Sample Changer 9-cog drive wheel, made from plastic, with the rod made from 1/4" brass

1" = 1"

Inner cusps are 1.19" from the center (tangent circle is 2.38")

The radius of each of the 9 cusps is 0.68", to fit the sample cups of the snake chain. (Drill with 1.36" diameter mill)

Cusp centers are located 1.19" + 0.680", or 1.87" from the center, for the first 0.5" of penetration. Move drill out 0.07" to drill remaining 0.1".

The top 0.1" of the nanocog assembly should be sloped slightly so that the sample cup snake chain holding the samples does not work its way up off of the drive assembly. It will stick out slightly from the base, as shown. (dimensions above are for the curved section).

brass drive pin (1/16"?) to lock main brass drive rod in place, and to transmit torque to the nanocog drive wheels.

This brass rod is ~ 1/4" in diameter for attaching the no-slip gear, but with one side slightly flattened to allow the set screw to grab securely. (Note: only 3 of 7 nanacogs per changer need this)

The spacer is 1.333" in diameter

This spacer should be slightly thicker than the teflon sheet on the surface of the sample tray, or ~ .07". It should rest on the inside collar of the bearing assembly.

0.1"

0.5"