Size

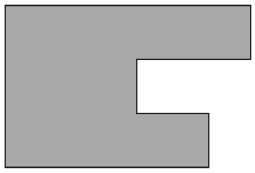
What is Size?

Some description (probably parametric) about how "big" and object or feature is.

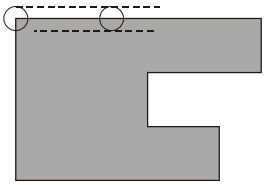
Two methods of describing size variation:

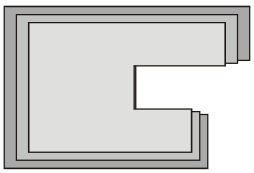
1) Scaling.
2) Offsetting.

What is Size?

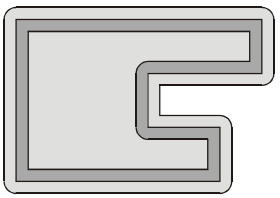


Nominal Part



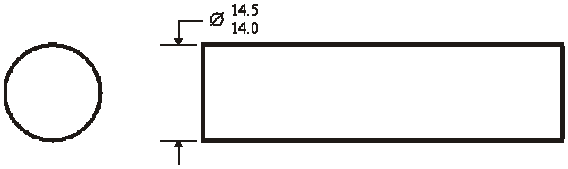


Scaled Parts

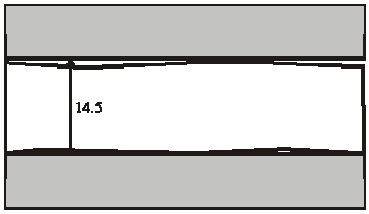


Offset Parts

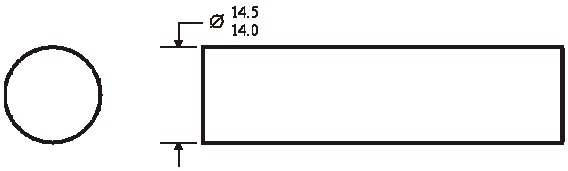
Size Specification



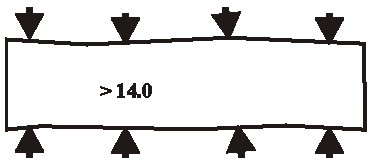
Test for Max. Size



Size Specification



Test for Minimum Size



Y14.5.1 on size.

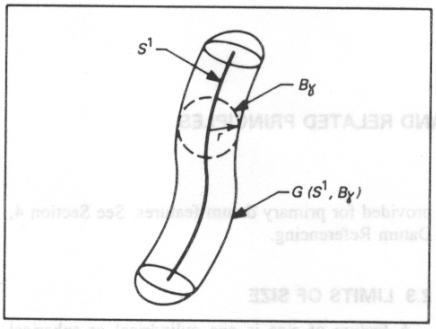
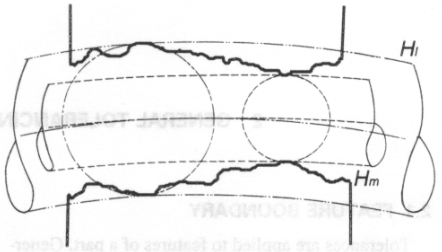


FIG. 2-1 SYMBOLS USED IN THE DEFINITION OF SIZE



When perfect form at MMC not required

FIG. 2-2 CONFORMANCE TO LIMITS OF SIZE

Maximum Material Condition (MMC)

The condition in which a feature of size contains the maximum amount of material within the stated limits of size - for example, minimum hole diameter, maximum shaft diameter.

Usage: fits, clearances

Least Material Condition (LMC)

The condition in which a feature of size contains the least amount of material within the stated limits of size - for example, maximum hole diameter, minimum shaft diameter.

Usage: wall thicknesses, contact areas.

Taylor Principle (Rule #1)

Unless otherwise specified, the limits of size of a feature prescribe the extent within which variations of geometric form, as well as size, are allowed. This control only applies to individual features of size.

Where only a tolerance of size is specified, the limits of size of an individual feature prescribe the extent to which variations in its geometric form, as well as its size, are allowed.

"Bonus Tolerance"

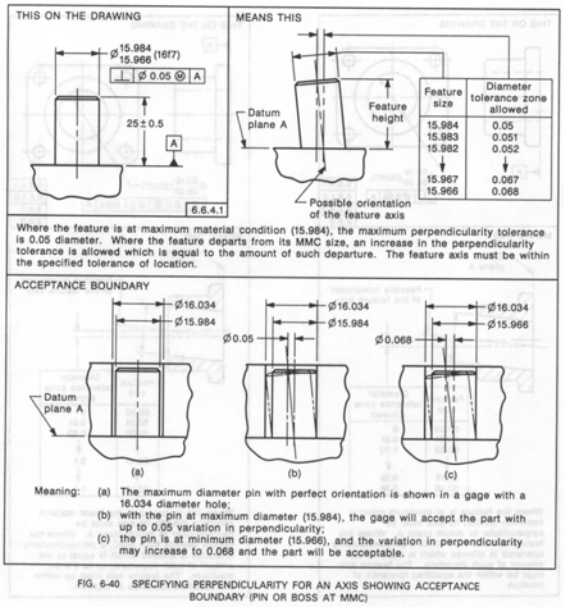


FIG. 6-40 SPECIFYING PERPENDICULARITY FOR AN AXIS SHOWING ACCEPTANCE BOUNDARY (PIN OR BOSS AT MMC)