

Lesson 29

Assembly Drawings

Learning Objective

At the conclusion of this lesson, the user will gain further mastery of:

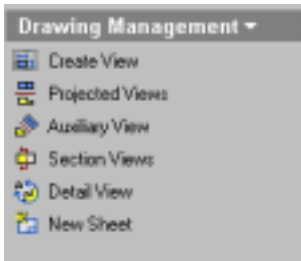
- ◆ Balloons
- ◆ Parts Lists
- ◆ Exploded Assembly Views

To create an Exploded Assembly Drawing, follow these steps:

- ◆ Open a Drawing
- ◆ Create Views using a Presentation File
- ◆ Add Balloons
- ◆ Add Parts List



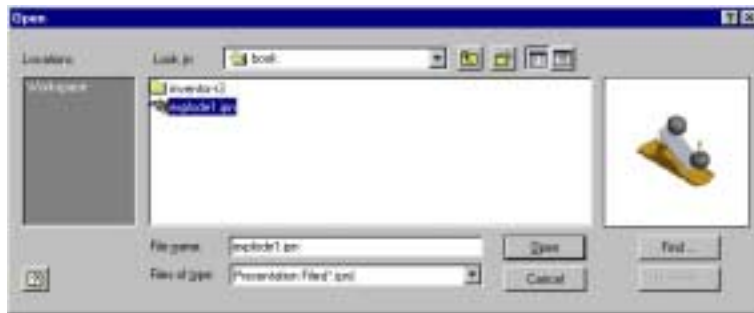
We start by opening a new Drawing file.



Select the Create View tool.



Select the browse button in the first window. Set the files of type to Presentation files.



Locate the file called 'PlaneAssy.ipn'. This is the file that was created in Lesson 28.



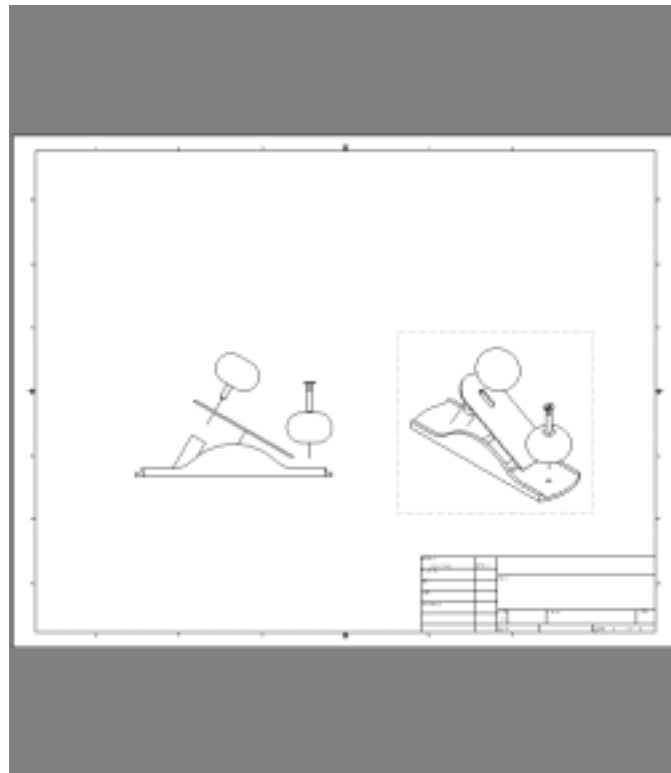
Select the Saved Camera View and place the view on the sheet.



Select 'Create View' again to create a front view.



We locate the explode1.ipn file once again and select the Back View. We then place the view in our sheet as shown.



Trail Properties



Trail Properties changes the line style, line weight, and color for selected trails in drawing views.

Line Font sets the line style and weight for the selected edge.	
By Standard	Sets the line style and weight to conform to the active drafting standard. Select the check box to set the line to the drafting standard; clear the check box to change the line style and weight.
Line Style	This option is not available if By Standard is selected. Changes the line style of the selected line. Click the arrow and select from the list.
Line Weight	This option is not available if By Standard is selected. Changes the thickness of the selected line. Click the arrow and select from the list.
Color sets the line color for the selected edge.	
By Standard	Sets the line color to conform to the active drafting standard. Select the check box to set the line to the drafting standard, clear the check box to change the line color.
Color	This option is not available if By Standard is selected. Changes the color of the selected line. Click the arrow and select from the Color dialog box.

Modifying Trails

In our drawing views, we notice that the trails are solid lines. Many users prefer trails to be a specific color and linetype.

To modify the trails, zoom in using Zoom Window and select the trail(s) we wish to modify. To select more than one trail, hold down the control key.



Right click and select 'Properties'.



Disable By Standard for the Line Font and Color.



Using the pull down menu, locate and select 'Dotted' for the line style.

