

Tool Tip #31 – Automatic Center Punch

One of the very important steps in the preparation of an enclosure for assembly of a home-brew piece of equipment is the drilling of many holes in the enclosure panels. Perhaps, this may well be the single most important step in the preparation process, as the entire build is going to be dependent upon the accurate layout and placement of the various holes that are to be drilled. Working from a drill template or a set of measurements, each hole's specific location can be determined. However, in order to keep the twist drill ("bit") from wandering from the intended location during the drilling of the holes, the use of a center punch is almost mandatory.



Figure 1 – NEIKO automatic center punch

A center punch makes a small dimple in the surface of the material substrate which will aid in piloting the twist drill at the desired location, and especially so when a twist drill of a very narrow diameter is used to make the initial pilot hole in the substrate. Then, larger-diameter twist drills will easily follow the course of the pilot hole, keeping the enlarged hole on the same center as was the pilot hole.

Originally, all center punches were of the type that had to be struck with a hammer. As time went by, the so-called *automatic center punch* was developed, wherein a spring-loaded weight inside the barrel of the punch would, with sufficient applied downforce, trip past a fixed point and cause the tip of the punch to rebound against the substrate surface, thus making the dimple. One drawback to the standard automatic center punch was the relatively narrow diameter of the head of the punch. A narrow head on the punch means that the full force applied is borne by a very small area of the palm of the hand that is operating the punch. With time and the onset of arthritis in the hands, this can become a very painful event. The solution to this problem is the knob-headed type of automatic center punch such as the NEIKO device described in this article.

With the NEIKO automatic center punch, the force exerted is spread out across the large surface area of the head of the punch, both reducing the painful impact on small areas of the hand, and also providing for a much better grip on the punch. Automatic center punches make marking the exact locations of holes and providing twist drill starting centers an easier task to accomplish; the knob-headed variant of the automatic center punch makes operation of the punch much less painful.

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