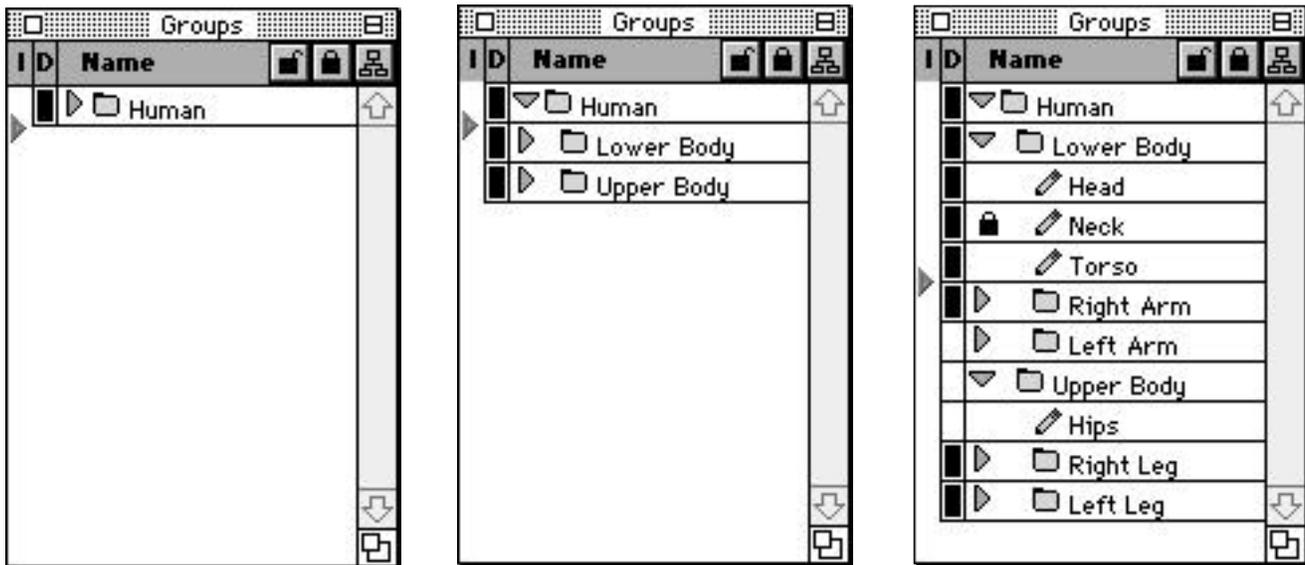


## The Group Palette

Groups are a very important part of Presenter Professional. They provide a powerful level of functionality in both ModelPro and Presenter. One of the keys to becoming a successful, effective user of Presenter Professional is the understanding of Groups.

Within ModelPro, Groups are used to organize the different elements of a model into meaningful groups and subgroups to aid in the creation of, and interaction with, that model. The Groups are hierarchical in their nature. That is to say that sub-groups can be contained within groups, which can be contained within other groups. The organization of this hierarchical structure is totally up to you, the user, and you can change the structure at any time.

For example, consider a model of a Human figure.



The model of a Human is made up of a good number of parts and sub-parts. So, the overall model is designated to be a folder that contains these parts.

The Human model can be defined to be really only made up of two primary parts: The Upper body and the Lower body. Certainly, each of these two groups contains lots of sub parts, so they are also shown as folders.



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Inside the Upper body folder is found the Head, the Neck, the Torso, as well as the Arms. And the Lower body has the Hips and the Legs. The Arms and Legs, of course, are groups of sub-parts, so they are also shown as folders. The Head, Neck and Hips in this case are singular elements and do not contain any sub-parts, so they are show as small pencils. The pencil is an icon that represents an actual ModelPro object.

And so on. This could continue as far as you wanted to go. The Right Arm group could contain the Upper Arm, the Forearm, and the Hand. The Hand group could contain the Palm and the Fingers. The Fingers group could contain knuckles. etc.

The point of all this then is that if you want to move the entire figure to a new location with the model of a house, you can select the Human folder, and the entire figure will be selected. Then when you go into one of the view windows and grab it by any point and move that point, the whole group moves. You don't have to move each part independently, nor do you have to go through a complex selection exercise to get the whole figure selected in order to move it.

