

Autodesk Alias 2011

# Getting Started with Alias

Autodesk®

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## If You are New to Alias

If you have never worked with Alias before, becoming proficient with a new 3D package can seem intimidating. Alias provides you with a powerful, integrated tool set that supports your design process. The interface includes behaviors unique to Alias; this booklet introduces a few basic concepts that will help you navigate through the product.

## Other Sources

### Learning Alias 2011 book

The learning book PDF contains practical tutorials that take you through step-by-step exercises and introduce you to Alias techniques. The tutorials are also included in the on-line documentation with animations to show you how to complete the tutorials.

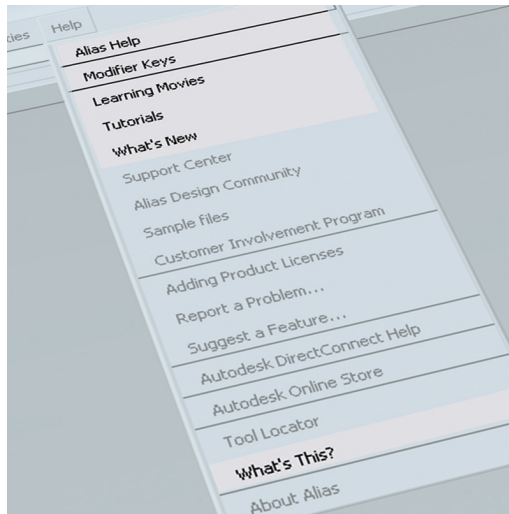
### Online documentation

By default, the documentation is installed with the product.

If you install the documentation separately, you have one more step to do: in Alias, type the documentation path in *Preferences* > *General Preferences* under the System tab to access the help directly from the package.

### Help

The Help menu has a “What’s this?” function. To show the online help for a specific tool or menu item, choose *Help* > *What’s This?*, then click the tool or menu item you want help with.



### Reference Card

A Reference Card is provided at the rear of this guide for you to pull out and use to help remember the keyboard and mouse combinations described in the documentation.

Alias is, simply put, a creative design tool. Unlike most 3D applications, its unique capabilities address a broad range of needs specific to design professionals. Here are a number of applications that you will find Alias very well suited for...

**Ideation** Sketch and illustrate (paint functionality not available in all products).

**Overlay Drawings** Sketch over existing 3D data (paint functionality not available in all products).

**Concept Modeling and Rendering** Create iterative concepts to study form and color (rendering is not available in all products).

**Digital to Physical Modeling Workflow** Work with scanned data of physical models and output models for rapid prototyping.

**Production Modeling** Create geometry for manufacture.

**Design Communication** Teams with technical modelers and designers can communicate with each other by annotating and drawing on the same working files.

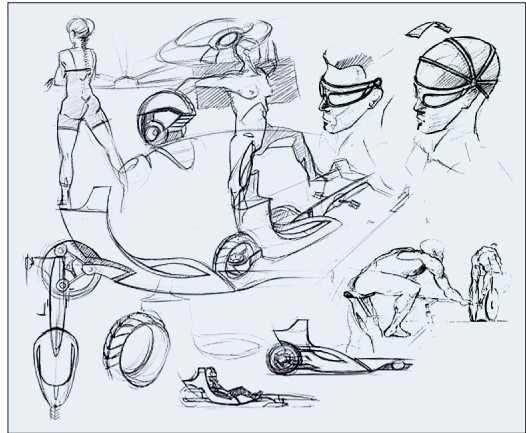


Image courtesy of Mike Jelinek, Autodesk.

Sketching is an integral part of design. Not only does Alias offer a full feature paint workflow, it provides a single environment from which 2D drawings flow into the 3D process.

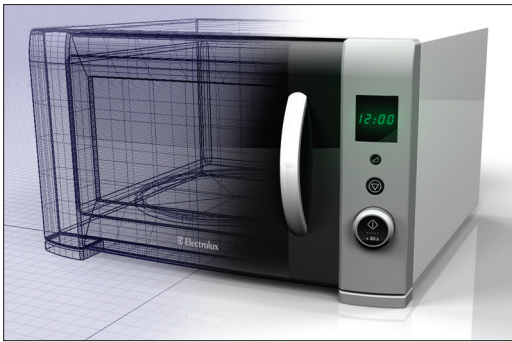


Image courtesy of Alexander Barros Neves, Duncan McCall.

Whether a designer or a modeler is creating iterative concept models or Class-A technical surfaces, Alias provides the tools to capture complex form and to visualize it.

## Design Presentations Using Alias

Annotate over live data and dynamically modify 2D images or 3D geometry during your design critique.

**Animation** Create design animations to communicate use-cycles, turntable animations, fly-by sequences, or animated exploded views (not available in all products).

**Output Images** Create high quality print images for sales and marketing collateral (not available in all products).

# GETTING STARTED

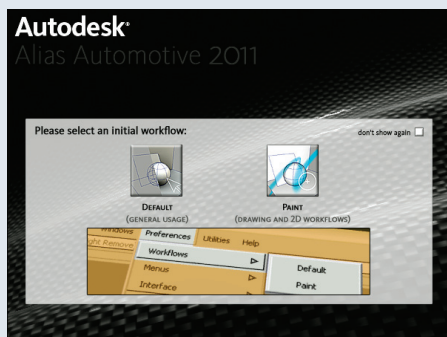
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## Launching for the First Time

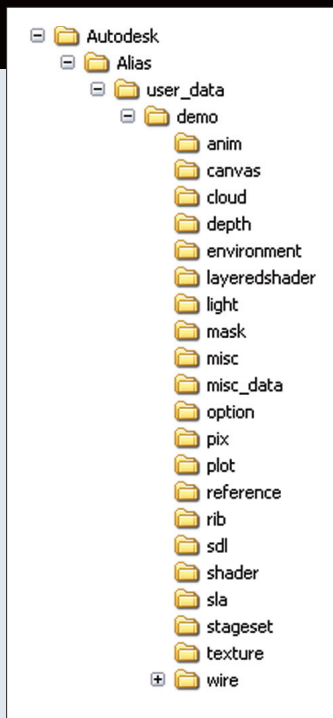
When you launch Alias for the very first time, you are prompted to create a user\_data directory. This directory is created in My Documents\Autodesk\Alias (Windows) or Documents/Autodesk/Alias (Mac) .

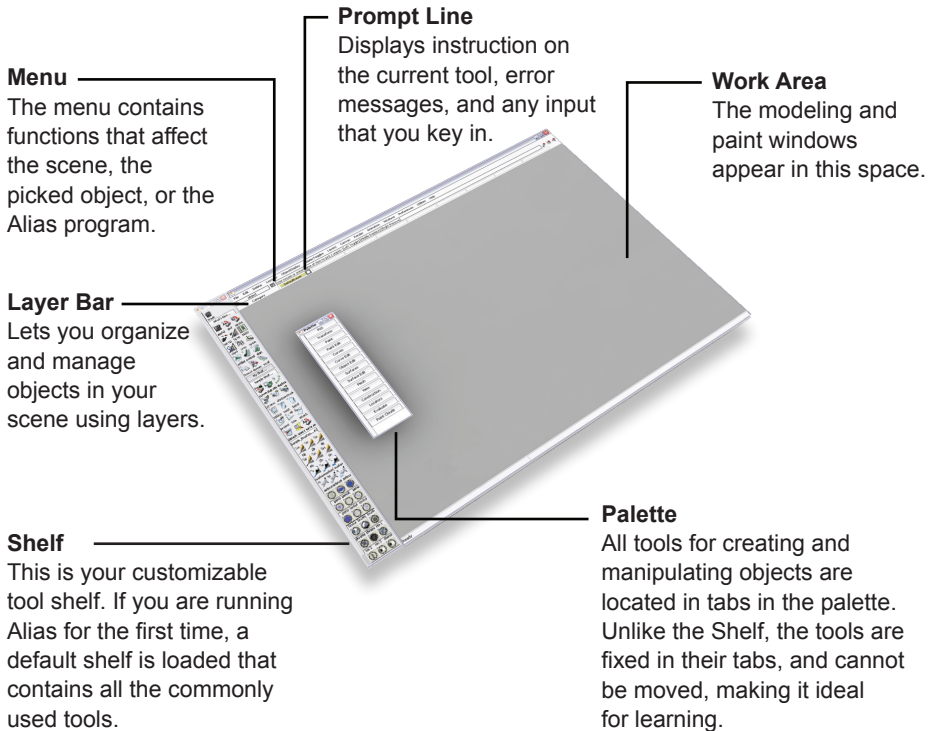
The user\_data directory contains your project folders, required by Alias. By default, Alias creates a project called Demo for you to use. A project contains many folders, the most important ones being the wire folder (where your actual file is saved) and the pix folder (the default location where images are saved).

## Workflow Setting

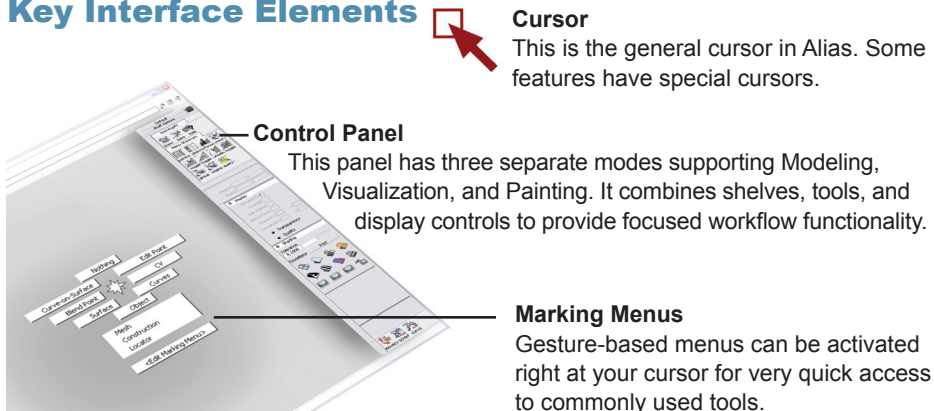


If you run an Alias product that includes both modeling and painting features, this window opens. Selecting Paint opens Alias in an environment developed for 2D sketching. Selecting Default opens Alias in an environment suitable for modeling and sketching.



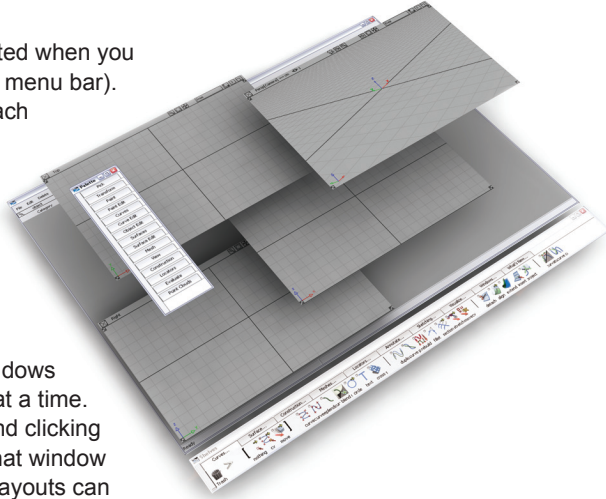


## Key Interface Elements

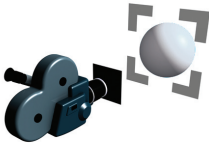


## Windows

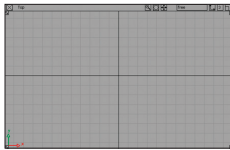
Windows are automatically generated when you create a new file (*File > New* in the menu bar). By default, there are 4 windows, each occupying a quarter of the space. At any time, you can change the number of windows or position and resize them to suit your needs. The windows can overlap each other. In this case, the active window is drawn on top.



