

## Libraries Palette

This palette is an intuitive means to duplicate repetitive structures in the current working file (database), and to avoid having to rebuild structures which already exist in other models (databases).

### To make a Library item of a structure (group) which is a part of the current file (database)

- 1) Display the Libraries Palette (Windows Menu, Palettes sub-menu).
- 2) Display the Groups Palette.
- 3) Select the desired group (folder) in the Groups Palette, and drag it to the Libraries Palette.

This moves a “copy” of the original to the Libraries Palette. ModelPro builds a icon-picture of the Front-View of the group for easy reference.

It is possible to make an individual object a Library item. In the Groups Palette, create a new folder specifically for the object, put the item into the folder, and drag the folder to the Libraries Palette.

### To import an existing ModelPro database as a Library

- 1) Display the Libraries Palette.
- 2) Select Open Library... (File Menu).

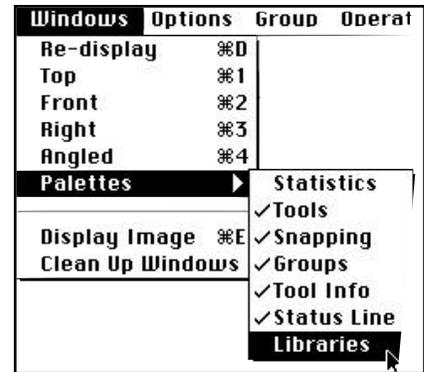
This presents a standard Open dialog box.

- 3) Locate the desired ModelPro file, and double-click on it.

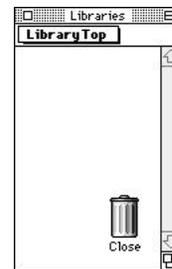
An icon for the new Library file will now show in the Libraries Palette, and its name will appear in the pull-down menu (upper-left corner of the Palette).

When placing Library items into the current working file, the Lasso tool changes to a Library tool. This is automatic, and is the only way to select the Library tool.

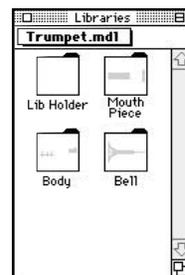
Select Library Top in the pull-down menu to set the display of icons to files opened using Open Library..., and the “world” icon. The “world” icon contains the groups made into Library files by dragging from the Groups Palette. The other icons contain the group structure of the model which was imported.



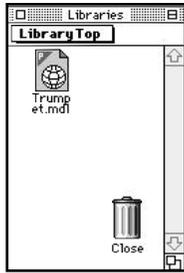
Select Libraries Palette



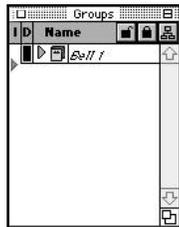
Libraries palette



Imported library elements from an existing database.



Going to the top of a Library.



Placing a library item into the database

### To access the group structure of icons in the Libraries Palette

- 1) Select Library Top in the pull-down menu.
- 2) Select the desired file name in the pull-down menu (or double-click its icon).

When navigating within a group structure, remember that there are only two types of icons: folders (groups) and boxes (individual objects).

- 3) Double-click on a folder to expose its contents.

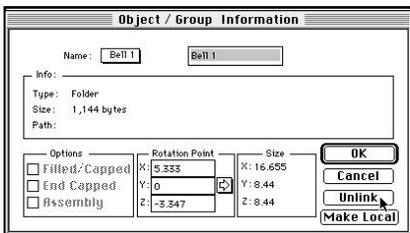
If a group (parent folder) contains other groups (folders), then the parent name will appear in the pull-down menu when you are more than one level down from the parent. Use the pull-down menu to return to higher levels in the group structure.

### To place a Library item (file icon, or folder, or object) into the current working file

- 1) Locate the desired item in the Libraries Palette.
- 2) Drag the item onto any of the three Orthogonal View windows.

Once a Library item has been placed as described, it becomes a “real” item in the database. It appears in all of the View windows and may be edited the same as any other item created in the file. Its name and group structure (if any) appear in the Groups Palette (italicized); the original’s name is now bold in the Groups Palette.

Changes to the original will automatically be made to any of its Libraries. Auto-Update Library Items (General Preferences, Edit Menu) is “on” (default); meaning that changes made to original files will automatically update their Libraries.



Going to the Group Information dialog to lock away a library item.

### To “lock away” a Library item from changes to its original

- 1) Select the Library item in the Groups Palette or in one of the View windows.
- 2) Select Information (Group Menu or -I).
- 3) Click on the Unlink button.

