



Silhouette 3D®

V1 Software Manual

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About Silhouette 3D®

About this Manual

This manual is intended to provide an overview on how to use the Silhouette 3D® software. While other 3D printers may be compatible, this manual assumes the use of the Silhouette Alta®. Instructions on using the Silhouette Alta® may be found in subsequent manuals regarding the Silhouette hardware itself, including instructions on setting up the Silhouette Alta® to print or loading materials.

- » The contents of this manual may not be copied in part or in whole without permission.
- » The details and product specifications in this manual are subject to change without notice.
- » The greatest effort has been taken to ensure the clarity and accuracy of the information in this manual. Please contact Silhouette or your retailer with any questions you may have.
- » Please note that Silhouette America assumes no responsibility for any liabilities arising out of the use of this manual and product.

General Information

Silhouette 3D® is design/editing/output software that enables the creation 3D objects and text. The software is compatible with the Silhouette Alta® model. Features and printing results cannot be guaranteed for compatible 3D printers not offered by Silhouette America.

System Requirements

The following system environment is required to use Silhouette 3D®:

- » Operating system: Windows 10 or Mac 10.8+
- » RAM: 4 GB
- » Hard drive: 4 GB of free space
- » Graphics: Any that supports Open GL 1.2 (Any GPU since 2010)
- » Network: Any network controller (Wi-Fi or Ethernet)
- » Supported 3D Printer: Silhouette Alta®

Software Usage Agreement

Silhouette America Corporation (“Silhouette America”) hereby grants the purchaser and authorized user (the “User”) the right to use the software (the “Software”) in accordance with the terms and conditions specified. By its purchase and/or use of the Software, the User hereby accepts and agrees to abide by the terms and conditions set forth herein.

Copyrights

All copyrights relating to the Software and accompanying materials, such as manuals, shall be retained by the individuals or organizations indicated in the Software or printed materials.

License

The User may use the Software on one computer at a time.

Copying and Modification

The User may not modify, combine, amend, or otherwise adapt the Software by any means, including disassembly and decompiling.

The User may copy the Software for backup purposes.

Third-party Use

The User may not transfer, assign, or otherwise dispose of the rights relating to the Software or its use to third parties.

Warranty

Silhouette America provides the Software on an as-is basis. Neither Silhouette America nor the supplier guarantees the performance or results that may be achieved using the Software and accompanying documentation. Neither Silhouette America nor the supplier gives any explicit or implicit guarantees regarding the infringement of a third party's rights arising from the use of the Software or accompanying manuals, their commercial performance, or their suitability for specific purposes. Neither Silhouette America nor the supplier assumes any responsibility for incidental, secondary, or special damages resulting from the use of the Software or accompanying manuals under any circumstances, including cases in which the possibility of that particular damage arising is indicated to the User by the retailer. Moreover, neither Silhouette America nor the supplier assumes any responsibility for claims from third parties.

Registered Trademarks

The company names and product names described in this manual are registered trademarks of their respective owners.

Disclaimer

Some of the software images used in this manual are those that were used when the software was under development, and they may be slightly different from those actually displayed. There are no differences between the functions and setting layouts shown here and those of the actual version.

Features Overview

The Silhouette 3D® software includes, but is not limited to, the following software features and benefits:

- » Import a variety of file formats
- » Download exclusive digital content
- » Organize and optimize the library collection
- » Print with fonts already installed on your computer
- » Draw different shapes: cone, cube, cylinder, half sphere, pyramid, sphere, torus, hollow cylinder, and triangular prism
- » Assemble custom 3D designs with Silhouette Snapkits
- » Resize 3D objects to exact specifications
- » Ungroup and group sets of 3D objects for manipulation
- » Arrange designs by shrinking them, enlarging them, and rotating them
- » Duplicate objects
- » View designs as solid objects or wireframe outlines
- » Snap object to the platform and center it

Software File Formats

The Silhouette 3D® software uses a proprietary .S3D file format, which consists of vector art for line and color/gradient fill type data intended for 3D printing. The Silhouette 3D® software is also able to open .STL* and .OBJ* files in a ready-to-print format.

In addition to files that may be opened or imported, Silhouette 3D® can also access fonts. Please note that Silhouette cannot guarantee the quality or success of fonts not offered by our company as not all fonts are designed with 3D printing in mind.

You are also able to create your own 3D objects to slice objects for 3D printing within the Silhouette software. There are simple shape-drawing functions built into the software that will allow you to do so from within the Silhouette 3D® program.

*Not all features of these file types may be able to be imported into the Silhouette 3D® software.

Available Digital Content

The Silhouette 3D® software comes preloaded with designs. These become available after you register your Silhouette Alta®. (Preloaded objects will vary between Silhouette products.)

Additional content is available through the Silhouette Design Store (which can be accessed through the Silhouette 3D® software). The store will allow you to access and purchase additional digital content for the software, available both from Silhouette artists as well as independent artists and various companies, thus ensuring a variety in look and feel of available premade content. Further information regarding the store and downloading content is included later in this manual.

Basic Software Overview

Installing Silhouette 3D®

Silhouette 3D® is a free software available to download from silhouetteamerica.com. Follow the prompts to download the software to your computer. Make sure to choose the corresponding operating system (PC or Mac) for the computer you are using.

Note for Windows users: upon connecting to the USB cable to the Silhouette Alta® and powering the printer on, you may be prompted with a “New Hardware Wizard” to install a driver. You may proceed to automatically find and install the driver. The driver is not required to properly operate the Silhouette 3D® software but may be installed to resolve the Windows automatic “Plug and Play” feature that prompts you to install a driver for the hardware whenever the Alta is powered on.