Although you can view multiple windows at once, you can only work in one at a time. Moving the cursor into a window and clicking in it, or on its window bar, makes that window active. New windows and window layouts can be selected from the *Layouts* menu.

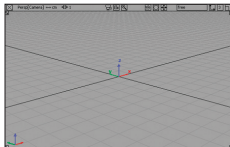


In Alias, windows are associated with virtual cameras, so a window is like looking through a view finder at your data. Windows are independent of your data, so closing a window does not delete objects in your scene or the cameras. There are 3 types of windows in Alias: Orthographic, Perspective, and Paint.



### The Orthographic Window

The orthographic window gives you a two dimensional view of the objects in your scene. These windows provide fixed views. The orthographic views are *Top*, *Left*, *Right*, *Bottom*, *Front* and *Back*.



### The Perspective Window

This window lets you view your 3D scene from any angle. You can tumble, zoom, and pan the camera view. You can turn off the perspective in this window and tumble in an orthographic mode. The perspective window also has an associated Viewing Panel, allowing access to preset views and camera controls.

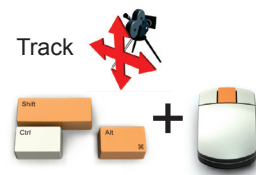


### The Paint Window

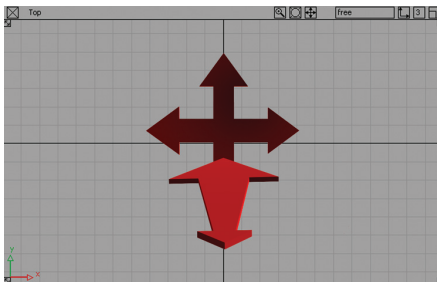
The paint window is for viewing Canvases and Overlays. This window type supports sketching and annotation workflows.

## Navigating Windows

Building your muscle memory using keyboard modifier keys combined with mouse button clicks lets you interact with Alias with incredible finesse. The Shift, Ctrl, and Alt keys (Windows) or Shift, Control, and Command keys (Mac) are important elements of the interface and can dramatically speed up your ability to switch between common functionality without ever losing focus. Manipulate the views inside your windows by clicking on tools, or by using modifier keys and mouse button combinations.

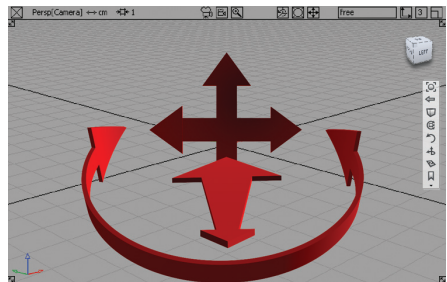


The Orthographic Window



Track your view and zoom in and out in the orthographic window.

The Perspective Window



You have complete viewing freedom in the perspective window, plus essential control with the **ViewCube** and **NavBar** which automatically appear when the Shift + Alt (Windows) or Shift + Command (Mac) modifier keys are pressed.

## ViewCube and NavBar

### 26 Preset Views

Click faces, corners, and edges.



**Previous View** ———  
Toggle between current and previous view.



- Look at selected objects.
- Switch between orthographic and perspective view.
- Orient tumble behavior to an active construction plane.



## Menu, Palette & Shelves

The menu bar contains a series of pull-down menus. Each menu contains a group of related commands.



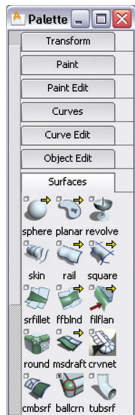
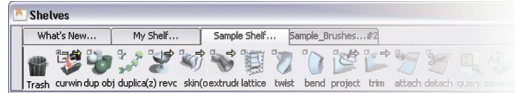
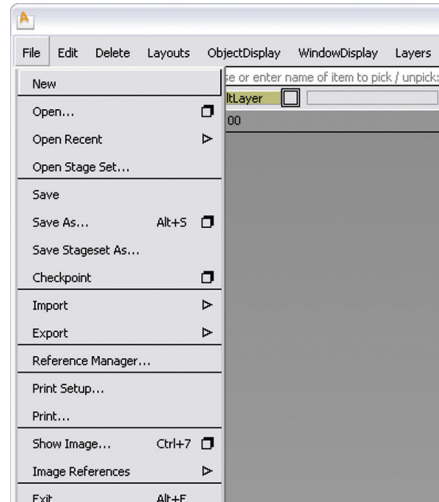
This symbol indicates that an item has an associated option window or editor. To open, click on the icon. You will see this symbol in the menu pull-down as well as the palette and shelf.



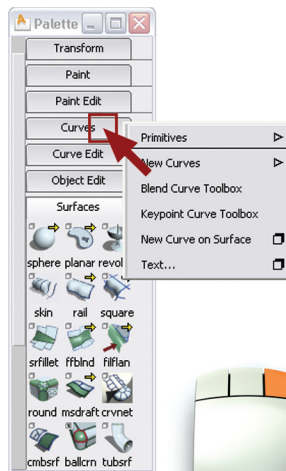
This symbol indicates a submenu. Click and hold on icons that have this symbol to open a cascading list.



This symbol also indicates a submenu, but is used over tool icons in the palette and shelf. Click and hold on icons that have this symbol to open a cascading list.



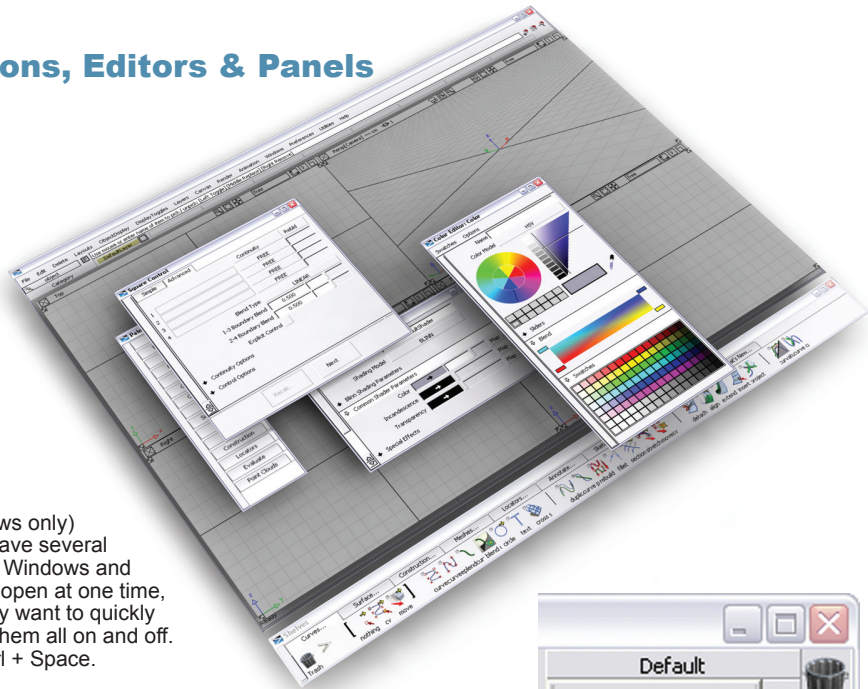
Tabs can be found in the palette and the shelves. They can be opened by clicking on the tab with the left mouse button.



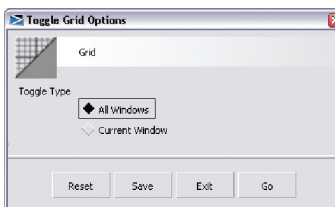
Tab contents can also be accessed without actually opening the tab. Clicking on the tab with the right mouse button opens a cascading menu revealing all the contents. This is useful when you do not want to lose focus from the current set of open tabs.



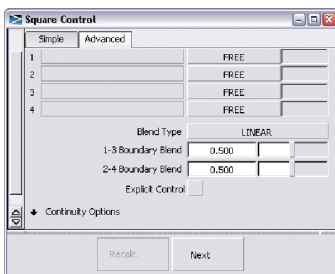
## Options, Editors & Panels



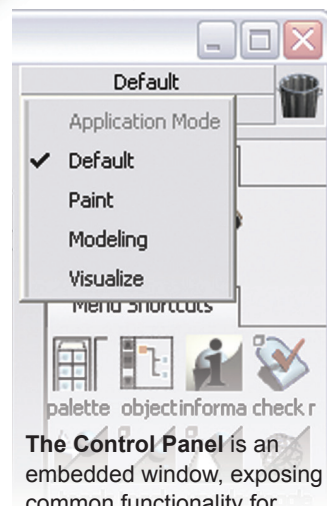
(Windows only)  
If you have several  
Control Windows and  
Editors open at one time,  
you may want to quickly  
toggle them all on and off.  
Use Ctrl + Space.



**Option windows**  
let you change  
settings of the  
associated tool.  
They cannot stay  
open while you  
continue to work.



**Control windows**  
and **Editors** are  
persistent and can  
remain open while  
you work, allowing  
you to adjust  
values and/or  
switch settings.



**The Control Panel** is an  
embedded window, exposing  
common functionality for  
different tasks. Open the  
panel from *Windows >*  
*Control Panel* in the menu  
bar or from the marking  
menus.

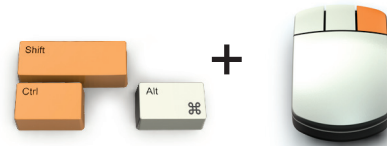
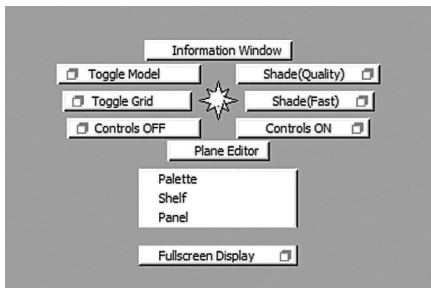
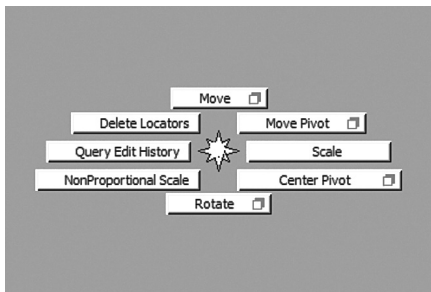
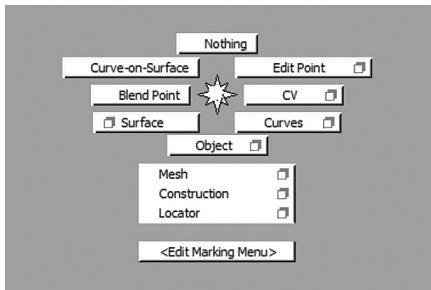
To switch the Control Panel  
mode, click on the pulldown  
button at the top of the panel.