Then, if you wanted to have the human bend over to pick up something, you would just select the Upper Body group and rotate that group. All of its parts would move accordingly. Then you would want to move its arm. The arm is in the right position with respect to the upper body being bent over, so now you could just select the Arm group and rotate it from there, and all the parts of that arm would move together.

This whole idea of groups and sub-groups makes it easy to do manipulations where some parts of the model are related to certain parts, but not to other parts.

Groups are also important within ModelPro because of their impact when you take the model over to Presenter to do animations. It is important to develop a useful group structure to aid the generation of complex animations.

In the Group palette, this hierarchy is represented by an “outline” structure. The “root” or “top” level is the left-most of all items in the list. In the case of our example, the “Human” folder is the sole root-level group. If there were other Humans in this model, then they would also be at this level. These groups would all be “sisters” to each other.

Objects and groups that are contained within folders that are at the root-level are shown in the Group palette one increment to the right. This second level is a “daughter” level to the “root” level. A third level of objects and groups that are contained within folders that are at the second level, are all a second increment to the right in the Group palette.

And so on. With each step down the hierarchical ladder, the group name moves one more increment to the right.

### **Building and controlling the group structure in the Group palette**

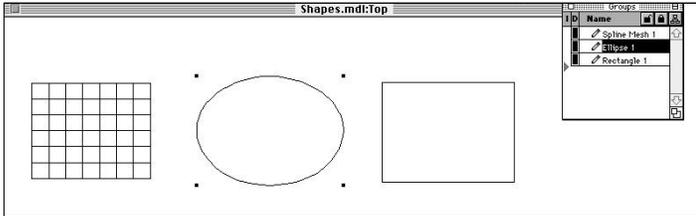
When you create any object in one of the view windows, that object automatically appears in the Group palette at the location specified by the Insertion Pointer. It is given a name that matches its entity type along with a number. i.e. Ellipse 1, Extrusion Mesh 1, etc.

It is likely that as you create new objects in the work space, you won’t always be paying close attention to their names or where they wind up in the hierarchy of the Group palette. The list will probably get quite jumbled at times. But, no matter, because you can rearrange and re-order the group list at any time.

For the most part, it is possible to do an entire project using ModelPro without ever getting involved with the Group palette. But you would be missing out on a good deal of power and flexibility for getting things selected and transformed according to the hierarchical relationships between the parts. The Group palette is a time saver, and an efficiency aid.

## Selecting objects and groups in the Group palette

It is important to understand that selecting objects or groups in the Group palette is exactly the same thing as selecting them in one of the view windows.



Object highlighted in view window and group palette

When you click on an individual object in the Group palette, it highlights in the palette by turning black, and it highlights in the view windows by having its bounding box corners appear. (Clicking on an object in the Group palette is like clicking on an object in a view window with the Option key

held down.) And when you click on an object in the view windows, it highlights in both places as well. So it doesn't matter whether you click on the object in the Group palette or within a view window to select it

When you click on a group in the Group palette (regardless whether the folder is open or closed), it highlights in the Group palette by turning black, and it highlights in the view windows by having a bounding box appear that surrounds the extents of the entire group.

Clicking on objects or groups in any of the view windows does give different results depending on which Selector tool is being used (standard or Direct), and whether the group folders are open or closed in the Group palette.

The Standard Selector tool pays attention to whether group folders are open or not. When an object is clicked on in a view window with the Standard Selector tool; if that object is inside a folder and if that folder is "open" in the Group palette so that the object is visible in the list, then that object will be selected. If the folder is "closed", then the folder itself, containing the object that was clicked on, will be selected.

(If you repeatedly Option-click on an object with all the folders open, each click will select the next-higher group in the hierarchy until finally the "root" group is selected.)

The Direct Selector tool completely ignores the group structure and doesn't care whether folders are open or closed. When you click on an object in a view window, the object gets selected. It's like the Direct Selector tool can "see inside" closed folders and select the objects there anyway. Since the group structure is ignored by the Direct Selector tool, you cannot select a group by clicking in a view window with the. You can only select objects. (...with this exception: If you repeatedly Option-click on an object regardless if the folders open or closed, each click will select the next-higher group in the hierarchy until finally the "root" group is selected.)

## Naming an object or Group

You can assign any name you want to an object or group.