Opening the Software

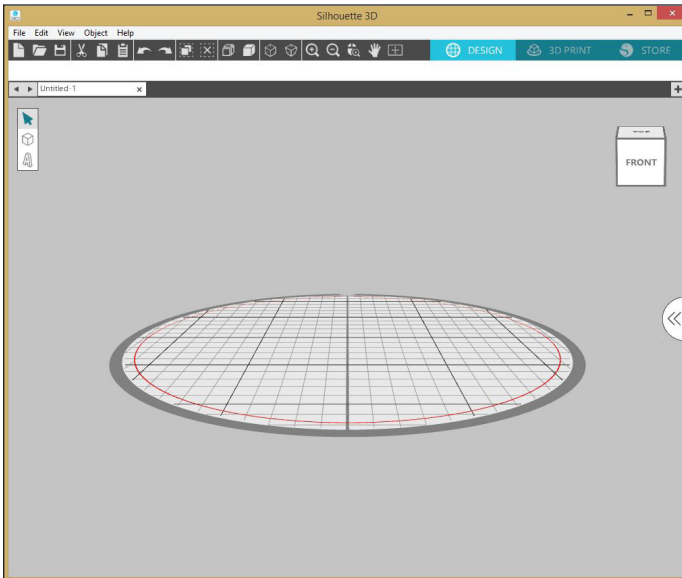
To open the software on a PC, locate the desktop icon and double-click it. If a desktop icon was not created during the software installation, go to the Windows Start menu and select Silhouette 3D®.

To open the software on a Mac, open the Applications folder and launch Silhouette 3D®.

The Silhouette 3D® icon will appear as follows:



Once opened, the software should show an available starting document and workspace as shown below:



Software Sections

The software offers several sectioned areas. Details as to each button's specific function are discussed in later sections. However, so that you may be familiarized with where everything is located, a brief overview is provided for each of the sections.



Document management: This section along the top left-hand side is for document-management functions, such as opening and saving documents.

Standard editing tools: This section along the top left-hand side of the screen is for basic copy/paste/cut and undo/redo actions commonly found in many programs.



Object view tools: This section along the top left-hand side of the screen is for changing how you view your shapes. You can change the object selection, the object view, or the design perspective you wish to see.



Page view tools: This section along the top left-hand side of the screen is for basic zoom-in or zoom-out functions to view parts of the 3D objects from a closer perspective or at a more distant range.



Quick-access toolbar/Silhouette 3D® tools: This section along the top right-hand side of the screen appears only when a shape is selected. It provides a range of tools to adjust the position of, transform, makes copies of, or center objects.



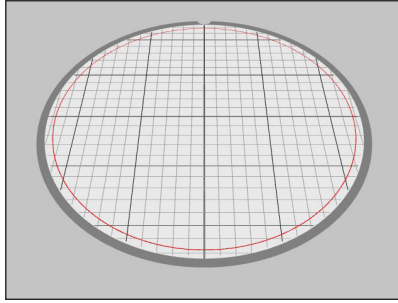
Tabs: The tabs along the top right-hand side of the screen provide navigation to the Design page, the 3D Print page, and the Store.



Design Area

You will note there are two different sections in your workspace: the white workspace and the gray holding area.

The circle workspace is the active document area. 3D objects may be placed or created in this area or they may be placed or created in the gray holding area. You may wish to place 3D objects off to the side, but you will be able to select these objects individually if you click on the 3D print tab to view your print queue. You will note a red border inside this white workspace. The red line represents the active printing area.



Opening Documents

Though opening the software will always provide you with a new document, you may select a new workspace to start a new project at any time. To start a new document you may either use the New option from the File menu, select the New icon on the toolbar, or use the keyboard shortcut Ctrl + N.

To open existing files, you either use the Open option from the File menu, select the Open icon, or use the keyboard shortcut Ctrl + O.

You will then be prompted to navigate to the location where your desired file is located. Through the Open feature, the Silhouette 3D® software has the ability to open .S3D, .STL, and .OBJ print files.

Document Tabs



Each new document or opened document will provide you with a new document tab in the top left-hand corner of your screen.

The tab will be labeled as "Untitled" until you save your file with a name. If you open a file that already had a name, the file's name will be displayed. The white tab will always be the active document while other opened inactive documents will be gray. You may click on any inactive tab to make it the active workspace and toggle between open documents. Clicking on the "x" in the document tab will close any open workspace.

Page Orientation

Moving the cube around will rotate your workspace on the screen for a different perspective. Changing the perspective will not dictate how the design is printed.



Viewing and zooming



As you view your workspace, you may either wish to zoom in to get a closer look at parts of a design that may be more difficult to work with. Here are the tools from left to right:

- » Zoom in: This tool will zoom into the center of your workspace for a closer view.
- » Zoom out: This tool will zoom out from your view for a more broad perspective.
- » Zoom select: This allows you to zoom in on a specific selection.
- » Pan: This allows you to move your entire workspace around.
- » Fit to page: Clicking the fit to Page icon will immediately fit the full defined workspace to the center of your screen.

Perspective and Orthographic Views



The orthographic view: Shows the shape representation how it would be from the given angle. The lengths of the sides and so on are more accurately shown here than they are in the perspective view.



The perspective view: Shows the point of view that is an approximate representation of the shape on the print bed.




Creating and Editing 3D Shapes



The Select tool: The Select tool determines which image is selected as the active image and allows you to move arrows around on your screen. This tool is your default tool to click on images to show they are selected.