## Marking Menus

Marking menus™ appear when you hold the Shift and Ctrl (Windows) or Shift and Control (Mac) keys plus one of the mouse buttons. Once you know the positions of the primary tools, you can activate a selected tool by gesturing in its direction before the marking menu even appears. Marking menus provide the fastest method for choosing tools.

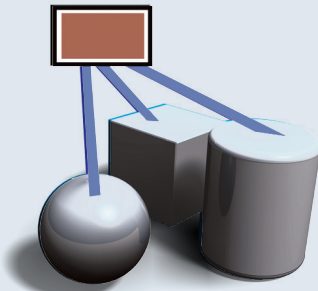
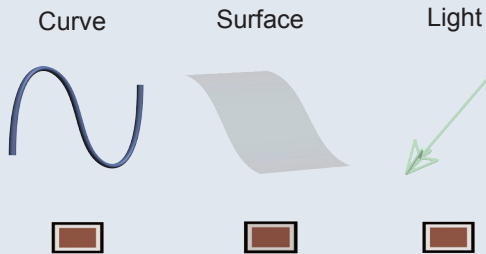
Look below for the default tool setting for each corresponding mouse button



# BASIC CONCEPT of OBJECTS

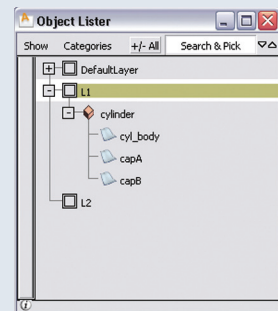
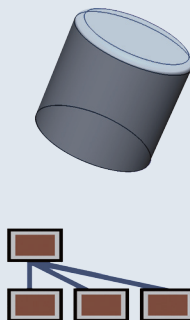
It is important to understand the basic concepts of how Alias manages objects. This is fundamental to how objects are picked and manipulated.

There are many different types of objects in Alias, but almost everything that exists in your scene follows the same basic principles. To begin, many objects, like curves, surfaces, and lights, are handled similarly. All these objects can be abstracted to a single unit, or entity.



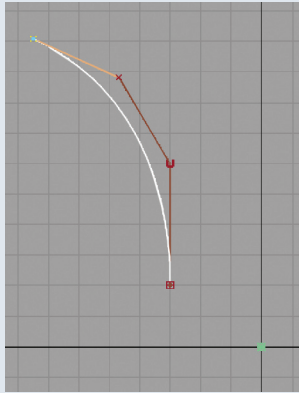
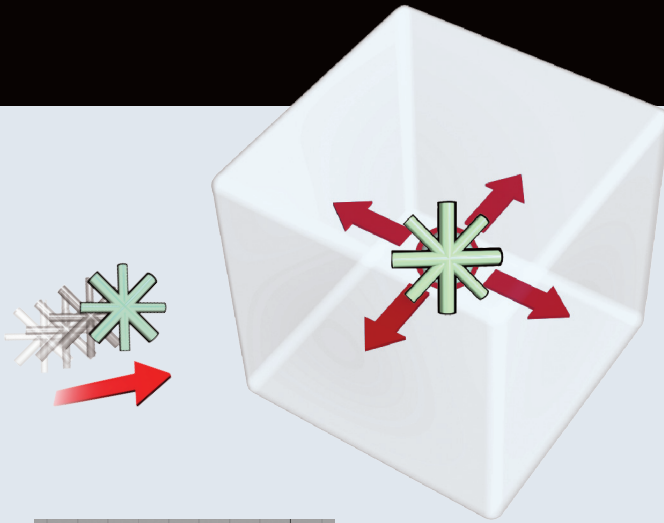
Individual objects can be grouped together to form a 'new' object. This concept is an essential aspect of Alias. You will find some preset objects have separate components. More importantly, as Alias is a surface modeling package, any single part of a model can be made up of many separate surface patches. You will be using the Group functionality (*Edit > Group* from the menu bar) to help collate individual objects. In Alias, you create groups within groups, which is helpful for managing objects with many parts.

This cylinder is made of three separate surfaces, grouped together into one object. Using the Object Lister (*Windows > Object Lister*), you can view objects in your scene to see group relationships. The Object Lister also helps you select objects and serves as a layer manager.



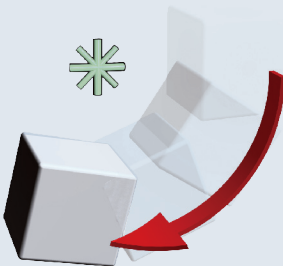
## Pivot Points

Each object has its own pivot point; a group has a pivot point and each of the components that makes up the group has its own distinct pivot point as well. You will find taking advantage of pivot points to be invaluable when manipulating objects.

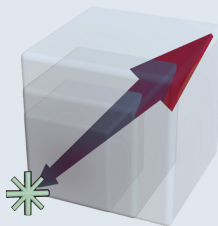


When new curves, surfaces, or groups are created, the pivot point is automatically created at the origin (0,0,0 in coordinate space).

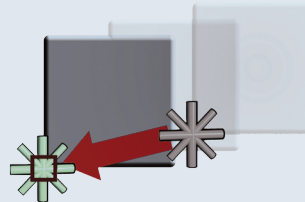
Position the pivot point using *Transform > Local > Set Pivot* from the palette to better control how your objects behave.



Like a hinge, the location of the pivot defines the point of rotation.

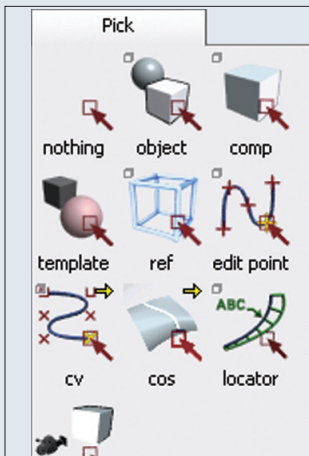


An object scales up and down from the pivot point.

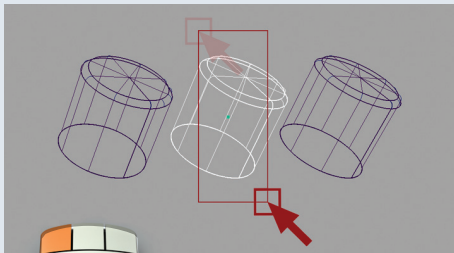


The pivot does not affect free movement of objects unless the object is being snapped to a specific target.

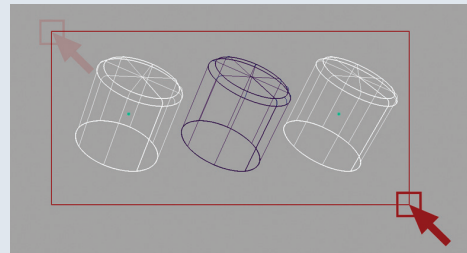
# BASIC CONCEPT of PICKING



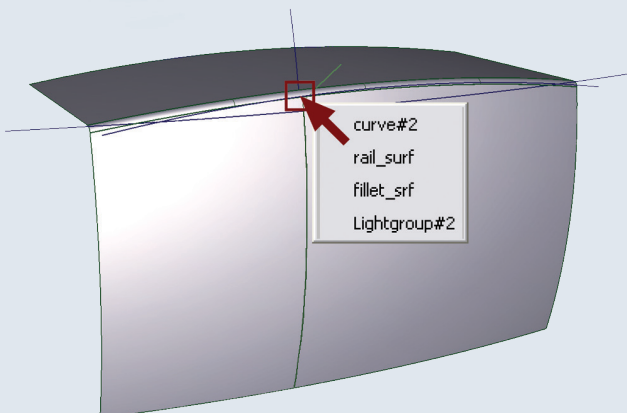
There are many pick tools in the palette, but *Pick Object* and *Pick Component* are the main tools for selecting objects in your scene. Pick Object always selects the top of a group. Pick Component always selects the individual entities, never the group.



To pick, choose a pick tool, click on or draw a marquee over the object you want to pick.



To add more objects, click on them. To remove them from the set of picked objects, click on them a second time.



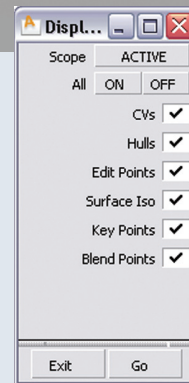
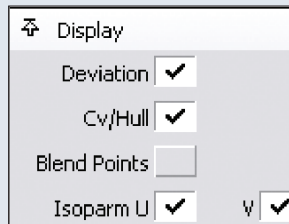
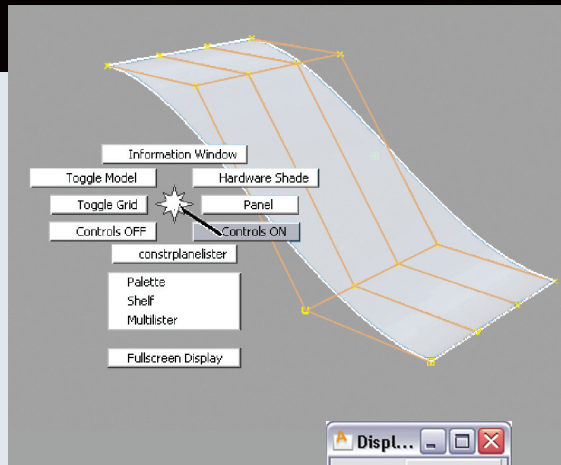
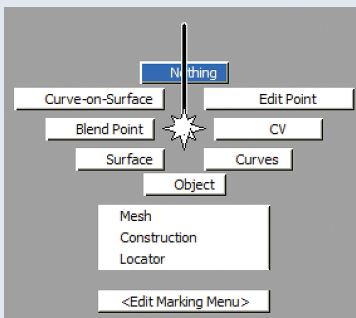
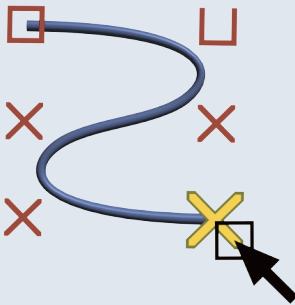
When you click an area with more than one valid object to select, a Pick Chooser appears. Clicking on the list lets you easily and accurately make your selection.

## Displaying Controls

To effectively use Alias, you need to become accustomed to toggling on and off the display of certain elements. This is particularly true of Control Vertices. These points reveal the mathematics of the geometry and are also a powerful method for you to sculpt form.

Master display controls are located in *Object Display > Control*. This control window gives check boxes for turning the various controls on and off.

