Silhouette 101

3D PRINTING BASICS

Learn everything you need to know about how to 3D print with the Silhouette Alta®

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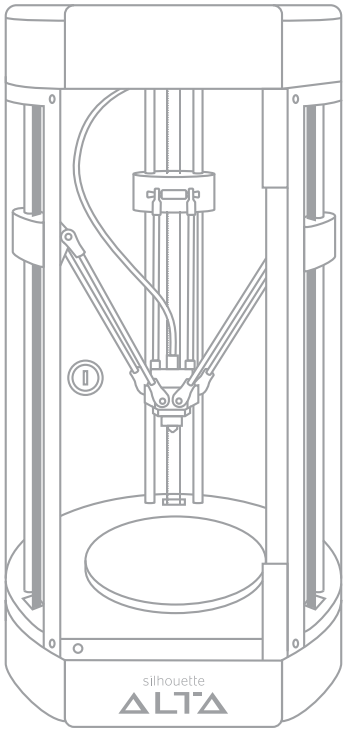
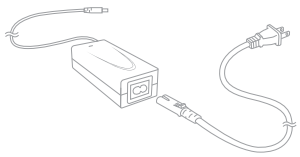
Introduction

In this eBook, you'll learn about the basics of the Silhouette Alta® 3D Printer and how to use the Silhouette 3D™ software to create your own 3D prints.

The Silhouette Alta® is a 3D printer, which is a machine that creates a physical object from a 3D digital model. It does this by pushing plastic filament through a tiny heated nozzle, laying down many thin layers in succession.



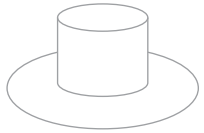
Silhouette Alta® delta 3D printer


A/C adapter and power cable


USB cable


Filament


Platform (build plate)


Filament spool

Platform tape


Filament tube


Spatula


Small hex key


Large hex key


Nozzle cleaner


Keys

What's in the Box?

In the box, you have the Alta 3D printer, power and USB cables, white filament starter, a filament spool holder, a clear filament guide tube, the platform, platform tape, hex keys and a nozzle cleaner, a spatula, and keys.

The filament spool holder is for holding the starter filament but is not necessary once you start placing full-size Alta filament spools on top. The spool was printed by your own machine in the factory to ensure the machine was working and calibrated before it shipped.

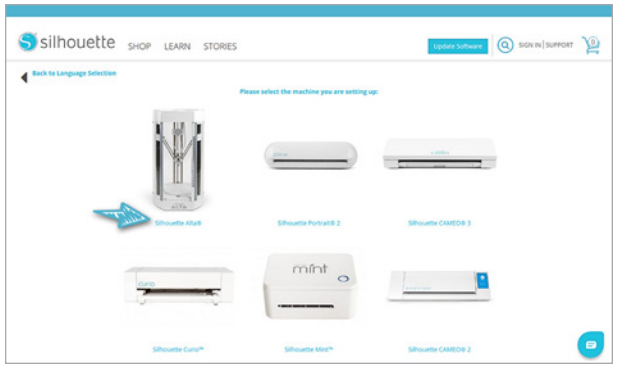
Other Tools and Supplies

As you use your Alta, you may find a few more tools and supplies to be helpful:

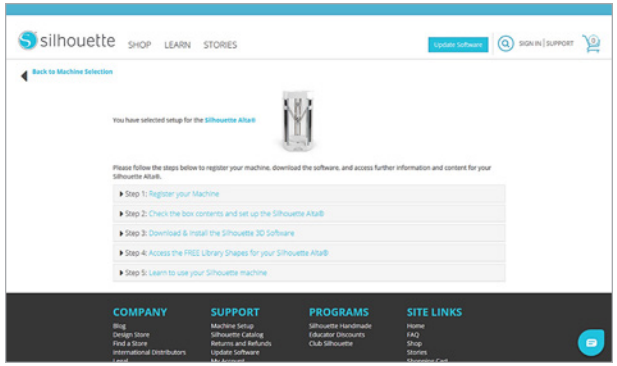
- Colored filament spools in various colors (PLA 1.75 mm)
- Platform tape refills
- Thinner spatula tool
- Pliers, cutters, or scissors
- Copy paper

Device Setup and Software Installation

The best way to get everything set up in order to start using your Alta is to visit Silhouetteamerica.com/setup and select the Alta.



Sign in with your existing Silhouette account, or create a new account if you are new to Silhouette.



Step 1 has you fill out information about you and your machine. When you submit this information, the registration step is complete. Then you're ready to continue on to each step.

