### FACTS TO REMEMBER

1. **Datum Target**
   - Symbol: Used to define a datum target.
   - Datum target is a feature or area that is used to establish orientation, location, or size.

2. **Datum Feature**
   - Symbol: Used to define a datum feature.
   - Datum feature is a feature or area that is related to a datum target.

3. **Datum Planes**
   - Symbol: Used to define datum planes.
   - Datum planes are two mutually perpendicular planes.

4. **Datum Axis**
   - Symbol: Used to define datum axis.
   - Datum axis is a straight line.

### TOLERANCE ZONES

- **MMC** (Maximum Material Condition):
  - Material within MMC contains the least amount of size.
  - Example: Minimum hole size.

- **LMC** (Least Material Condition):
  - Material within LMC contains the maximum amount of size.
  - Example: Maximum shaft size.

### GEOMETRIC TOLERANCES

- **Flatness**:
  - Tolerance zone is cylindrical.
  - Applied if parts are rigid parts like castings and machining and inspection commonly applied to the pattern of features as a group.

- **Straightness**:
  - Tolerance zone is parallel.
  - Applied if parts are rigid parts like castings and machining and inspection.

- **Parallelism**:
  - Tolerance zone is parallel planes.
  - Applied if parts must not be restricted movement.

- **Precision**:
  - Tolerance zone is concentric.
  - Applied if parts are parts used for support for assembly based on the results from statistical calculation.

### SYMBOLS, RULES, AND GUIDELINES

- **Single-value**:
  - Symbol for a single value or a single plane.

- **Multiple-value**:
  - Symbol for multiple values or multiple planes.

- **datum plane**:
  - Symbol for a datum plane.

- **datum axis**:
  - Symbol for a datum axis.

- **datum feature**:
  - Symbol for a datum feature.

- **datum target**:
  - Symbol for a datum target.

### DATUM DESIGNATION

- **Primary Datum**:
  - Symbol: Designated by a letter and a number.
  - Example: A1

- **Secondary Datum**:
  - Symbol: Designated by a letter and a number.
  - Example: A1

- **Functional Datum**:
  - Symbol: Designated by a letter and a number.
  - Example: A1

### TOLERANCE ZONE APPLICATIONS

- **Datum Target**:
  - Symbol: Located at the bottom of this chart.

- **Datum Feature**:
  - Symbol: Located at the bottom of this chart.

- **Datum Plane**:
  - Symbol: Located at the bottom of this chart.

- **Datum Axis**:
  - Symbol: Located at the bottom of this chart.

### TOLERANCE ZONE MODIFIERS

- **GO** (General Obligation)
  - Applies to a feature of size.

- **RFS** (Rule for Size)
  - Applies to a feature of size.

- **MMC** (Maximum Material Condition)
  - Applies to a feature of size.

- **LMC** (Least Material Condition)
  - Applies to a feature of size.

### TOLERANCE ZONE LIMITS

- **Limits of Size**:
  - Applied if parts are parts used for support for assembly based on the results from statistical calculation.

- **Pitch Diameter**:
  - Applied if parts are parts used for support for assembly based on the results from statistical calculation.

### TOLERANCE ZONE RULES

- **Limit of Size Rule**:
  - Where only a specific point, line, or area of size.

- **Pitch Diameter Rule**:
  - Tolerances derived from the axis.

### TOLERANCE ZONE SYMBOLS

- **A**
  - Symbol for a single value or a single plane.

- **ABC**
  - Symbol for multiple values or multiple planes.

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