Tech Tool

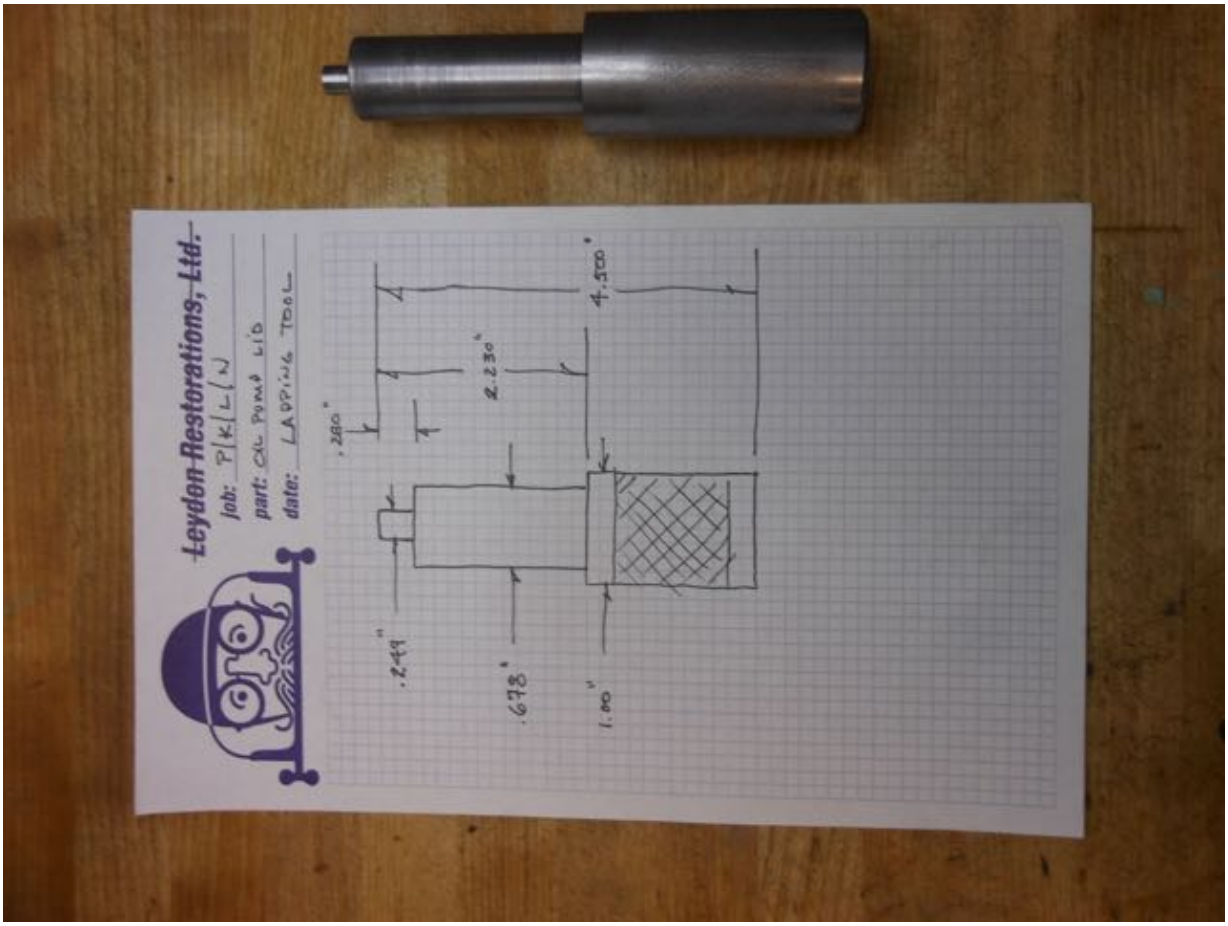
Many of the machine operations on MMM engines require sophisticated machine tools, but not all. So it would be more accurate to describe the following contribution as "Non-Tech Tools." So here goes.

The Oil Pressure Relief Valve

Inside the lid of the oil pump on most prewar MG engines, there is a plunger or cup that presses against a seat by an oil pressure relief spring. The purpose of the mechanism is to control the oil pressure within the design margins needed by the bearings, rockers, etc. Often when disassembling an engine, this plunger is either frozen in its bore or falls out easily, revealing a damaged and pitted surface upon which it is intended to seal against oil pressure. Without a dedicated piloted end mill, addressing this issue can be frustrating. Here is one solution to the problem.

