

Drawing Standard Practices

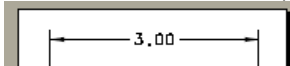
Revision A Dennis Jacobson

Legacy or copied documentation may maintain original standards and format

Dimensioning:

Dimension Text Placement

Dimension lines should be broken for insertion of numerals. (Source: Y14.5M-1994)
All text to be horizontal (Except ordinate dimensions, right reading)



Dimension to Visible Outlines

Dimensions should be arranged to provide required information for optimum readability and be shown in true profile views and refer to visible outlines. (Source: Y14.5M-1994) Dimensioning to hidden features is acceptable provided drawing is clear and cannot be misinterpreted in any way.

Use of Zero

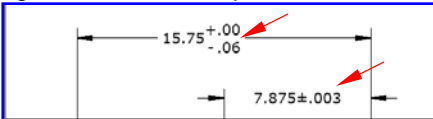
English: A zero is not used before the decimal point for values less than 1 inch.
Metric: A zero is used before the decimal point when writing numbers less than one.
(Source: Y14.5M-1994).

Crossing Dimensions, Leader Lines and Extension Lines

Dimension lines should not be crossed when avoidable. Crossing of leaders and dimension lines should be minimized. Crossing of extension lines should be minimized. Breaks in extension lines are acceptable when passing through arrowheads. (Source: Y14.5M-1994)

Dimension/Tolerance Places

A dimension is expressed to the same number of decimal places as its tolerance. Zeros are added to the right of the decimal point where necessary. (Source: Y14.5M-1994)

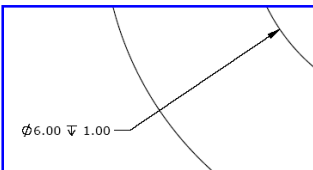


Reference Dimensions

Reference dimensions are to be in parenthesis or noted on drawing "All dimensions are for reference only." Secondary/Dual dimensions are to be enclosed within brackets [].

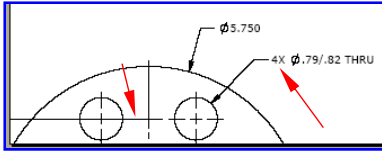
Leader Termination

A leader should be an inclined straight line except for a short horizontal portion extending to the mid-height of the first or last letter or digit of the note or dimension. (Source: Y14.5M-1994).
Does not include balloon leaders.



Places/Qty

Number of places to be designated as follows (i.e. 2X or center line between holes)



Text Height

To be .150 per standard drawing template and is consistent. The vertical space between lines of lettering shall be no more than the height of the lettering or less than half the height of the lettering (Genium, ch5, section 5.5).

Use of Symbols

All current standard symbols to be applied (i.e. Diameter, Counterbore, Countersink, Depth, Square, Arc Length, Slope, Taper, Radius, Spherical Radius and Spherical Diameter.) (Source: Y14.5M-1994)

Threads

Examples:

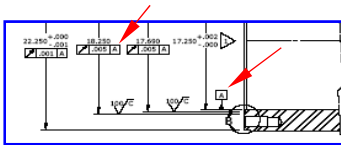
Internal: Metric, M5 X 0.8-6H; English, 1/2-13 UNC-2B

External: Metric, M5 X 0.8-6g; English, 1/2-13 UNC-2A

(Source: Machinery Handbook 24th edition, p.1574)

GDT

All features must be horizontal.



Title block

Title/SAP Match

SAP will match drawing title block.

Standard Titles

(Source: [QMS# 0219](#) Drawing Title work Instruction; Y14.100-2000)

Material Description/Material Size

Follow [QMS# 0219](#) Drawing Title work Instruction

Accepted entries; Material specification, NONE, -----, SEE BOM,



Scale

Follow [QMS# 0219](#) Drawing Title work Instruction

Default =

SCALE NONE

Other options/example =

SCALE _____

SCALE 1:4

Finish

Proper finish specified and applied and documented properly (Not machined surfaces).

Accepted entries; Finish specification, NONE, -----, SEE TAB,



Product Code/Next Level

Job numbers are not accepted

Default =

PRODUCT CODE

Other options/example =

PRODUCT CODE
NONE

PRODUCT CODE
370.10

Part Number

Formatted properly; nine digits XXX-XXX-XXX; eight digits XXXXXX-XX

Signatures

Drawn and Engineer blocks initialed (ex. DLJ) and dated (ex. MM-DD-YY)

Drawing Clarity:

Proper Line Weight

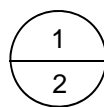
As per template format (SolidWorks and Microstation) Menu selection (IDEAS)

Balloons

Use single balloon for quantity 1

Use split balloon for quantities more than 1

Single quantity



Centerlines

Centerlines are complete and accurate as needed. Do not compromise drawing clarity

Clear & Organized

Are the proper views selected (Front, RH side, Rear, Isometric, etc.), placed and scaled for optimum clarity.

Auxiliary, Detail or Section View Label

Auxiliary, detail or section is to be labeled correctly. Do not use bold, vary the font or underline text. All text height to be .250

VIEW A-A

SEE SHEET: 2 (add line only if on a separate sheet)

ROTATED: CCW 90° (add line only if rotated)

SCALE: 2:1 (add line only if different than source)

Auxiliary/Section/Detail View

View, section or detail is appropriate to drawing and drawn correctly.

Does not include standard views

Notes:

Weight Label

Include in notes section of document as "APPROX. WT." (Source: MIL-STD-12D).

Parts or assemblies which weigh 30 lbs or more are to be noted on the drawing.

Drawings which include both English and metric dimensions will designate both lbs and kg

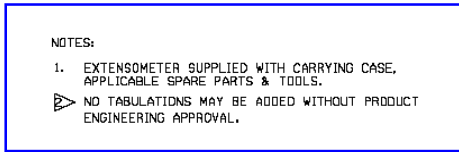
Notes are Relevant to the Document

All notes should be on sheet 1, unless unavoidable

Notes are headed with the word "NOTES:" Notes shall be numbered consecutively starting with number "1". Generally notes are placed in the lower left corner of the drawing.
If there are no notes on sheet 1 or continue on other sheets, it should be noted which sheet(s) contains the notes.

Upper case letters shall be used for all lettering on drawings unless lower case letters are required.
(Source: ASME Y14.2)

Item number callouts within notes to be "Item 1, Item 2, etc" .
Part numbers are not to be included within notes.



Torque Specs

Listed in the notes section (Screw size optional)

1 LUBE & TORQUE (1-8 UNC) TO 680 LB-FT [920 N-m].

2 LUBE & TORQUE (M4 X 0.7) TO 2.4 LB-FT [3.2 N-m].

Flags

Flag note symbol to be placed in the field of the drawing to direct the user to a flag note symbol in the general notes

Masking

Areas for masking are clearly identified (see masking best practices)

Rev Block

ECN Number/Rev

Filled in properly, Revision letters to be omitted are "I", "O", "Q", "S", "X", and "Z" (Source: Drafting Zone Web Site On-line Drafting Manual, Revisions & Retracing, Section 10.1 page 11)

Description

The revision block must provide a suitable description of each change.

ECN Revision Symbol

A revision symbol "hexagon" to include revision letter and should be placed within the drawing near the location of the revision.

Signatures/Date

Are completed (ex. DLJ) and dated (ex. MM-DD-YY)

Tab Block

Signatures/Date

Are completed (ex. DLJ) and dated (ex. MM-DD-YY)