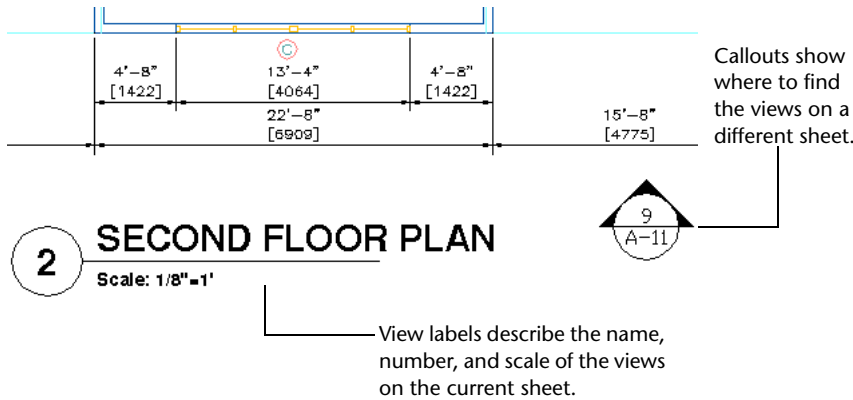**autodesk**®

Sheet Set Manager: Automating Views and Callouts

Heidi Hewett, Autodesk, Inc.

Most sets of drawings contain interrelated information. For example, a plan view on one sheet might refer to an elevation view on a different sheet. Manually maintaining the text references between sheets is a process that is tedious and error-prone. To boost your productivity and accuracy, try using *fields* with the Sheet Set Manager to automate the process.

What Most People Do

Most people use external references (xrefs) to link their model space drawings to another drawing that acts as the layout or sheet. Arranging the model geometry views on a sheet can be time-consuming. Typically you open a layout drawing with a title block, attach the model space drawings as xrefs, create viewports, zoom and pan each viewport to the appropriate location, and apply a viewport scale. Finally, you insert the view label and callout blocks.

Callouts show where to find the views on a different sheet.

View labels describe the name, number, and scale of the views on the current sheet.
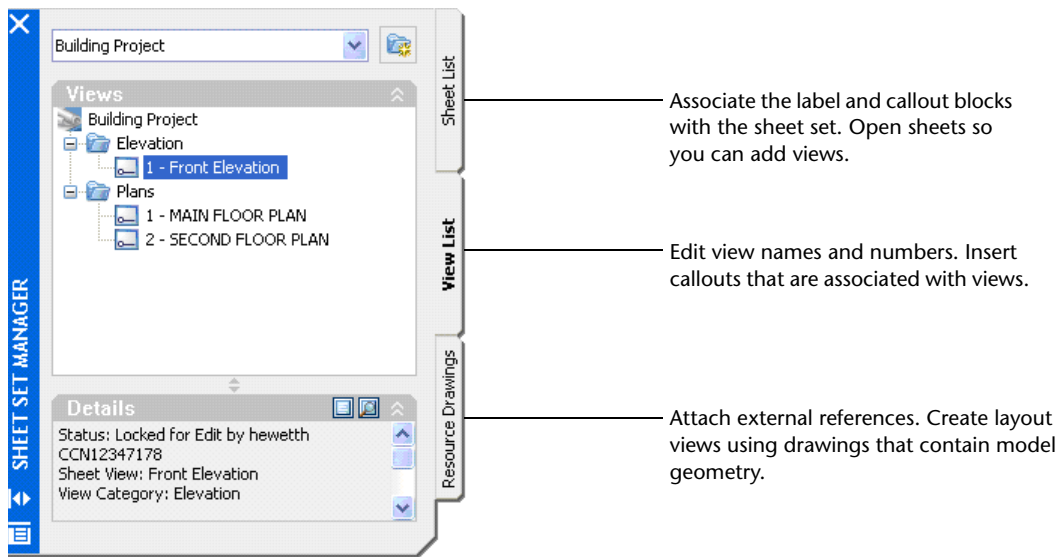
The label and callout blocks typically contain attribute definitions to display information. But what if a sheet number changes from A-05 to A-06? You must manually find and update every callout block that refers to a view on sheet A-05—not a very productive use of your time!

Contents

How to Create Views and Maintain View Data

The Sheet Set Manager simplifies the process of creating views and maintaining view data. Each tab in the Sheet Set Manager plays a role in automating this process.

Associate the label and callout blocks with the sheet set. Open sheets so you can add views.

Edit view names and numbers. Insert callouts that are associated with views.

Attach external references. Create layout views using drawings that contain model geometry.

To automate view labels and callouts, you must add AutoCAD 2005 *fields* to your view label and callout blocks.

