Mobile Platform

The platform is constructed from .125” thick balsa wood. The early design was built to test the control systems and the motors. It was triangular with two drive wheels and a caster at the nose. This design does not provide the control necessary to model an automobile. The second and final design makes use of mechanics present in cars today. An approximate Ackerman’s steering model is used. Ackerman’s theory uses geometry to describe a system in which the inner wheel during a turn turns tighter then the outer wheel to account for better control and stability. This design also has four wheels, a necessity when modeling automobiles of today. The steering system in the final design was created using spindles and brass tubing from a hobby shop. Four thin brass tubes all placed inside one another coated with teflon lubricant provided the front axle and spindle. The front wheels were mounted on the spindle shafts, and the spindle assembly was connected to the steering servo by way of a metal tie link. The back wheels were mounted directly onto the gear motor servos. The platforms were drawn in AutoCAD release 14. And cut out on a modified T-Tech Circuit prototyping machine.