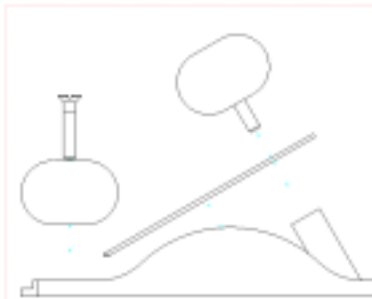


Press the Color button and select Cyan for the color.



Change the Line Weight to 0.110.

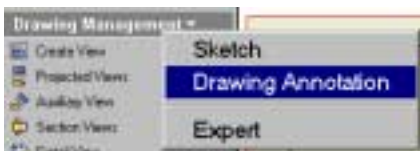
Press 'OK'.



Note how the trails have changed.

Drawing Annotation Toolbar

Activate the Drawing Annotation toolbar.



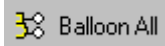
Right click anywhere inside the Drawing Management panel toolbar and select 'Drawing Annotation'.



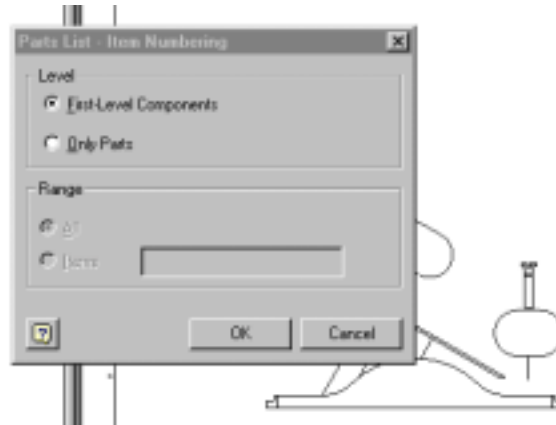
A Drawing Annotation toolbar will appear to replace the Drawing Management toolbar.

At the bottom of the menu we see 'Balloon' and 'Parts List'.

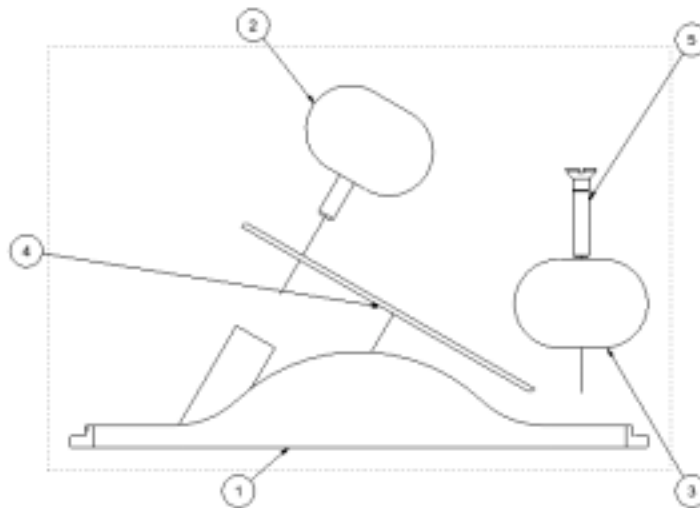
Add Balloons



Click on the 'Balloon' button drop down arrow. There are two selections: placing individual balloons and Balloon All. Select 'Balloon All' and then select the Front Exploded View.



A dialog box appears allowing the user to select First-Level Components or Only Parts. Enable First-Level Components and select 'OK'.



The balloons are automatically placed in the view. To move a balloon pick on it, hold down the green dot with the left mouse and place the balloon in the desired position.



TIP: The way the balloon looks is set in Drafting Standards. To modify the balloon appearance, go to Format->Standards. Balloon colors can be set under the Common tab under Symbol.

Go to Format->Standards and select the Parts List tab.

Revision: ASME Y14.36M - 1989

Output Direction:

Lines of Text:

Row Gap:

Heading

Insert on: ☐ Top ☒ Bottom ☐ None

Heading Gap:

Title:

Column:

Property	ITEM	QTY
Column	ITEM	QTY
Width	0.787	0.591

Row:

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Set the Output Direction as shown. Enable the Heading on Bottom.

Insert Parts List



To create the Bill of Materials, press down the 'Parts List' tool then select the exploded view where the balloons were just placed.



In the Message box, we see a prompt telling us to select a location for our Parts List. Place the Parts list in the lower left corner of the drawing.

 A screenshot showing a parts list table placed in the lower-left corner of a drawing area. The table is outlined in red. To the left of the table is a vertical dimension line labeled 'A', and below the table is a horizontal dimension line labeled '4'.

5	1	ANSI B18.6.2 - No. 10 - 32 x 1	Slotted Flat Countersunk Head Cap Screw
4	1	blade	
3	1	front-handle	
2	1	blade-handle	
1	1	Base Plate	
ITEM	QTY	PART NUMBER	DESCRIPTION
Parts List			

The Part Number and Description information is taken from the Properties dialog for each file.