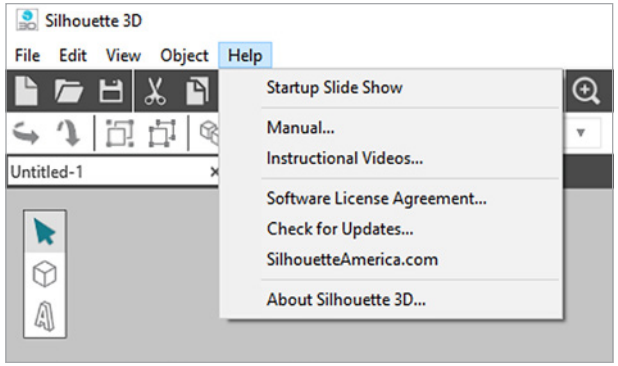
Step 2 will guide you through setting up your Alta.

Step 3 has you download and install the Silhouette 3D™ software.

Step 4 tells you where to access the free 3D shapes in the Library, but we'll go through that soon when we dig into the software.

Step 5 is the final section, which gives you easy access to user guides, manuals, and additional resources.

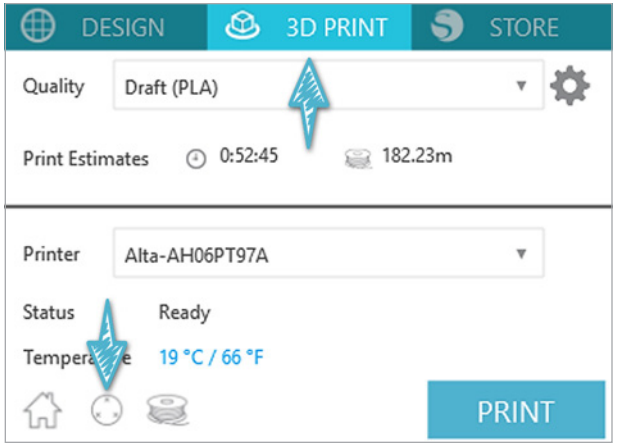
Open Silhouette 3D™, and you can find references in the Help menu. This includes links to access the Startup Slideshow, the Silhouette 3D™ Manual, and Instructional Videos (you will be taken to the Alta YouTube playlist).



Calibration

Although your machine was calibrated before it was shipped, it's possible that things moved a little during shipping, so it's a good idea to calibrate your Alta when you are ready to start using it.

Calibrate your machine by first going to the 3D Print Tab in Silhouette 3D™ and choosing the middle icon that resembles the platform. This will walk you through the steps.

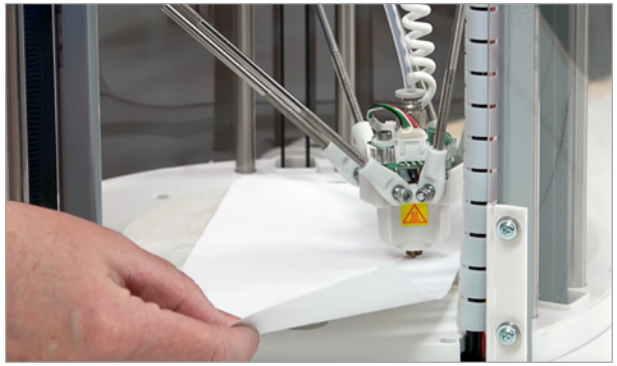


Take a piece of copy paper and cut off a strip that will fit inside the Alta compartment.

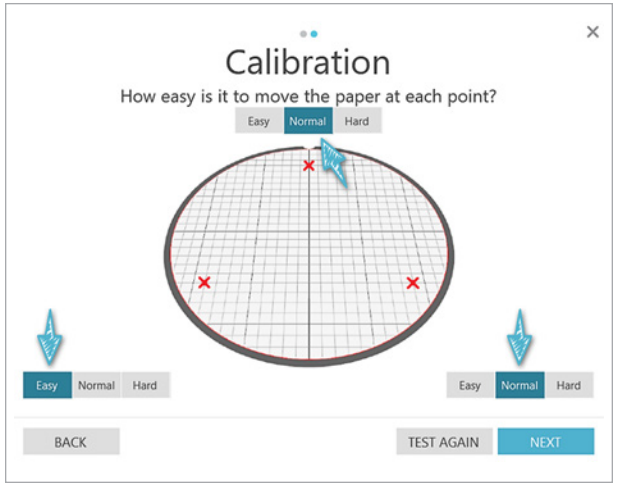
Click Start in Silhouette 3D™and put the paper under the nozzle as it moves to its three calibration points.

When the nozzle comes down, try to move the paper around. If you feel no resistance or if it's difficult to move the paper, the Alta is not properly calibrated.

You should feel light resistance between the nozzle and the platform while your paper is sandwiched between them. Also listen for a friction sound as the paper rubs both surfaces.



If the paper is too easy to move, click Easy. If the paper is too hard to move, click Hard. If you feel and hear moderate resistance, click Normal.



Then the on-screen instructions tell you which direction to turn your hex key. Turn the hex key counter clockwise to tighten; clockwise to loosen. Turn only a small amount (about 30 degrees) at a time.

