050217

Dwg #4 — OBJECT SNAPS

T.E. Lab 347/547 - Computer Assisted Design and Drafting

INTRODUCTION:

This drawing involves the use of the some of the many object snaps supported by AutoCAD to accurately connect one line or object to another. The snaps can be used as needed or one or more can be preset using running snaps. Each snap has its own symbol which is displayed near the cursor when it is the currently active snap.

OBJECTIVES:

Following the completion of this activity, the learner will be able to:

1. Position the center of a circle using the absolute coordinate system.
2. Identify the Circle tool in the Draw toolbar.
3. Create the required circles using the Circle tool.
4. Position the remaining object using both the relative and polar coordinate systems.
5. Identify the Snap to Center tool in the Object Snap toolbar.
6. Locate the required circles using the Snap to Center tool.
7. Identify the Snap to Endpoint tool in the Object Snap toolbar.
8. Locate the start/end points of lines using the Snap to Endpoint tool.
9. Identify the Snap to Quadrant tool in the Object Snap toolbar.
10. Locate the start/end points of lines using the Snap to Quadrant tool.
11. Identify the Snap to Tangent tool in the Object Snap toolbar.
12. Locate the start/end points of lines using the Snap to Tangent tool.
13. Identify the Snap to Perpendicular tool in the Object Snap toolbar.
14. Attach lines to lower rectangle using the Snap to Perpendicular tool.
15. Identify the Center Mark tool in the Dimension toolbar.
16. Locate circle centers using the Center Mark tool tool.
17. Recognize the Linear Dimension tool in the Dimension toolbar.
18. Place dimensions using the Linear Dimension tool.
19. Recognize the Quick Leader tool in the Dimension toolbar.
20. Place dimensions using the Quick Leader tool.







DIRECTIONS:

Read the specific information regarding this drawing. Attached to this tutorial is the drawing that you are to reproduce. Open a new drawing and save it to your storage media using the initials of your; last name, first name, and middle name, followed by -Dwg04 (i.e.; LFM-Dwg04). Set up the CADD program to the correct setting as indicated below.

After drawing #4 is complete, save it to your storage media, answer the questions about the drawing in the question section of this tutorial, and complete the Drawing #4 section of the Drawings #1-#5 Evaluation sheet.

When due, submit drawings #1-#5 with a title page, hard copy of drawings #1, #3, #4, and #5 on A size paper, hard copy of drawing #2 on B size paper (in numeric order), and the Drawings #1-#5 Evaluation sheet stapled together with your storage media containing the finished drawing files.

Note: Drawings #3, #4, and #5 should be printed using the A title block template.

AutoCAD SETUP:

1. Under Format➤Units..., under Length, set Type = Decimal, Precision = 0.00.
2. Under Format➤Drawing Limits, in the command line specify lower left limit to 0.00,0.00, and specify upper right limit = 18.00,12.00.
3. Under Format➤Text Style... set Style Name = Standard, Height = 0.00.
4. Under Tools➤Drafting Settings..., click the Object Snap tab: (Figure 1).
   A. Check Object Snap (F3).
   B. Under Object Snap modes:
      - Check Center.
      - Check Endpoint.
      - Check Perpendicular.
      - Check Quadrant.
      - Check Tangent.

