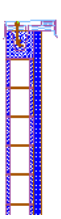
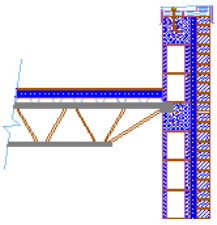
Contents

Adding Details in AutoCAD 2009 (Imperial)





This exercise will lead you through the steps of adding in the bricks to the outside face of the wall. Once you add in the bricks, the joist is then added as lines. Finally, the decking and insulation are added on top of the joist. The bond beam is copied down and a solid hatch is applied to the joist.

Audience: Architects who want to work with the new AutoCAD 2009 interface

Prerequisites: Working knowledge of commands, such as, LINE, FILLET, or TRIM

Tasks Covered in This Tutorial

1. Adding Brick
2. Adding The 12h5 Steel Joist
3. Adding Decking, Insulation And Protection Board

Tutorial Files

All the necessary files for this tutorial can be found in http://www.autodesk.com/autocad-tutorials.

Recommended: Before starting the tutorials:

1. Download the *details_i.zip* file from http://www.autodesk.com/autocad-tutorials.
2. Unzip *details_i.zip* to C:\My Documents\tutorials.

In This Tutorial

Before You Begin

The intent of this tutorial is not to teach you how to draw lines and work with blocks, but rather to introduce the new AutoCAD 2009 interface. This tutorial assumes that you are familiar with a previous version of AutoCAD and familiar with basic AutoCAD commands such as LINE, FILLET, TRIM, and INSERT.

Lesson 1: Adding Bricks

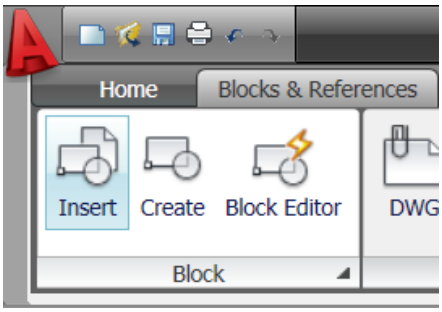
In this part of the exercise, you insert a block of the section of a single brick.

File Name: *detail _i_start.dwg*

Commands used: INSERT, MOVE, ARRAY

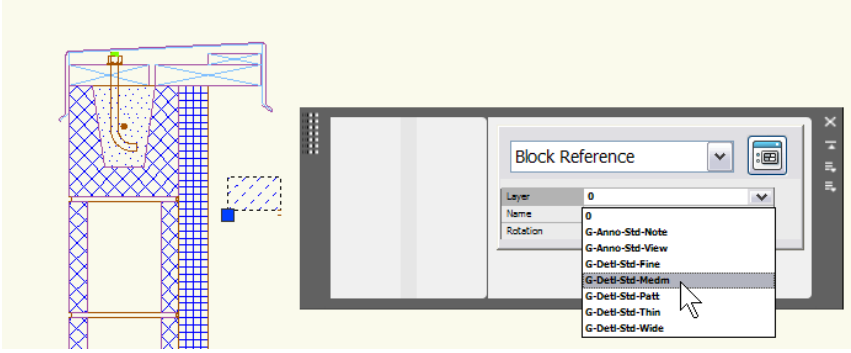
Adding Bricks

1. Click Blocks & References tab ➤ Block panel ➤ Insert.



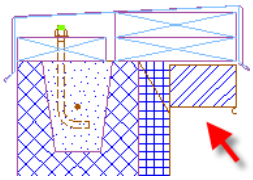
2 Set the block name to brick_section, click OK, and click in the drawing window near the top of the parapet to place the block.

3 Click the block and use the quick properties to set the layer to G-Detl-Std-Medm.

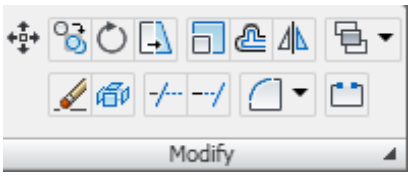


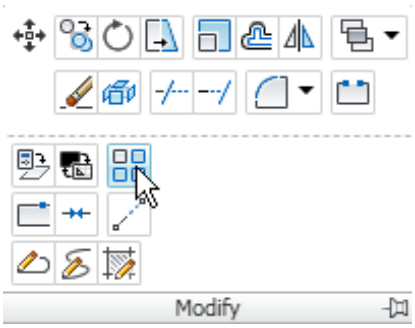
4 With the block still selected, right-click and select Move.