- 1) Select the object or group you want to rename by clicking on it.
- 2) Choose "Information" from the Group menu (or double-clicking on the object either in the Group palette or a view window). (Or press **⌘-I** on the keyboard.)
- 3) Type a new name into the "Name" field in the resulting dialog box.

## Creating a Group

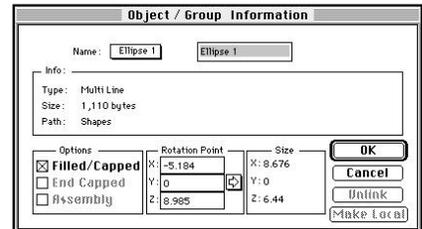
You can combine several independent objects into a single group.

- 1) Select the objects you would like to combine into a group by shift-clicking on them.
- 2) If it matters to you where the new group appears in the list, be sure to put the Insertion Pointer at that location.
- 3) Choose "Group" from the Group menu (or press **⌘-G** on the keyboard).

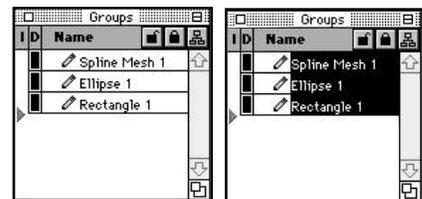
A dialog box will appear asking you to give the new group a name.

- 4) Type in a name for the folder and hit the "Add" button.

A new folder appears in the group list at the Insertion point, and the selected objects are "inside" that folder.



Group Information dialog

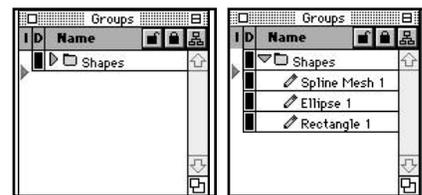


Unselected

Selected

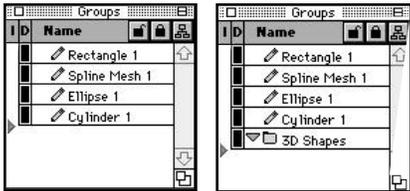


Group Name dialog

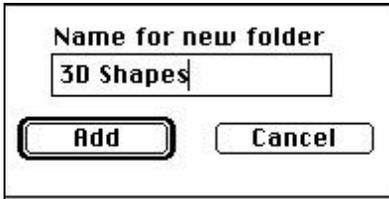


Closed

Open



Placing a folder in a group.



Naming a new folder.

### Creating a Folder

You can create a new folder at any time so that you have a place to gather other objects and groups together to form a new group.

- 1) If it matters to you where the new folder appears in the list, be sure to put the Insertion Pointer at that location.
- 2) Choose “Create Folder” from the Group menu (or press **⌘-F**).

A dialog box will appear asking you to give the new group a name.

- 3) Type in a name for the folder and hit the “Add” button.

A new folder appears in the group list at the Insertion point. There are no objects “inside” that folder.

### Re-defining the hierarchy of objects and groups in the Group palette

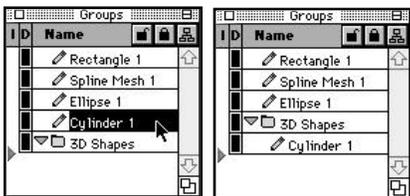
You can select an object or a group and drag its name to a new location on the list. ModelPro will put the item you are moving between the two items at the point where you release the cursor. The object will always go in at the lower hierarchical level of the two items. Beware that you could easily change the group affiliation of that object. (Of course, that may be your intent.)

#### To assign an object or sub-group to a new group

You can put an object or sub-group “inside” a different folder by dragging the object right below an open folder. The object will go into and become a “daughter” of the open folder. To put an object into a specific folder:

- 1) Make sure the destination folder is open.
- 2) Drag the object to a location just below the folder.

The object will go inside that folder and become a “daughter” of that folder.



Assigning an object to a new folder.

If, instead, you move an object or sub-group to a point right below a closed group folder, then the object will become a “sister” of the folder, sitting next to it, rather than a “daughter” sitting inside it.

