

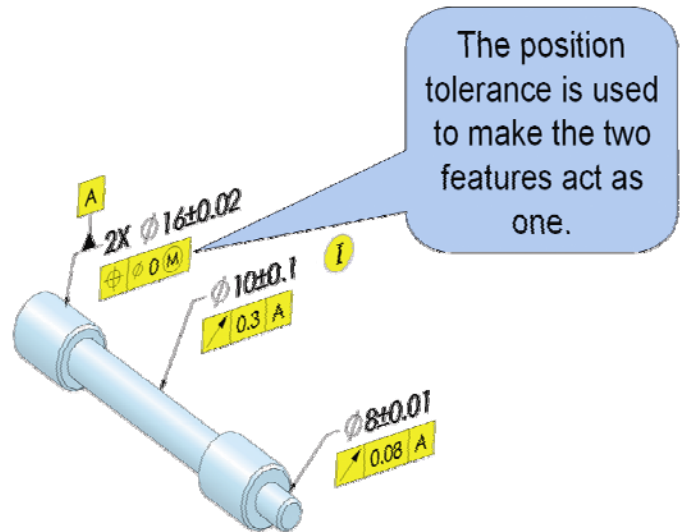
April 2009 Tip-of-the-Month

(in accordance with the ASME Y14.5-2009 standard)

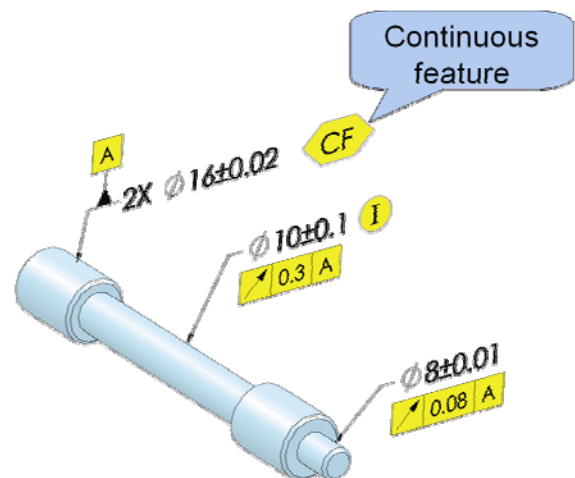
Tie Those Interrupted Features of Size Together

In previous Standards, it wasn't clear how to tie together interrupted features of size if they were to become the primary datum feature. The 2009 Standard now gives us two ways to accomplish this. We can use a position tolerance without a datum reference or the new continuous feature symbol.

On this part the 2X $\varnothing 16$ features need to act as a single feature in the assembly. They are also used as the primary datum feature because they will constrain the most degrees of freedom of this part, once assembled (a topic for another Tip). On the first drawing a position tolerance of zero at MMC has been applied to the pattern of two features. This creates a perfect form boundary of $\varnothing 16.02$ that the features may not violate. In the previous Y14.5 standards it was stated that the position tolerance must always have a datum reference. In spite of this, in the lower segment of a composite position tolerance a datum reference was not required. In other words, the concept of using a position tolerance without a datum reference was supported but discouraged. The 2009 revision illustrates and supports this concept.



The 2009 revision has also added another way to accomplish the same thing. The note CONTINUOUS FEATURE or the continuous feature symbol is used to identify a group of two or more features of size where there is a requirement that they be treated geometrically as a single feature of size. On the next drawing the continuous feature has been applied to the 2X $\varnothing 16$ features. This drawing has the same meaning as the previous drawing. In both cases the two features must not violate an envelope of $\varnothing 16.02$ and the local size of the features must be within the limits of size at each cross section. On the first drawing the envelope of $\varnothing 16.02$ is required because of the position tolerance of $\varnothing 0$ at MMC. On the second drawing the envelope is required because of Rule #1.



This month's Tip to you is to be sure you tie your interrupted features of size together. If they are features of size which will serve as the primary datum feature—use one of these methods.

Go to <http://www.tec-ease.com/tips/Apr-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.

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