5 Move the brick into place underneath the coping blocking.



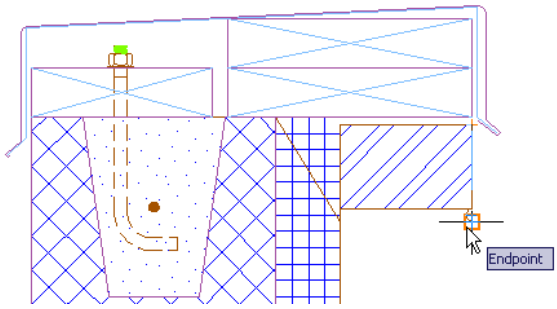
6 Click Home tab ➤ Modify panel ➤  ➤ Array.





7 Array the block you just moved 57 rows, one column then the press the pick row offset button to establish row offset.

8 On the drawing, select the top right corner of the brick as the first point. Select the bottom right corner of the mortar as the second point.



9 In the dialogue box, press the Select objects button.

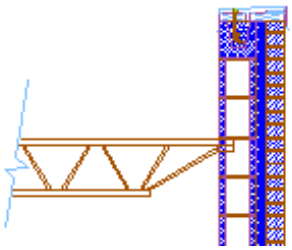
10 Select the brick block, press [Enter].

11 Click OK.

Next Lesson: Lesson 2: Adding The 12H5 Steel Joist on page 5

Lesson 2: Adding The 12H5 Steel Joist

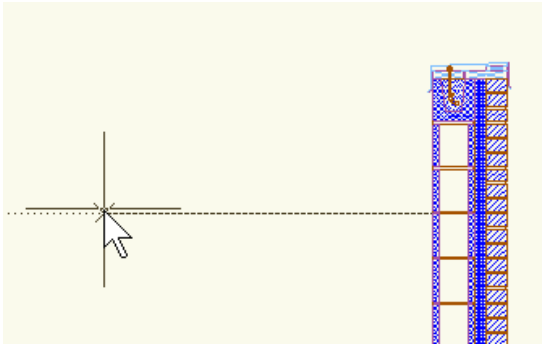
In this part of the exercise, you add the lines for the steel joist.



File Name: *detail _i_start.dwg*

Commands used: INSERT, MOVE, ARRAY

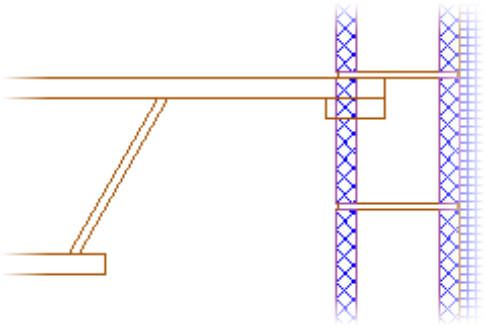
1. Set the layer G-Detl-Std-Medm current.
2. Click the line tool and draw a line horizontally from the face of the CMU to the left approximately at the top of the fourth block down from the top of the wall.



3. Copy this line down 1.25", 10.75" and 12".
4. Move the top chord line ends 3" to the right and the bottom chords 1'-2" to the left.
5. Add lines to close the ends.
6. Click the rectangle tool to add a 3.5" x 1.25" bearing plate to the right end of the top chord.

7 Draw a line at 60 degrees from the bottom chord to the top chord and offset it 1/2".

8 Use extend and trim to clean up the intersection.



9 Click the Home tab ➤ Modify panel ➤ Mirror. Select the two 60 degree lines you just drew and then press [Enter].

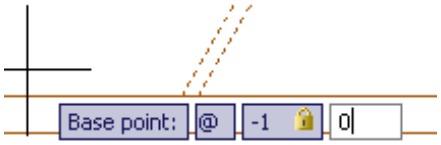
   1 For the first point of the mirror line, shift-right click and click From.