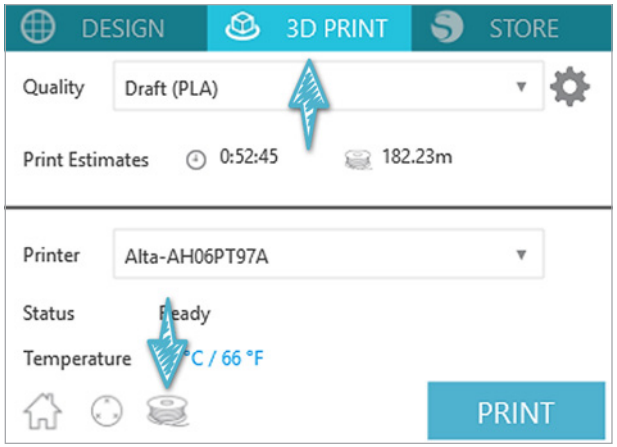
Test again with each adjustment at each position until you get it to a normal amount of resistance. The software guides you through all of this.

You can calibrate your machine as often as you feel it's necessary. When your 3D prints are not sticking well to the print bed, calibration is the first thing to check.

Note: If you ever feel like your calibration is way too tight when it was normal recently, check to make sure no extra plastic is sitting at the end of the nozzle.

Filament

To load the filament, click on the filament icon in the 3D Print tab.



Cut off any crooked or distorted ends so you're loading a clean, blunt tip. This can be done with wire clippers or scissors. You don't want to load filament with kinks in it.

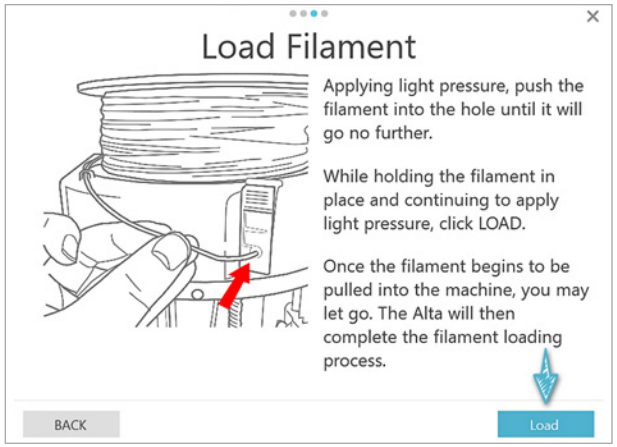
Place the roll so it's unrolling counterclockwise toward this eye loop and the filament entry.

Push the filament through the small eye loop on the top of the Alta, and then slide it through the clear filament guide tube.

Put the top end of the guide tube through the loop so the filament doesn't wear away the loop as it moves.

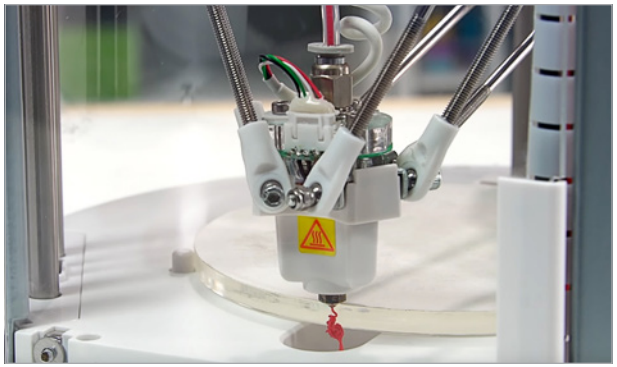
Once you've got a couple inches poking out the end of the clear filament tube, press it into the hole until it stops. You do not need to push the lever. This positions the filament right up against the gear of the feed motor.

Advance through the on-screen instructions in Silhouette 3D™ and click LOAD while applying light pressure on the filament in the hole.

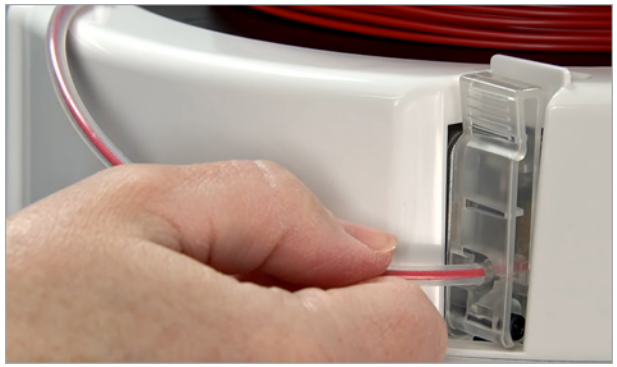


Once the print head is heated, the feed motor will grab the filament and start to feed it automatically down the inner tube, at which point you can let go.

