

# SNAPSHOT

## BEND AND SHAPE PHOTO-ETCHED METAL

**WHILE SOME PHOTO-ETCHED METAL (PE) PARTS ATTACH** to models without alteration, many require bending to obtain the final form. Whether you need to make right angles or gentle curves, here are some ideas that should help you shape PE.

By Robert Raver



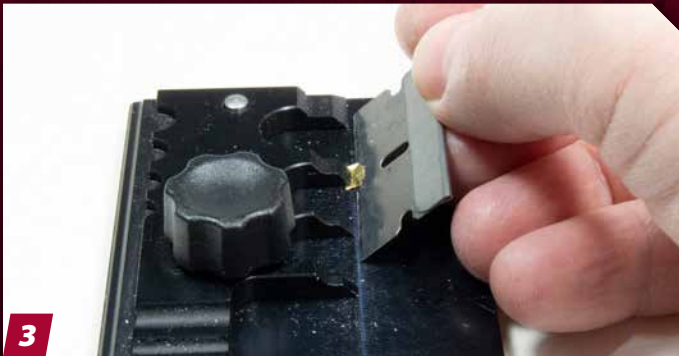
**1**

Tools can make bending PE parts easier, and, in some cases, may be necessary to nail the right shape. I commonly use (from top) Xuron Tweezer Nose Pliers (No. 450), tweezers with flat tips, and step mandrels in a couple of different sizes to form curves.



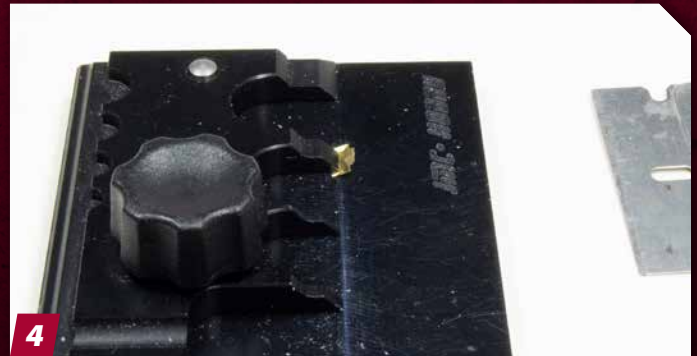
**2**

A bending tool is essential for bending parts without scoring lines or for parts that require one long, seamless bend. I use benders from UMM Models (back), JMC Hobby (right), and Mission Models (left). Each has its uses, depending on the size of the piece being shaped.



**3**

PE benders often have a straight edge on one side and a variety of differently sized fingers on the other. After clamping the part with the scoring line aligned with the edge of an appropriately sized finger, slip a razor blade under the part and rotate it upward to the required angle. Be careful using a razor blade; dull the edge a little on fine sandpaper to make it slightly easier to work with.



**4**

Careful study of the instructions and parts may be necessary to determine the order of bends for complex parts. In this case, a couple of bends are needed to get the main shape of a PE periscope cover, and most were easily done with the bender.

