### **AutoCAD** Standard Dimensions using AutoCAD

**AutoCAD: Standard Dimensions** 

9/6/2013 - jcs

### File Management

#### **Open the given file:**

• S:\TSM 216\Class Files\P9\_1model.dwg

#### Save the file:

• Save in your folder (P9\_1.dwg)

# **AUTOCAD SETTING**

#### Review Settings Adjust as needed

**AutoCAD: Standard Dimensions** 

### **AutoCAD Settings**

#### **Check the following settings – modify as needed:**

- 1. Layers
- 2. Centerlines
- 3. Dimension Style
  - Precision
  - Dimension Scale
  - Centers

# **1. Layer Properties**

- Review the layer setting modify as needed
- Note extra layers

444	6	# 5 5 5 5 5 5 7
	La M	yer Properties anages layers and layer properties
		LAYER
	Pr	ess F1 for more help

X	Current layer: Titleblock											1	Searc	h for layer	0,
	Filters	~	S.,	Name 🔺	0	Fre	L	Color	Linetype	Linewei	Plot S	P	N.,	Description	
	E- Ø All			0	8	Ŏ	ď	w	Continu	— Defa	Color_7	₿	F <mark>o</mark>		
	É∳ All Used Layers			Centerlines	8	Ŏ	ď	<b>bl</b>	CENTER	— Defa	Color_5	e)	F <mark>o</mark>		
				Defpoints	8	Ŏ	Ē	w	Continu	— Defa	Color_7		F <mark>o</mark>		
ger				Dimensions	8	Ŏ	ď	bl	Continu	— Defa	Color_5	÷	r <mark>o</mark>		
ana				Hidden Ed	8	Ŏ.	ď	<b>g</b> r	HIDDEN	<b>— 0.35</b>	Color_3	₿	F <mark>o</mark>		
Ž		- 1		Section	8	Ŏ.	ď	m	Continu	— Defa	Color_6	÷	F <mark>o</mark>		
ties			$\checkmark$	Titleblock	8	-Ò-	ď	w	Continu	— Defa	Color_7	÷.	r <mark>o</mark>		
bei				Visible Edg	8	Ò.	Ē	w	Continu	0.50	Color_7	÷	F <mark>o</mark>		
Pro															
ayer	Invert filter	~	•												•
r T	All: 8 layers displayed of 8 total la	yers													

### **3. Dimension Style Manager**

	/	• Modify	У
Dimensions	Table	Dimension Style Manager Current dimension style: Standard Syles: Annotative Standard	Preview of: Standard
Dimension, Dimension Style Creates and modifies dimension styles A dimension style is a named collection of dime that control the appearance of dimensions. You dimension styles to specify the format of dimensi and to ensure that dimensions conform to stance	ension settings i create isions quickly, dards.	List All styles	Les contraction of the second
E DIMSTYLE Press F1 for more help		☑ Don't list styles in Xiefs	Close

**AutoCAD: Standard Dimensions** 

9/6/2013 - jcs

#### **Modify Dimension Style: Precision**

	L Modify Dimension	Style: Standard	X
	Lines Symbols and A	rrows Text 🎐 Primary Units	Alternate Units Tolerances
• Primary Units	Unit format: Precision	Decimal        0.0	
5	Fraction format	Horizontal	<b>1 7 6</b> 0°
Precision	Decimal separator:	∵ (Period) 💌	
	Round off:	0.0000	
	Prefix:		R0.8 —
	Suffix:		
	Scale factor:	1.0000	Angular dimensions
	Apply to layout di	mensions only	Units format Decimal Degrees
	Leading	✓ 0 feet	Precision: 0
	Trailing	✓ 0 inches	CZero suppression
			Leading
			OK Cancel Help

#### **Modify Dimension Style:**





#### **AutoCAD – Standard Dimensions** Add appropriate center marks and centerlines

### **Dimension Style: Center Marks**

#### • Symbols and Arrows

- Center marks:\_
  - Line
- Size:

Center marks is set to line while creating the center marks. Then set to none, otherwise a center mark is created with each radius / diameter dimension

