

## Bill Pancake Oil Sensor Orifice Elbow Tool

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This article describes a tool that Bill Pancake designed and built for removing and installing the 45 degree elbow with the .040" orifice for the oil pressure sensing line on small Continental engines.

Small Continental engines such as the C-85, C-90, and O-200 engines often have an elbow fitting screwed into the crankcase under the #1 cylinder for sensing oil pressure. The fitting



often has a brass orifice mounted in the fitting with an .040" restriction orifice hole. This line typically connects to the oil pressure gauge on the instrument panel. The photo on the left shows the fitting in the circle. It is mounted under the #1 cylinder at the right rear side of the engine. This photo was taken with the right side muffler removed. This is a very congested area and it is difficult to remove and install this fitting.



The tool that Bill designed and built is shown in the following photos. The tool is machined from a 3/4" piece of hex steel stock approximately 2 7/8" long. The orifice fitting fits in a slot that is milled in the end of the hex stock. The slot is .458" wide by .583" deep by .85" in length (see dimension sheet at end of article).



The next photo shows the 45degree fitting inserted into the slot in the end of the tool. When using the tool to insert the fitting into the engine crankcase, masking or electrical tape can be used to hold the fitting in position.



This photo is a side view of the tool. A 5/8" hex approximately 5/8" long is machined into the opposite end of the tool. Either a 5/8" socket or a 3/4" socket can be used to guide and drive the tool.



The tool also has two 1/4" diameter holes located approximately 1 1/4" and 1 11/16" from the slot end of the tool. These holes can be used to rotate the tool with a round rod handle.