## To “promote” an object one level

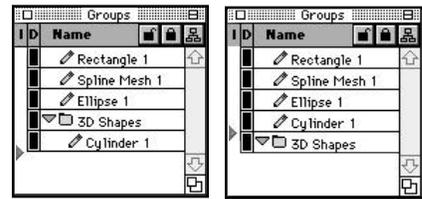
For example, if you want to move the object up one hierarchical level so that it is outside of its current folder, and therefore becomes a “sister” of that folder instead of being a “daughter” of that folder, do the following:

- 1) Drag the object to some point above its current folder and drop it there temporarily.
- 2) Close the original folder that the object was just in.

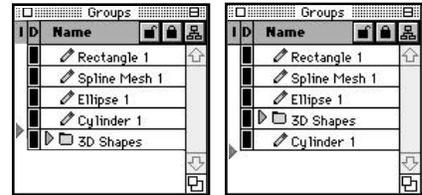
Click on the little Triangle just to the left of the folder to make it point to the right, instead of pointing down.

- 3) Drag the object to a point right below the original folder.

The object is now sitting outside and at the same level as the original folder, and is a “sister” of that folder.

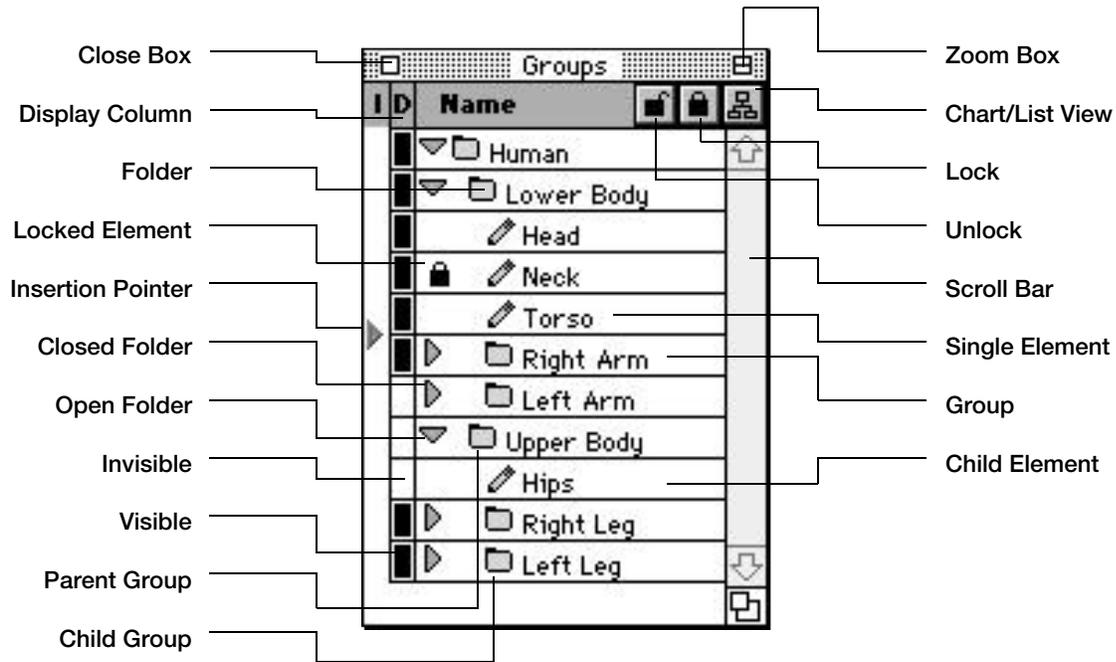


Drag object to temporary location.



Drag object down below folder.

## Description of the Group Palette



### Close Box

A click on this box with the mouse will dismiss the Group palette. To re-open it, choose “Windows / Palettes / Groups” from the Menu Bar.

### Zoom Box

This box differs from the usual zoom box that is found on all standard Macintosh window title bars. A click on this box with the mouse will reduce the entire palette to just its title bar and nothing else. This small “floater” palette that results will be positioned up on the title bar of the Angled View Window. It can be positioned anywhere you want. A second click on this box will expand the palette back out to its original size and location.



Floater palette

The Zoom box is a quick and easy way to get the Group palette out of the way, without having to close it. You can drag either the enlarged or reduced versions of the palette to convenient locations on the screen by grabbing their Title Bars. The location where you leave each version will be remembered by ModelPro. So you can have the palette reduce itself to one location on the screen when you click on the Zoom box, and expand itself to a separate location.