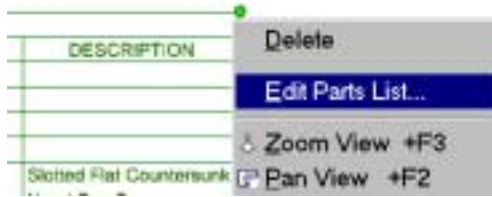
The image shows a screenshot of the 'blade.ipt Properties' dialog box, specifically the 'Project' tab. The dialog box has a title bar with the text 'blade.ipt Properties' and a close button. Below the title bar are several tabs: 'Summary', 'Project', 'Status', 'Custom', 'Save', and 'Physical'. The 'Project' tab is currently selected. The main area of the dialog box contains various fields for project information, each with a label and a corresponding input field or dropdown menu. The fields are: 'Location' (D:\autodesk\book-4), 'File Subtype' (Modeling), 'Part Number' (A101), 'Description' (BLADE), 'Revision Number' (A), 'Project' (PLANE ASSEMBLY), 'Designer' (E. MOSS), 'Engineer' (empty), 'Authority' (empty), 'Cost Center' (empty), 'Estimated Cost' (empty), 'Creation Date' (1/6/01), 'Vendor' (empty), and 'WEB Link' (empty). At the bottom of the dialog box are three buttons: 'Close', 'Cancel', and 'Apply'. There is also a help icon (?) in the bottom left corner.

Field	Value
Location:	D:\autodesk\book-4
File Subtype:	Modeling
Part Number:	A101
Description:	BLADE
Revision Number:	A
Project:	PLANE ASSEMBLY
Designer:	E. MOSS
Engineer:	
Authority:	
Cost Center:	
Estimated Cost:	
Creation Date:	1/6/01
Vendor:	
WEB Link:	

We should go back to each of our files and update the Properties so that our Parts List is automated.

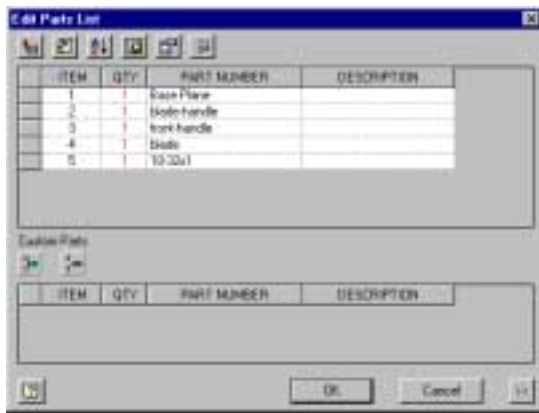
Or we can edit the Parts List.

Edit Parts List



To edit the parts list, the user can:

- ◆ Select the Parts List in the drawing window, Right Click and select the 'Edit Parts List' option.
- ◆ Select the parts list in the browser, Right Click and select the 'Edit Parts List' option.



The Edit Parts List Dialog comes up.

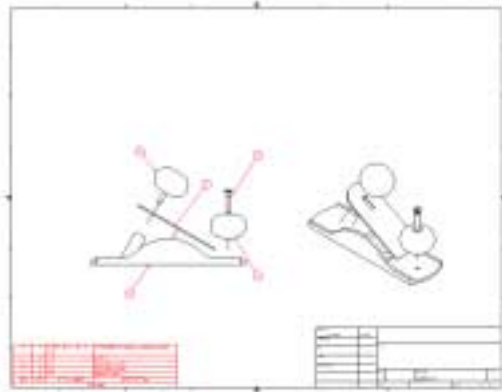


Modify the Parts List as shown. Set the width for the Description Field to 3.5
Press 'OK' to exit the Edit Parts List dialog box.

8	1	AA6518 E2 - Rev. 10	Bottom Flat Countersunk Head Cap Screws
10 x 1			
9	1	004	BLADE
10	1	005	HANDLE, F. RIGHT
11	1	006	HANDLE, F. BLADE
12	1	007	BASE PLATE
ITEM	QTY	PART NUMBER	DESCRIPTION

Parts List

Our updated Parts List appears.



Our assembly drawing.

Save the drawing as PlaneAssembly.idw.



Review Questions

1. Assembly drawings use exploded views. The exploded views are created in:
 - A. Assembly files
 - B. Part files
 - C. Presentation files
 - D. Drawing files
2. To change the appearance of Trails:
 - A. Select the trail, right click and select 'Properties'
 - B. Use the Modify Trail tool
 - C. Go to Format->Standards->Color
 - D. Go to Tools->Options->Presentation
3. To select more than one trail at a time to modify, hold down this key:
 - A. Shift
 - B. Tab
 - C. Control
 - D. Space
4. To activate the Drawing Annotation toolbar in the Panel Bar:
 - A. Go to View->Toolbars
 - B. Right click in the Panel Bar area
 - C. Right Click in the Graphics window
 - D. Right Click in the browser
5. To change the format of a Parts List:
 - A. Select the Parts List in the browser or graphics window, right click and select 'Properties'
 - B. Go to Format->Standards->Parts List
 - C. Go to Tools->Options->Parts List
 - D. Go to File->Properties

ANSWERS: 1) C; 2) A; 3) C; 4) B; 5) B