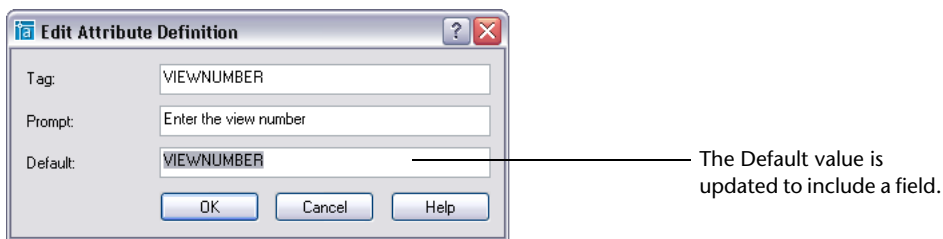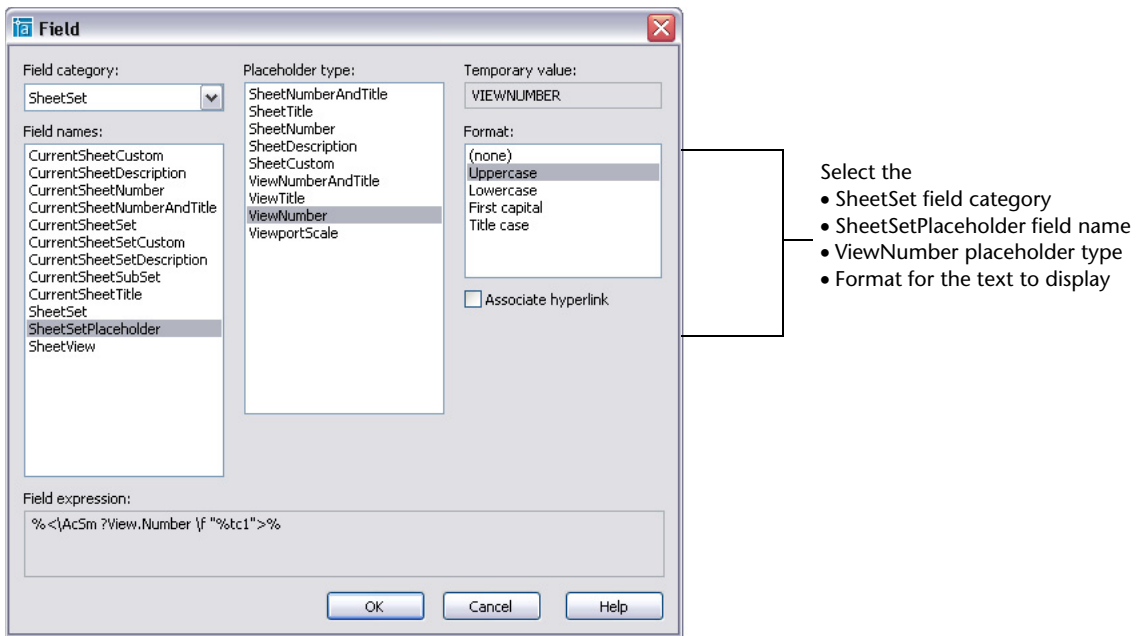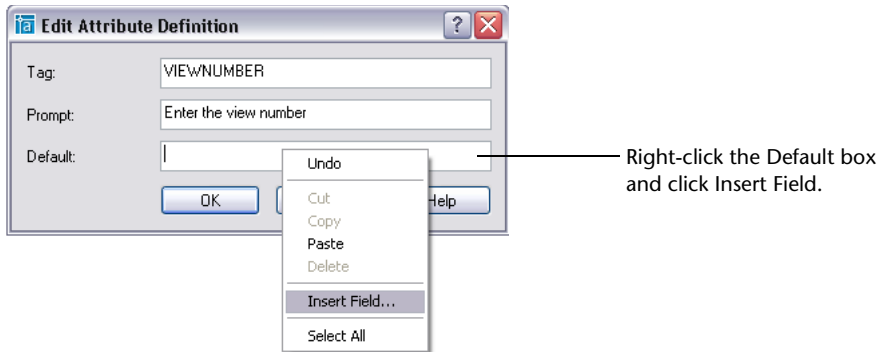# How to Add Fields to Labels

A *field* is text that displays information that may change during the life cycle of the drawing. Fields eliminate the need to manually update information that changes. You can create fields for information such as the view number, view title, and viewport scale. Assuming you already have a view label that contains block attributes, I'll show you how to add fields to your block attribute definitions.

FRONT VIEW
Scale: 1/8" = 1'
1

If the view labels are block definitions in a drawing, insert and explode one instance of each block. Otherwise, just open the drawing.

VIEWTITLE
VIEWNUMBER Scale: VIEWPORTSCALE

Double-click the attribute definition representing the view number.

Edit Attribute Definition

Tag: VIEWNUMBER

Prompt: Enter the view number

Default: |

Undo
Cut
Copy
Paste
Delete
Insert Field...
Select All

OK   Help

Right-click the Default box
and click Insert Field.

Field

Field category:
SheetSet

Field names:
CurrentSheetCustom
CurrentSheetDescription
CurrentSheetNumber
CurrentSheetNumberAndTitle
CurrentSheetSet
CurrentSheetSetCustom
CurrentSheetSetDescription
CurrentSheetSubSet
CurrentSheetTitle
SheetSet
SheetSetPlaceholder
SheetView

Placeholder type:
SheetNumberAndTitle
SheetTitle
SheetNumber
SheetDescription
SheetCustom
ViewNumberAndTitle
ViewTitle
ViewNumber
ViewportScale

Temporary value:
VIEWNUMBER

Format:
(none)
Uppercase
Lowercase
First capital
Title case

☐ Associate hyperlink

Field expression:
%<\AcSm ?View.Number \f "%tc1">%

OK   Cancel   Help

Select the
• SheetSet field category
• SheetSetPlaceholder field name
• ViewNumber placeholder type
• Format for the text to display

Edit Attribute Definition

Tag: VIEWNUMBER

Prompt: Enter the view number

Default: VIEWNUMBER

OK   Cancel   Help

The Default value is
updated to include a field.

