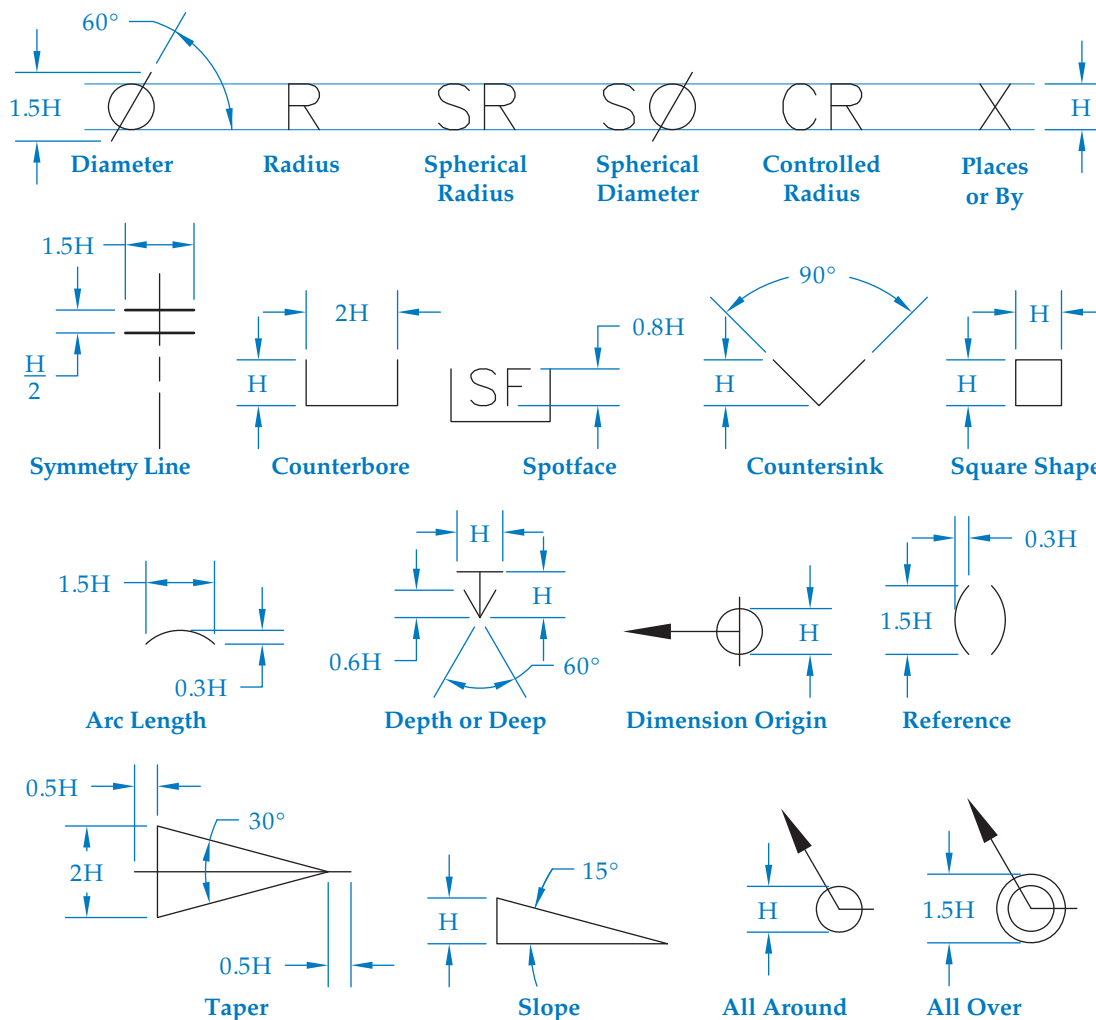


Drafting Symbols

Symbols provide a “common language” for drafters all over the world. However, symbols are meaningful only if they are drawn according to relevant standards or conventions. This document describes and illustrates common dimensioning, GD&T, architectural, piping, and electronic symbols.