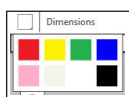
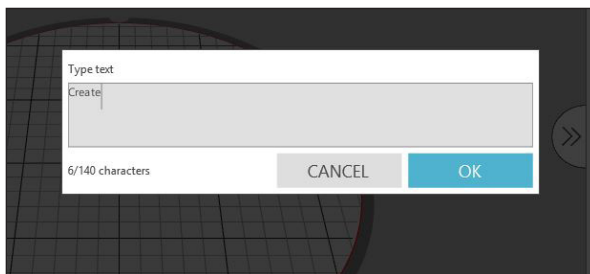


3D shapes: Clicking on this brings up all the 3D shapes that you can create.

- » Cone 
- » Sphere 
- » Cube 
- » Torus 
- » Cylinder 
- » Donut 
- » Half sphere 
- » Hollow Cylinder 
- » Pyramid 
- » Triangular Prism 

Creating and Editing Text

3D text: Clicking on this brings up a text box. To create 3D text, type your text, and click "OK." The text will show up in the print area. To change the font, make sure the text is selected and go to the upper-left corner. Click the drop-down menu to select a new font. You can select any font available on your computer.



Change the color of the shapes or text in Silhouette 3D® by making sure the shape or text is selected and then clicking on the square below the New File option on the Document toolbar.

Note: Changing the color of the shape in the software will not affect the color of the 3D print. The only way to change the color of a 3D print is the change the color of the filament.

Silhouette 3D® has the ability to utilize any font that is installed on your computer. You do not need to install these fonts into the program. Silhouette 3D® will simply access all installed font files and display them for you as you go to create your desired text.

To use your fonts, click on the Text tool and type your desired text. Click "OK." Your 3D text will then appear in your print area.

Manipulating text

To change the font, make sure the text is selected. Go to the upper left-hand corner and click on the drop-down menu to select a new font.

Font characteristics

Some fonts are programmed to enable the use of certain style characteristics that allow you to bold or italicize text or letters.

You can move and adjust the text the same way you move and adjust the shapes. To change the text, double-click the box and enter the new text. To change the font, make sure the text box is selected and go to the top of the Silhouette 3D® page. On the left side under the Document Tools, you will see a drop-down menu where you can select your font. To change the text, double-click on the text and type in the new text.

While you can't type in a text size you wish to apply, you can use the white squares to make the text bigger or smaller.

Manipulating Shapes

There are many tools in Silhouette 3D® allowing for basic and advanced manipulation of objects and text. The following section provides an overview for all of these included tools and how they may be used.

Selecting Shapes

Objects may of course be selected by clicking on them. Multiple objects may be selected by holding down the Shift key on your computer keyboard and clicking on another object. You may repeat this action to select as many objects as desired. Holding down the Shift key and clicking on an object that is already selected will deselect that object.

Multiple objects may also be selected by clicking above an object and dragging your mouse to select all objects to be selected at the same time. As you hold your mouse button down and drag your mouse, you will see a solid line creating a selection box that shows what you are selecting. Upon letting go of your mouse, all enclosed objects in this box will be selected together in the same bounding box.



If you wish to select all available objects on the screen together, you may click on the Select All button located in the quick-access toolbar.



If you wish to deselect all currently selected objects, you may click on the Deselect All button located on the quick-access toolbar.

Cut, Copy, and Paste Tools



These tools perform the basic expected actions of copying selected objects, pasting them, or cutting them from view. Objects copied or cut will reside in your computer's memory on a virtual clipboard. You may have only one object on this clipboard at a time. This means if you copy one object and then copy another, only the most recent object will be waiting on the clipboard to be pasted. These actions may be accessed from the top toolbar, in the Edit menu, or by right-clicking on an object as well as by using standard shortcut keys for these actions (see page 25 in this manual).

Pasting copied object will place the copy directly next to your original object so that you may easily see and find your copy.

Duplicate



The Duplicate option performs the same action as copying and pasting the selected object to the side but does so without the need of utilizing your clipboard and is a one-click operation. This toolbar button is located at the top of the software screen and can alternately be located in the Edit menu or by right-clicking on a selected object.

Delete



Selected images may be deleted from your workspace by clicking on the Delete button located at the top of the software screen, by accessing the Edit menu and selecting Delete, right-clicking a selected image and choosing the Delete option, or by simply pressing the Delete key on your computer keyboard.

Undo/Redo



Any action taken, including simply moving an object, may be undone. To back up to the previous action taken, click the Undo button. There are an unlimited number of actions you may go back to with the Undo button, including going back to when you first opened your new workspace.

Similarly, you may click the Redo button to repeat any actions you may have undone. You may continue to use this button until you return to the last action taken.

Grouping and Ungrouping

These two actions are commonly used and are invaluable tools for helping to manipulate and adjust objects. To understand these concepts, we must first understand what grouped and ungrouped objects are.

- » Grouped objects consist of multiple shapes that make up an entire design.
- » Ungrouped objects usually consist of a single shape.
- » The only exception to this in Silhouette 3D® is with text. When you create text, the letters are automatically grouped together for you.

Grouping



- » Any two sets of designs can be grouped together so they are fixed in their relative positions, even if moved, by using the Group option.
- » To use the Group option, select two or more images at the same time and click on the Group icon located in the quick-access toolbar. This can alternately be located in the Object menu or by right-clicking on the multiple selected images and selecting Group.

Ungrouping



- » Any image that contains more than one design set can be ungrouped so that parts of the design may be treated independently to allow for removal, rotation, resizing, or other manipulations. This way, the user doesn't have to manipulate the design as a whole.
- » Once ungrouped, the design will be displayed showing individual selection boxes around each new ungrouped image part that can now be manipulated. To access the individual ungrouped parts, you may unselect the entire design.

