For Useful MBD, You Need Proper GD&T

Presented by: Scott Neumann

NOTES:
1. UNLESS OTHERWISE SPECIFIED:
   ALL DIMENSIONS BASIC
   ALL SURFACES:
   .030 A - B C
Mixer Assembly – Design Requirements

Ø.040 max coaxiality error between the axes of the coupling and shaft.

Distance between shaft ends must be .250 min to .350 max. (±.050)

Gap between bearing and end plate must be .000 - .005

.006 to .012 seal squeeze (±.003)
Apply geometric tolerancing in three steps:

1. Select datum features. Establish the Leaders
   Establish the Datum Reference Frame (DRF) in an order of precedence.
   Primary, Secondary, Tertiary.

2. Control datum features. Qualify the Leaders
   Apply tolerances to the datum features.

3. Locate other features. Locate the Followers
   Apply location tolerances to the remaining features to relate them to the DRF.

Position features of size

Profile surfaces

*Refine location tolerances with form and orientation if necessary
Mixer Housing

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Summary – Application of Geometric Tolerancing

- Identify important **design requirements** in the assembly to help drive the individual part tolerances.

- Identify **datum features** not datums

  Datums are not labeled on the drawing

  Label the physical features that constrain the 6 degrees of freedom

- Tolerance **features** not dimensions

  Only use plus/minus tolerances to control size of features

  Basic dimensions or the CAD data show the true geometry. Position and profile tolerances control the location of features.
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