### To “lock away” a Library item of an imported file from changes to its original

- 1) Select Preferences (Edit Menu).
- 2) Select General preferences.
- 3) Uncheck the Auto-Update Library Items check box.

## Statistics Palettes

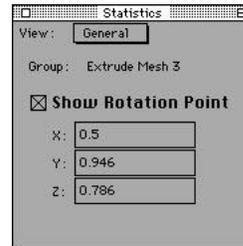
There are three Statistics Palettes: General, Volume, and Area. The General palette is the only one of the three which is not purely informational. The default is to the General palette.

To select a different palette, choose the desired palette name from the pull-down menu at the top of the Statistics palette.

### General Statistics

This palette displays the name of the selected item and the x, y, z coordinates for the item's Rotation Point. You may also choose to display the Rotation Point in the View windows by enabling the Show Rotation Point check box. Click in the check box to toggle between "on" and "off."

Enter values in the x, y, z data fields to precisely position the Rotation Point.

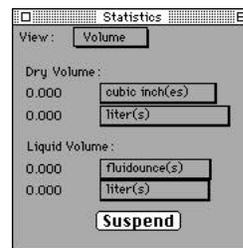


### Volume Statistics

This palette displays volumetric data about the selected item (must be 3-D): Dry Volume and Liquid Volume. This palette does not display information about shapes created using the 3-D primitive tools (Cube, Prism, Torus etc.).

The volume data is displayed in U.S. measure and metric measure. To change the units, click-hold on the units to expose the pull-down menu, and highlight the desired units in the menu.

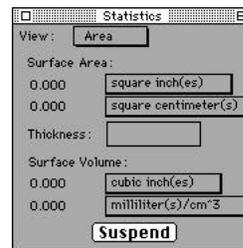
The Suspend/Continue button stops any calculation in progress (in both the Volume and Area Palettes) and sets the data fields to 0. Click on Continue to resume calculations.



### Area Statistics

This palette displays Surface Area and Surface Volume information. The units and Suspend/Continue button work as described in the Volume Statistics above. This palette is informational only.

The Surface Area will display information for selected 2-D or 3-D items. Enter a value in the Thickness data field to display Surface Volume information. The Thickness is a quick multiplier value meant to correspond to a material thickness; it does not affect the model in any way.



## Status Line Palette

At the very bottom of the screen is a palette that contains message information and absolute coordinate information. The coordinate data fields shown here can be very useful for locating objects numerically by typing in cursor locations from the keyboard.

**Note:** One key to using the Status Line to control the placement of points in 3-D space is to make sure that the cursor itself is not resting on any of the four drawing windows while you are doing these operations. The cursor must be resting in some other portion of the screen. If the cursor is resting on one of the drawing windows, coordinate information will conflict with the data you are entering.

**Note:** You can locate objects in planes closer to you and farther from you in a particular orthogonal view window just by picking coordinate values properly. But you cannot locate an object that is *angled* in 3-D space.

### Using the Status Line palette to control the location of Objects.

Almost all of the operations in ModelPro use two points to accomplish their job. Usually these two points are defined by pressing and holding the mouse at the first point, and then drag the mouse to the second point and release the mouse. This is true whether you are creating a Line, a Polygon, a Torus, or almost anything else. The only exceptions to this are the Spline tool and the Center Point Arc tool. These two tools use three or more points for their definition.

#### To numerically define the two points necessary for the location of objects

- 1) Pick the orthogonal view window that represents the plane in which you want the object to appear. Click in that window with the Arrow tool to activate it. (Now the Title Bar of that window should be visible.) The object will appear "straight-on" in this window, and "edge-on" in the other two orthogonal windows.
- 2) Select the tool of choice. (Make sure you don't move the mouse into one of the drawing windows after picking the tool.)
- 3) Hit the Tab key enough times until you see the "X" data field highlight in the Status line. (The "highlight" will cycle through all of the available fields, including the ones in the Tool Info palette.) The contents of that field will be selected. Or, just click in the "X" box to activate it.
- 4) Type in the value you want there, and hit the Tab key to move to the "Y" data field. Do the same for the "Z" data field.
- 5) After you have entered values for all three fields, hit the Enter or Return key. The first point of the object has just been defined here. (In fact, if "Re-Display" the windows by hitting "command-D", you will see that the Depth Origin has moved to the location of the point you have just defined.)
- 6) Type in new values for the three data fields that correspond to the second point of the object, and hit the Enter or Return key. The completed object will appear. (And, the Depth Origin will move to this last point. Re-Display the screen to verify this.)



Look to the Status Line for helpful prompts while using tools, and to precisely locate the cursor in the orthogonal view Windows. (Prompt for Polygon tool shown)