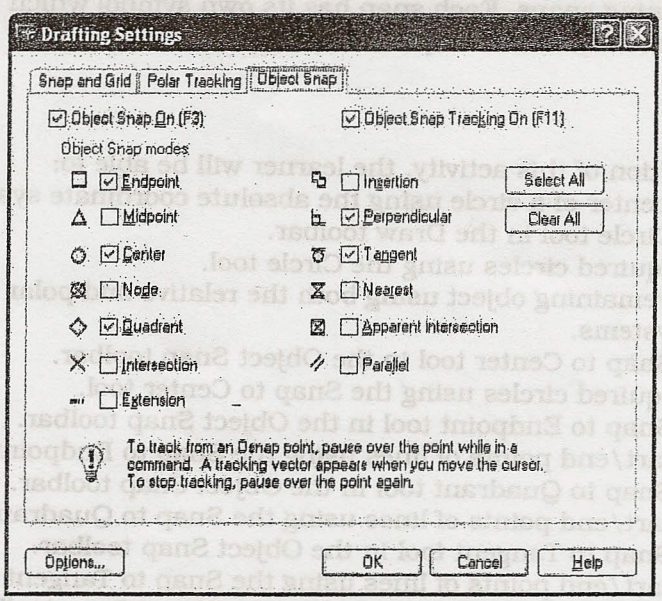
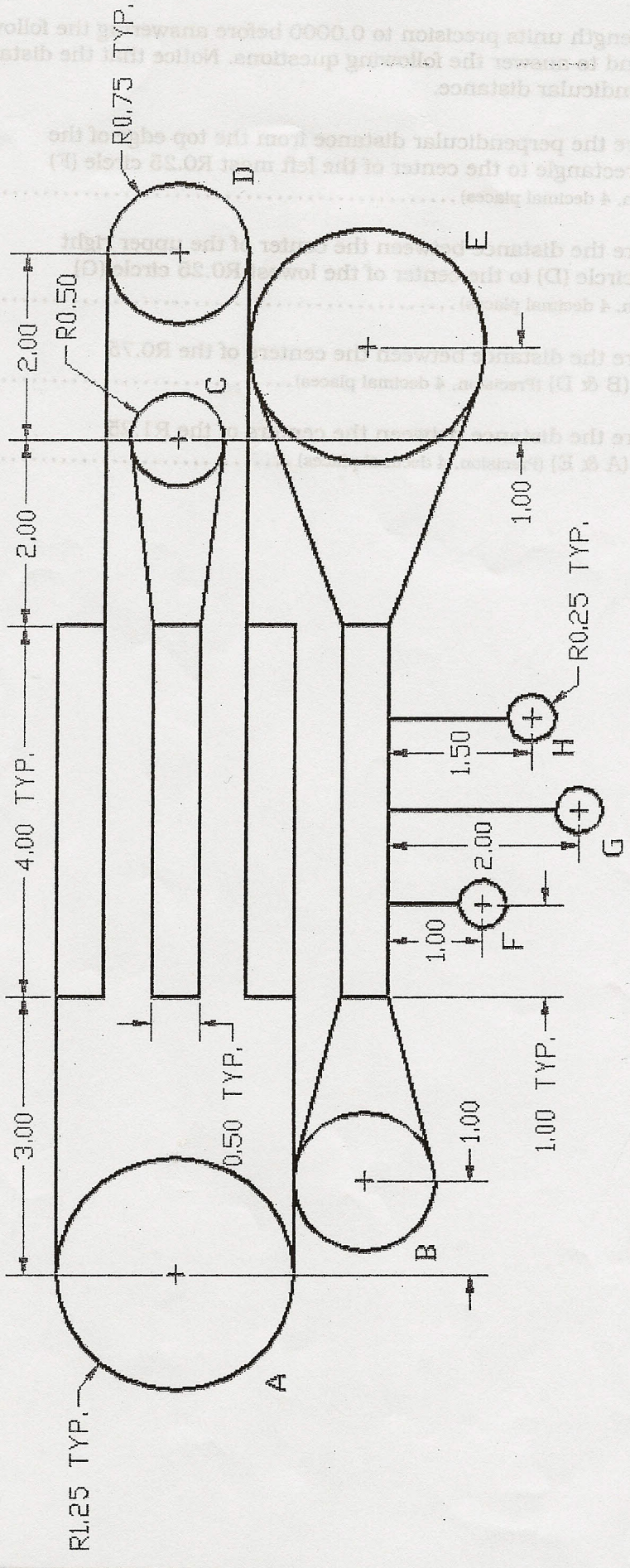


Figure 2 Drafting Settings - Object Snap dialog box showing the settings necessary for the object snaps drawing

Note: Take a close look at the symbols to the left of each object snap, they show which snap is about to be used.

5. Under Format➤Dimension Style..., click the Modify... button:
   A. Click the Lines and Arrows Tab, under Arrowheads, set Arrow Size: 0.18 and under Extension Lines, set Extend beyond dim lines: 0.09, under Center Marks for Circles, choose Mark from the pop-up button.
   B. Click the Text tab, under Text Appearance, set Text Height: 0.18.
   C. Click the Fit tab, set Fit Options = Arrows.
   D. Click the Primary Units tab, under Linear Dimensions, set Unit Format: Decimal, Precision = 0.00, under Angular Dimensions, set Precision = 0.
6. Select the Layers tool in the Object Properties toolbar:
   A. Verify Layer 0: Color = White, Linetype = Continuous.
   B. Click the New button: Change name Layer 1 = Dimension, set Color = Blue, set Linetype = Continuous.
7. Locate the center of the left R0.75 circle at X = 4.00 and Y = 6.00 and construct the object shown on page 4.
8. Convert all circles into polylines using the boundary command (BO), then convert all straight lines into polylines and join them using the pedit command (PE). Select all object lines and set their line width to 0.02 using PE.
9. Under Format➤Dimension Style..., click the Modify... button; under Center Marks for Circles, choose None from the pop-up button (so that no center marks will be drawn when the dimensions are inserted.
10. Completely dimension the object, do not insert the reference lettering (A-H).


R0,75 TYP.
D
E
R0.50
C
2,00
2,00
4,00 TYP.
3,00
1,00
R0,25 TYP.
H
1,50
G
2,00
F
1,00
0,50 TYP.
1,00 TYP.
1,00
B
A
R1,25 TYP.