Arrowheads   First   © Closed filled   © Closed filled   Leader:   © Closed filled   © Closed filled   Arrow size:   0.1800   0.1800   0.1800   © Line   Dimension Break   Break size:   3.7500	Lines Symbols and Arrows Text Fit Primary Units	Alternate Units Tolerances
Center marks <ul> <li>Preceding dimension text</li> <li>Above dimension text</li> <li>Above dimension text</li> <li>None</li> </ul> Mark              0.0900 <ul> <li>Line</li> </ul> Dimension Break              Break size:	Arrowheads       First       E Closed filled       Second:       E Closed filled       Leader:       E Closed filled       Marrow size:       0.1800	Alternate Units Tolerances
	Center marks None Mark Line Dimension Break Break size: 3.7500	Arc length symbol Preceding dimension text Above dimension text None Radius jog dimension Jog angle: 45 Linear jog dimension Jog height factor:

## **Center Mark**



### Centerlines

#### **Review / Add appropriate**

- Layer
  - ✓ Centerline
- Linetype scale
   ✓ Adjust to drawing
- Offsets
  - ✓ symmetry





**AutoCAD: Standard Dimensions** 

9/6/2013 - jcs



#### **AutoCAD – Dimension Features** Overview of new software features

### Features

#### **Features not previously covered**

- Dimensions
  - Continue
  - Baseline
- Muliline Text
  - symobls
- Multileader
  - Multileader style

### Dimensions



**AutoCAD: Standard Dimensions** 

9/6/2013 - jcs

## **Multiline Text**

- Symbol
  - Degrees (%%d)
  - Plus/Minus(%%p)
  - Diameter (%%c)
  - Other
    - Font: GDT
      - Select
      - Copy
      - Paste in AutoCAD



### Multileader





## **Multileader Style**

- Modify (to match Dimension Style)
  - Leader Structure
    - Scale

eader Format Leader Structure Content		1
Constraints  Maximum leader points  First segment angle  Second segment angle  Landing settings  Automatically include landing		
Setlanding distance 0.3600 C Scale Annotative Scale Scale multileaders to layout © Specify scale:	20000	

A Text Style	Properties
AdBIC ADESK1	🖌 🛃 🛛 Standard 🔍 📈
Text height:	·
0.0650	✓
A Dimension	Style
Standard	✓
🥬 Multileader	Style
Standard	Multileader Style
🕎 Table Style	Creates and modifies multileader styles
Standard	The appearance of multileaders is controlled by multileader styles. These styles specify formatting for landing lines, leader lines, arrowheads, and content.
	MLEADERSTYLE
	Press F1 for more help

#### Multileader Style Scale is set to match Dimension Scale

**AutoCAD: Standard Dimensions** 

### Part III: AutoCAD Examples

#### **Review:**

- ANSI Standard Dimensions
- Centerlines / Center Marks
- Dimension Style Settings

## **Example 1**:

#### **General Features**

- Rectangular Prism (Overall)
- Locate and Size
- Holes
- Cut
- Specification 2 holes
- AutoCAD Feature
- Dimension Continued
- Text override



9/6/2013 - jcs

### **Example 2**:

- General Features
  - Locate and Size
  - Beveled Edge
  - Rounded End
  - Dia / Radius
- <u>AutoCAD Features</u>
  - Dim: Angular
  - Dim: Radial
  - Dim: Dia



## **Example 3**:

#### **General Features**

- Positive Cylinders
  - Diameter and Length
- Holes
- Bolt Circle
  - Circular Pattern

#### AutoCAD Features

- Text override
- Symbols



### **Example 4**:



- <u>General Features Dimension</u>
- Solution 1: Centers critical
- Solution 2: Edges critical
- AutoCAD Features
- Mleader
- Text overrides





2.0

# **Example 5**:

#### **Dimension Standard Features**

- Locate and Size
- Standard Holes Specs
  - ✓ Countersink
  - ✓ Counterbore

#### AutoCAD Features

- Dimension: Baseline
- Mleader
- Symbols Other Font: GDT









**AutoCAD: Standard Dimensions** 

## **Example 6**:

#### **Dimension Standard Features**

- Locate / Size
- Cylinders
- Keyway
- Chamfer

#### AutoCAD Features

• Multileader (Symboles