You will find that it is easier to access these controls in the Marking Menu and the Control Panel.



To pick Control Vertices (CVs), use Pick CV from the palette or from your Marking Menu. The pick behavior is the same as that of picking objects, so you can click to select or marquee select multiple CVs.

When a CV is selected, it shares the same pivot point as the curve that it is a part of. This is useful for scaling the points and rotating. Unlike objects, CVs do not snap to the pivot. If you snap move a CV, the CV itself goes to the target location. This is also true of other points and handles.

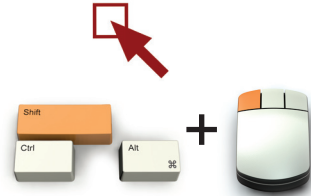
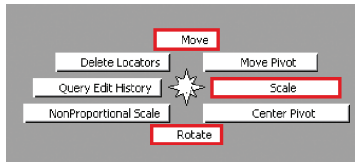
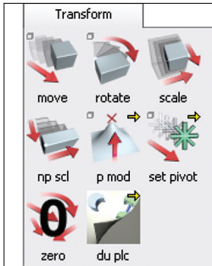
Another important pick tool is Pick Nothing. Pick Nothing deselects all objects in the scene. This tool is a momentary function. As an example, if you are in Pick Object and realize you have selected the wrong curves, you can invoke Pick Nothing to deselect; however, you are still in Pick Object mode and can continue selecting, without having to choose that tool again.

# 18 Transforming Objects

## Transform Tools

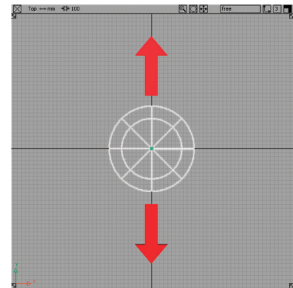
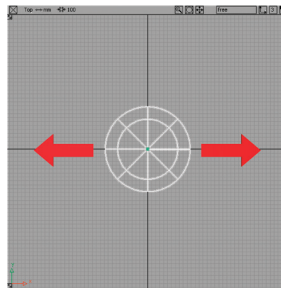
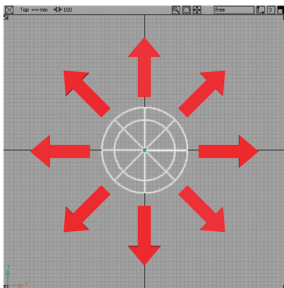
There are numerous transform tools in the Palette. The primary tools are Move, Rotate, and Scale, which can also be found in the default marking menu and shelf.

When you make one of these transform tools active, it is important to know that the tool remembers the last pick mode that you were in. Effectively, these tools are combined selection/transform tools. In these tools, Shift + Click allows you to add and remove selected items. It is a good practice to keep your cursor away from objects when moving, to prevent accidentally selecting and moving the wrong object.



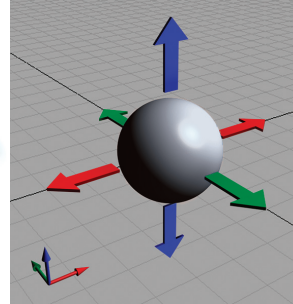
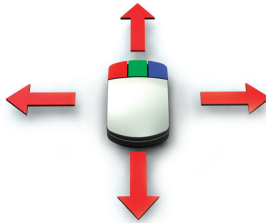
## The Orthographic Window

There are exclusive behaviors for moving in the orthographic and perspective windows. In the orthographic windows, the left mouse button allows free transform. Using the middle mouse button constrains the transformation horizontally for Move and Scale (regardless of which orthographic view you are in). The right mouse button constrains vertically.



## The Perspective Window

In the Perspective Window, the mouse buttons correspond to the world space coordinates (X,Y, Z) to allow free movement in all axes. When moving, the left button constrains to X, middle to Y, and right to Z. For rotation, the buttons rotate around each axis; and the scale tool scales your objects uniformly.



The Perspective Window can be used exclusively in a one window workflow. Select any of the ViewCube's 26 preset views (faces, corners and edges). These presets behave like the orthographic windows and thus have the same move constraints using the middle and right mouse button.

## Snapping

Snapping functionality can be accessed from the top right corner of the Alias interface. Three icons let you toggle Point Snap, Grid Snap, and Curve Snap. Snapping can also be momentarily turned on using modifier keys and works in combination with the middle and right mouse button move constraints.



Snap to CV and Edit Points.



Snap to the grid. Grid spacing can be adjusted in *Palette > Construction > Grid Preset*.

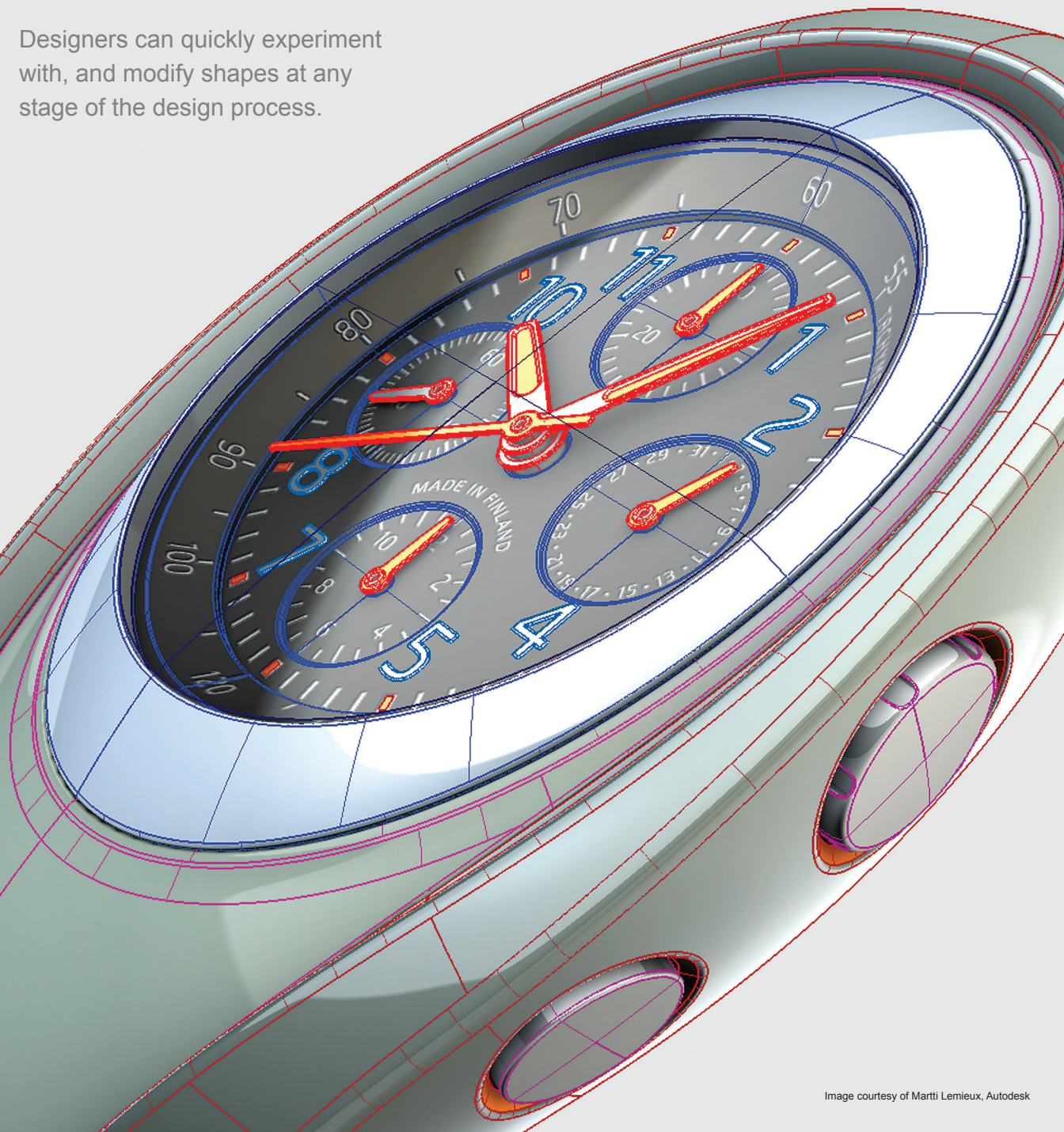


Snap to curves, surfaces and construction entities. The number of curve snap divisions can be set in the Snap options box by clicking the triangle next to the Curve Snap icon.



## 20 Modeling Principles

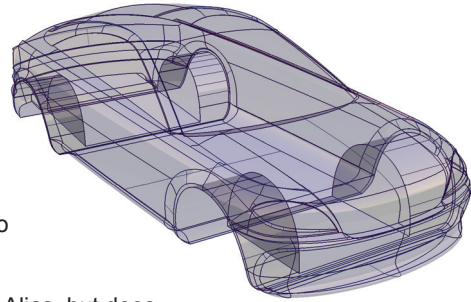
Designers can quickly experiment with, and modify shapes at any stage of the design process.





## NURBS

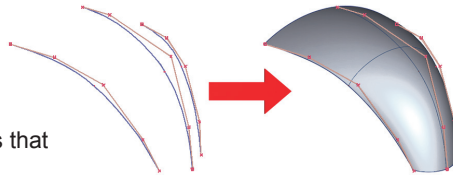
Alias is a NURBS (Non-Uniform Rational B-Splines) surface modeler. Learning to model with NURBS geometry is like learning to model with any physical or digital medium: you need to understand how the material behaves and how to manipulate it to achieve the desired shape.



This booklet does not teach you how to model in Alias, but does provide you with a few introductory concepts on techniques. To learn how to effectively model in Alias, take advantage of the Alias learning material and on-line documentation.

## Curves

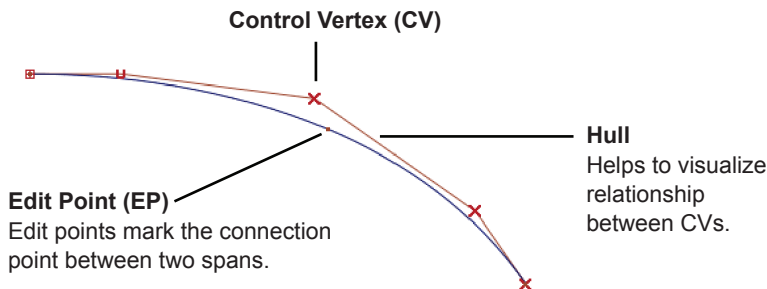
Curves play a key role in modeling in Alias. Curves are used to define shapes and profiles that are the basis for surface creation.



For this reason, it is important to create good quality curves, as poor shape or heavy geometry will be passed onto the surface you create.