Moving Shapes

Objects may obviously be moved by selecting them and then dragging them around the screen with your mouse to any desired location. Selected objects may also be moved by using the arrow keys on your computer keyboard.

Rotating Shapes

Objects may be rotated to any desired angle, and there are several ways to rotate your design. You can use the arrows on the toolbar to rotate the placement of the object in 90° increments on the mat. When the object is selected, you can also use the rounded arrows to rotate the design.

Sizing Shapes

Objects may be sized to any desired measurement. It is important to note, however, that while you may customize designs to any desired size, the quality of prints made may vary. Reducing the size of a design with intricate parts is an example of where the print quality could suffer.

There are control points on the selection box for resizing designs manually. To resize manually, simply click on any of these boxes and drag your mouse in the desired direction to make your shape larger or smaller. The corner control points will stretch your object in the direction your mouse is dragged. Hold down the Shift key when you click and drag a white square if you would like to change one part of the shape instead of having the shape change in size overall.

Aligning Shapes

If at any time you move a shape around on the print bed, you can use the alignment options to make the shape level with the platform or center the shape in the middle of the platform. *Note: When you go to the 3D print tab, the software automatically centers the shape and makes it level to the print bed.*



You can bring your design level with the print bed by click on this icon.



You can center objects in the middle of the print bed by clicking the target icon when a design is selected.

Library and Design Store

Silhouette 3D® offers a library feature to keep and categorize all of your downloaded and user-created designs for easy reference. There is a tab you can click to access the Silhouette Design Store so that you can view and download new content.

The library and store views may be found in the right-hand tabs of the software screen. You can see which panel of Design, 3D Print, and Store is currently selected because it will be highlighted.

Library

The Library is where all of your preloaded and purchased content is contained and may be categorized, sorted, and accessed.

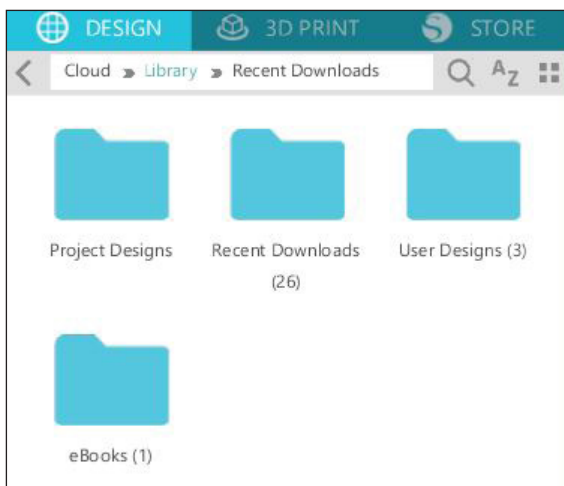
- » You are able to view your designs as icons by clicking on the Icon View option.
- » You may alternately view your library designs in a list view to see more detail by clicking on the List View option.
- » In List View mode, you may sort your designs by name or date added.

Accessing Library Content

- » To access library designs, you may double-click your object to open it onto your workspace.
- » You may also drag designs from your library onto your workspace (only if your workspace is being displayed).

Categorizing Designs and Managing Your Library

- » As your library continues to grow with additional content, you may find it convenient to customize your library with new folders and sort designs according to your liking.
- » You may add new custom folders by right-clicking and selecting “New Folder.”



- » As new folders are created, you may immediately name your folder a desired name. Once your new folder has been created, you may drag and drop objects into the folder. Right-clicking on a folder will allow you to create a new subfolder for that selected folder, delete the folder (along with all contained content), or rename the folder.
- » In addition to customizing folders, you may also adjust any of your objects within the library. Right-clicking on an object will allow you to delete the object, rename the object, sort the objects in the current folder, or show/hide the object properties.
- » As objects or folders are deleted, they will be moved into the library's recycle bin. You may still restore any of these objects or folders by dragging them back into your library. However, once you have deleted any content from your recycle bin, this content will be permanently deleted from your computer.
- » Use the View as Icons button and View as List button near the top right-hand side of the window to change the view of your designs in the right panel.



Silhouette Design Store

The Silhouette Design Store provides additional downloadable content from not only Silhouette but also a variety of independent artists and contributing companies. The Silhouette Design Store can be accessed from within the Silhouette 3D® software as long as you have an internet connection.

The store is accessible at any time—24 hours a day, 7 days a week.

While objects may be purchased individually to customize your library experience, subscription options are also available for a monthly fee. Further information on subscriptions may be found at the Silhouette Design Store.

All images are provided with the following benefits:

- » You may download images using any major credit card, download cards, or subscription credits.
- » Indefinite usage (you do not have to be connected to the Internet to access designs once purchased)
- » Recoverable (in case of computer crash or replacement)
- » Resizable and customizable to your specifications (using Silhouette 3D® tools discussed in previous sections)

Logging in to the Design Store

- » Upon accessing the Silhouette Design Store by clicking on the Store tab, you will be brought to the store's homepage.
- » You may sign in, or sign up for an account if you do not already have one created, by clicking on the link in the upper right-hand corner.
- » To create an account, you will need to provide your name, your email address (which will be your login name), and any desired password.

My Account Options

Once logged into your account, you will find a link in the upper right-hand corner called My Account that will provide you with tools to manage your account. You will have the following options:

- » Change My Account information: Alter your email and password.
- » My download history: View a copy of all orders placed. When viewing specific orders, you may also opt to recover a specific order if there was any break in connection during the download process.
- » Recover All Downloaded Designs: Recover any and all previously downloaded content if you are seeking to load the software onto a new computer. This is helpful if your computer crashes or you replace your computer.
- » Add a download card to my balance: Enter any download card codes to apply the available balance to your account.
- » Manage My Credit Cards: Manage any credit card information on file used to pay for subscriptions or individual purchases.