### **Lock/Unlock**

If you select an object in the list (identified by a small pencil icon) and then click on the Lock icon, a small “lock” icon appears next to its name and that object is “frozen.” It cannot be altered in any way (including deletion). The only thing you can do with it is select it so that you can Unlock it.

If you select a folder and click on the Lock icon, then all of the objects contained in that folder and any “sub-folders” will become locked, regardless of their previous state of locked or unlocked, and regardless whether the “sub-folders” are open or closed. Small “lock” icons will appear next to each object.

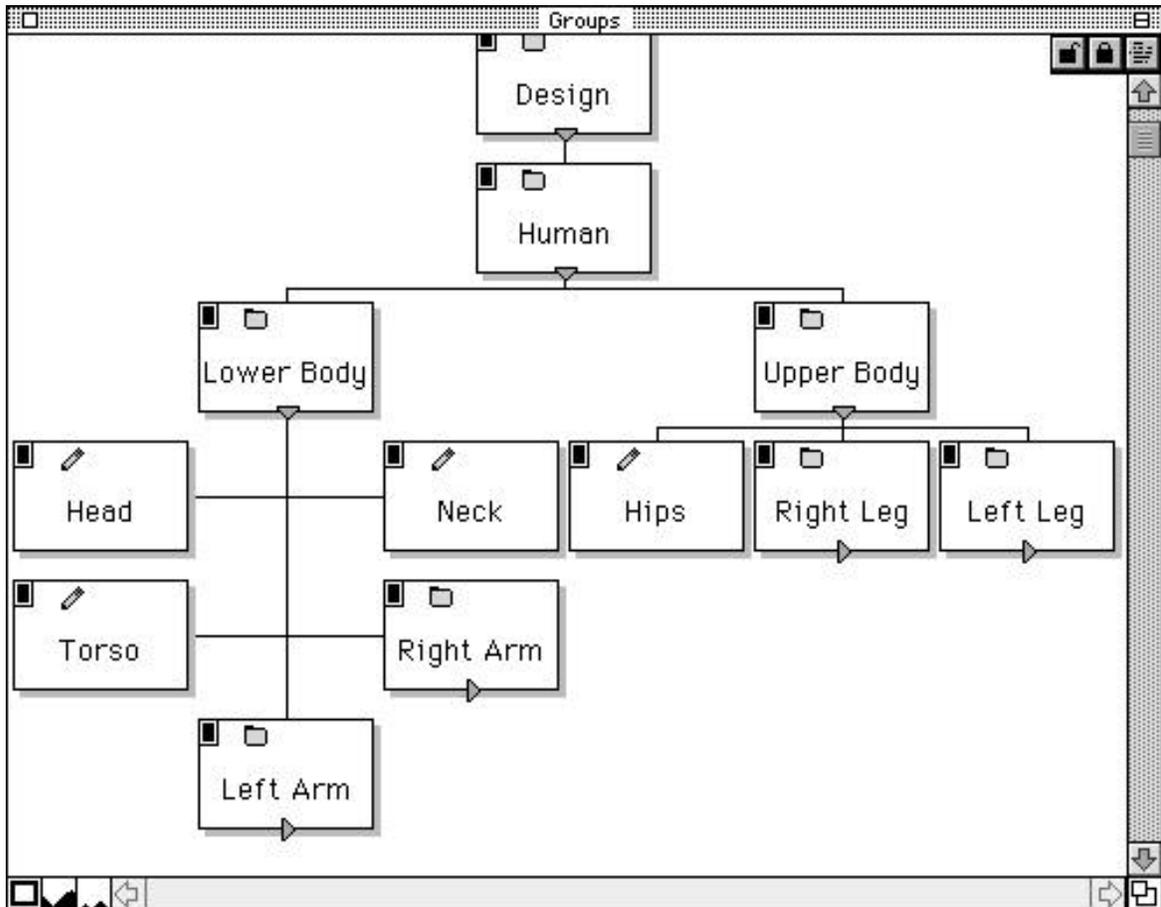
If you select a “locked” object and click on the Unlock icon then that object becomes unlocked.

If you select a folder and click on the Unlock icon, then all of the objects contained in that folder and any “sub-folders” will become unlocked, regardless of their previous state of locked or unlocked, and regardless whether the “sub-folders” are open or closed. All the lock icons will disappear.