Recommended ASME Dimensioning Symbols

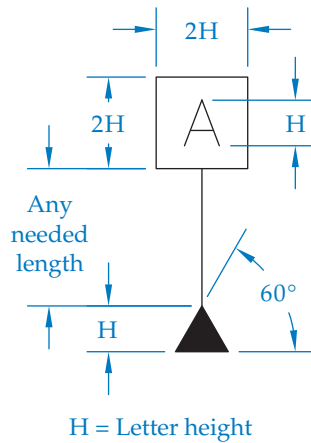
The size of dimensioning symbols is consistent with text height. In the following illustration, H = text height.



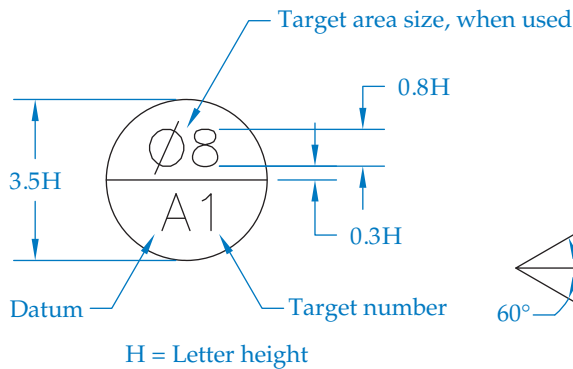
H = Letter height

Geometric Dimensioning and Tolerancing Symbols

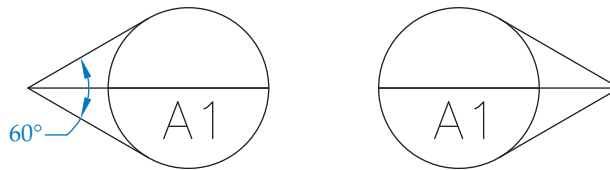
You can create a library of GD&T symbols, use AutoCAD GD&T tools, or use an AutoCAD GD&T font to insert symbols as text. The following tables show examples of GD&T symbols. For complete coverage of GD&T, refer to *Geometric Dimensioning and Tolerancing* by David A. Madsen and David P. Madsen, published by Goodheart-Willcox.