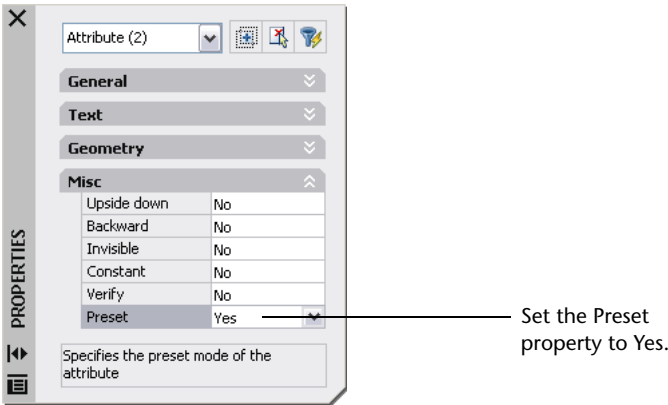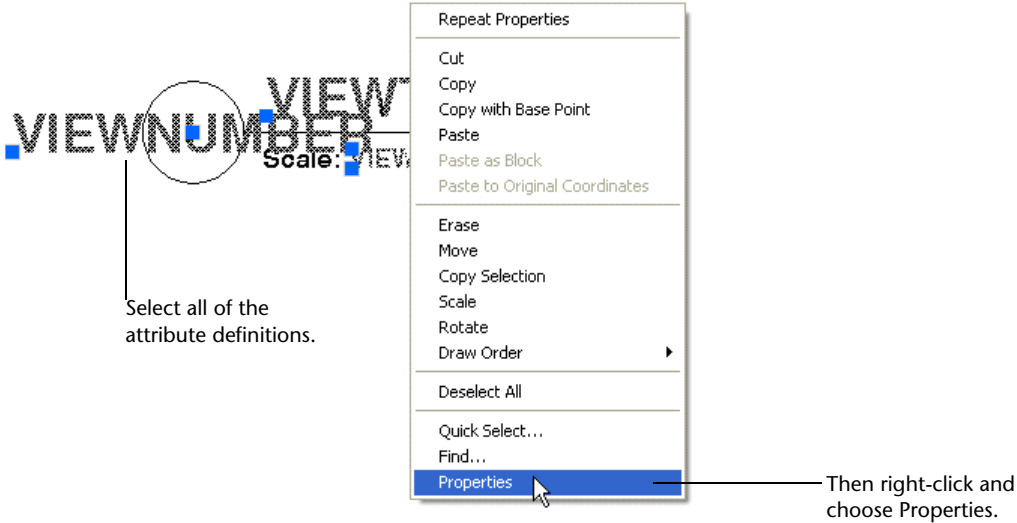ViewTitle
ViewNumber Scale: VIEWPORTSCALE

Next, repeat the procedure to add fields to the attribute definitions for the view title and viewport scale.

In the Fields dialog box, set the placeholder type to ViewTitle and ViewportScale respectively.
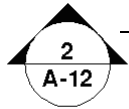
After I've assigned the appropriate fields to each of the attribute definitions, I set the definitions to Preset to prevent AutoCAD from prompting for an attributed value whenever I insert the block.

VIEWNUMBER VIEWT Scale: VIEW

Repeat Properties

Cut
Copy
Copy with Base Point
Paste
Paste as Block
Paste to Original Coordinates

Erase
Move
Copy Selection
Scale
Rotate
Draw Order   ▶

Deselect All

Quick Select...
Find...
Properties

Select all of the attribute definitions.

Then right-click and choose Properties.

Attribute (2)	
General	≫
Text	≫
Geometry	≫
Misc	≪
Upside down	No
Backward	No
Invisible	No
Constant	No
Verify	No
Preset	Yes

PROPERTIES

Specifies the preset mode of the attribute

Set the Preset property to Yes.

If my label block is stored as an individual drawing file, I can save and close the file. If the label block is stored as a block definition within a drawing, I use the BLOCK command to redefine the block to include the updated attributes.
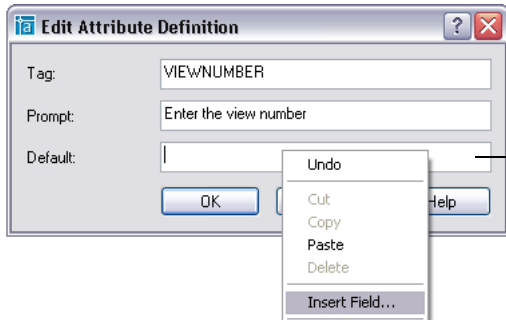
How to Add Fields to Callouts

Next I'll add fields to my callout blocks so I won't need to enter and update view and sheet information every time it changes. I'll create fields for the view number and sheet number and add hyperlinks for easy navigation from the callout to the associated sheet and view. I already have callouts that contain block attributes, so I'm going to add fields to existing attribute definitions.

2
A-12

If the callouts are block definitions in a drawing, insert and explode one instance of each block. Otherwise, just open the drawing.

VIEWNUMBER
SHEETNUMBER

Double-click the attribute definition representing the view number.

Edit Attribute Definition

Tag: VIEWNUMBER

Prompt: Enter the view number

Default: |

Undo

Cut
Copy
Paste
Delete

Insert Field...

OK   Help

Right-click the Default box and click Insert Field.

