

Most of the time, people think of me as the quiet introverted type. So, naturally, every once in awhile, I like to do something a little strange just to keep them guessing. This very simple project fits into that category. It's not rocket science, but it does lean to a bit of extroversion.

This holiday season imagine a Santa or Rudolph stick pin with a blinking red nose peering out over your shirt pocket or swinging from your tie. Imagine what your boss, your teachers, or better yet, those extroverted people who always imply that there is something wrong with you because you aren't loud and obnoxious like them will think. The possibilities are endless and you can do it all without saying a word.

Building the project requires a standard paper clip, some hot glue or fast-setting epoxy, an LED, a small button battery, and a stick pin or another paper clip. The battery is a type DL162016 3-volt lithium button-type battery and the LED is a 2.5-volt blinking type. It is essential that the LED will work on 2.5 volts—some don't. Such LEDs are available from Radio Shack (as part #276-036) and Jameco (part #XC5410). The stick pin can be purchased at most hobby or craft stores, or you can fashion one from another paper clip. Just remember that the pin has to be about 2.5 inches long.

Making Your Own. First cut one loop off a standard-size paper clip. It should be a U-shaped loop about one inch long and one-quarter inch wide. Position the loop flat against the base of the LED and wrap a turn or two of the positive lead around the U-loop as

A FLASHING LAPEL PIN



for the HOLIDAYS

Express your holiday cheer with a colorfully decorated, flashing lapel pin

BY JERRY BAUMEISTER

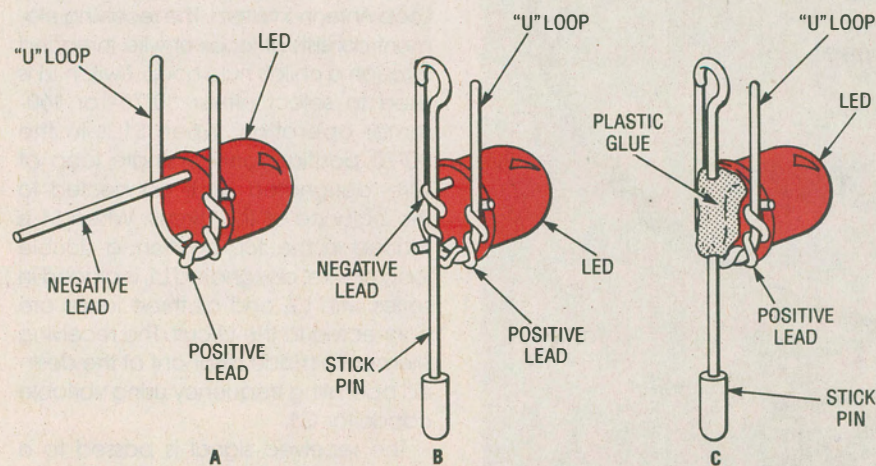


Fig. 1. Wrap a turn or two of the LED's positive lead around the U-loop (A), with the negative lead extending through the center of the loop. Coil the LED's negative lead around the pin (B), and solder. Then fill the space between the LED's base and the stick pin with glue (C).

shown in Fig. 1A with the negative lead extending through the center of the U-loop. Solder the loop to the positive lead. Trim off the excess lead length as close as possible to the solder connection. Cover the solder joint and the entire base of the LED with a drop of hot glue or fast drying epoxy, resulting in the loop being firmly attached to the base of the LED.

Take the stick pin and coil the negative lead of the LED tightly around the pin (see Fig. 1B). Do this until the pin winds itself down to within a battery's width of the base of the LED. Actually, the spacing at the base of the LED should be a little wider than the battery. Solder the negative lead to the LED by flowing solder over the coils that now
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FLASHING LAPEL PIN

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Fig. 2. Shown here are two full-size templates of the faces used by the author. Each has a $\frac{3}{16}$ -inch hole in the nose, through which the LED will protrude.

hold the stick pin. The non-pointed end of the pin should line up with the ends of the "U" loop and be parallel with them. Optionally, you can bend the non-pointed end of the stick pin into a loop as shown. Doing so helps to hold the battery in place.

Next fill the space between the base of the LED and the stick pin with glue (see Fig. 1C) covering the solder and

PARTS AND MATERIALS LIST FOR THE FLASHING LAPEL PIN

2.5-volt blinking red LED (Radio Shack 276-036, Jameco part #XC5410, or equivalent)

3-volt lithium battery (type DL1620 or DL2016)

Christmas face (see text)

Standard paper clip

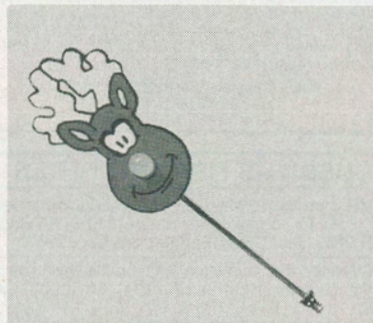
Stick pin

Glue (hot or epoxy)

Note: Die-cut, color-print Santa Claus and Rudolph faces are available for \$0.25 each, plus \$1.00 postage and handling per order from J.B. Gizmo, Box 1084, Jones OK, 73049. Oklahoma residents please add appropriate sales tax.

Blinking LED's are available from Radio Shack as part #276-036 and Jameco Electronics (1355 Shoreway Road, Belmont, CA 94002) as part #XC5410

the base. Before the glue dries, pinch the end of the pin and the ends of the U-loop together so that the non-pointed end of the pin is between both ends of the U-loop and on the same plane.



Either Santa Claus or Rudolph (shown here) can add a light-hearted touch to your holiday fun.

That tapering gives the pin enough "spring" to hold the battery tightly between the pin and the U-loop after the glue dries.

Finally, photocopy the templates in Fig. 2, color and cut them out, punch a $\frac{3}{16}$ -inch hole in the nose and push over the LED. You may want to reinforce the paper cut outs by laminating them between two sheets of contact paper, or you may want to draw them directly on a heavier stock of paper, either way will work fine. Die cut, full color artwork is also available from the source in the Parts List. Put the battery between the pin and the U-loop and you're done. ■