

PREFORMING BY THE CENTERPOINT ANGLE METHOD

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A previous article in this series gave details for preforming true ellipse (oval) by the Micrometer Height Adjustment (MHA) method. This article deals with an alternative method for generating the same preform by what I call the Centerpoint Angle Method (CAM). Use of MHA was limited to those persons whose faceting machine incorporated an accurate micrometer height adjustment device. The "Angle" method does not require a calibrated height adjustment. All that is needed is a reasonably accurate angle indicating device and a stop. Both items which are normally found on faceting machines.

Also, no calculations are necessary when using the "Angle" method when different sized stones are cut. In fact, a given set of angles can be used for any size stone with the same proportions.

Preforming by the CAM is accomplished by cutting narrow facets to specified angles at selected index settings which (usually) will make each of the narrow facets meet at a common (center) point. After completing all cuts necessary to generate the center point, a girdle line is marked on the stone at a fixed distance from the point. This girdle line will outline the desired preform shape. The preform is completed by setting the elevation angle to 90 degrees and cutting down to the marked girdle line at each index setting. The finished preform has the outline shaped by short, straight girdle-line segments at the girdle, and has a pointed culet which is slightly deeper than the finished stone will be.

Example PREFORM for a 1:1.4 Ratio OVAL (5x7, 10x14 etc)

- (1) Dip the stone to be preformed and insert into the faceting machine's chuck. Align the stone so that the short axis (width) lines up with the 96 - 48 index settings.
- (2) Set the elevation angle to 51.5 and cut four facets at index settings 08 - 40 - 56 - 88 to produce a common intersection point. This is the point to which all other preforming angle cuts will be made. Be very careful to cut these facets evenly.
- (3) Cut the remaining facets at index settings and angles in the chart adjusting the height as required to make the facets meet at the point established in step 2. If the final girdle is to be faceted, use only the index settings which will be used for the break facets.

54.2	02 - 46 - 50 - 94
48.4	13 - 35 - 61 - 83
45.3	21 - 27 - 69 - 75
- (4) Mark a line completely around the stone, at a constant distance from the reference point established in steps 2 and 3.

(Editor Note: Step 4 can be eliminated if you can cut the preform facets directly to meet in a horizontal line at the girdle)