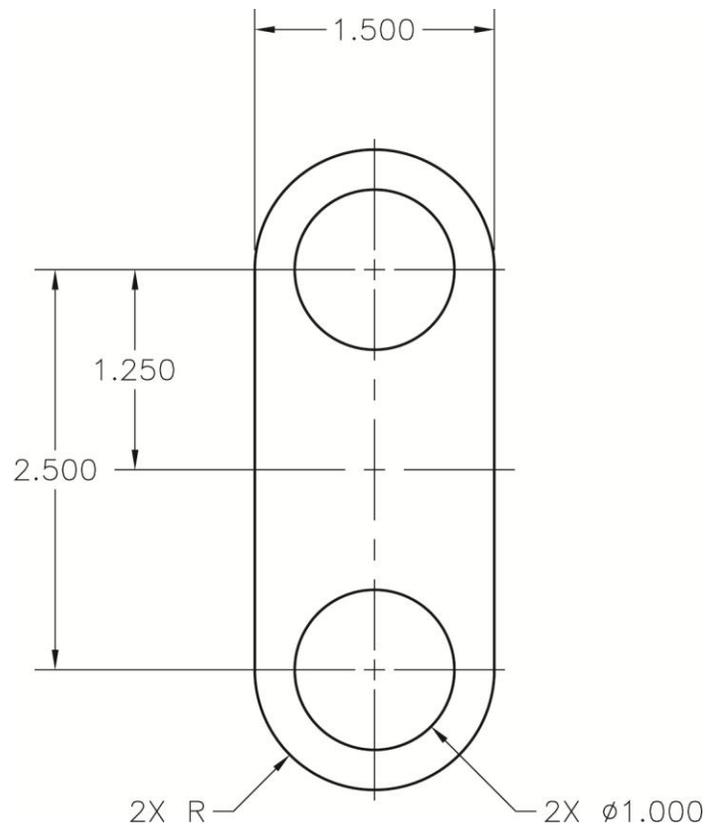


## Exercise 22-7

1. Continue from Exercise 22-6 or start AutoCAD.
2. Start a new drawing from scratch or use an inch-unit template of your choice. Save the drawing as EX22-7.
3. Set the drawing units length precision to 0.000.
4. Draw a  $\varnothing.500$ " circle and use the **COPY** command to copy the circle twice to create three circles. Provide 2" between the centers of the adjacent circles and use the **GCHORIZONTAL** or **GEOMCONSTRAINT** command to align the circles horizontally.
5. Use the **GCEQUAL** or **GEOMCONSTRAINT** command to make all the circles equal.
6. Use the **Properties** palette to change the diameter of any one of the circles to .750. All of the circles should change size.
7. Draw the front view of the part exactly as shown. Extend the centerline .125" past the object. Do not dimension.



8. Use the **GCCOINCIDENT** or **GEOMCONSTRAINT** command to add the coincident constraints shown in the original drawing in Figure 22-16.
9. Use the **GCTANGENT** or **GEOMCONSTRAINT** command to add the tangent constraints shown in the original drawing in Figure 22-16.
10. Use the **GCCONCENTRIC** or **GEOMCONSTRAINT** command to add the concentric constraints shown in the original drawing in Figure 22-16.
11. Use the **GCSYMMETRIC** or **GEOMCONSTRAINT** command to add the symmetric constraints shown in the original drawing in Figure 22-16.
12. Use the **GCFIX** or **GEOMCONSTRAINT** command to add the fix constraint shown in the original drawing in Figure 22-16.
13. Select the top concentric circle to activate grips. Pick the center grip box and stretch the circle vertically. The view should adjust symmetrically.
14. Resave and close the file.
15. Keep AutoCAD open for the next exercise, or exit AutoCAD if necessary.