Assignment 3

CAD Mechanical – Part 1

Fillet & Polar Input

Objectives

In this assignment you will **apply polar inputs** to draw lines, **continue lines** with the fillet zero radius command, and **draw center lines** using the center line layer, as well as skills learned in earlier assignments.

Getting Started

1. When AutoCAD's menu appears, scroll down and select the **Otto 2016.dwt** template file as you have on the previous assignments.

2. Insert the title block and type the information into the block. The drawing will be drawn **full scale**.
3. Insert the drawing title and drawing number illustrated below:

   PIVOT C7

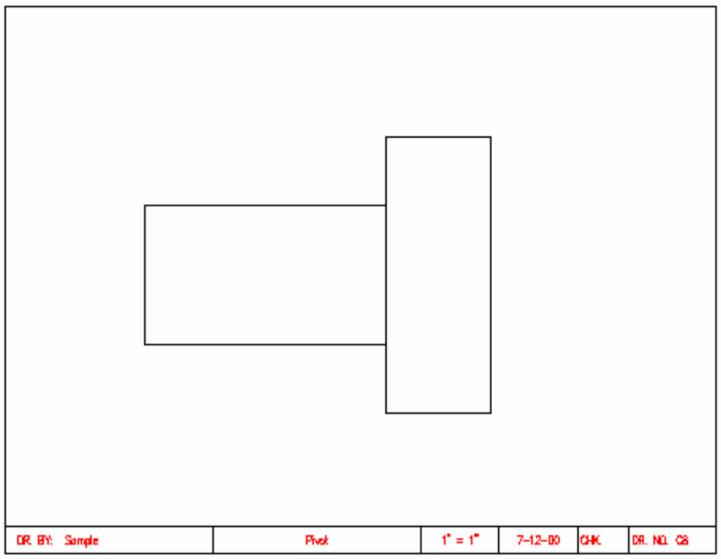
4. Dimension the **Pivot** after drawing the object and remember to include the centerline.

Note: If a pop ask for you to make a selection, choose the one that is recommended.

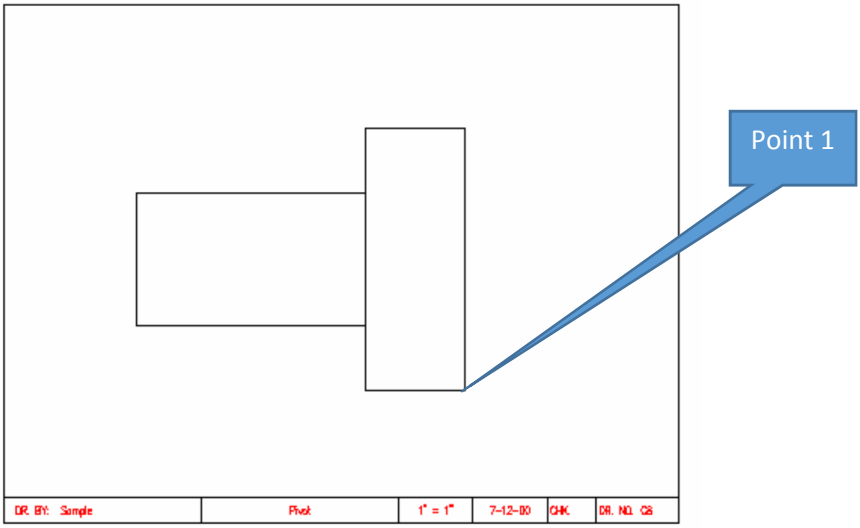
Pivot C7 Instructions

1. Using the **sample drawing,** follow the next steps, but **do not** attempt to **depend** on the **drawing only**. You must carefully **follow** the instructions in this **manual** as you work.

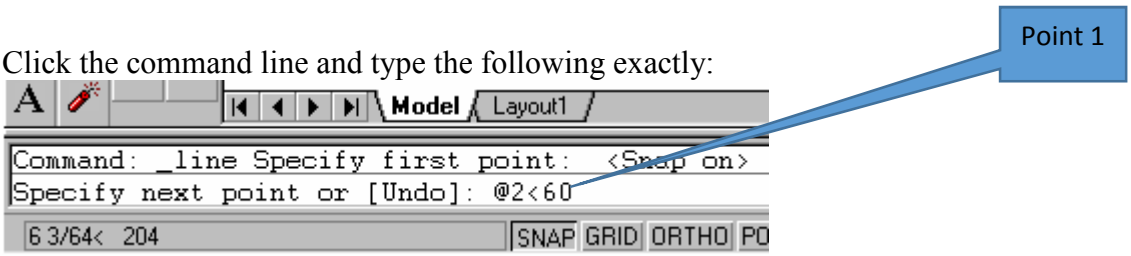
2. After the **border appears,** change to the **object layer**, and begin the drawing by **constructing** the **lines** as **shown** below:



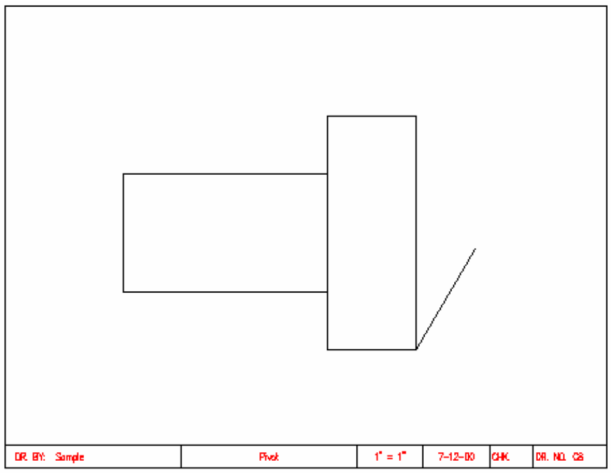
3. Next, begin the line command at **Point 1**. With the mouse, **click** the point **one time** to **begin** a **line**.



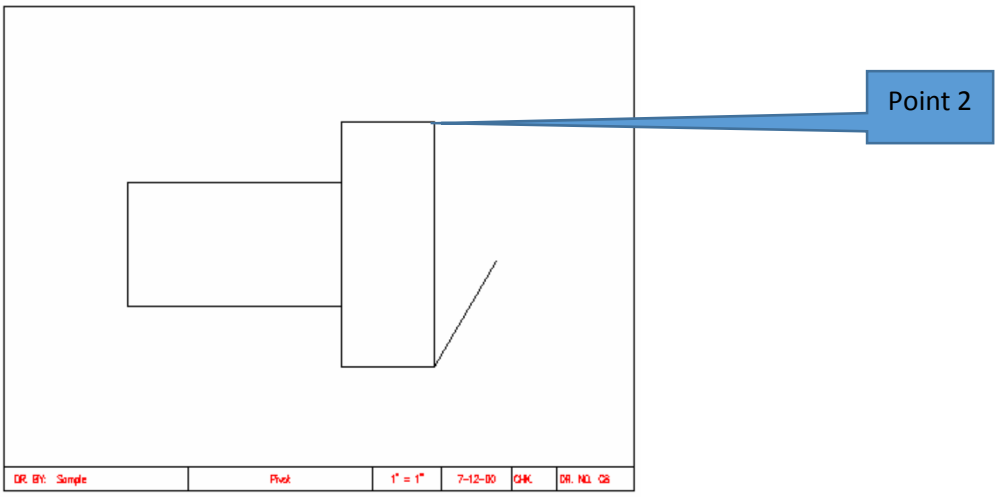
4. Click the command line and type the following exactly:



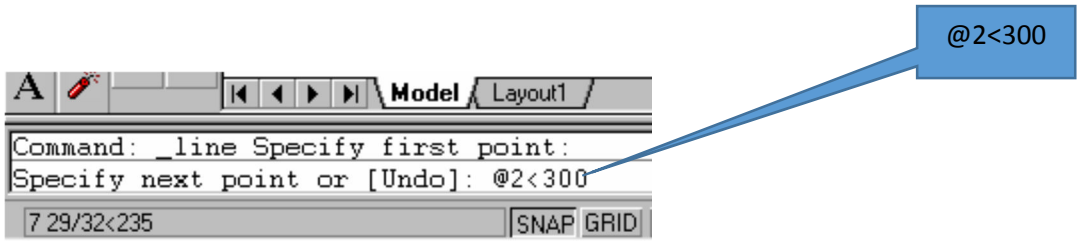
5. When you press the Enter key notice that the line is drawn a distance of 2” and 60 degrees in the polar coordinate direction.



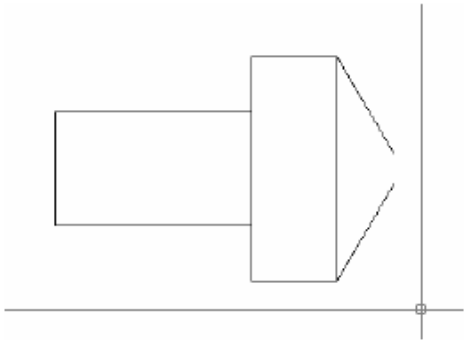
6. Press the **space bar** one time to **detach** the **line** and **press** the **space bar again** to **restart** the **line command**. Now **click** the **top** of the **drawing** at **Point 2**. You are going to type the polar coordinate and the line distance.