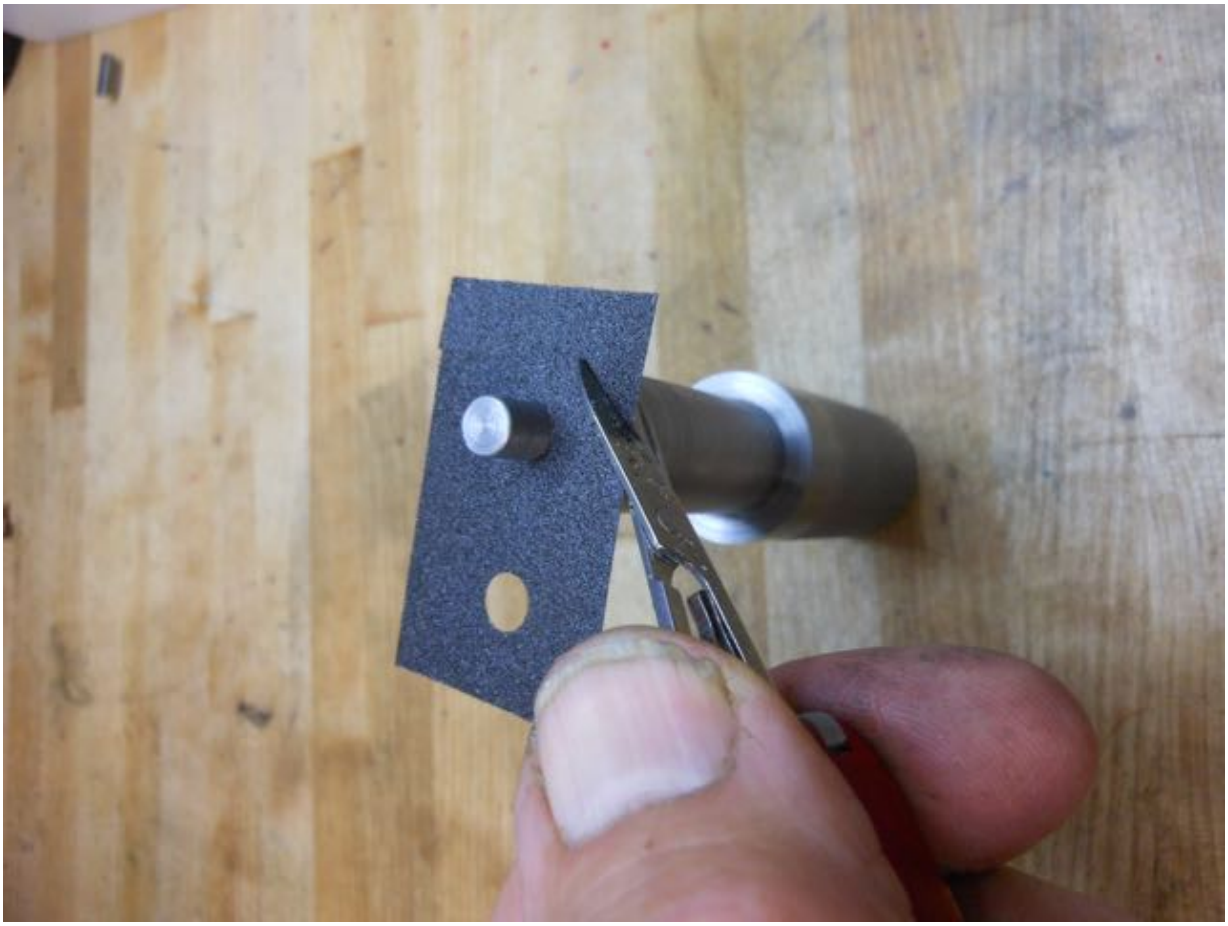
The components needed are: spray adhesive, hole punch, a special mandrel (Tech Tool, sorry), wet-dry paper and a small paint brush.

The mandrel is designed to fit into the twin bores of the oil pump lid and has a surface upon which to fit a disc of wet-dry abrasive paper. The design of the tool looks like the following.



The process:

1. Punch a 1/4" hole into a piece of 220 wet-dry paper, place it onto the mandrel and trim its outside edge to the diameter of the plunger bore. This is also the size of the center diameter of the mandrel. Note: make a couple of these.



2. Remove the disc, spray its backside with adhesive and apply adhesive to the end of the mandrel using the small brush. After a minute or two, assemble the miniature sanding disc to the mandrel.

3. With the lid mounted in a vice with soft jaws, spray the relief

valve bore with water or Windex and insert the mandrel into the bore. The damaged relief valve seat is now ready to be lapped as one would lap a poppet valve in a cylinder head.

After a few applications of new sanding discs, the surface will show itself to be "good as new." Note: use only water based lubricant in the lapping otherwise the disc will loose its grip on the mandrel.