Field

Field category:
SheetSet

Field names:
CurrentSheetCustom
CurrentSheetDescription
CurrentSheetNumber
CurrentSheetNumberAndTitle
CurrentSheetSet
CurrentSheetSetCustom
CurrentSheetSetDescription
CurrentSheetSubSet
CurrentSheetTitle
SheetSet
SheetSetPlaceholder
SheetView

Placeholder type:
SheetNumberAndTitle
SheetTitle
SheetNumber
SheetDescription
SheetCustom
ViewNumberAndTitle
ViewTitle
ViewNumber
ViewportScale

Temporary value:
VIEWNUMBER

Format:
(none)
Uppercase
Lowercase
First capital
Title case

☑ Associate hyperlink

Field expression:
%<\AcSm ?View.Number \f "%tc1" \href "?href###1677224982">%

OK   Cancel   Help

Select the
• SheetSet field category
• SheetSetPlaceholder field name
• ViewNumber placeholder type
• Format for the text to display

Click Associate Hyperlink.

Edit Attribute Definition

Tag: VIEWNUMBER
Prompt: Enter the view number
Default: VIEWNUMBER

OK   Cancel   Help
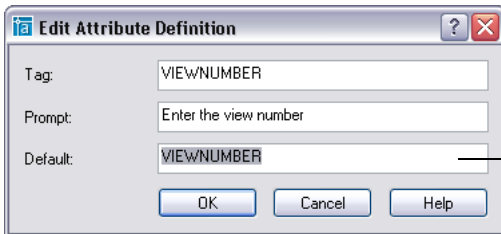
The Default value is updated
to include a field.

After I've assigned the appropriate fields to each of the attribute definitions, I set the definitions to Preset to prevent AutoCAD from prompting for an attribute value whenever I insert the block.

Repeat DDEDIT

Cut
Copy
Copy with Base Point
Paste
Paste as Block
Paste to Original Coordinates

Erase
Move
Copy Selection
Scale
Rotate
Draw Order   ▶

Deselect All

Quick Select...
Find...
Properties

Select all of the
attribute definitions.

Right-click and
choose Properties.

Attribute (3)

General   ≫
Text   ≫
Geometry   ≫
Misc   ≫

Upside down	No
Backward	No
Invisible	No
Constant	No
Verify	No
Preset	Yes

Specifies the preset mode of the
attribute

Set the Preset
property to Yes.

Because I use several callout blocks, I'll repeat this procedure for each one. If the callouts require the same fields, I'll just copy the updated attribute definitions for each callout.

VIEWNUMBER   VIEWNUMBER   VIEWNUMBER   VIEWNUMBER
SHEETNUMBER   SHEETNUMBER   SHEETNUMBER   SHEETNUMBER
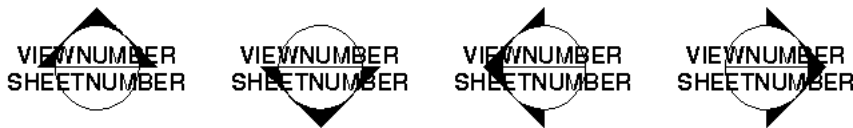
If my callout blocks are stored as individual drawing files, I save and close each file. If they are stored as block definitions in a drawing, I use the BLOCK command to redefine each callout block to include the updated attributes.

How to Associate a Label with a Sheet Set

With Sheet Set Manager, you assign one label block to each sheet set. This label block can be an individual drawing or template file or it can be a block definition within a drawing or template file.
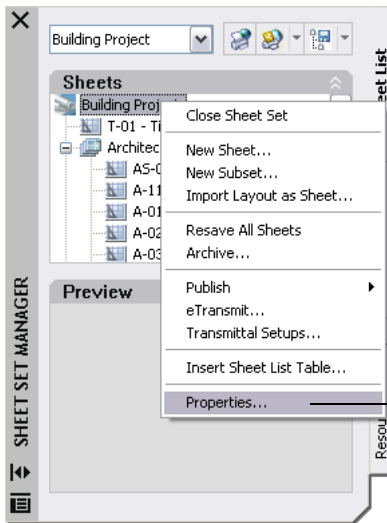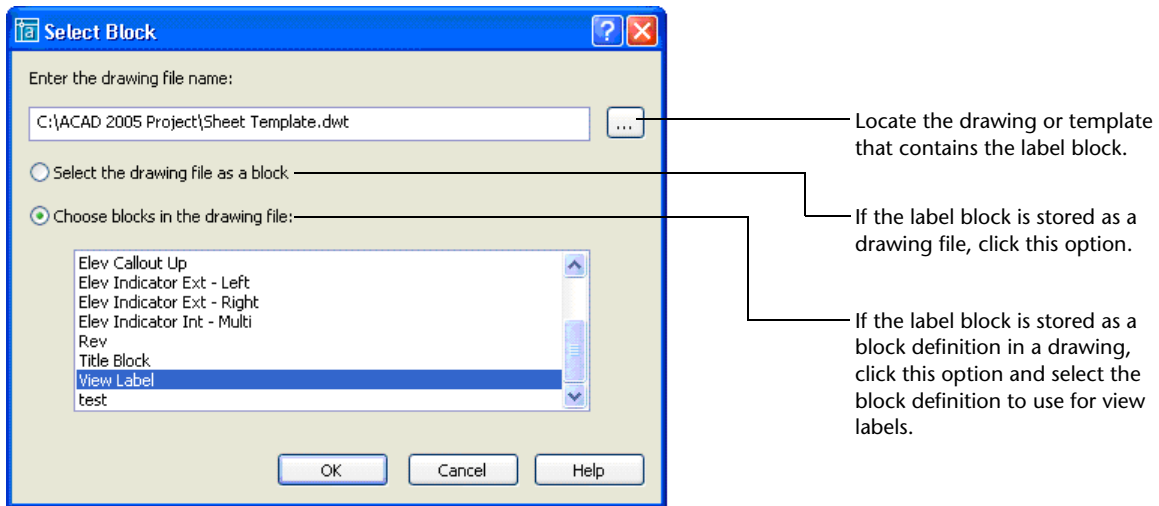
Right-click the sheet set title and choose Properties.
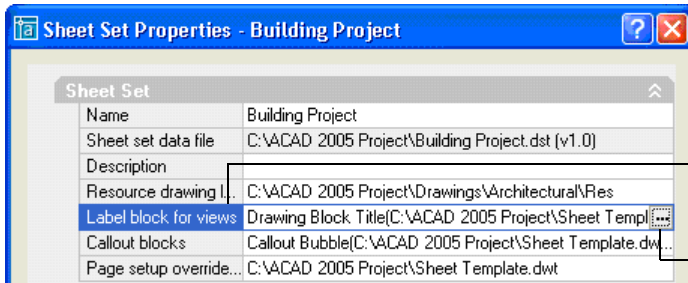
Click the Label Block for Views property.

