

Instructions for the Protractor Head

- 1) The head of the protractor accessory is made from a 16" x 7" – ¾" piece of hardwood. I chose maple because I knew the v-carved numbers would read easily.
- 2) Begin machining the head by creating a v-carve file and using a 60 degree bit. Be sure your machine bed or spoil board is flat and true to the router bit for consistent results.
- 3) After v-carving cut the profile and the hole for the threaded insert. Check to make sure the hole size in the DXF file works for your threaded insert.
- 4) Using a router table or table saw cut a rabbet for the trim strip.
- 5) Make and glue in the ¼" x 1/16" trim strip using a contrasting wood specie.
- 6) Install the threaded insert into the head.
- 7) Now let's move onto the indicator. This part is made of clear acrylic. Use a plastic cutting bit if you have it otherwise a straight bit will work OK. Begin by cutting the shelf and the screw holes then the profile. I put screws through the holes to secure the part before cutting out the profile thus avoiding having to use "tabs".
- 8) The cover is an easy part to make. Place your material bottom up and cut the slot first then the profile.
- 9) The top cover has plenty of room for a logo or the name of your personal "brand" of tools.
- 10) Assembly starts with screwing the indicator onto the cover.
- 11) The threaded knob and the 1" washer fasten the indicator to the head.
- 12) The hook is hacksawed, filed, drilled and tapped with a 8-32 tap. A drop of CA glue will secure the threaded rod into the tapped hole of the hook. Insert the hook and rod through the slot in the cover and add the thumb nut.
- 13) The protractor is made so that the corner of the ruler can be set to the edge of your material for easy measuring along the angled rule.