   2 Click the lower left intersection of the angled lines.

   3 Type @ and then -1,0 for the relative offset point from the picked base point.

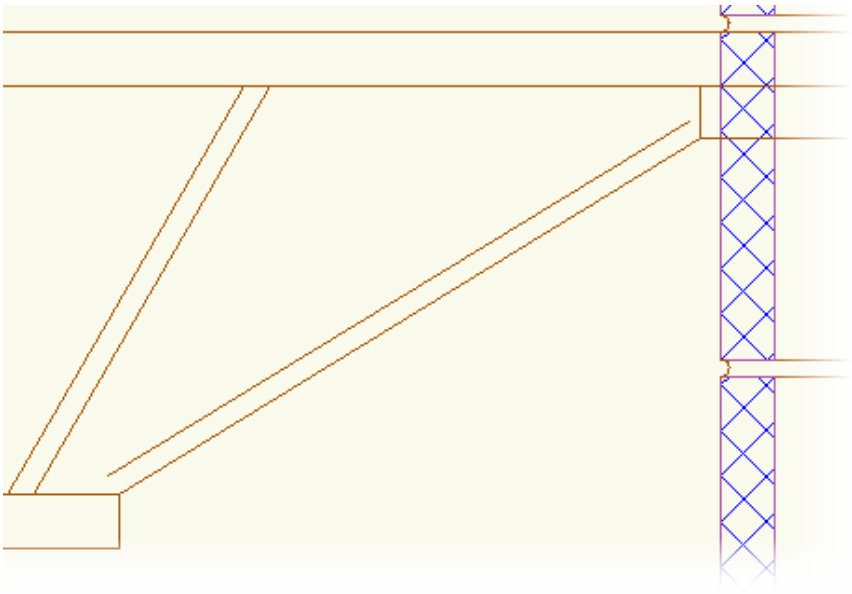
   4 Use polar or ortho mode to click a second point in the drawing window directly above the first.

   5 Click No to the Erase source objects prompt.



10 Repeat step 14 with the 4 angled lines to create a total of 4 Web struts.

11 Utilizing the same line, offset, and trim commands, add in a strut from the end of the bottom chord to the bearing plate.

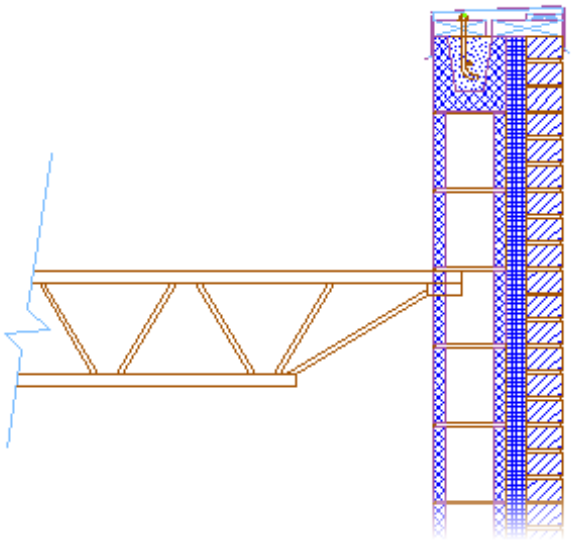


12 Click the Home tab ➤ Layers panel ➤  . Set the layer G-Detl-Std-Thin current.

13 Click the Home tab ➤ Draw panel ➤ Polyline to draw a break mark on the left side of the joist.

14 Offset the line at 12.

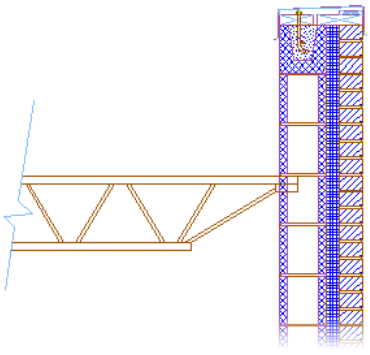
15 Trim the top and bottom chords to the break line.

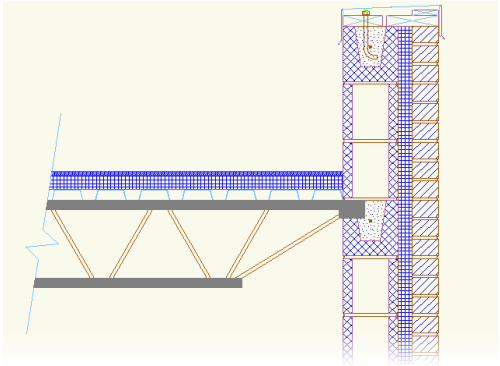


Next Lesson: Lesson 3: Adding Decking, Insulation And Protection Board on page 8

Lesson 3: Adding Decking, Insulation And Protection Board

In this part of the exercise, you add the lines for the steel decking. The following images show the start and completion of this lesson.