The filament will feed into the print head and extrude some filament to clear any previous color.



Insert the guide tube into the loading hole after the filament has finished loading. You don't need to press the lever at all in this process.



To unload the filament in order to store it or switch colors, use the same filament button on the 3D Print Tab and follow the instructions to unload the filament. The print head on the Alta will be heated, extrude a little filament, and automatically unload the filament.

Once the filament has been unloaded, cut off the uneven end, and don't let the filament get tangled on the spool.

Store your filament with desiccant in a moisture and air-resistant container so it doesn't become brittle. Plastic bags might be adequate enough, depending on your environment and the quality of the plastic bag you are using, or you can use a storage tub with a seal if you have a lot of filament spools.

Platform Tape

Platform tape is already applied to the build plate when you get your machine. This provides the right kind of surface for the PLA filament to stick to the build plate as it prints.

You can generally keep the same platform tape on the build plate for multiple prints as long as it's in good condition. If you get scratches or gouges in the platform tape, you'll need to remove it and replace it with a new piece of platform tape.

Scratches, holes, and tears in the platform tape will cause flaws to be carried through your 3D prints. The solution for this is to replace the platform tape. Try to smooth out any bubbles that may appear as you remove your prints from the platform tape because bubbles will affect prints as well.

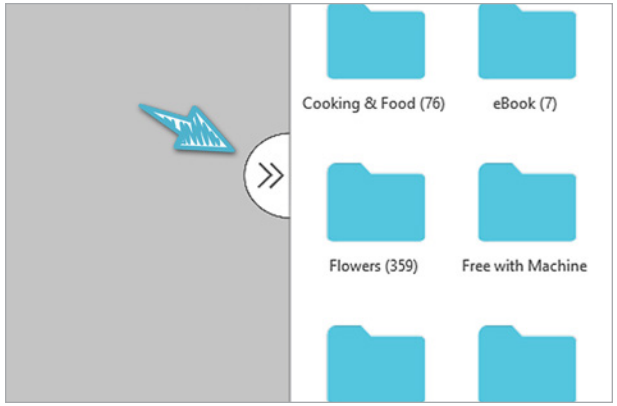
If your prints aren't sticking well to the platform and the machine is properly calibrated, it's possible the platform tape has accumulated too much oil from your fingers, and the platform tape should be replaced.

To remove the platform tape, simply peel it off like a piece of tape. Then take a new piece, line it up with the notch on the platform with the backing still in place. Peel away the backing of the lower half of the platform tape while holding the top half in place. Smooth the bottom half down with the included spatula tool, and then peel away the backing of the top half. Smooth down the remaining half to finish the application.

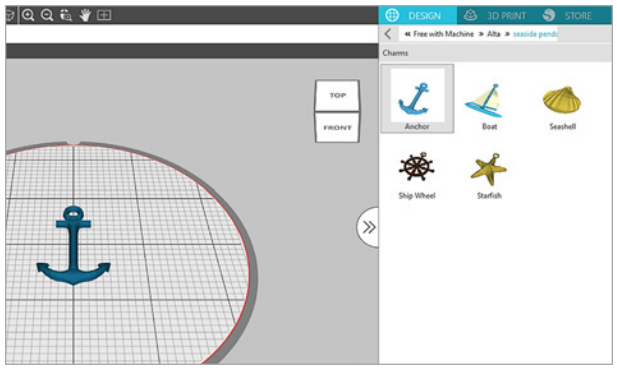
Print a Simple Project

Let's print a simple project from your Library so you can see how the machine works.

You can view or hide your Library by clicking these double arrows.

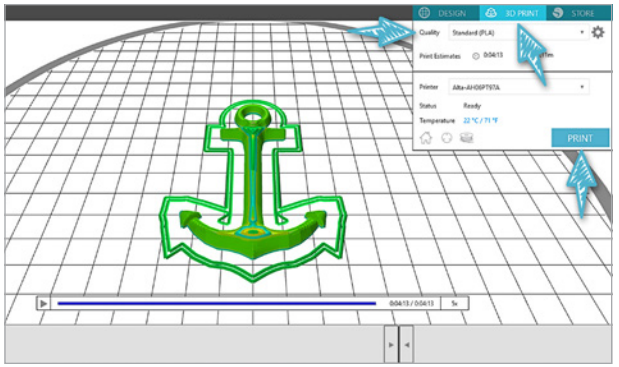


In your Library, go to the "Designs" folder > "Free with Machine" folder > "Alta" folder > choose Seaside Pendants > then the Anchor. Double-click the anchor to open it.



Do not resize or move the object for this first project.

Go to the 3D Print Navigation Tab, and leave the print-quality settings as Standard. The print estimate should be about 4–5 minutes.



Click Print. Here's what happens next.

