AGENDA

Model Based Definition (MBD)

GD&T Advisor

Questions?
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MBD TOPICS

- DATUM FEATURE SYMBOL
- DATUM TARGET
- GEOMETRIC TOLERANCE
- DIMENSION
- GENERAL ENHANCEMENTS
- COMBINATION STATE ENHANCEMENTS
- COMBINATION STATE PRINTING
• Creation and editing
  – Immediate preview & placement options
  – Contextual ribbon for editing properties

• Automatic naming
  – Uses the next available name (A, B, C…)
  – Check for proper name syntax

• Semantic references
  – Maintain reference to geometry
  – No separate plane or axis needed

• Additional text
  – Additional text placed adjacent to the symbol
• Creation and editing
  – Immediate preview
  – Contextual ribbon for editing properties

• Semantic reference to datum feature symbol
  – Select datum feature symbol or type in text

• Built-in standard target areas
  – Point, Circular, Rectangular, None
  – Target area size related to dimension

• Standards support
  – Outside dimension placement
  – Movable datum target symbol
  – Leader line enhancements
• Creation and editing
  – Immediate preview
  – Contextual ribbon for editing properties

• Text inputs for tolerance value and datum compartments
  – Flexible typing of values and modifiers
  – Updated text symbol palette
  – Syntax checking

• Standards support
  – ASME and ISO compliant
  – Fully semantic references

• Integrated Datum Reference Frame (DRF)
  – Automatically created for GTOLs
  – Place a coordinate system to represent the DRF
• Creation and editing
  – Immediate preview
  – Contextual ribbon for editing properties

• Improved control of dimension orientation
  – Dimensions between arcs/circles/cylinders
  – Dimension placed on single linear entity

• Improved dimension text
  – ASME and ISO text symbols
  – Exclude prefix/suffix from basic dimension box

• Semantic references
  – References collector
    • Including DRIVING dimensions
  – Dimension origin support
GENERAL ENHANCEMENTS

• Standalone annotation behaviors
  – Similar to annotation feature
  – Notification center

• Improved appearance of coordinate systems
  – Arrowheads on coordinate system axes
  – Zoom-dependent option

• Dynamic movement of annotations
  – Individual selection and consistent dragging behavior

• ASME and ISO standard text and symbol fonts

• Option to avoid clipping annotations by cross-section
  – Detail option: show_clipped_annotations
• Appearance states
  – Saved appearance in a combination state

• Visibility management
  – Visibility of annotations and supplemental geometry
    using either layers or combination state

• Publishing options
  – Combination states to be published to Creo View
  – Default combination state in Creo View
• Print each combination state is on its own page

• Choose which combination states to print
  – All, Current, Range

• Define a drawing format to be applied to the print
  – Set a default format by configuration option
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FAST, EASY, ACCURATE GD&T CREATION

• CREATION
  – Feature-centric workflow guides the user
  – Fast creation of annotations

• VALIDATION
  – Complies with ASME and ISO standards
  – Fully constrains the model geometry

• EDUCATION
  – Extensive help content
  – Advisor messages provide feedback on status of the GD&T applied to the model
FUNCTIONAL FEATURE-CENTRIC GD&T

- Tolerance (Functional) Feature:
  - Not a Creo modeling feature
  - Geometric element classified by function

- Workflow:
  - Define the tolerance feature
  - Determine tolerance scheme
  - Determine tolerance values
  - GD&T Advisor creates annotations

- Guidance Provided:
  - Filtered UI
    - Recommended options
    - Not-permissible options
  - Advisor Tree
    - Errors and warnings
  - Color-coding
    - Visual feedback on completeness of tolerance definition
CREO 4.0 ENHANCEMENTS

• Updated licensing and packaging
  – New license extension sold by PTC
  – Developed by Sigmetrix
  – No installation required

• Updated standards rulesets
  – ASME Y14.5-2009 and associated standards
  – ISO 1101-2012 and associated standards

• Improved Creo integration
  – Accessible from Applications tab
  – Top-level ribbon based UI
  – Fully semantic GD&T definition

• Streamlined model tree
  – No longer creating “GDT_ADVISOR” group and associated Annotation Features
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