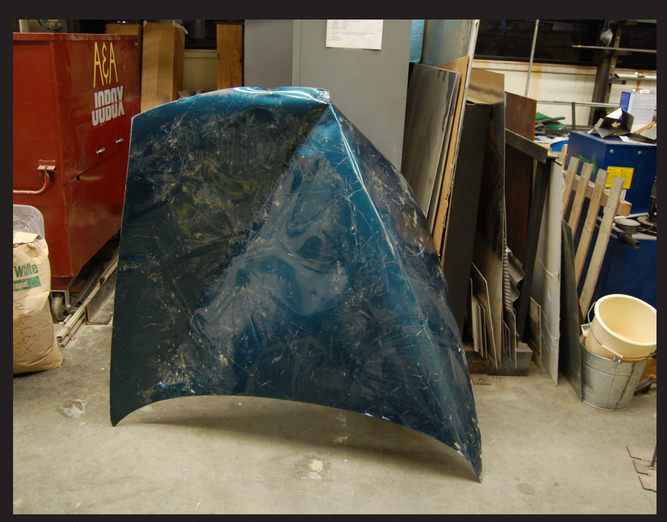
Come Along


Three pins define a triangle associated with digital model



A grinding wheel used to cut perfereations through the hood rib structure

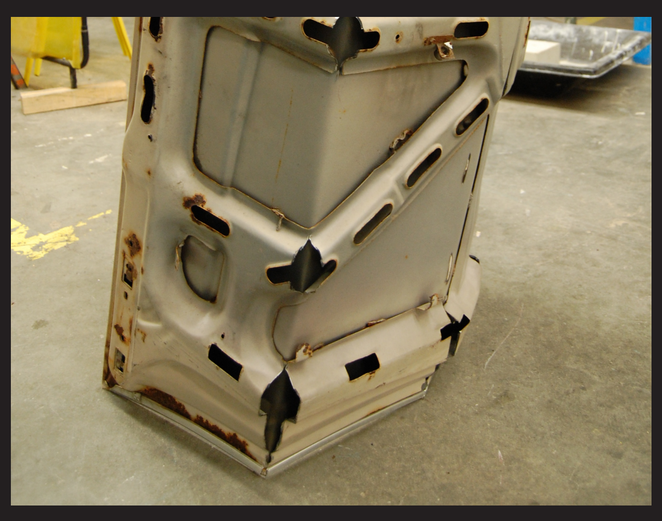

Hood is stripped of understructure and folded using a brake




Axis of creases are informed by structure and paper studies

Hood understructure is cut and drawn together. Exisitng perforations, once translated within parametric software, can be considered incraments for distance parameters. The effect of drawing the structural arms closer is bowing of the hood generating a larger section

Cable is drawn through hood section to generage possible parameter within digital software. The shorter the cable, the wider the distance between hood and structure. This action can implement significant change when propagated



Perforation along hood rib structure allows for folding

Material exploration is directed towards the discovery of material tendencies that can influence digital translation and further design. These properties are identified both as both material and geometric. Above is a line that carry

Hand tools were employed to persuade the hoods to reform into tiling components. All tools used cost less than $40.00 and are commercially available. Folding operations were achieved using hand built "towel rack" rigid axis' for directing deformation. A cable winch directed compressive loading on three loading points on the hood. These points directed the hood to fold into a curved surface passing through the three points, and accommodating for hood of varied sizing to be accommodated onto the tiling scheme.