7. Click the command line with the mouse and type the following polar coordinates:

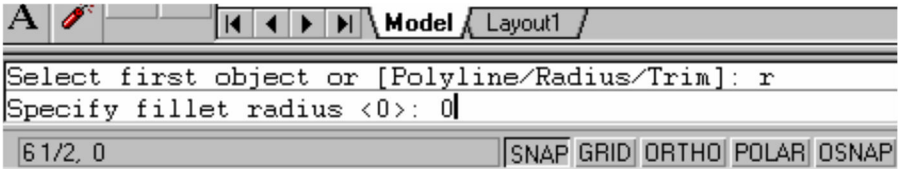


8. Press the Enter key. The line is now drawn as illustrated:

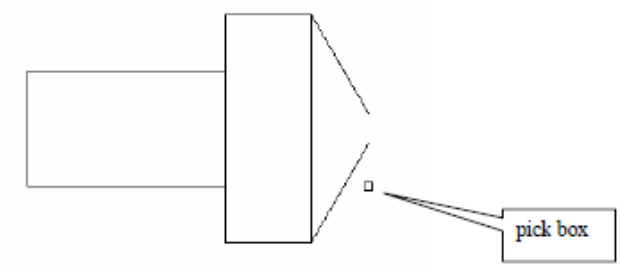


9. The next step is to **close** the **opening** at the **end** of the **pivot**. This will be done with the **fillet** command. The **fillet** command **normally draws arcs**. If you pick a **radius** of **0**, it can be **used** to **extend lines** to **meet each other**.

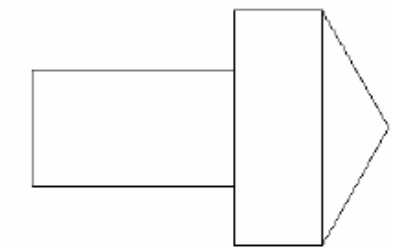
10. From the **Modify** pull down menu select **Fillet**. On the command line **type** the **R** for **radius**. Press **Enter** and then input **0** for the radius.



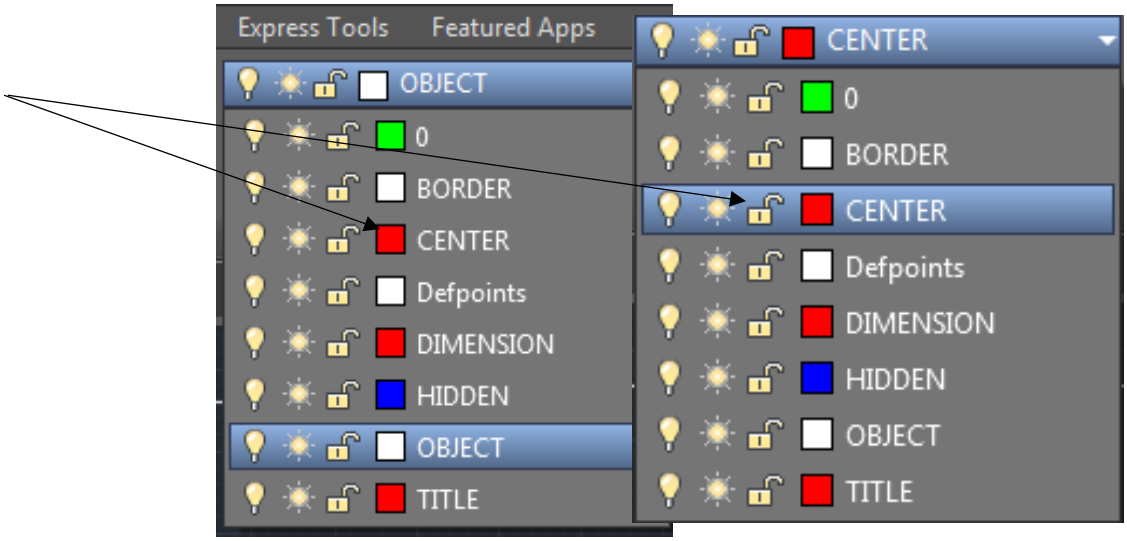
11. Press the **Enter** key. The **fillet command** has **now** been **set** to **draw** a **fillet** with a **zero radius**. Again select the **Modify menu** and select the **Fillet** command. Notice that the **crosshair** on the **insertion** point turns into a **square pick box**.



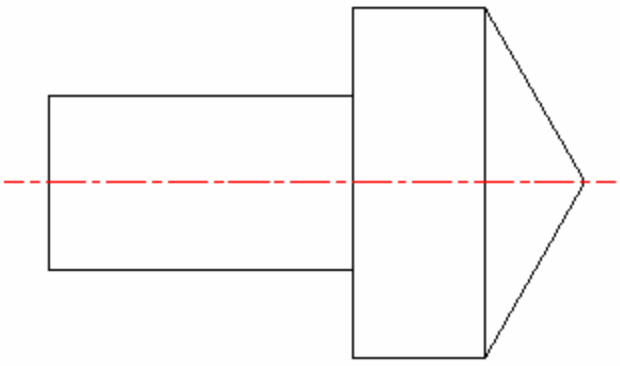
12. Click the two lines with the pick box and the lines will extend as illustrated:



13. You are now going to add a **centerline** to the drawing. Centerlines are a series of **broken** lines with **1/8 dashes**. The **color** of the **layer** is **red**. Select **centerline** layer from the **object properties toolbar**.



14. Select the **line tool** button and **draw** the **center line** as illustrated:



Note: Use the help menu and read about the center line command for more information.

15. **Complete** the **dimensioning** of the **drawing** of the pivot.

Terms to Know

Polar input
Center line
Fillet zero radius
Shift @
Center line layer