Click the ellipsis button.

Locate the drawing or template that contains the label block.

If the label block is stored as a drawing file, click this option.

If the label block is stored as a block definition in a drawing, click this option and select the block definition to use for view labels.

My label block is now associated with the sheet set. The names of any views that I create using the Sheet Set Manager will be displayed automatically in my view label block at the lower-left corner of the viewport.

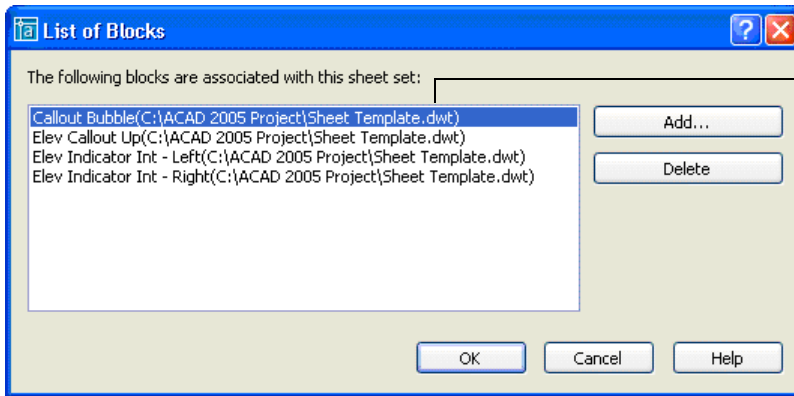# How to Associate a Callout with a Sheet Set

I can also associate any number of callout blocks with each sheet set. The associated callout blocks can be individual drawing or template files, block definitions in a drawing or template file, or a combination of both.

Right-click the sheet set title and choose Properties.

Click the Callout Blocks property.

Click the ellipsis button.

Click Add.

Locate the drawing or template that contains the label block.

If the callout block is stored as its own file, click this option.

