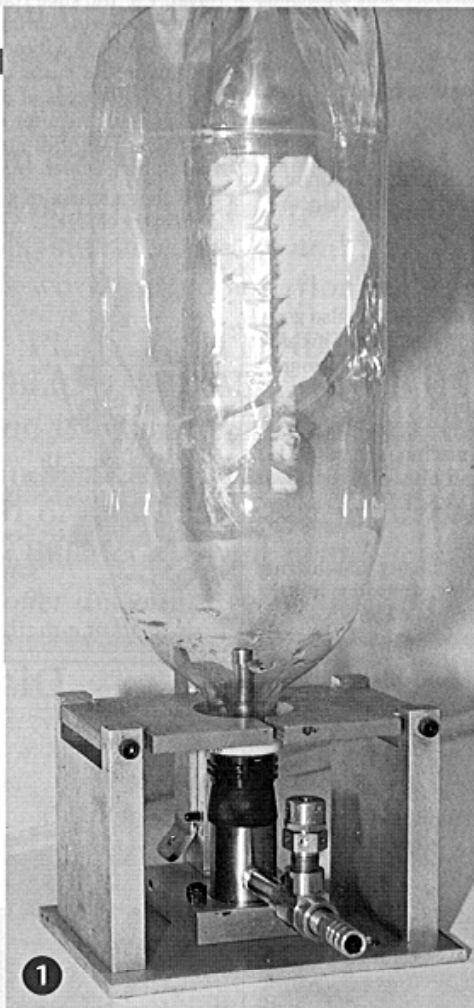


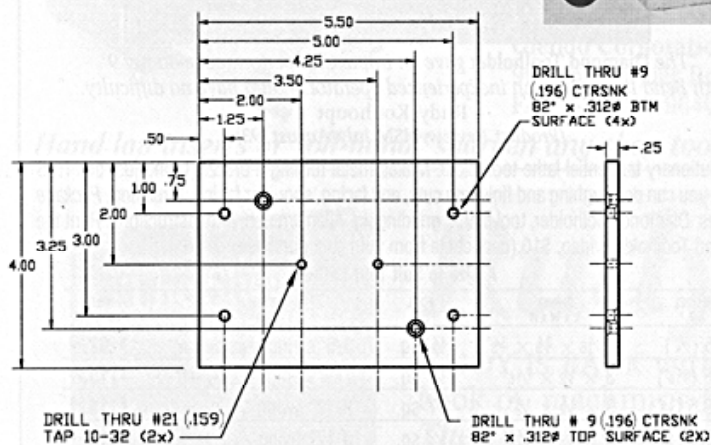
Two-liter Bottle Launcher

by Paul Smeltzer

Each year at the end of July, we normally hold our family reunion. This past year it was held in central Utah, near my home. My assignment for the reunion was to provide entertainment of some sort for the teenagers in our group. As I was discussing this responsibility with a friend, he suggested a two-liter bottle launcher. He had borrowed one for several days to use on a Boy Scout outing and was impressed with it, mentioning that he had launched several bottles that appeared to go to a height of more than 300 feet in the air. The following day, he arrived at my home with the borrowed launcher. After I examined the device, I felt I could improve upon it, making it easier to build and to use. A couple of days later after spending several hours at the computer, I had CAD drawings for my design and was prepared to make chips. *Photo 1* shows the launcher ready for action.



Construction of the launcher was straightforward. I used a lathe, milling machine, and a drill press among other tools. Nevertheless, I believe a launcher could be built using simpler tools and a little ingenuity. To date, I have built four launchers from the drawings. *Photo 2* shows the components for two launchers and two assembled units. One was built following the drawings and used the materials as specified. The other three launchers were built from thinner material. For the clamp (*Detail 4*), 3/16" plate was used in place of the 1/4" plate indicated. For the side plate (*Detail 2*), 3/8" plate was substituted for the 1/2" plate indicated. Obviously, the thinner material required a change of hole and fastener size on the clamp (*Detail 4*) and side plate (*Detail 2*). Out of necessity, I substituted 5-40 x 3/4" cap screws for the 8-32 x 3/4" cap screws, which are used as pivots for the clamp.



1 BOTTOM PLATE
mat'l - 6061 aluminum plate