## Anatomy of a Curve

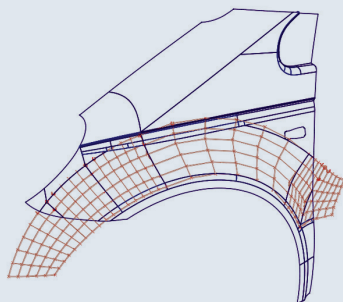
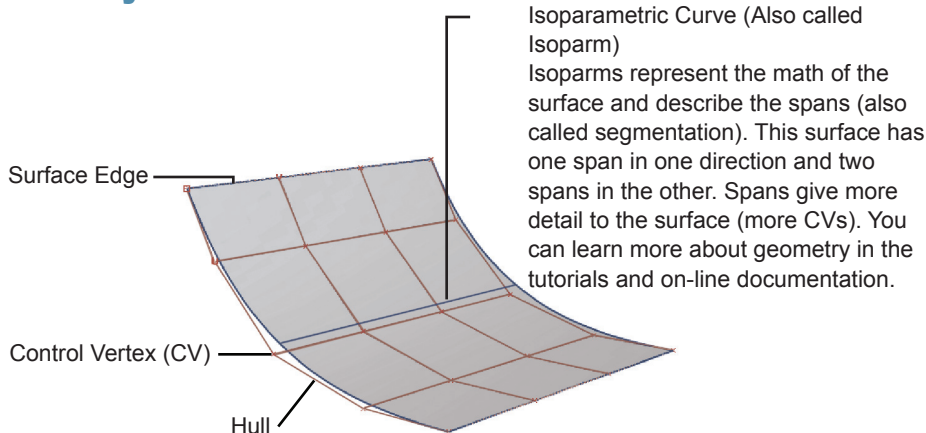
Alias draws CVs differently to let you tell the difference between the start and the end of a curve. The first CV (at the start point of the curve) is drawn as a box. The second CV is drawn as a small "U" to show the increasing U dimension from the start point. All other CVs are drawn as small Xs. The first two CVs and the last two CVs define the tangential direction of the start and end of the curve respectively.



## Surfaces

Modeling using NURBS geometry requires a little strategy. The surface tools help you create surfaces, but can neither predict the type of object you are creating nor the purpose of the model (whether it be for a rough sketch model or for production). After you become familiar with various modeling techniques, you will be able to determine how to best achieve your forms.

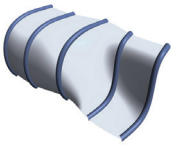
### Anatomy of a Surface



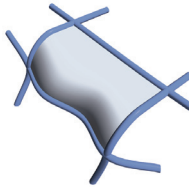
With Alias, you can combine procedural modeling, direct modeling, and trimmed surfaces to develop your digital model. As a result, there can be different methods to achieve the same form. Though this may seem to complicate the modeling process, it means Alias has the versatility to support a broad range of modeling applications. Alias can be used to develop conceptual sketch models, production modeling, through to aesthetic technical surfacing.

## Modeling Approaches

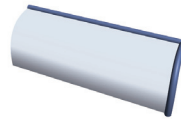
Curve-based surface creation tools can be used to create the primary surfaces of your object.



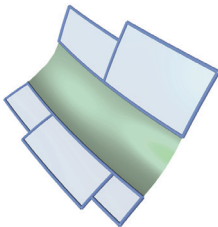
Create a skin across multiple curves.



Fill in boundaries defined by connecting curves.



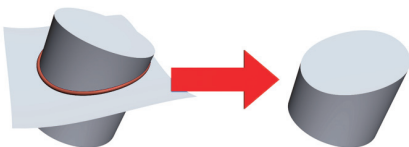
Extrude profiles freely or along path curves to create sweeping surfaces.



Primary surfaces can be blended with secondary surfaces (also known as transition surfaces). In Alias, transitions can be created with regular surface tools, as well as specific filleting and blending tools.



Surfaces of any shape can be obtained by modifying existing surfaces. A set of trim tools allows you to cut back surfaces using other surfaces or curves to define the trim parameters.



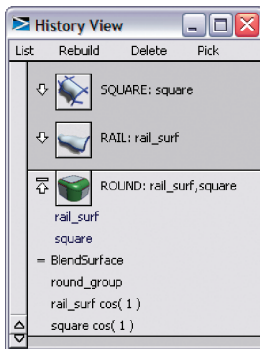
Surfaces can be intersected, creating curves-on-surface. The curve-on-surface can be used to build from as well as define regions to trim.



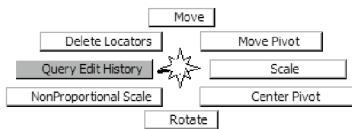
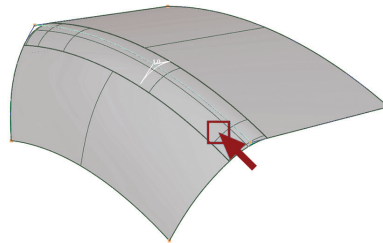
Another approach is to manipulate CVs on surfaces. This technique is called Direct Modeling.


## Construction History

Construction history is the saved information about how an object was created. When you edit construction history, the object automatically updates.



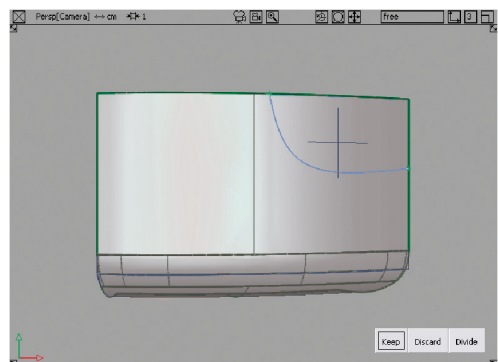
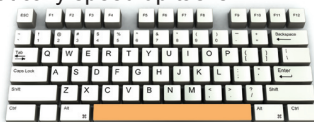
For almost every tool, Alias gives you the option of saving the history of how an object was constructed. This means you can edit the curves, surfaces, manipulators, tool options, and so on, that were used to create an object, and the object automatically updates.



To open the History view, click the  icon in the menu bar. Using Marking Menus, you can quickly Query Edit surfaces with history. Simply click on the target and you are automatically returned back to the tool that created the history. History View can also be used to re-invoke, select, suspend, and delete history.

## Key Interface Element

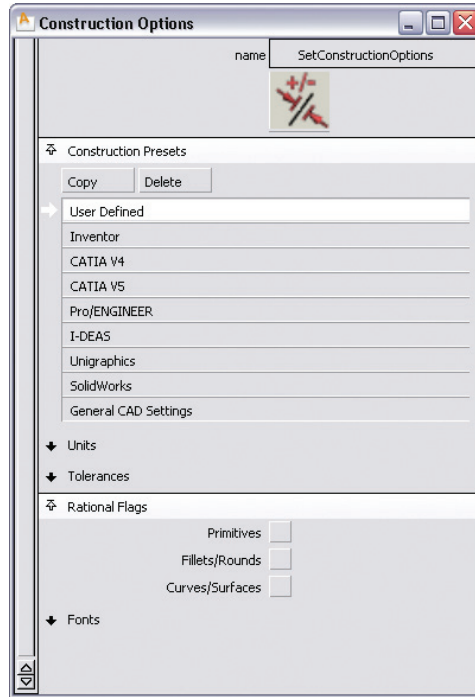
Many tools have option buttons that appear at the bottom corner of the active window. In Alias, the space bar is the hot key for accepting the outlined button. For repeated operations, this can dramatically speed up tasks.



## Construction Options

Depending on the type of modeling that you are doing, Construction Settings can play a vital role in the quality of your model, particularly if the data needs to be moved into another system.

Using *Preferences > Construction Options*, you can choose from a list of presets or customize the construction units and tolerances.



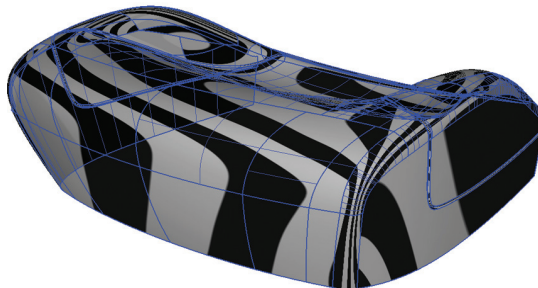
## Visualize



The ability to visualize your surfaces is essential to properly creating them.

Alias provides a variety of evaluation tools for thorough surface analysis. These tools can be found in the palette and Control Panel.

Interactive Hardware Shading and Diagnostic Shading support the modeling process. Further details on visualization can be found in the next section.





Autodesk Alias is capable of a variety of visualization techniques, useful for modeling as well as creating images.

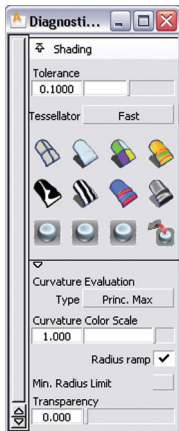
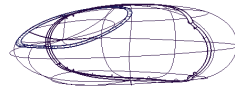


## Interactive Shading

Interactive shading uses your computer's graphics card to draw surfaces. There are two types of interactive shading: Hardware Shade and Diagnostic Shade. Either can be used to help visualize your model, but each provides different functionality.

### Wireframe Display

The wireframe provides valuable visual feedback on your geometry, helps you visualize what the surfaces look like.



### Diagnostic Shading

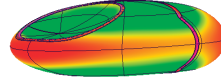
Diagnostic Shading, located in Object Display from the menu bar and in the Control Panel, is a fast method of shading your surfaces. The controls are simple, allowing your whole model, or specific target surfaces, to be automatically shaded. As the name implies, the tool is designed to allow fast diagnostic visualization of your surfaces to support your modeling workflow.



Multi Color or Random Color can be applied to your surfaces.



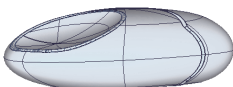
Evaluate the flow of highlights with stripes or reflection maps.



Some products provide advanced diagnostics, such as Curvature and Contact Analysis.

### Hardware Shade

Hardware Shade is a completely different method from Diagnostic Shading. Hardware Shade requires Shaders to represent different materials and lights to illuminate your scene. You can achieve more realism with this type of shading. Access this tool from *Window Display > Hardware Shade*, from your marking menus, or from the Control Panel's Visualization mode.



The first time you use Hardware Shade in a scene, a default shader is applied and a pair of default lights is automatically created.



Hardware Shade is adjustable, allowing you to have settings for fast performance or high quality display. High quality features include interactive reflection of environment maps, surface characteristics (such as highlights, texture maps, bump textures, etc.) and options to see ground plane shadows and reflection.

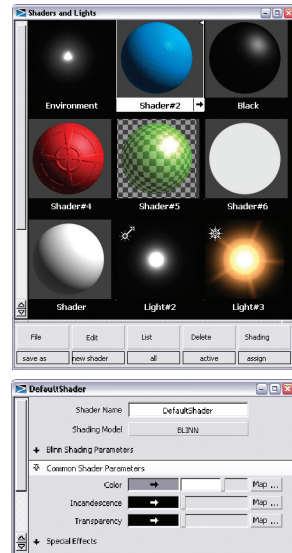
## Shaders

Shaders are descriptions of surface materials or effects that control what a surface looks like. They are necessary for Hardware Shade as well as for Software Rendering.