If the callout block is stored as a block definition in a drawing, click this option and select the block definition to use for view callouts.
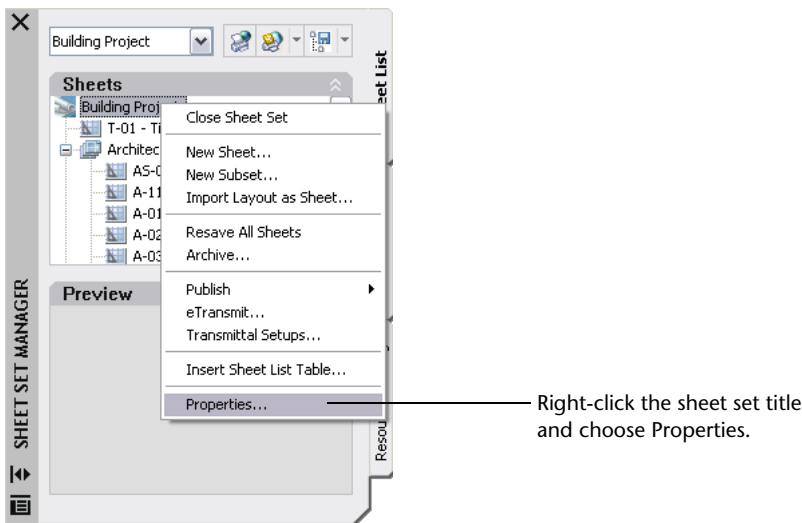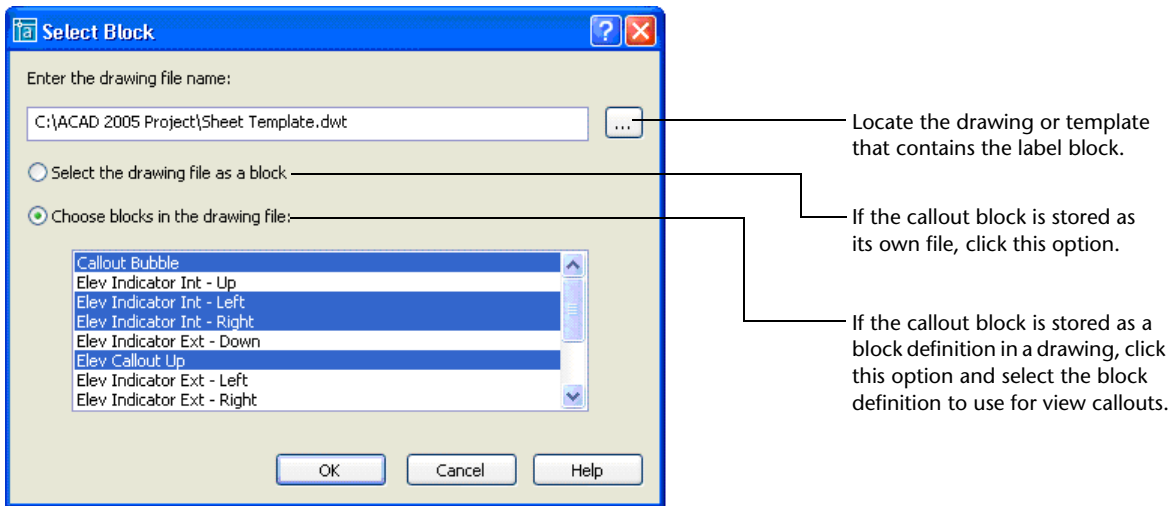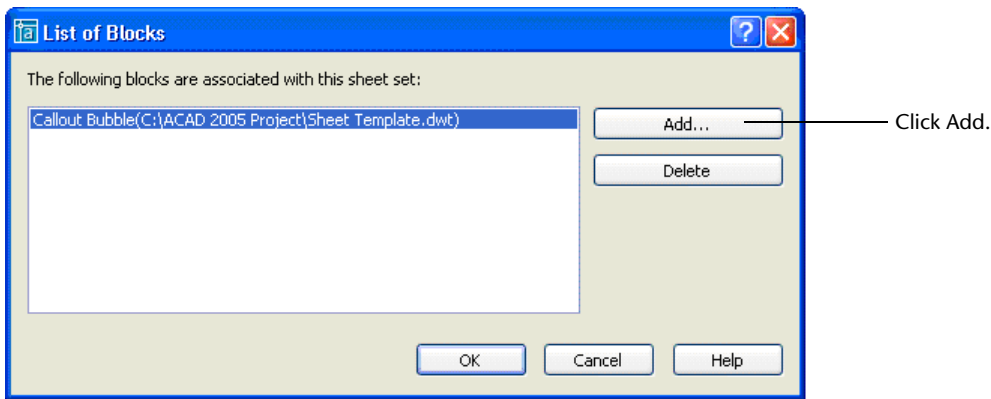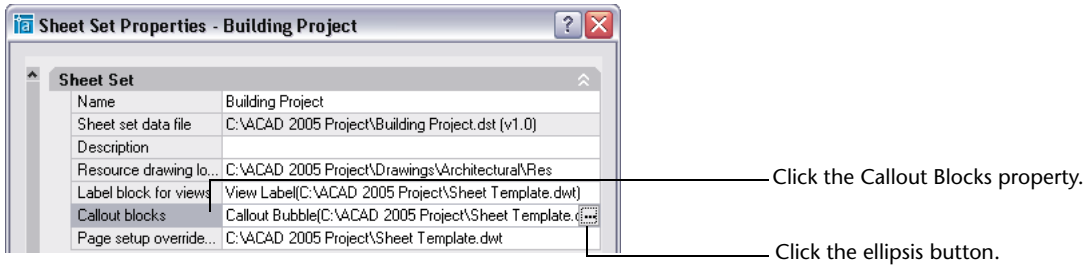
The callout blocks I selected are added to the list of blocks and I can continue to add callout blocks from other files.

The callout blocks are now associated with the sheet set.

How to Create Automated Views with Labels

After you update your label block with fields and associate it with your sheet set, you are ready to take advantage of the view automation offered by the Sheet Set Manager. AutoCAD automatically attaches the model space drawing as an xref and creates a viewport. You then can specify a viewport scale, insert a label block, and enter block attribute data. If you change the view data using the Sheet Set Manager, the label block is updated automatically.

To try out my new label block, I'll add a view to a sheet. If the drawing contained an old version of the label block, I'd first purge the old block definition to ensure that AutoCAD uses the new definition associated with the sheet set.
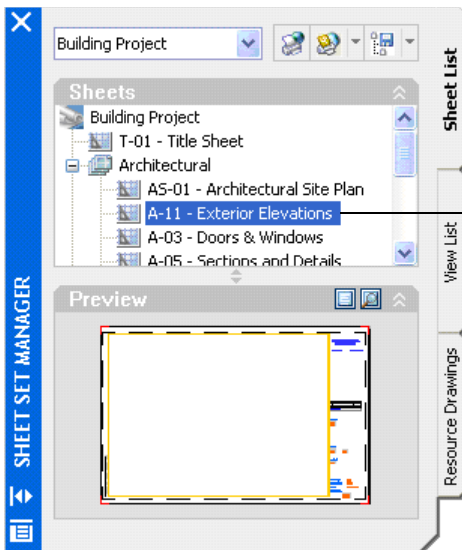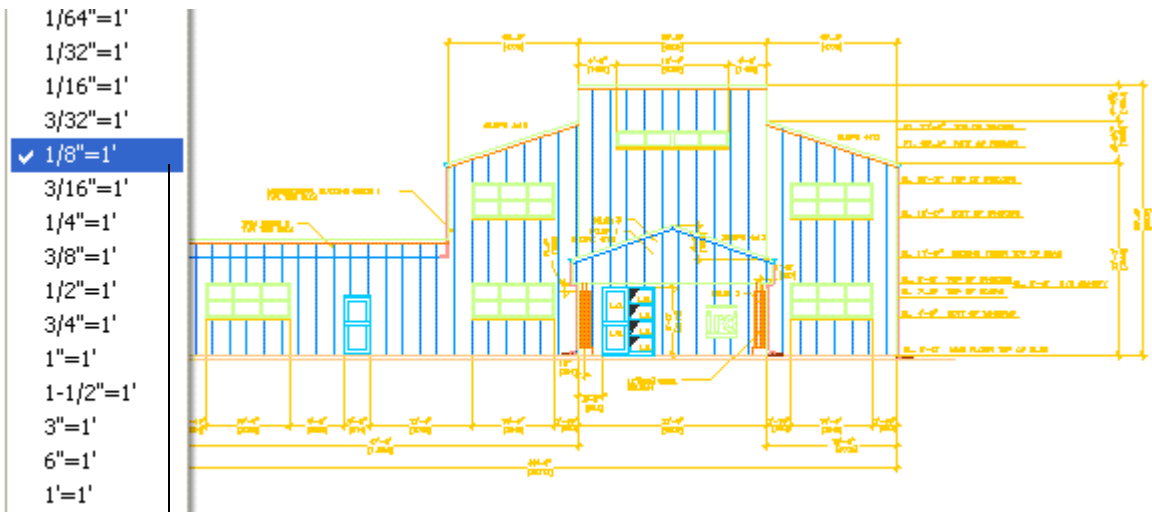