- The print head moves into position over the well.
- The print head is heated up.
- You may hear noises, which are normal, as the Alta prepares the filament.
- The print head extrudes a little filament.
- A brim, or an outline around the design, is created.
- The Alta starts slowly printing a first layer, and then it builds up the full design, layer by layer.

You can print with the door closed, and open it if things look too hot and stringy.

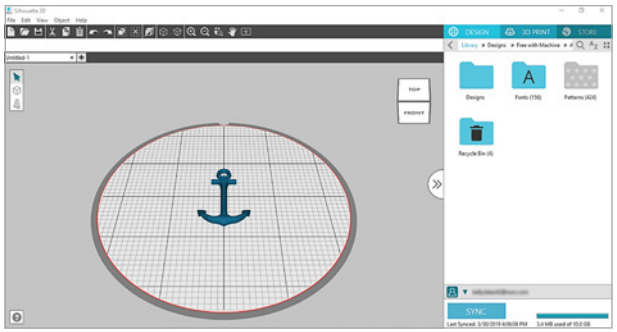
The software lets you know when the print is finished. The print needs to cool for a few minutes before you touch it.

Once the filament has cooled, remove the print from the base. A spatula, a piece of paper, or pliers are all options you can use to help remove it. Try not to scratch the platform tape because it can be reused as long as it's in good condition.

Software Overview and Basic Navigation

Let's take a closer look at the Silhouette 3D™ software.

When you open Silhouette 3D™, also known as S3D, you'll see a workspace with a virtual build area, ready to hold designs for 3D printing. This can be text, preset 3D shapes, or designs from your Silhouette Library like this anchor.



You can even open designs from third-party sources that are in a compatible file format, such as .STL or .OBJ files.

Most of these tools should be familiar to you, so we won't spend much time on the menu and every individual tool icon. You can read in detail about each tool in the Silhouette 3D™ software manual available through the Help menu. We'll use the most common ones throughout this eBook.

Library:

- As we mentioned before, click the double arrow to reveal or hide the Library.
- When you are signed in, the Library will sync with your existing Silhouette Library if you have used Silhouette Studio® for other Silhouette machines.
- The 3D Designs folder contains any 3D Alta designs you purchase from the Silhouette Design Store. Folders are listed in alphabetical order.
- The "Free with Machine" folder contains 3D Alta designs that load when you connect and register your Alta.
- To open a design from the Library, double-click the design or click and drag it to the workspace.

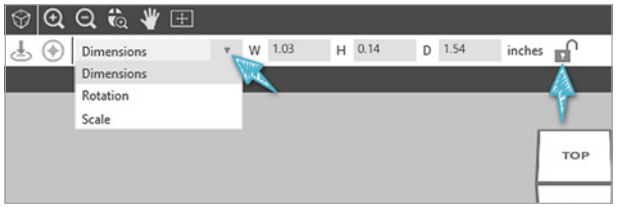
Store Tab:

- The Store Tab opens a web browser that takes you to the Silhouette Design Store. It automatically loads the 3D Printing category.
- When you purchase 3D designs, they automatically load into the "3D Designs" folder in the Silhouette 3D™ Library.

Quick Access Toolbar:

- One important area worth noting in the Design Tab is the Quick Access Toolbar. When you have a design selected, popular options appear here for functions like rotating, grouping, ungrouping, leveling to bed, centering to bed, and changing dimensions.

- To change the dimensions of a design, you can either lock the dimensions to adjust a shape proportionately or unlock them to change just one dimension, such as the height.



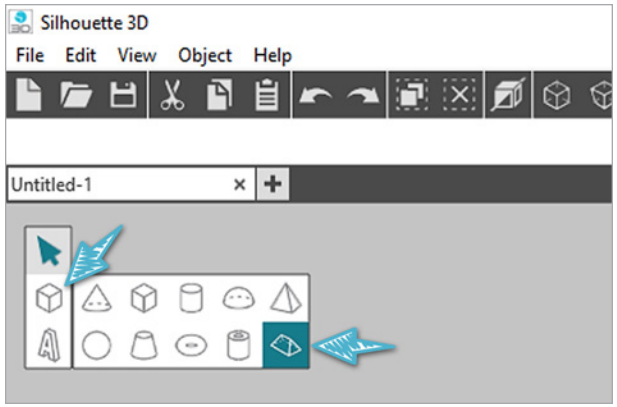
- You will likely use the dimensions most often to make your shapes a specific size, but clicking the drop-down arrow also gives you the option to input the exact rotation or scale values.

Preferences:

- You can change the unit of measurement from millimeters to inches in Preferences, which is found in Edit > Preferences.