Shopping Designs

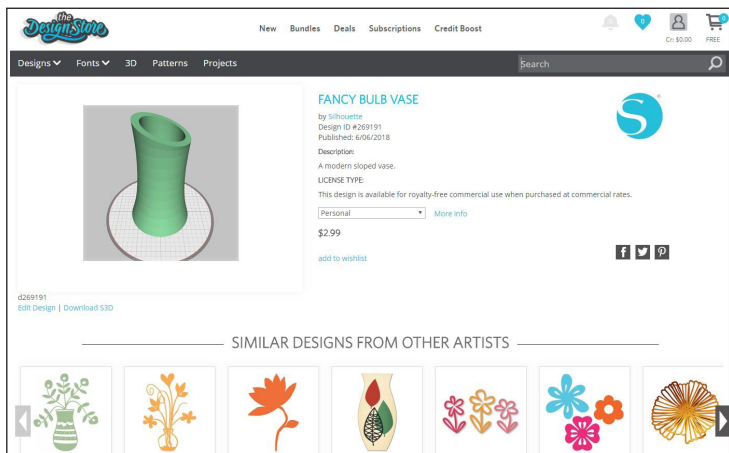
You are free to browse all available Silhouette content without any obligation to purchase. You will find a navigation aid on the left-hand side of your shopping window. As categories are selected or as you search for designs, you will also find related suggestions listed.

To search for specific designs, you may enter any names or terms in the upper right-hand corner.

As you browse through the different themes and releases or make specific searches, once you find an image you would like to download, you may add it to your cart by clicking on the Add to Cart option.

Below the design is a listing of similar or related designs you may be interested in as well.

Note that images that have already been purchased cannot be added to your cart and will show that you already own them.







Downloading Shapes

You may continue to browse and add additional images until you are ready to check out. Once you are ready, you may either click on the cart in your mini cart preview or click on the icon in the upper right-hand corner of the shopping window.

When you are ready to download your selected designs, simply click the Checkout button. If you have a balance on your account from a download card or subscription credit, the total charges will be taken from your balance automatically. If you do not have a balance or your account balance does not cover the total of the designs you are seeking to purchase, you will be prompted to either provide credit card information or add a download card code to your account.

PLEASE NOTE: Items in your cart are sorted automatically when changes are made in order to give you the best deal possible.

Preview	Item Name	License Type	Include all SVGs	Action
	diamond (Design ID #231248)	Personal	<input type="checkbox"/> Include SVG \$0.99	♥ ✕
	starflake (Design ID #233782)	Personal	<input type="checkbox"/> Include SVG \$0.99	♥ ✕
	lacy geometric circle background (Design ID #255964)	Personal	<input type="checkbox"/> Include SVG \$0.99	♥ ✕
	heart earrings (Design ID #268354)	Personal	<input type="checkbox"/> Include SVG \$0.99	♥ ✕
Subtotal:			\$0.00	
Sales Tax:			\$0.00	
Available credits:			-\$0.00	
Total:			\$0.00	

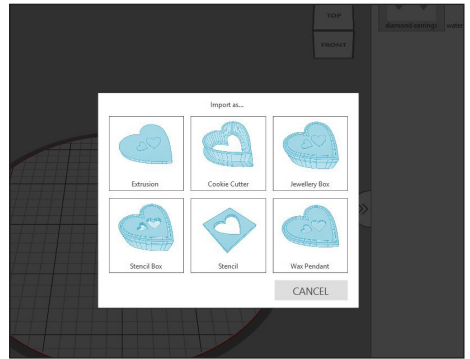
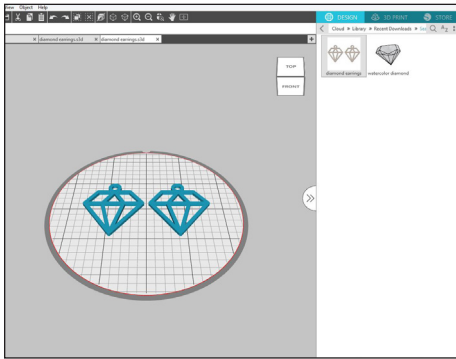
Once ready, you will be prompted for your password to authorize your purchase. Upon entering your password to confirm the purchase, the library will appear in a panel above the store, and you will be able to view your designs as they are downloaded into your library.

You may then continue to navigate through the Design Store or close it as desired. Once your designs are all downloaded, you may then drag them from the recent download section and sort them as desired into any of your library folders. Downloaded designs will remain in the Recent Downloads folder until sorted.

You will note that while all purchased designs are stored in your library, purchased fonts will also be referenced in the library in a special "Fonts" folder. You may then either access these fonts purchased through the Design Store by double-clicking on these from the library, which will bring you to your workspace with a text cursor ready to place to type or type the text and change the font as previously discussed in the "Creating and Editing Text" section.

Turning 2D Designs into 3D Objects

The Silhouette 3D® software is unique in that it can turn some 2D designs into select 3D objects. Some 2D designs will work better than others, so you may have to play around and do some 3D test prints to see which designs will work the best.