You can manage shaders from *Render > Multi-lister > List All* and from the Control Panel's Visualization mode.

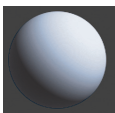
The Multi-lister contains the settings for all shaders, the environment, and all lights in your scene.

Double-clicking any of the items in the Multi-lister opens the associated editor. From here, you can adjust the settings to achieve the material or effect you are looking for.



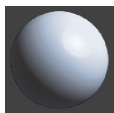
## Types of Shaders

There are four shading models for Shaders. A shading model is a representation of how light bounces when it hits a surface. Different models simulate different types of materials better.



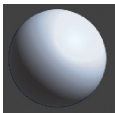
### Lambert

Good for matte materials (chalk, matte paint, unpolished surfaces).



### Blinn

A versatile shader that can simulate glossy and dull metallic materials (brass, aluminum).



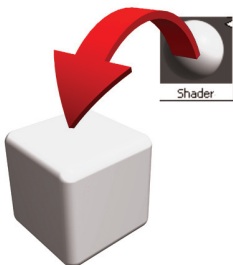
### Phong

Good for glassy or glossy materials (plastic, glass, chrome).



### Lightsource

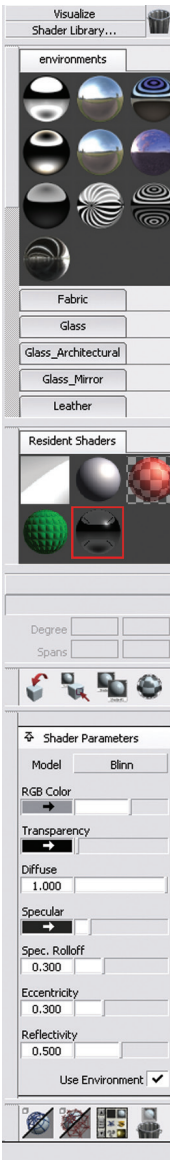
This shader has no shading. Good for representing incandescent or fluorescent objects (TV screen, light bulb).



Shaders can be dragged onto geometry from the Control Panel with the middle mouse button, or assigned to the selected objects from the Multi-lister or Control Panel.



## Control Panel, Visualization Mode



### Library

These folders contain environments and shaders that can be loaded into your scene.

List of the current environment and shaders in the scene.

### Action buttons

Assign shader to selected surfaces, pick surfaces associated with the current shader, duplicate shader, and create layered shader.

### Shader Parameters

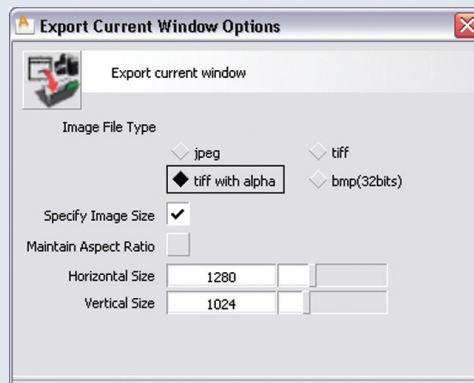
Displays the basic settings of the current shader for quick editing.

### Action buttons

Hardware shade, toggle model, Multi-lister, and delete unused shaders in scene.

### Creating Images

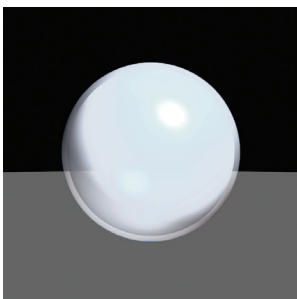
To save an image from any of the windows, use *File > Export > Current Window*. This is a useful way to capture snapshots of work-in-progress, or to export high resolution captures of fully shaded geometry.



## Rendering

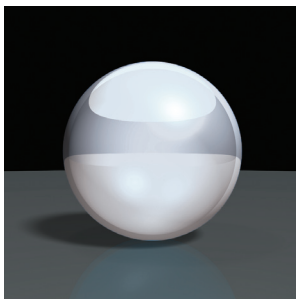
In addition to interactive rendering, most Alias products have tools that generate effects and renderings. These are located in the Render menu and include all the global settings for render output, editors, and rendering features.

Software rendering provides different features and additional details to image creation than can be achieved with Hardware Shade. There are three methods of rendering: Raycasting, Raytracing, and Hidden Line Rendering.



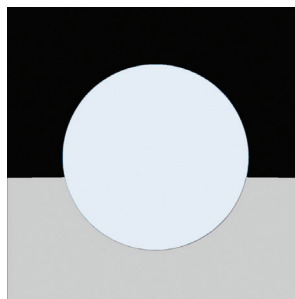
### Raycasting

Produces smooth shaded renderings that include basic shadows. Raycasting is faster than raytracing, but does not produce reflections or refraction (although you can simulate these using clever shaders).



### Raytracing

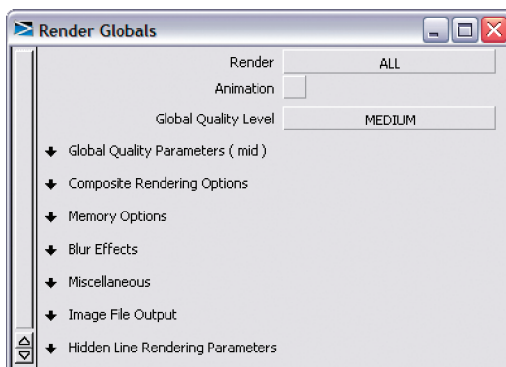
Produces smooth shaded renderings that include optical effects (reflections and refraction) and smooth shadows. It creates more realistic renderings, but is slower than raycasting.

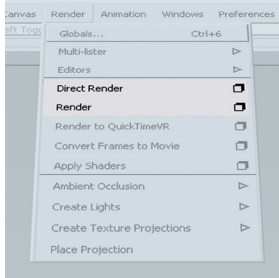


### Hidden Line Rendering

Produces outline renderings of objects that are filled with flat, unshaded color.

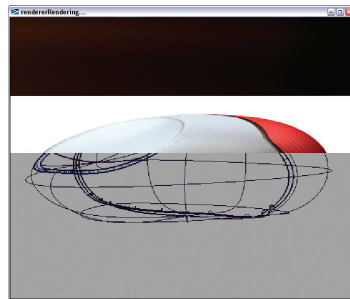
Renderings can be launched using Render and Direct Render. Before launching a rendering, however, you need to set up Render Globals. In this editor, you establish the quality settings that are used by Direct Render and Render. For Render, the output format and image resolution are also defined in Render Globals.





### Render

Choose the render method from the option box. Choosing Render opens a browser where you name your file. The default location is your current project in your My Documents\Autodesk\Alias\user\_data (Windows) or Documents/Autodesk/Alias/user\_data (Mac) directory.



### Direct Render

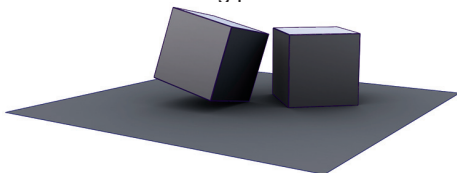
Direct Render calculates the image directly on top of the active window. Using the right mouse button in the Direct Render window opens the options to re-render and save the image to your clipboard.

### Ambient Occlusion

Ambient occlusion renders shading based on an omni-directional light source to create general areas of shadow on your model. The feature set is located in *Render > Ambient Occlusion*.

When calculated, the results are immediately visible on your Hardware Shaded geometry, adding incredible realism to your interactive display. The shadows are applied to the geometry and are saved with your file; however, they cannot update interactively. When you move geometry in the 3D scene, the ambient occlusion does not update. In order to update the ambient occlusion it needs to be deleted and re-calculated.

Ambient occlusion is also used with software renderers, adding a global illumination-like quality to your renderings. Once again, the shadows are “baked” onto the geometry, so if you use the animation functionality in Alias, you will not be able to combine ambient occlusion with moving parts.



Hardware Shade with ambient occlusion.



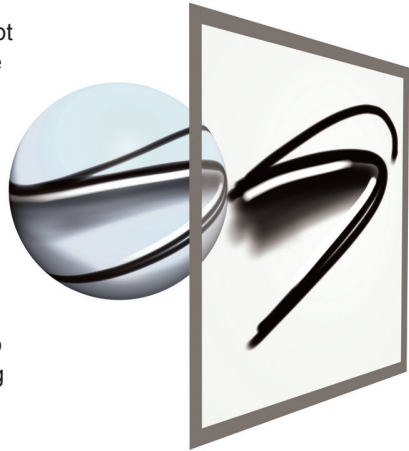
Raytraced rendering with ambient occlusion.

## Sketch Rendering

Sketch rendering is a method for previewing concept sketches directly on basic geometry. This technique is ideal for quickly drawing in details rather than investing modeling time on undecided design features and details.

*Canvas > Project sketch* converts images into a special shader and layers it onto the model. The original shaders applied on the model remain, leaving them completely adjustable.

You must have images in Canvas planes in order to use Project Sketch. You can create Canvases using Alias integrated sketching, or import images using *File > Import > Canvas Image*.



## Animation

In Alias, creating animation involves establishing a timeline, then varying one or more properties of objects (for example, position or color) over time.

All the animation features are gathered together in the Animation menu, including animation tools, editors, time slider, and playback controls. All animation sequences output to a series of still images corresponding to the number of frames in the timeline.

Output Image in *Animation > Editors > Playback Options* saves out still screen images from whichever screen is active in the Alias interface. This tool can be used to capture models in wireframe or hardware shaded modes.

