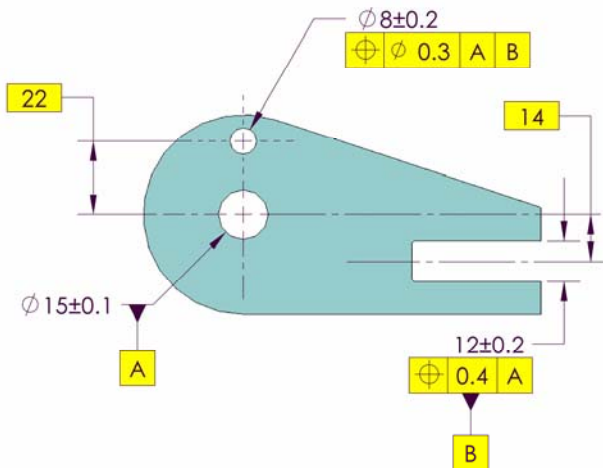


# January 2009

## Tip-of-the-Month

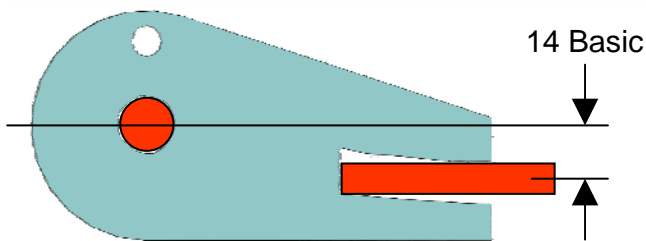
### Orienting Datum Planes

Where a primary or secondary datum axis is established, it is usually necessary to orient the mutually perpendicular datum planes that intersect at the datum axis. Although most folks understand that the datum planes need to be oriented, they often do not agree on how this should be accomplished.

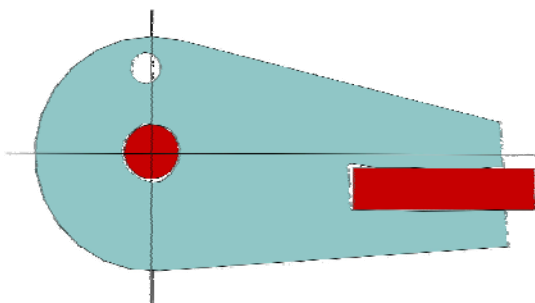


On this drawing, datum feature A is primary and applies RFS. This establishes a datum axis which is the intersection of two mutually perpendicular datum planes. In order to orient these datum planes, datum feature B is added to the position tolerance feature control frame on the  $\phi 8$  hole.

There are two approaches used to orient these datum planes using the simulator for datum feature B.



One way is to locate the center plane of parallel planes at the 14 basic location. These parallel planes expand to fill the slot.



The second way is to first fill the slot with parallel planes and then rotate the center plane of these planes to orient the datum planes.

This second method is popular with many CMM operators. Unfortunately it is incorrect. The datum simulator for datum feature B must be perfect in form, orientation and location. So, the first method is correct.

Go to <http://www.tec-ease.com/tips/Jan-09.htm> to view a video clip of Don Day explaining this Tip. Please email us any suggestions or topics that you would like to see covered in our Tip-of-the-Month series. [www.tec-ease.com](http://www.tec-ease.com)