Create and Manipulate Shapes

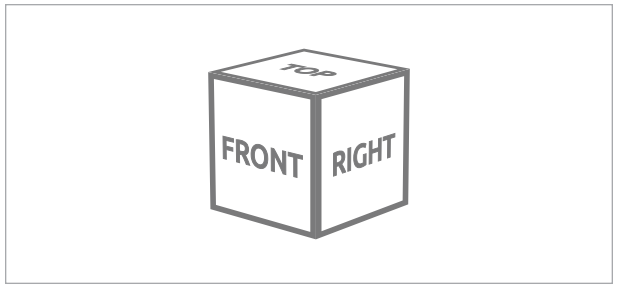
With the shape creation tool, you can create a cone, cube, cylinder, dome, pyramid, sphere, frustum of cone, torus (donut), hollow cylinder, or wedge.



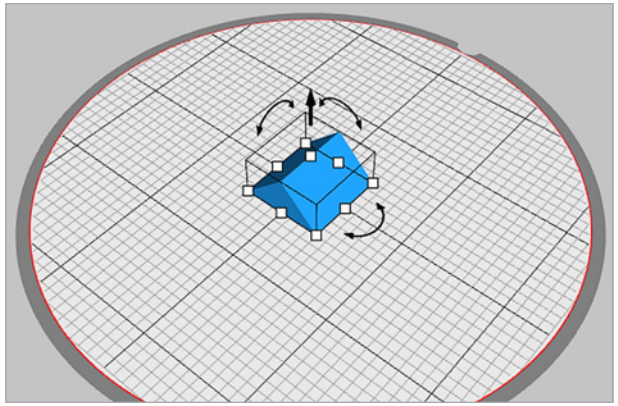
Let's practice with a wedge. Click on the wedge shape, and the object will center itself on the virtual platform (also known as the base).

Zoom in or out with the mouse scroll wheel. You can find more zoom icons at the top of the window.

Change the orientation with a mouse right-click + drag, or with the Page Orientation Cube.



Drag the white corner handles of the selected shape's bounding box to resize your shape proportionately. Drag the side handles to compress or expand the shape. Holding down the Shift key and dragging corner handle together allow you to change the dimensions disproportionately.

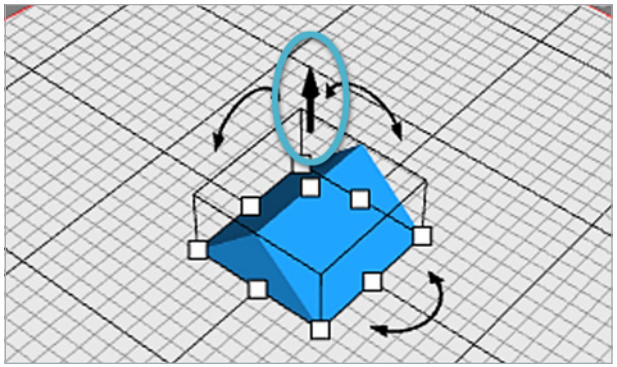


Click and drag the shape to move it.

To center the shape back on the bed, use the Center to Bed icon located on the Quick Access Toolbar.

Use the white center handle to adjust the height or thickness of a selected object. This is great for flat objects and text.

Use the arrow that hovers above the object to lift the object vertically above the base. This is helpful if you're stacking objects to create new shapes.



 Use the Level to Bed icon on the Quick Access Toolbar to get it flush with the base again.

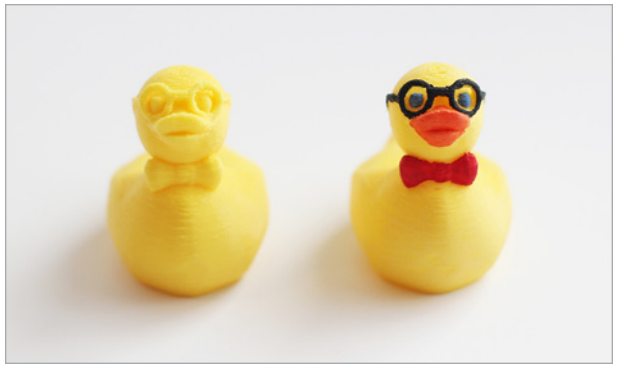
 You have rotation handles on the selected object, or you can use the 90-degree rotations in the Quick Access Toolbar.

 And, of course, you have an Undo button, which is really useful.

For more information about the all the tools available in Silhouette 3D™, please refer to the manual available in Help > Manual.

Snapkits

Snapkits in Silhouette 3D™ allow you to build custom objects with predesigned pieces. These are from the "Design a Duck" Snapkit, both painted and unpainted.



These special 3D printing files let you customize your piece by mixing and matching different design elements.

