

June 2011

Tip-of-the-Month

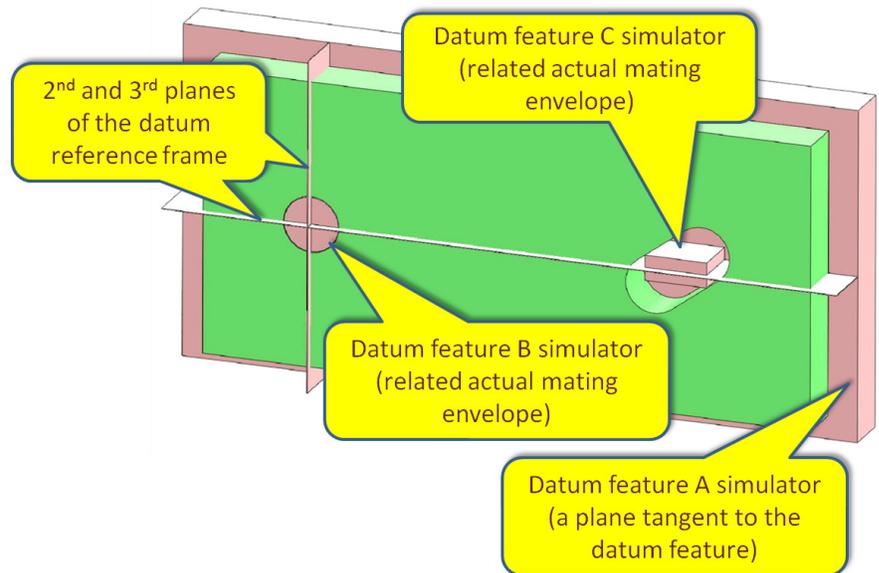
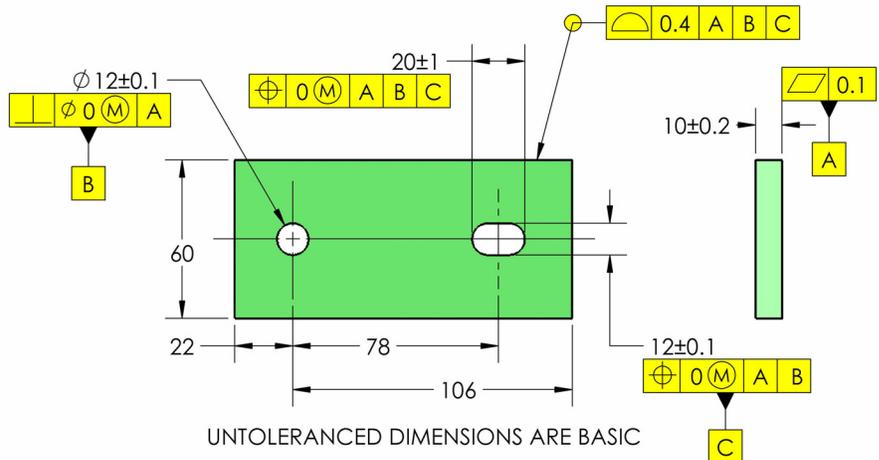
Hole and Slot as Datum Features – Part II

This Tip is in accordance with the ASME Y14.5-2009 standard.

Part I of this Tip illustrated how to determine if the slot width position tolerance is in spec. This part of the Tip will address how the part is to be aligned to inspect the other features on the part. As pointed out previously, physically how you set up the part depends on the inspection equipment you have available.

On this drawing datum features B and C apply regardless of material boundary. The datum feature simulators are the feature's related actual mating envelopes. For datum feature B this might be the largest pin, held perpendicular to the datum feature A simulator that can fit inside datum feature B. The simulator for datum feature C is a rectangular block of maximum width that will fit while staying perpendicular to the simulator for datum feature A and centered on a plane that passes through the axis of the simulator for datum feature B.

In the isometric figure I have exaggerated the error in the slot in order to illustrate the datum feature simulation. It is sometimes easier to visualize what is going on if you remember that the planes of the datum reference frame are in the processing or inspection equipment and the datum feature simulators contacting the datum features on the part are used to align the part to the datum planes.



<http://www.tec-ease.com/tips/Jun-11.htm> to view a video clip of Don Day explaining this Tip.

The video on our Premium Site will provide animations that will explain this Tip in more detail.

Please email us any suggestions or topics that you would like to see covered in our
Tip-of-the-Month series.

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