Datum Feature Symbols

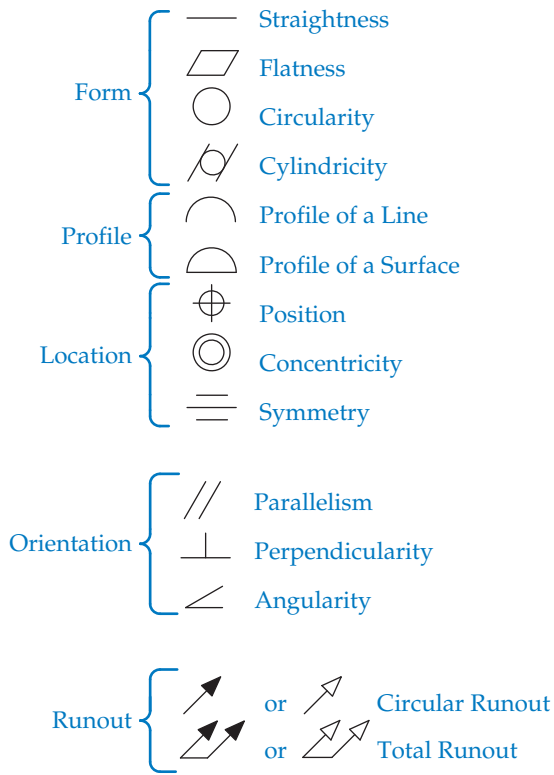


Datum Target Symbol

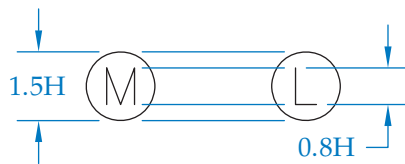


Movable Datum Target Symbol

Datum Target Symbols

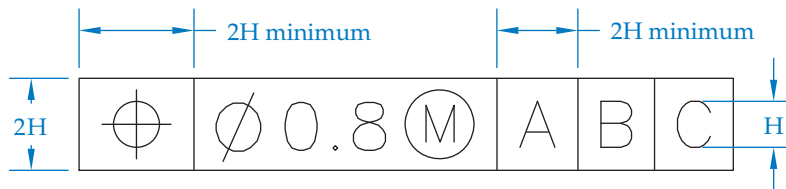


Geometric Characteristic Symbols



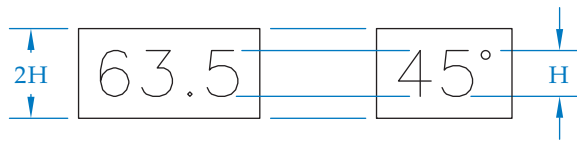
H = Letter height

Material Condition and Material Boundary Symbols



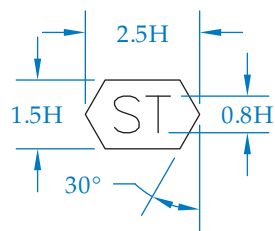
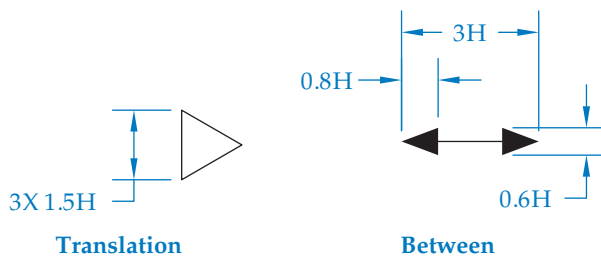
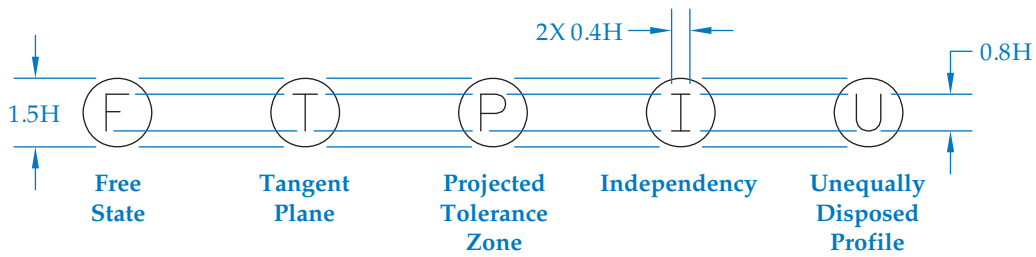
H = Letter height

Feature Control Frame Symbol

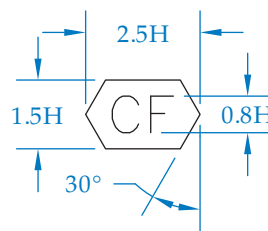


H = Letter height

Basic Dimension Symbol



Statistical Tolerance





























Continuous Feature

H = Letter height






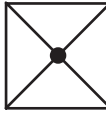


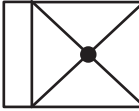
































Additional GD&T Symbols

To draw GD&T symbols as text, create a style using the gdt.shx font. Then use the lowercase alphabet to type the symbols. The following table shows the symbol produced by each lowercase letter.

| Lowercase Letter | Symbol Produced |
|------------------|---|
| a |  |
| b |  |
| c |  |
| d |  |
| e |  |
| f |  |
| g |  |
| h |  |
| i |  |
| j |  |
| k |  |
| l |  |
| m |  |
| n |  |
| o |  |
| p |  |
| q |  |
| r |  |
| s |  |
| t |  |
| u |  |
| v |  |
| w |  |
| x |  |
| y |  |
| z |  |


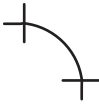











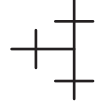








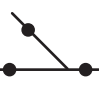


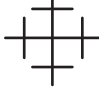






















Architectural Symbols

The following table shows basic examples of architectural drafting symbols.