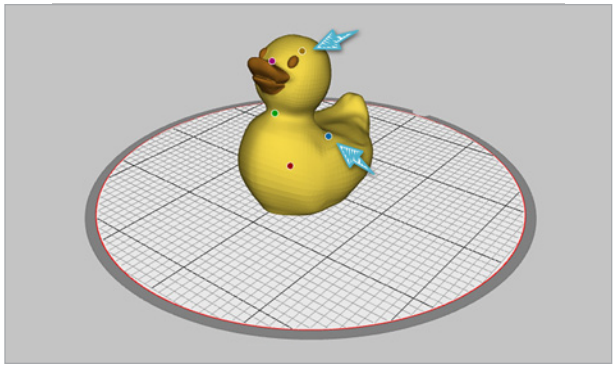
Some Snapkits are included with your free Alta 3D designs, and you can purchase additional Snapkits from the Silhouette Design Store.

This Design a Duck Snapkit can be found in the "Free with Machine" folder.

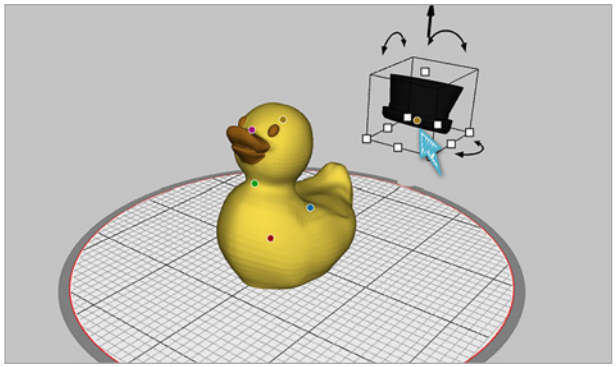
When you double-click to open a Snapkit, you'll find some divisions in the folder, such as a base and accessories.

Open the main piece by double-clicking it.

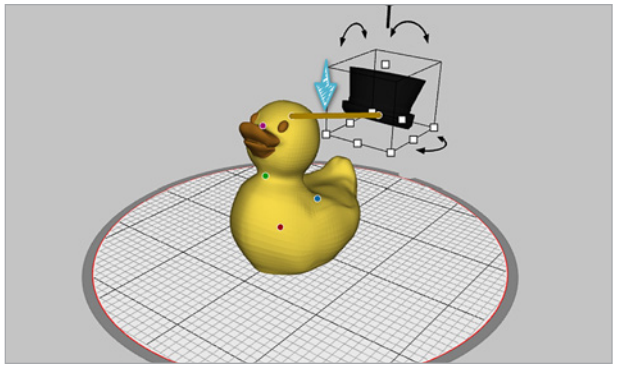
Notice the colored dots on the duck. Those are the predetermined snap points to put the other parts of the Snapkit in the right place.



Simply drag an accessory over from the Library, and you'll notice it has its own colored dots. That means that piece will snap to the corresponding snap points on the main piece.

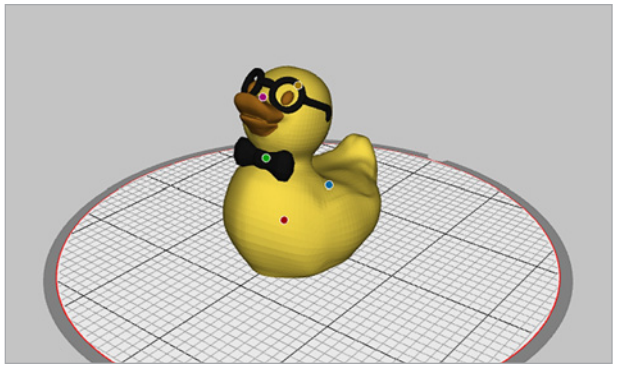


Drag a piece showing the dots toward the main piece with the same colored dots, and you'll see a colored line appear. When you see that line appear, you can release your mouse and the object will snap into the correct position.



If you don't like it, you can replace it in some Snapkits by dragging over a new object that fits the same area. Or just delete just that piece by selecting it and pressing the Delete key on your keyboard.

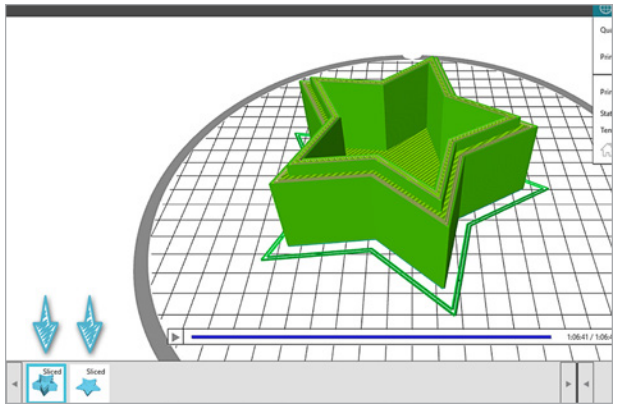
This is a fun way to customize your 3D objects that are part of a Snapkit.



