Material Exploration

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.

Hand tools were employed to persuade the hoods to reform into tiling components. All tools and 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 which 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.

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

Cable is drawn through hood section to generate 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.

Material exploration is directed towards the discovery of material tendencies that can influence digital translation and further design. These properties are identified both as material and geometric. Above is a line that carries Axis of creases are informed by structure and paper studies.

Three pins define a triangle associated with digital model

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

Hand is stripped of understructure and folded using a brake

Axes of creases are informed by structure and paper studies

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

Cable is drawn through hood section to generate 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.