

Mountlake Terrace High School

Drafting Technology

Unit 7 (CAD):

Title: Dimensioning

Preliminary:

This unit is the CAD version of Unit 7 and can only be attempted if the student has completed AutoCAD Units 1-3.

Unit Objectives:

The student will be able to:

1. Dimension a drawing using current M.T.H.S. dimensioning standards.
2. Label and letter information on drawings to current M.T.H.S. standards.

Textbook: *Basic Technical Drawing* by Spencer

Chapter 9: Dimensioning

Reading Assignment: pp. 122-143: Study every picture and read each caption. Additionally read any sections necessary for clarification of any concept not fully understood through the pictures.

Our dimensioning rules are listed on reverse side of this page and/or on the Pre-grading check sheet which was distributed earlier.

Plate 1:

CAD Book p. 6 --> V-Block: Save your Unit 1 - Plate 1 as Unit 7 - Plate 1 and add all dimensions and notes per drawing.

Plate 2:

CAD Book p. 13 -> Bit Gauge: Save your Unit 1 - Plate 3 as Unit 7 - Plate 2 and add all dimensions and notes per drawing.

Plate 3:

CAD Book p. 23 -> Gasket: Save your Unit 2 - Plate 1 as Unit 7 - Plate 3 and add all dimensions and notes per drawing.

Plate 4:

Green Bk p. 108 > Fig. 235. Starting Catch: Save your Unit 6 - Plate 4 as Unit 7 - Plate 4 and add all dimensions and notes per drawing.

M.T.H.S. Dimensioning Standards

Dimensioning of the Object:

General:

All dimensions included
All dimensions placed in clearest non-hidden line views
All dimensions placed outside the object
Fractional dimensions stacked - especially on **AutoCAD**
Decimal dimensions to 3 places - especially on **AutoCAD**
Vertical dimensions readable from right side of drawing
(aligned method)
All construction lines very light (6H)

Extension lines:

Extension lines don't touch the object (1/16" away)
AutoCAD extension line offset: .0625"
Extension lines extend 1/8" beyond last dimension line
AutoCAD extension line extension: .125"
Extension lines light to medium and CRISP (4H)

Dimension lines:

First dimension line 1/2" from the object
Dimension lines in increments of 1/2" outward from the
object
Longest dimension lines farthest from object
Dimension lines in line when appropriate
Dimension lines light to medium and CRISP (4H)

Centerlines:

Circles should be dimensioned in the "round" view
All centerlines for circles in all views (4H)
Circle diameter dimensions point toward center of circle
Circle or arc radius dimensions point outward

Numbers and letters:

Dimension numbers lettered within 1/8" guidelines
AutoCAD text size: .125"
Dimensions mechanically drawn

Arrowheads:

All arrowheads included
Arrowheads 3/16" x 1/16" (3:1 ratio) (2H)
AutoCAD arrowhead size: .1875"

Labelling of the Object:

1/8" lettering guidelines used
AutoCAD text size: .125"
All lettering in caps
All different parts labeled