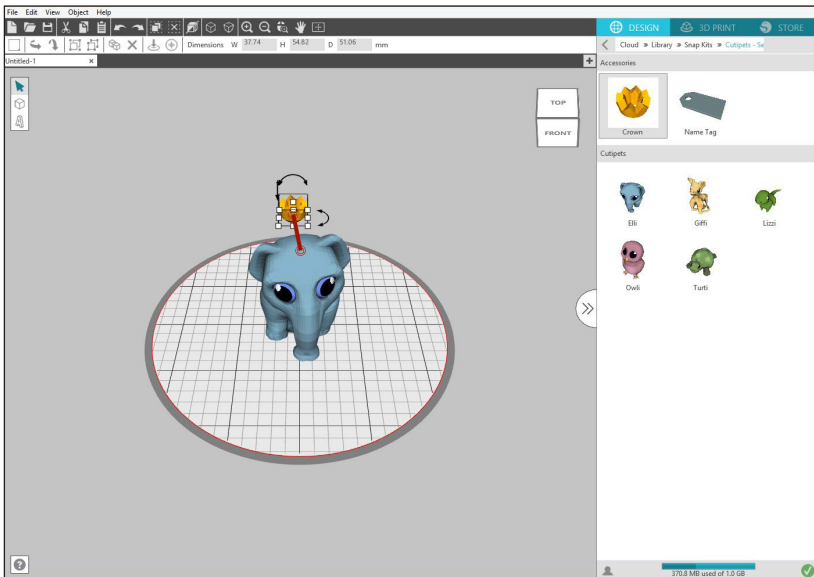


Diamond Earrings by Lori Whitlock—Design ID #268357

There are six different 3D import options you can choose from: extrusion, cookie cutter, jewelry box, stencil box, stencil, and wax pendant. With the example above, we picked the earrings design and chose the extrusion option, which extended the thickness and made the design 3D.

Using Snapkits

Build custom objects with predesigned pieces called Snapkits. Start by going to the Snapkit folder in your library and choosing a piece. Then select another piece. When you move a piece around, you'll see that there will be two red circles in a few spots. This shows you where you can snap the pieces into place. Text boxes can also be used as Snapkit pieces.



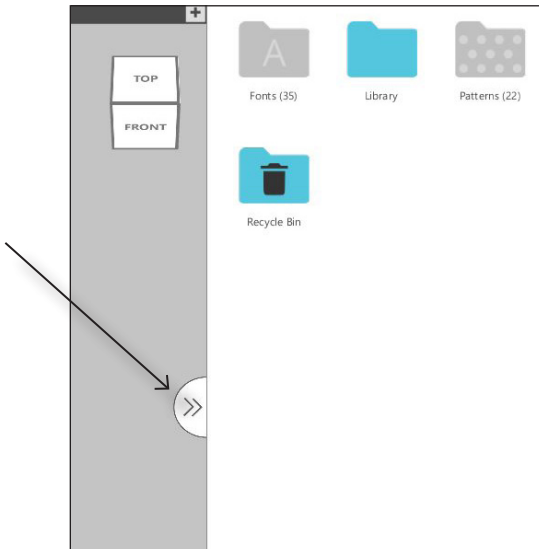
Silhouette Cloud

Silhouette Cloud works hand in hand with the Silhouette software to keep all of your designs synced on multiple devices. You can sync up to five devices with your cloud account. If you aren't using multiple devices, Silhouette Cloud is useful in backing up your designs and preventing the need for recoveries.

In Silhouette Cloud, there is unlimited storage available for Silhouette Design Store downloads. There is 1 GB available for custom content. Club Silhouette members receive 5 GB of storage for custom content.

The panel on the right-hand side will immediately prompt you to sign in to your Silhouette account, where you can access your stored designs. Sort and organize your designs any way you would like by adding folders and subfolders.

If at any time you want to minimize the cloud panel, click the tab with the two arrows pointing to the right. The panel will then minimize. To open the panel again, click the same tab with the arrows now pointing to the left.



Recovering Shapes

Silhouette America maintains a database of all Silhouette users and their download histories. In the event of a computer crash or replacement, after reloading the software onto your new computer, you may log in to your Silhouette user account with your email address and password. Once logged into your account, you may go to the My Account options to select “Recover All Downloaded Designs.”

If you have multiple computers (such as a desktop and a laptop) and are simply seeking to recover your most recently purchased images to a secondary computer, rather than using the Recover All option, you may visit My Download History in your account options to access a list of your previous purchases. In this section, you may click on any previous order number and recover your order. You may only perform individual order recoveries to a limited number of computers that you expressly own.

Using the recovery features will not, of course, recover any user-created designs you may have created (unless you specifically saved those designs to the cloud account). The storage is limited for non-Silhouette content, however (1 GB for standard users or 5 GB for Silhouette Club members.) You may back-up your user-created designs by simply locating where you have saved your user-created files and saving them onto a disc or other storage device.

Silhouette America does regulate the number of unique computers you log in to and reserves the right to suspend or remove accounts of registered Silhouette users whose account activity may be suspicious or indicative of public file sharing.

Saving Shapes

After you have created an image or document layout, you will have a variety of options to save your images.

Save

- » The Save option is the basic saving function to allow you to create a .S3D file and save to any location on your computer. These files may be backed up on any removable or external memory device.

Save As

- » This option found in the File menu will allow you to name your design as it is saved. It is saved to any specified location on your computer and can be backed up to a removable or external memory drive as desired.

Save Selection

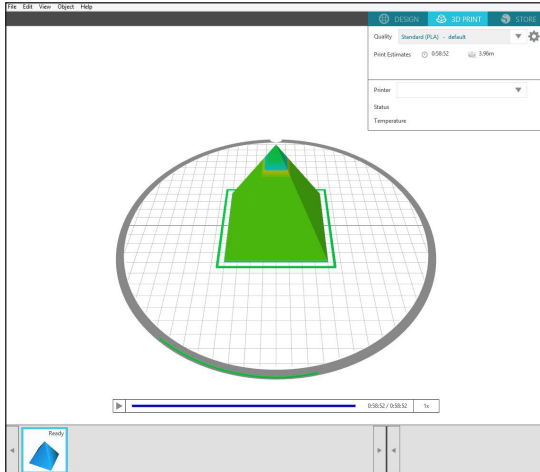
- » This option found in the File menu will save a .S3D file of only the actively selected designs from your document. It is saved to any specified location on your computer and can be backed up to a removable or external memory device as desired.

