1. Face the ends of the aluminum glass stem tubes: \( \frac{7}{16} \) in. OD \( \times \) 0.198 in. ID \( \times \) 0.120 in. Wall, and precision turn to a length of \( 3\frac{1}{16} \) in.

2. Face the ends of the aluminum sleeve tubes: \( \frac{1}{2} \) in. OD \( \times \) 0.402 in. ID \( \times \) 0.049 in. Wall, and precision turn to a length of \( 3\frac{7}{32} \) in.
3. At the interior ends of the glass stem tubes, undercut the grip lengths: 0.320 in. OD × 0.500 in. Wide.

4. At a distance of 1.281 in. from the external ends of the stem tubes, undercut the thread clearance grooves: 0.340 in. OD × $\frac{5}{32}$ in. Wide.
5. Cut the $\frac{7}{16}$-14 external threads with a length of 1$\frac{3}{8}$ in.

6. Regarding the aluminum sleeve tubes with a manufactured ID: 0.402 in., to slide them over the machined aluminum glass stem tubes with a manufactured OD: 0.438 in., increase the sleeve tubes ID with successive passes of three drill bits: $\frac{13}{32}$, $\frac{27}{64}$, and $\frac{7}{16}$. Finish enlarging the tube bores with a 0.4390 in. reamer.

7. Turn the $\frac{1}{2}$ in. OD sleeve tubes down to OD: 0.490 in.
8(a). First sleeve tube cut-off location.

8(b). Second sleeve tube cut-off location.
9. Sleeve tubes with a length of 1.610 in. deburred at the cut-off locations with 320-grit wet/dry paper.

11. Very lightly face the exterior ends of the stem tube assemblies.

12. To fasten a glass to a stem tube assembly, (1) attach the glass holder jig to the vice jaws with four hose clamps; (2) open the vice; (3) place a stem tube assembly into two half-holes at the top of the jig; (4) close the vice to hold the stem tube assembly securely in the jig; (5) attach the glass to the stem tube assembly with various fasteners. See: Glassdance_Components_Manual-1.pdf, pp. 7–8.

Glassdance_GlassHolderJig.jpg
In the graphic below, (1) the undercut of the thread clearance groove is in green; and (2) the aluminum sleeve tube is in magenta.

Glassdance_AluminumGlassStemTubeAssembly.jpg