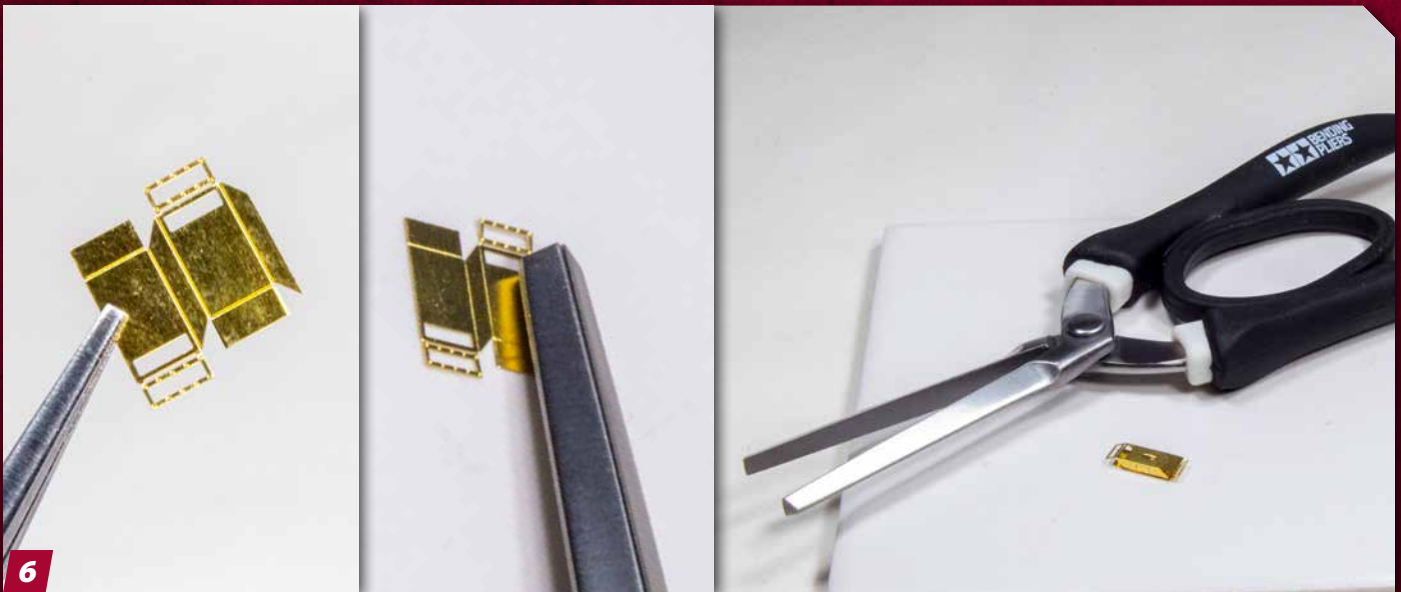


**5**

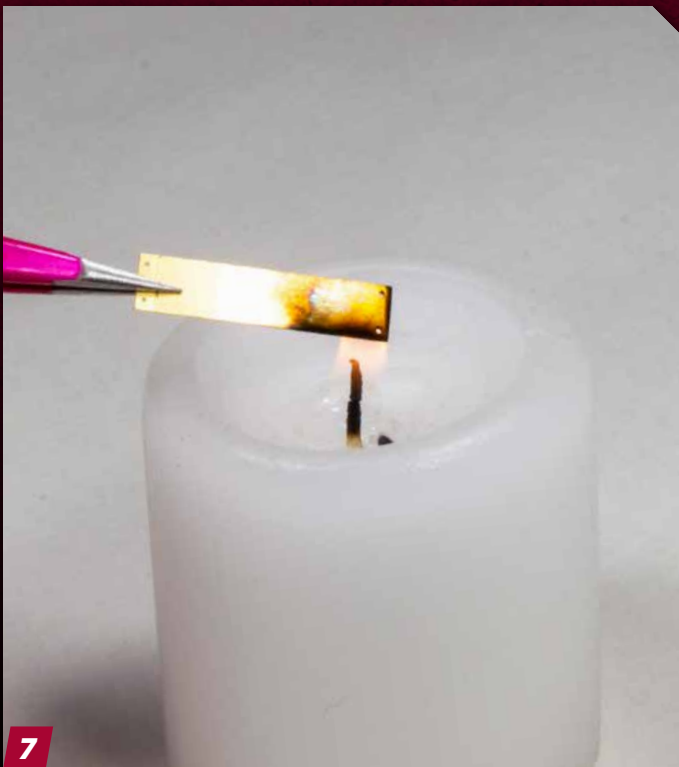
I needed one final bend in the piece, but it was easy enough to do with tweezers nose pliers. Simply folding the piece against a finger and bending it with the pliers was sufficient to finalize the shape.

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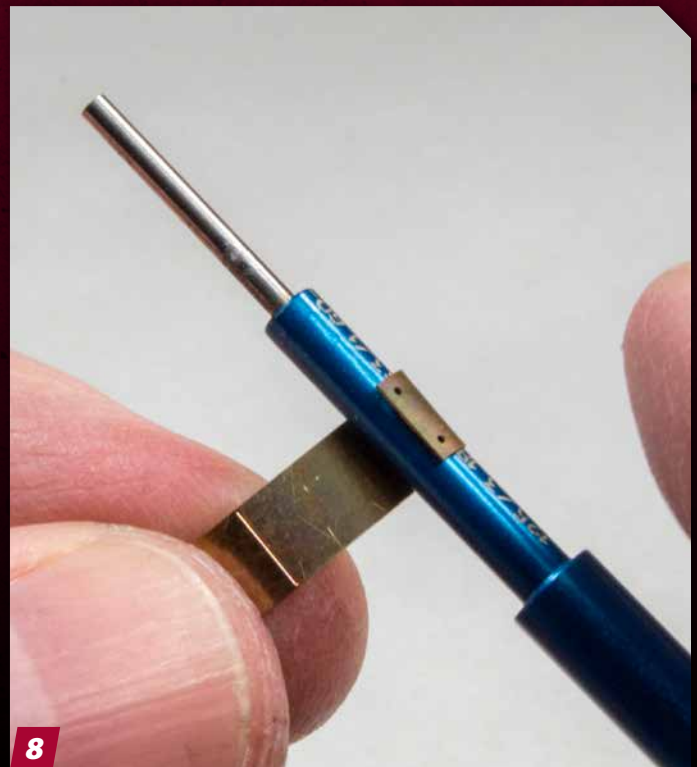
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Some parts can be bent using pliers or tweezers and a hard surface. For this periscope, multiple bends along the score lines are required to produce a box-like shape. I used Tamiya Bending Pliers (No. 74067) to hold the part and bend it against a hard surface, such as a tile.



Making curves or straight bends where no score line is etched into the part can be made easier by annealing the PE part. Annealing involves heating the metal and letting it cool so it becomes more malleable. For small pieces of thin PE, a few seconds in a flame is generally all that is needed.



After the part has cooled, wipe off any soot or other residue left by the flame. Then you can bend it around a tool or other object to produce the required shape. **FSM**