

**Author's Comment**

Figure 21-8 is a partial drawing. A relationship between the outside edges of the part and the four holes needs to be established.

Using TOP to Control Spacing and Orientation of a Pattern of Holes

In certain cases, it may be desired to control only the spacing and orientation of holes in a pattern. This can be accomplished by using a TOP control with a single datum reference. Figure 21-8 shows an example. In this figure, the TOP control limits the spacing between the holes and the squareness of the holes relative to datum plane *A*, but the TOP control does not control the location of the hole pattern. Notice the gage has only one datum simulator for datum *A*. The four gage pins limit the perpendicularity and spacing of the holes.

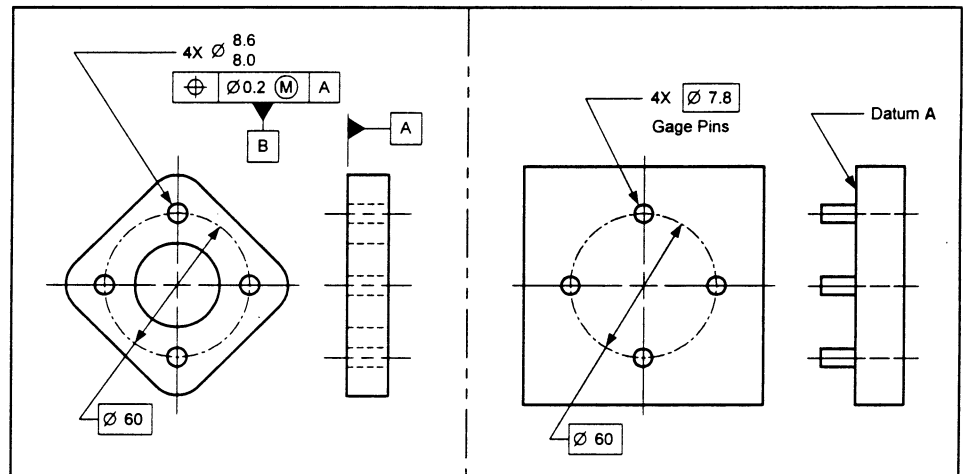


FIGURE 21-8 TOP with a Single Datum Reference Applied to a Hole Pattern

The designer typically uses a TOP control on a hole pattern with a single datum reference in two cases:

1. When the hole pattern is used as a datum feature, and only the spacing and perpendicularity need to be defined, as shown in Figure 21-8.
2. When a hole pattern is toleranced with a multiple single segment TOP control.

When a hole pattern is used as a datum feature, it does not have to be located from the outside edges of the part. The outside edges of the part can be defined from the hole pattern and toleranced with a profile control.