On the Sheet List tab, open the sheet that will contain the view.
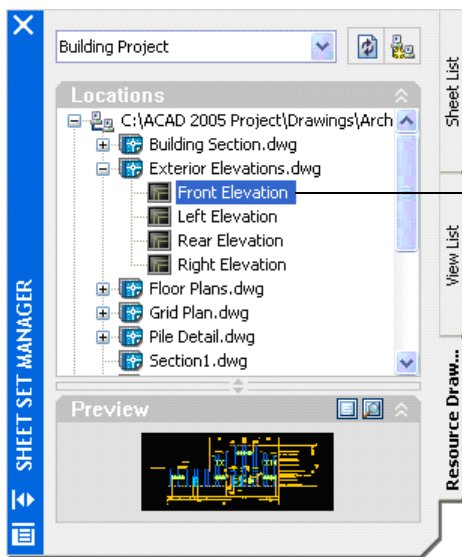
On the Resource Drawings tab, find the drawing that contains the model space view to be added and drag it onto the sheet.

I can specify a scale using the right-click menu, or let AutoCAD estimate a viewport scale based on the sheet and view sizes.
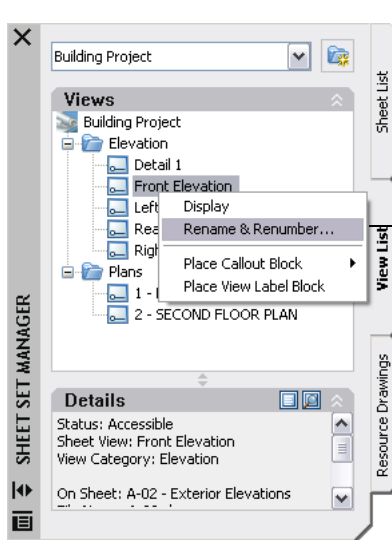
Right-click the sheet and select a viewport scale. Then pick a point on the sheet to place the view.

The associated label block is automatically placed at the lower-left corner of the viewport.

FRONT ELEVATION
Scale: 1/8" = 1'

This label block displays the viewport scale and the view title. Because a view number has not been assigned, the view number is displayed as dashes "----."

On the View List Tab, right-click the view title and choose Rename & Renumber to modify the view label information.
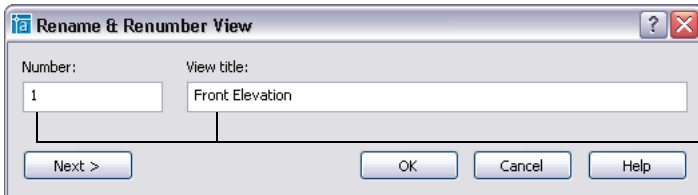
Enter a view number and title.