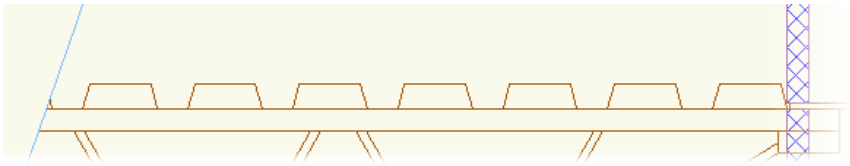




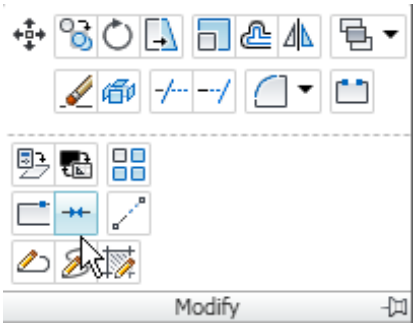
File Name: *detail _i_start.dwg*

Commands used: POLYLINE, MOVE, COPY, JOIN

1. Set the current layer to G-Detl-Std-Thin.
2. Click the Home tab ➤ Draw panel ➤ Polyline.
   1. Start the polyline near the left side end of the top chord near the break line.
   2. Drag the cursor right and enter 1.75.
   3. Type the @ symbol, then 3/8, 1.5.drag the cursor right and enter 3.5 for the horizontal distance.
   4. Type the @ symbol, then 3/8, -1.5.
   5. Press the [Enter] key to end the command.
3. Move the new polyline to the edge of the CMU wall and copy it as many times to reach the break line. Use the Trim tool to remove any overlapping lines.



4. Click Home tab ➤ Modify panel ➤  ➤ Join.



5. Click an end polyline as the source, then select the other polylines to join to it.

6 Click the joined polyline and use the properties page to set the global width 1/16".

7 Copy the top chord line up 1.5", 3.5" and 4".

8 Trim up the excess lines using the edge of the CMU block and the break mark.

9 Click Home tab ➤ Draw panel ➤ Hatch to add hatches to the rigid insulation and protection boards.

10 Erase the fourth CMU block down.

11 Click the hatch tool and place a solid fill to the bottom chord, the top chord, and the bearing plate.

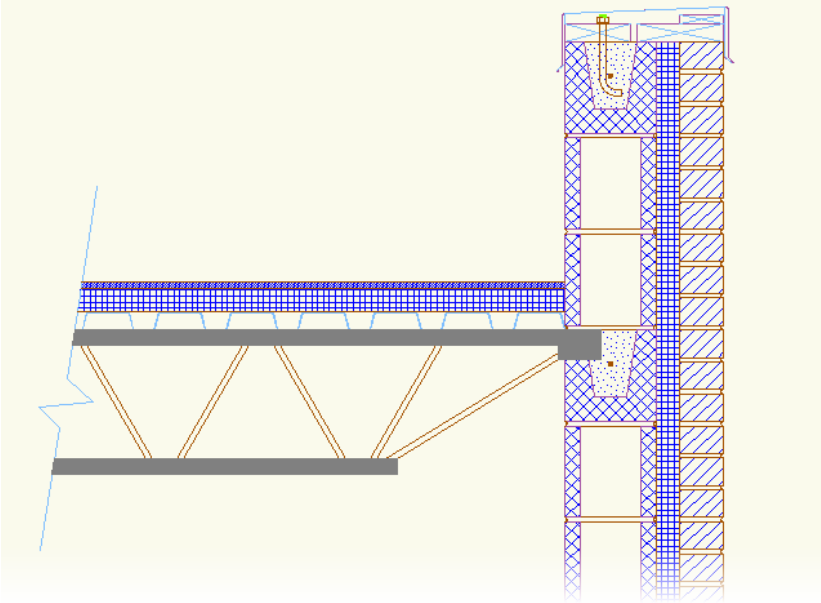
For the rigid insulation, select NET as the pattern, the angle = 315 and the scale = 4.0.

For the Protection boards select ANSI31 as the pattern.

12 In the quick properties box change the color to Color 8

13 Copy the bond beam block to replace down the fourth block.

14 Click the solid hatch and right click. Click Draw order ➤ Bring to front.



15 Save your work.

If you do a lot of this kind of work, we have some tools that would make this easier. *Click this link for more information.*