### Chart View/List View

This is a switch that toggles the view between two modes of viewing the hierarchy; list and chart.

The Chart View shows the hierarchy in the form of a tree, much like an organizational chart for a company. The “root” level is at the top and all the objects, groups, and sub-groups are sorted out below that.



This Chart View is useful mostly for viewing purposes. Re-arranging of the hierarchy cannot be done in the Chart View. Objects and groups can be selected here. Folders can be opened and closed by clicking on the small triangle at the bottom of a folder box. Objects can be locked and unlocked.

The Chart View will update and readjust itself as you open and close folders to make use of the space inside the window. You can also use the Zoom-in and Zoom-out buttons in the bottom of the Chart View window to better view all or part of the chart.

### The Insertion Pointer

The Insertion Pointer is used to control where the next objects that are created will go in the group list. New objects are always added to the list between the two objects or folders where the Insertion Pointer is located. The new object will go in at the lowest hierarchical level of the two objects on either side of the Insertion Pointer.

“New objects coming in” includes objects or groups that are Pasted in from the clipboard. So, if you want to copy a group to another location in the hierarchy:

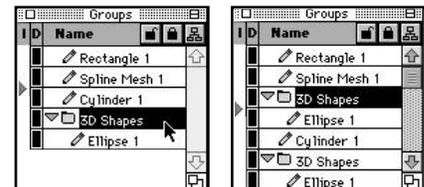
- 1) Select the object or folder that you want to copy.
- 2) Choose Copy from the Edit menu. (Or press **⌘-C** on the keyboard.)
- 3) Move the Insertion Pointer to the location where you want the copy to be introduced.
- 4) Choose Paste from the Edit menu. (Or press **⌘-V** on the keyboard.)

A copy of the original group will now also exist at the new location in the hierarchy. But note that Copy-and-Paste does not change the location of the geometry in the workspace. So the copy of the group is in exactly the same location as the original. They are both lying right on top of each other.

### The Display Column

This column, which is marked by a “D,” is used to control whether objects in the hierarchy are made visible or not.

If the small box next to an object or folder name is filled in with black, then those items are made visible. They will be displayed in the view windows.



Copy and paste a folder.



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If the small box next to an object or folder name is white, then those items are made invisible. They will be not displayed in the view windows.

This can be a useful feature to “hide” certain items, thereby reducing the number of things that need to be re-drawn on the screen, thereby speeding things up considerably.

To hide an object or group, simply click in the “D” box next to the object or folder name, making the box go white. The next time the screen is re-drawn, that object will be made invisible.

To show it again, click on the box to make it black. The next re-draw will bring it back.

If you “hide” a folder, then all of the objects in that folder will be made invisible, regardless whether each one of the objects inside that folder still has the “D” box black or not. Another way to say this is: If the parent folder of an object is white, then that object cannot be made visible, even if the object itself has its “D” box turned black. So, to see an object, make sure its “D” box is black, and make sure that all the higher level folders are black as well.

If you hold the Command key while clicking on the “D” box for a folder, the display setting for that folder and all objects and folders inside it will be set to visible or invisible all at once. This way you can turn on or off all the objects and groups in folder simultaneously.

If you hold the Option key while clicking on the “D” box for an object or folder, that “D” box will go gray instead of black or white. This indicates that the bounding box of this object will be displayed in the three orthogonal views (and the Angled view window if the “Wireframe” display button is selected) instead of the wireframe. This option can be used to greatly speed up the redraw of complex models because ModelPro doesn’t have to redraw each and every spline.

**Folder Arrow**

The small triangular arrow next to a folder is used to open and close that folder. If the arrow is pointing down, that indicates that the folder is open and the contents of that folder are being displayed in the list. If the arrow is pointing to the right then the folder is closed.

To open or close a folder, simply click on the small arrow next to the folder. It will toggle back and forth between open and closed with each click.

To “collapse” the entire contents of a folder, resulting in all of the internal folders being closed, close the folder by clicking on the arrow, and then hold the Option key while clicking on the arrow again to open the folder. The folder will open with all of it’s internal folders closed.

To “expand” the entire contents of a folder, resulting in all of the internal folders being open, close the folder by clicking on the arrow, and then hold the Shift key while clicking on the arrow again to open the folder. The folder will open with all of it’s internal folders open.