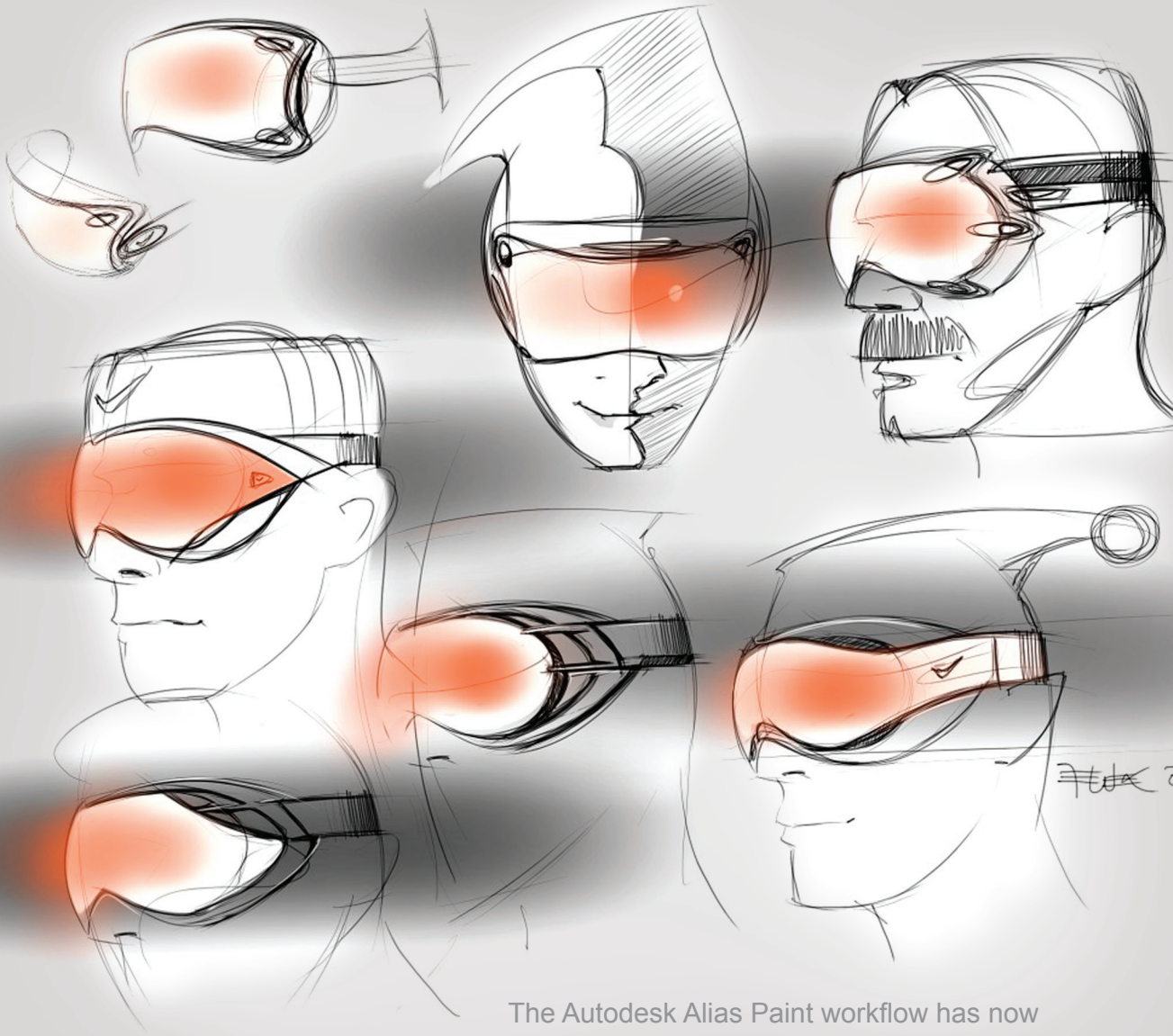
Activating the animation option in *Render > Render Globals* sets Alias up to create a software rendered sequence of images when the next render is initialized.



*Animation > Keyframe* is the primary method of creating animation. *Animation > Tools > Set Motion* is another method, good for moving objects along set paths.



*Animation > Turntable* automatically creates a turntable animation for you based on the number of frames you want for a single revolution.

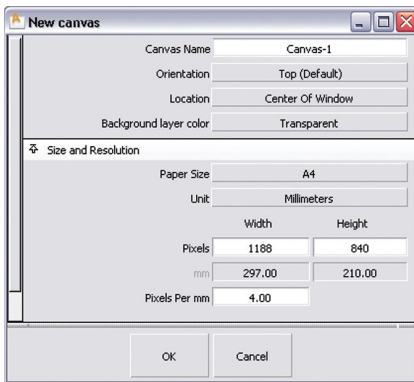


The Autodesk Alias Paint workflow has now been reorganized so that it is more intuitive to those designers coming from a 2D background.

Integrated paint functionality opens up many creative possibilities in Alias. Most products provide a complete paint kit, allowing you to use Alias as a full featured 2D sketching package. Some products expose the basic paint and canvas tools for annotation and mark-up.

## Canvas Planes

Canvases are like sheets of paper that exist in the 3D environment. You define the canvas in the *Canvas > New Canvas* option box. Canvases are created to scale at the centre of the window (by default). You can position and scale them with the regular transform tools without affecting the canvas resolution.



## Overlay Planes

Overlay planes can be created in the perspective window. Unlike canvas planes, they do not exist in the 3D environment. Overlays only exist from the particular view from which they are created. Overlay planes allow you to annotate or create drawings directly over your geometry. Use *Windows > Editors > Construction Plane Editor* to quickly access the overlay planes that you've created.



Using the Paint window, you can view all the canvases and overlays in the scene. Working with overlays in the paint window allows variable zoom without losing registration of the underlying geometry.



## Hot Keys

When a brush tool is active, you can use hot keys to interactively adjust brush settings. This image illustrates the default hot keys.

You can customize your hotkeys in *Preferences > Interface > Hotkeys/Menus*. In addition to the menu and palette sections in this editor, paint-specific bindings can be found under *Special > Paint*.

### Brush Modes

**F** - Cycle through brush modes

- 1 - Paint
- 2 - Erase
- 3 - Hide
- 4 - Show
- 5 - Smear
- 6 - Blur
- 7 - Sharpen

**P** - Aspect ratio

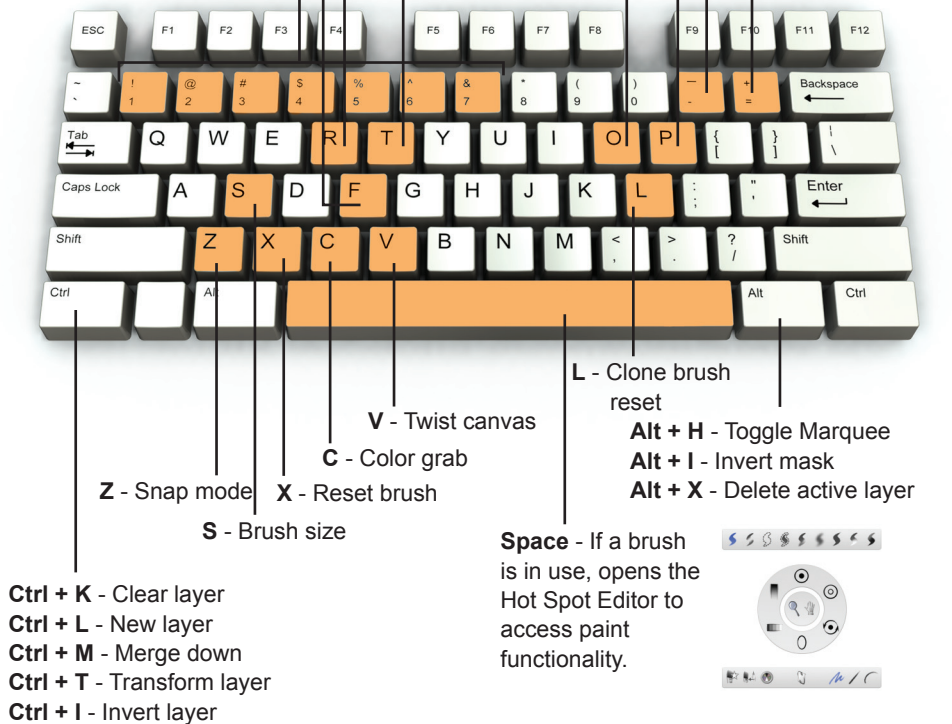
**O** - Opacity

**R** - Inner/outer radii

**T** - Rotate

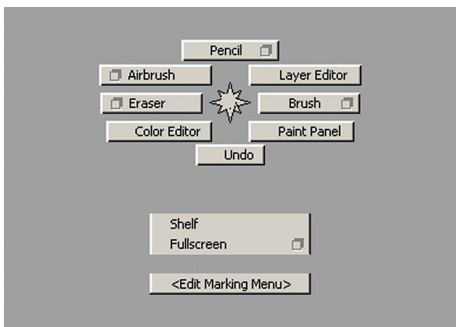
**-** - Marquee subtract

**=** - Marquee add

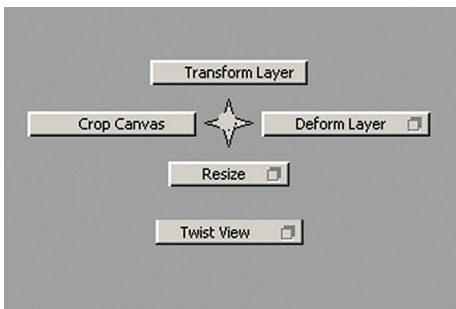


## Paint Workflow

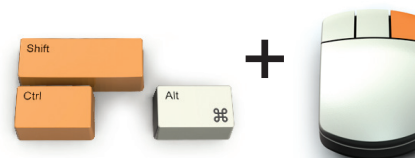
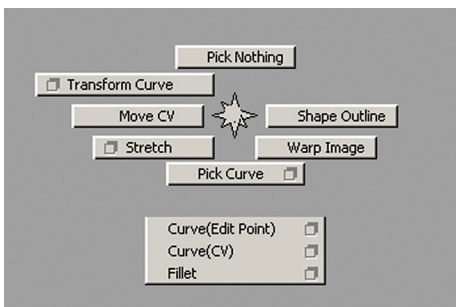
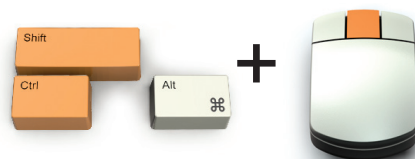
The paint workflow focuses the interface for 2D sketching and drawing. The menu and palette are 'shortened' to hide the modeling, rendering, and animation tools. The workflow also has a unique set of marking menus and a paint shelf.



The left mouse button marking menu is optimized for stylus use.

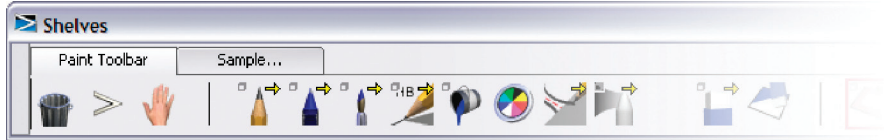


The middle and right mouse buttons have tools for managing layers and shapes, more suitable for mouse control.