Save to Library

- » This option found in the File menu will save your file into the Library in Silhouette 3D®. Upon saving images to your Library, they will be added to a section labeled User Designs in the Library. You can't navigate to these images on your computer to manually back them up, so it is highly recommended to save a copy of any designs using the regular Save option.

3D Print

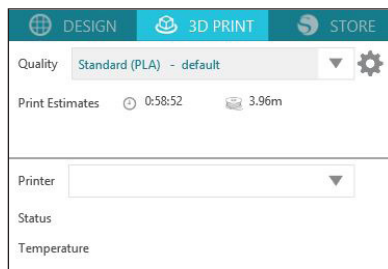
After you are done making any adjustments to your design, save any changes, and click 3D Print tab. Silhouette 3D® automatically constructs a 3D model according to the default settings, and you'll be able to see how the printer will construct and print your shape. Click the Play button at the bottom of the page to see the different layers the printer will print.



In the upper right-hand corner, there is a box that shows you the status of the Silhouette Alta® as well as an estimate of the total printing time and the amount of filament needed.

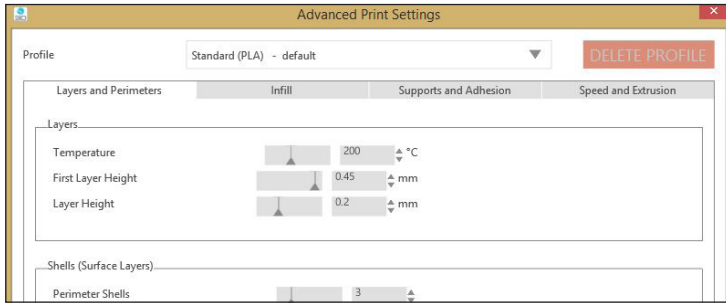
Print Settings

Silhouette 3D® already has three selected print settings for you: draft, standard, and high quality. What setting you choose depends on what kind of print you are making. If you are making something that you are just testing and don't need it to look particularly great or hold up for a long time, you'll probably want to select the draft print settings. If you are making something that needs to look nicer, select the high-quality settings.



Advanced Print Settings

You do have the ability to create your own print profiles for your own specific projects, and you are able to change any settings that are preset in the software. The necessary settings will depend on what you are making and what you want to use it for. There are many additional resources online to help you decide what adjustments to make. To create a new profile, click on the gear icon next to the drop-down list of print-quality profiles. Choose an existing profile to start off and make whatever changes you need. When you're done making changes, click "Save Settings," and then you can name your new profile.



Layers and Perimeters

- » Temperature: the temperature of the filament layers of the 3D print. Often different filaments have their own ideal printing temperatures. If you are having problems with prints with webbing or prints that are brittle, you may need to adjust the temperature. **Tip: A good printing range for PLA filament is between 180°C and 210°C.**
- » First layer height: the height of the first layer of your printed image. Getting the right first layer height in place is important because the first layer is the foundation of your print.
- » Layer height: the height of each layer of filament. It's similar to resolution in that a thicker layer height will have less detail.
- » Perimeter shells: how many layers will print around the infill (not part of the infill)
- » Top-layer shells: how many layers will print on the top of the print. **Tip: A good rule of thumb is to have the thickness of the top layers be about 0.5 mm thick to prevent gaps or holes in the top of the print. So if you're printing a layer height of .25 mm, you would need two top layer shells.**
- » Bottom-layer shells: how many layers will print at the bottom of the object.

Infill

- » Infill Density: how thick the support material is in the middle of the design.
- » Infill Overlap: can be adjusted to prevent gaps between the perimeter and top layers.

Supports and Adhesion

- » Supports: allows you to print your design with support material if the object has any pieces that will print at an angle greater than 45°.
- » Brim Width: how many perimeter loops go around the first layer to help support the base and to provide more surface area for prints to prevent warping.
- » Brim Distance: how far away the brim is from the first layer.

Speed

- » You can change the speed in which each layer is printed. The speed is often dependent on the quality of the print and the temperature of the filament. Generally, the faster the machine is printing, the lower the print quality. A good printing range for PLA filament is between 30 mm per second and 90 mm per second.
- » **Tip: If you're printing at a lower temperature, you may want to increase your print speed.**

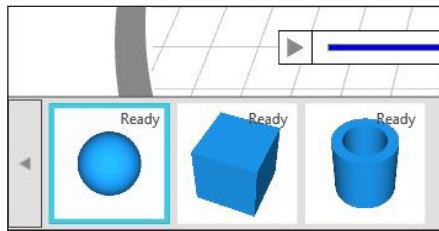
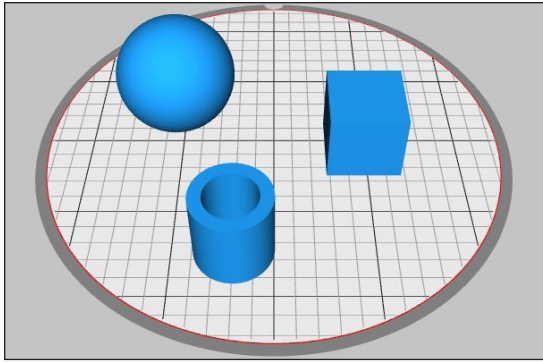
Extrusion Width

- » How thick each layer, such as the first layer or the perimeter layer, is when it is printed.