The View List tab in the Sheet Set Manager is updated to reflect my changes. To see the changes in the label block, I'll use the REGEN command. Any process that causes AutoCAD to regenerate the drawing, such as plotting, saving, or opening, automatically refreshes the information. I can continue adding views and modifying view data, including the viewport scale, with the assurance that the label text is accurate.
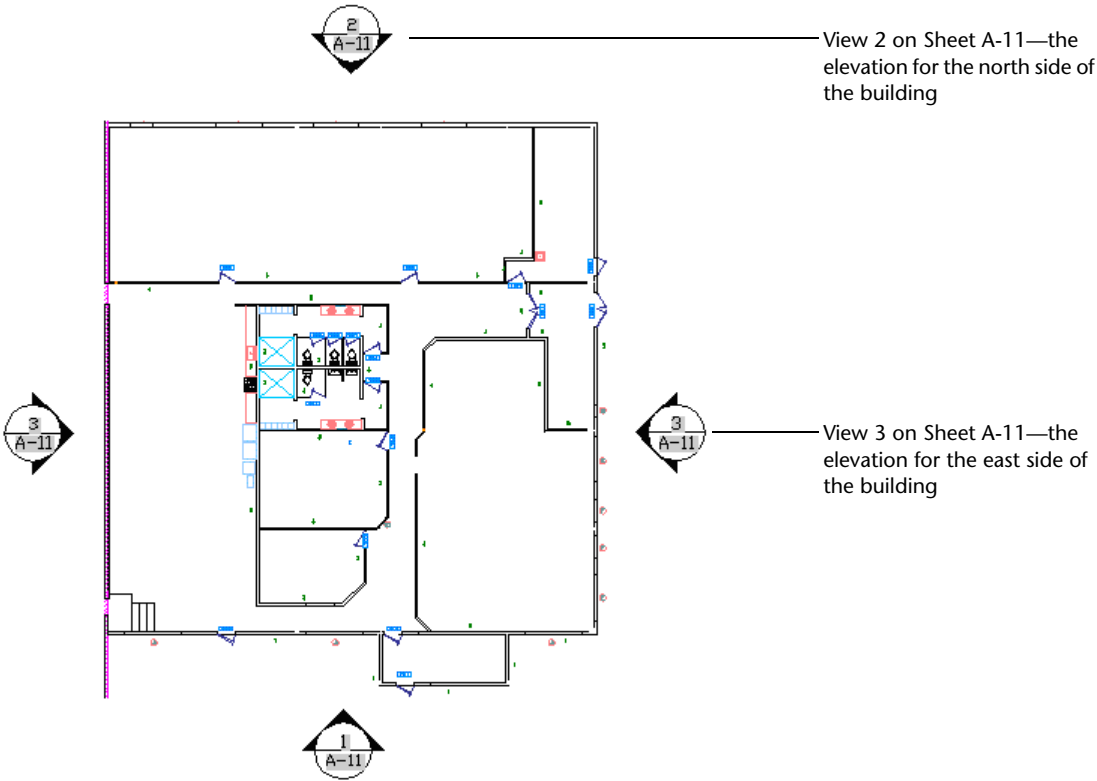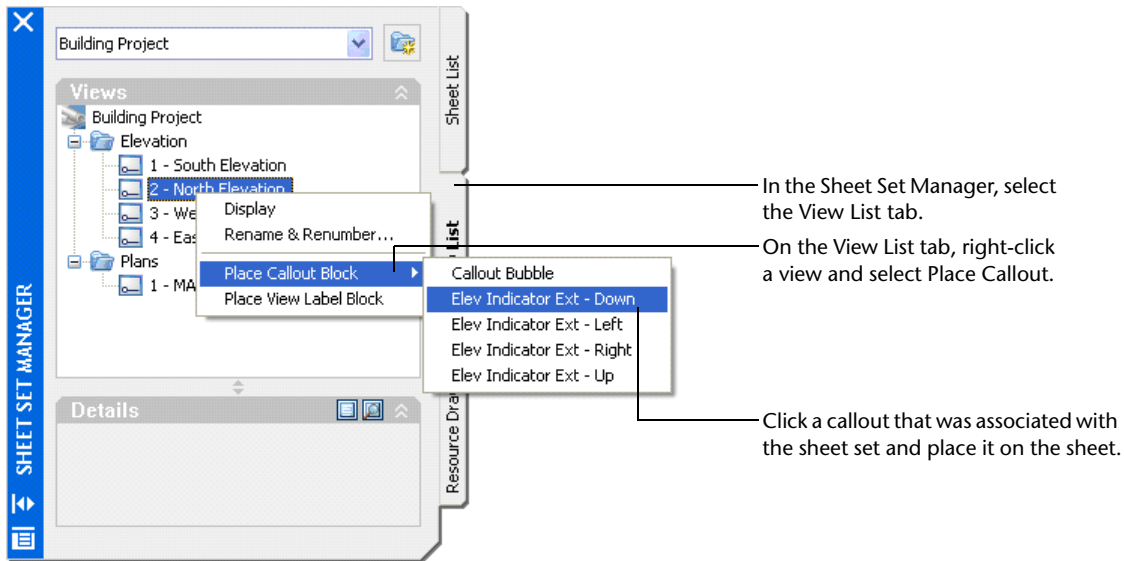
SOUTH ELEVATION
Scale: 1/8" = 1'

How to Insert Callouts

The final step in automating the process of creating and maintaining view data is to insert the field-enabled callouts. You can use the Sheet Set Manager to insert a callout that is associated with a particular view and sheet.

For example, the Elevations sheet, A-11, contains elevation views for the north, south, east, and west sides of a building. On plan sheet A-01, I want to add callouts that indicate where to find the elevations associated with each side of the floor plan.

View 2 on Sheet A-11—the elevation for the north side of the building

View 3 on Sheet A-11—the elevation for the east side of the building

To test my new callout blocks, I open a sheet. If the drawing contained old versions of the callout blocks, I'd purge the old block definition to ensure that AutoCAD uses the new one associated with the sheet set.

In the Sheet Set Manager, select
the View List tab.

On the View List tab, right-click
a view and select Place Callout.

Click a callout that was associated with
the sheet set and place it on the sheet.

The callout block displays the view number and the sheet number for the selected view. If I change the view number on the View List tab or the sheet number in the Sheet List tab and then regenerate the drawing, the callout is automatically updated to reflect the changes.

Pass the cursor over the gray field data to see the
hyperlink icon that will open the associated drawing.

I can add as many callouts as necessary to any sheet in the sheet set. If I need to modify the view or sheet number, I can change it just once in the Sheet Set Manager and know that the change will be displayed throughout the set of drawings. AutoCAD can update text references between views and sheets while I focus on my design!

Where to Go from Here

The Sheet Set Manager significantly improves the process of creating and maintaining views and callouts. From here, you can learn how to

■ Create named views that store layer visibility so you can edit the view boundaries and assign view categories.
■ Associate different callouts based on view categories.

Try creating several named model space views, and then turn on different layers for each view. This is a powerful capability even outside the context of the sheet set manager!

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