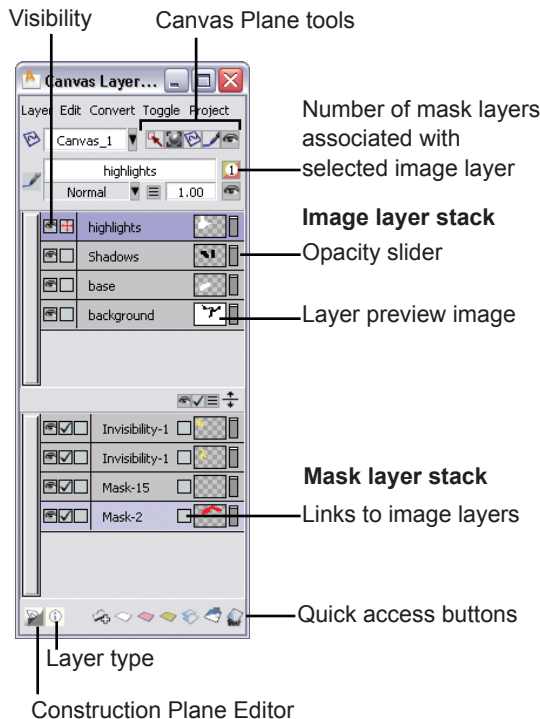
## Paint Shelf



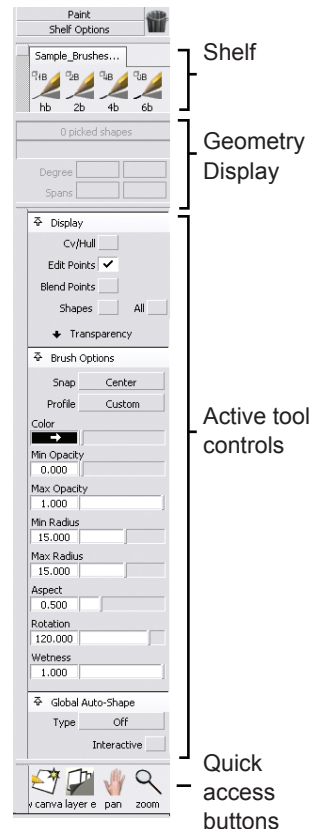
The default paint shelf is populated by all the tools that are useful for a paint workflow. The shelf and marking menu are ideal for use in full screen mode. Full screen display is located in *Layouts > Full Screen* or from the marking menus.

## Key Interface Elements

### Canvas Layer Editor



### Control Panel, Paint Mode



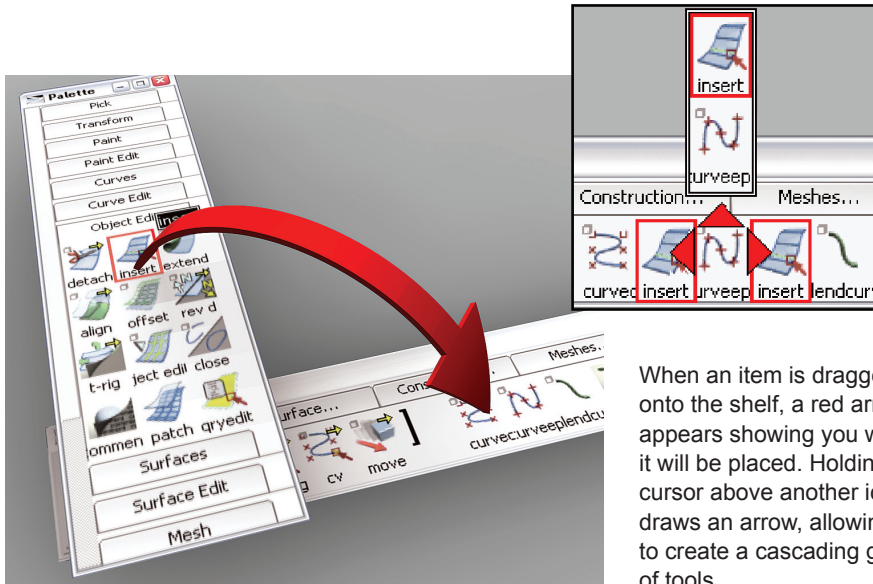
Alias provides you with a unique environment to optimize how you use the tools. As you become familiar with the tools and the workflows, you can tweak the interface to meet your own personal preferences.

## Customizing Shelves and Marking Menus

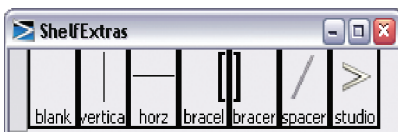


Using the middle mouse button, you can drag any menu or palette item onto any of the shelves in the Alias interface (Shelf, Control Panels, Marking Menu, Command Stepper).

Using shelves gives you the ability to have different versions of the same tool.



When an item is dragged onto the shelf, a red arrow appears showing you where it will be placed. Holding the cursor above another icon draws an arrow, allowing you to create a cascading group of tools.

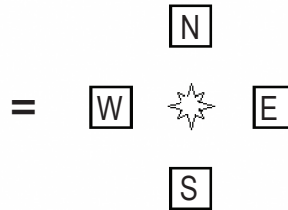
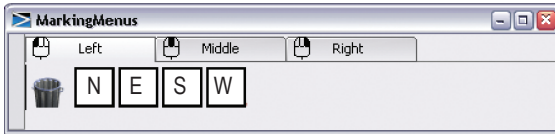


*Preferences > Interface > Shelf Extras* provides blank spaces that can be dragged onto a shelf to help visually separate tool groups.

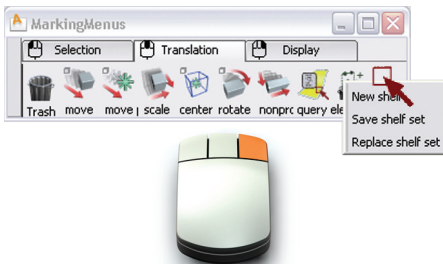
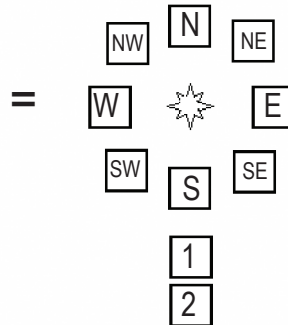
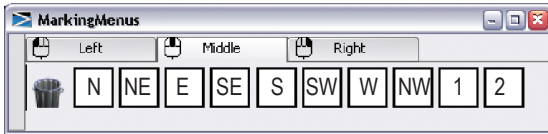
## Marking Menu

Marking menus use the shelf interface for set up, but do not support the cascading functionality. The images below illustrate how the marking menus display when you customize the marking menu shelf using *Preferences > Interface > Marking Menus*.

If four items are placed into the Marking Menu shelf, the four tools are automatically balanced into the North, East, South, and West positions.



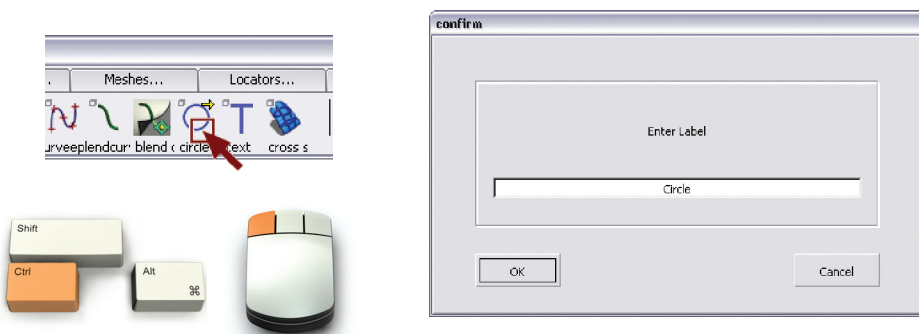
When more than four items are placed on the shelf, the Marking Menu automatically use the 45 degree positions as well. The items fill the eight main directions (which are the gestural positions). All additional items fill in a menu below the South position.



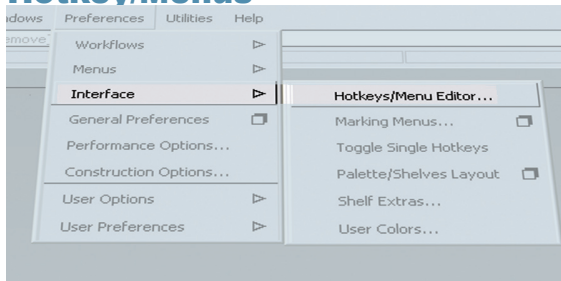
Right-click on the shelf to reveal the Shelf option pulldown. You can make new tabs to add to the current shelf set, save the shelf set, or load an existing shelf set. Shelf sets are saved in your UserPrefs folder.

## Renaming Shelf & Marking Menu Items

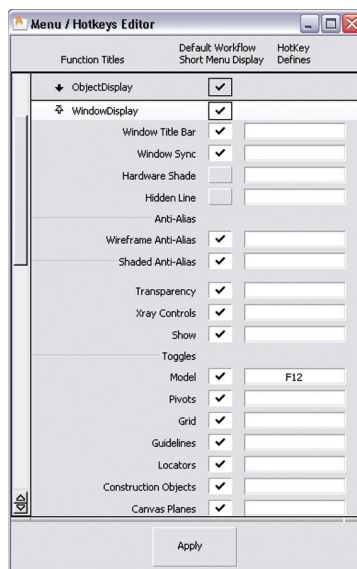
To rename items in your shelf or marking menus, double-click the icon while pressing the Ctrl (Windows) or Control (Mac) key. An option box opens where you can edit the name of the selected icon.



## Hotkey/Menus

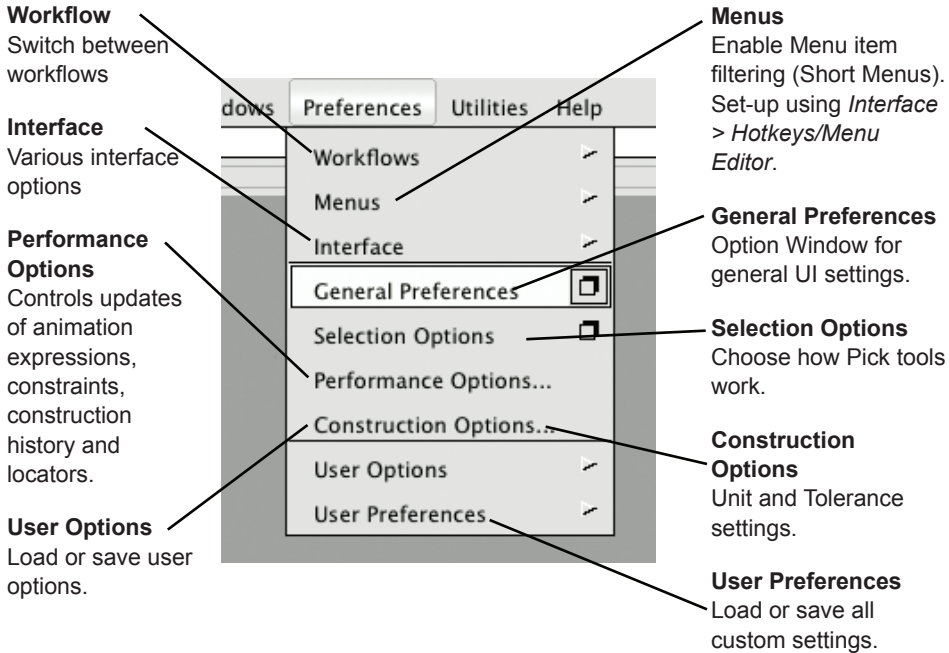


The Hotkeys/Menu Editor lets you assign hotkeys and hide tools (short menus). Each workflow has its own set of short menus allowing you to sculpt your workflow.



## Preferences Overview

The Preference menu contains all the editors and features related to the Alias environment.



All user preferences are stored in the UserPrefs2010 folder, located in Documents and Settings\<username>\Application Data\Autodesk\Alias (Windows) or Home/Library/Preferences/Autodesk/Alias (Mac).

If this directory is renamed or deleted, Alias launches with default settings.