Slicing Your Design

After you have adjusted your print settings, Silhouette 3D® will automatically slice your design. This just means that the software will break down your shape into layers it needs to print. Don't be alarmed if you don't see the exact shape that you originally had on your design page because when slice your design, it adds in the brim and bottom layers as well as rafts and supports, if you added them.

If you have multiple designs on the Design page that aren't grouped together, Silhouette 3D® will separate each object and put it in its own print job. A print job won't print unless it is selected. If you wish to print multiple objects at the same time, you must group them together when you are in the Design tab.

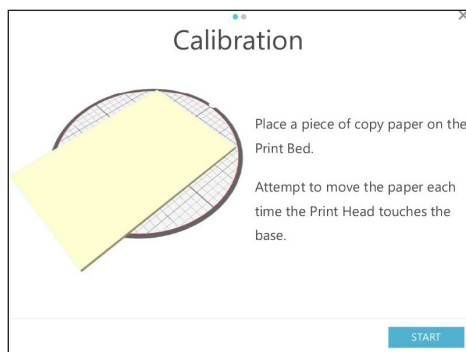


Calibrating Your Machine

Your machine already comes calibrated, so when you set it up, it should be ready to go. But should you run into an issue with your machine's calibration, you must start the calibration process from Silhouette 3D®.

To check the calibration, go to the 3D Print tab in Silhouette 3D®. Go to the box on the upper right-hand side and make sure your machine is selected. Then click on the circle icon with three dots in the left-hand corner of the box. The software will tell you to take a piece of copy paper, cut it in half length-wise, and place it on the platform that already has platform tape on it. The paper is what you will use to test the optimal position of the print head. Don't use a folded up piece of paper. If the piece of paper you are using is too thick, the calibration will be off. When you've got a piece of paper ready, click Start in Silhouette 3D®.

Hold the paper on one end. The machine will move the print head to three different points: the front-left position, the front-right position, and the back position. When the print head goes to each position, attempt to slide the paper under the print head to see whether you can move it. The paper shouldn't be too easy to move. You should feel some resistance when you try to move it, but the paper shouldn't be so hard to move that you bend or damage it.



In the software, indicate whether moving the paper at each point is easy, normal, or hard and click Next. The software will then tell you which section needs to be adjusted. If you indicated a point was too easy, you need to tighten the screw. If you indicated a point was too hard, you need to loosen the screw. Once you've adjusted the screw, click Test Again in the software. The Alta will lower the print head and have you test the point again with your piece of copy paper. When all of the points are normal, you've completed the calibration process.

Inserting Filament

To load the filament in your Alta 3D printer, start by opening Silhouette 3D®, and powering on your Alta. In the software, click on the 3D Print tab. In the upper right-hand corner, ensure that your machine has been selected. With the Alta selected, click on the Filament button. Next, click on Load Filament and go through the following steps to load your filament properly.

Place your filament spool on top of your machine and put the roll of filament on the spool. When using filament that comes in either a loose roll or a reel, it is important to make sure that you keep a hold of the leading end because the filament can become tangled. On top of the machine, there is an eye and the filament clip. Feed the filament through the eye and then the filament tube. This will help prevent the filament from becoming tangled and jamming the machine.

Once the filament has been fed through the filament tube, press the tab on the filament clip to open the hole where you can insert the filament. Push the filament in about an inch or until you see it in the filament hose near the top of the machine. Then release the clip.

Click Next in Silhouette 3D®, and then click Load. The machine will feed the filament through the inner print tube and heat up the print head. The print head will then move down and print small amount of filament once the filament is warmed up.

Printing Your Object

When you've finished loading your filament and adjusting your print settings, click Print. Your machine will beginning printing your object. After the Alta is finished, make sure to let the object cool before you attempt to remove it.

Keyboard Shortcuts

Action	PC	MAC
New Document	Ctrl + N	Cmd + N
Open Document	Ctrl + O	Cmd + O
Save Document	Ctrl + S	Cmd + S
Copy	Ctrl + C	Cmd + C
Paste	Ctrl + V	Cmd + V
Cut	Ctrl + X	Cmd + X
Undo	Ctrl + Z	Cmd + Z
Redo	Ctrl + Shift + Z	Cmd + Shift + Z
Fit View To Window	Ctrl + 1	Cmd + 1
Save As	Ctrl + Shift + S	Cmd + Shift + S
Save To Library (Must be signed in to your Silhouette account)	Ctrl + Alt + R	Cmd + Alt + R
Close Document	Ctrl + W	Cmd + W
Quit S3D	Ctrl + Q	Cmd + Q
Duplicate Object	Ctrl + D	Cmd + D
Select All	Ctrl + A	Cmd + A
Deselect All	Ctrl + Shift + A	Cmd + Shift + A
Move Left	Left Arrow Key	Left Arrow Key
Move Right	Right Arrow Key	Right Arrow Key
Move Down	Up Arrow Key	Up Arrow Key
Move Up	Down Arrow Key	Down Arrow Key
Move Up (Z Axis)	Shift + Up Arrow Key	Shift + Up Arrow Key
Move Down (Z Axis)	Shift + Down Arrow Key	Shift + Down Arrow Key
3D Print	Ctrl + L	Cmd + L
Group	Ctrl + G	Cmd + G
Ungroup	Ctrl + Shift + G	Cmd + Shift + G
Pan and Move	Hold Middle Mouse Button + Move mouse	Hold Middle Mouse Button + Move mouse
Show Library	Ctrl + Alt + S	Ctrl + Alt + S
Show Store	Ctrl + Alt + L	Ctrl + Alt + L