| Common Architectural Symbols | | |
|---|---|---|
|  |  |  |
| Exterior Door | Toilet | Water Heater |
|  |  |  |
| Interior Door | Wall Hung Toilet | Shower |
|  |  |  |
| Pocket Door | Urinal | Shower w/ Seat |
|  |  |  |
| Bifold Door | Oval Vanity Sink | Tub |
|  |  |  |
| Bypass Door | Rectangular Vanity Sink | Washer/Dryer |
|  |  |  |
| Window | Single Kitchen Sink | Range |
|  |  |  |
| Lighting Outlet | Double Kitchen Sink | Refrigerator |
|  |  |  |
| Recessed Lighting Outlet | 220V Outlet | Fan |
|  |  |  |
| Wall Lighting Outlet | Weatherproof Outlet | Conduit |
|  |  | |
| Fluorescent Light Fixture | Thermostat | |
|  |  | |
| Single Receptacle Outlet | Doorbell | |
|  |  | |
| Duplex Convenience Outlet | Fan Hanger Receptacle | |
|  |  | |
| Triplex Receptacle Outlet | Clock Hanger Receptacle | |
|  |  | |
| Special Outlet | TV Outlet | |
|  | | |
| Floor Single Receptacle Outlet | | |
|  | | |
| Floor Duplex Receptacle Outlet | | |
|  | | |
| Single Pole Switch | | |
|  | | |
| 3-Way Switch | | |

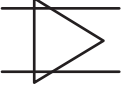

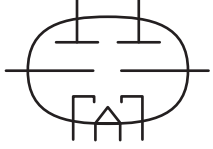







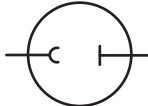






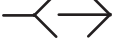



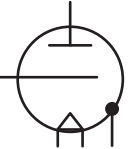

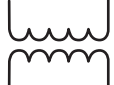

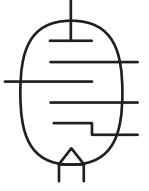

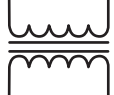





Piping Symbols

The following table shows basic examples of piping drafting symbols.

| Single-Line Piping Symbols | | | | | | |
|----------------------------|---|---|---|---|---|---|
| | Screwed | | | Buttwelded | | |
| Name | Left Side | Front | Right Side | Left Side | Front | Right Side |
| 90° Elbow |  |  |  |  |  |  |
| 45° Elbow |  |  |  |  |  |  |
| Tee |  |  |  |  |  |  |
| 45° Lateral |  |  |  |  |  |  |
| Cross |  |  |  |  |  |  |
| Cap | | | | |  | |
| Concentric Reducer |  |  |  |  |  |  |
| Eccentric Reducer |  |  |  |  |  |  |
| Union | |  | | | | |
| Coupling | |  | |  |  |  |

Electronic Symbols

The following table shows basic examples of electronic drafting symbols.

| Common Symbols for Electrical Diagrams | | | |
|---|--|---|---|
|  |  |  |  |
| Amplifier | Capacitor, Polarized | Twin Triode Using Elongated Envelope | Microphone |
|  |  |  |  |
| Antenna, General | Circuit Breaker | Voltage Regulator, also, Glow Lamp | Receiver, Earphone |
|  |  |  |  |
| Antenna, Dipole | Ground | Phototube | Resistor, General |
|  |  |  |  |
| Antenna, Loop | Chassis Ground | Inductor, Winding, Reactor, General | Resistor, Adjustable |
|  |  |  |  |
| Antenna, Counterpoise | Engaged Connectors | Magnetic Core Inductor | Resistor, Variable |
|  |  |  |  |
| Battery, Long Line Positive | Triode with Directly Heated Cathode and Envelope Connection to Base Terminal | Adjustable Inductor | Transformer, General |
|  |  |  |  |
| Multicell Battery | Pentode Using Elongated Envelope | Ballast Lamp | Transformer, Magnetic Core |
|  |  |  |  |
| Capacitor, General | Incandescent Lamp | Shielded Transformer, Magnetic Core | Auto-Transformer, Adjustable |
|  | | | |