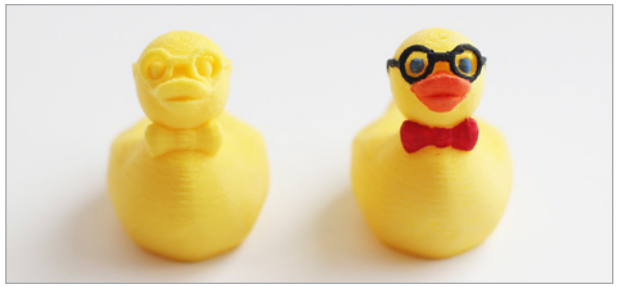
Sometimes Snapkit pieces are accessories for a character, sometimes they are for a lid to a box, and sometimes they are for text.

Objects that are snapped together are automatically grouped, so you don't need to go through the extra step of grouping Snapkits. They become one piece in the 3D Print tab.

If it's a Snapkit with a lid, the software knows when an object is a lid and will print that separately.



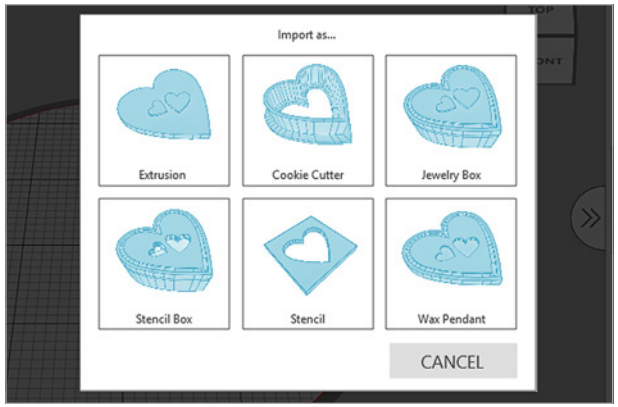
Although the pieces are colored on the Design screen, you can only print in one filament color. Both of these ducks were printed with yellow filament, but the colored version has been sanded with sandpaper to smooth out rough edges and then painted with a fine paint brush and acrylic paints.



Using 2D Designs

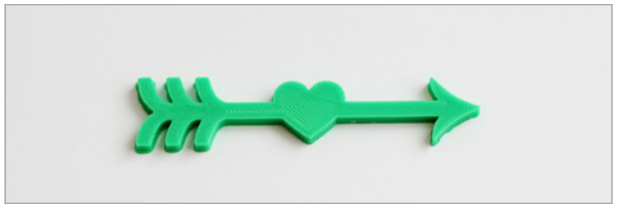
Silhouette 3D™ can use many of your existing 2D designs from your Library and convert them into a selection of 3D projects.

When you try to open a "regular" Library design, a pop-up box appears for you to select from six different import options, which are Extrusion, , Jewelry Box, Stencil Box, Stencil, and Wax Pendant.



Most individual 2D designs will not work with all six options but will work for a couple of extrusion choices. Try some out to see what works and what doesn't.

2D Design into a Basic Extrusion:

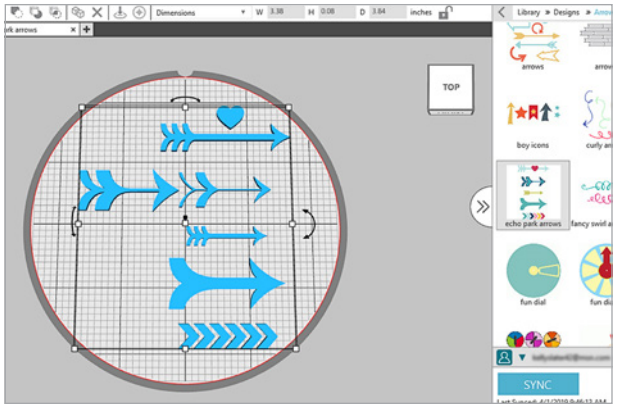


Extrusion is the "what you see is what you get" option.

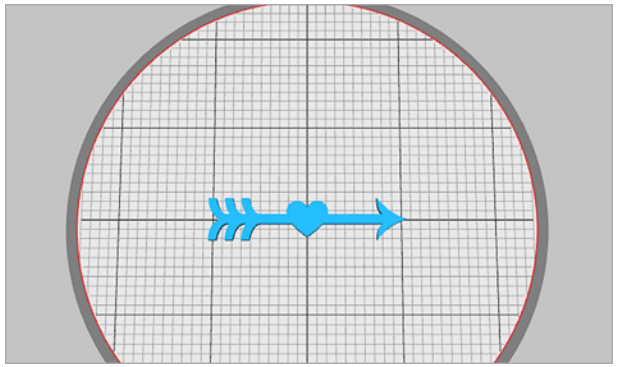
Here's a design that would be a cut file in Silhouette Studio®, but we've opened it in Silhouette 3D™ and printed it with the Alta.

To make this yourself, open "Echo Park Arrows" (Design ID #43091) and choose Extrusion.

Designs that are part of a set will open the entire set and automatically resize the set to fit the base.

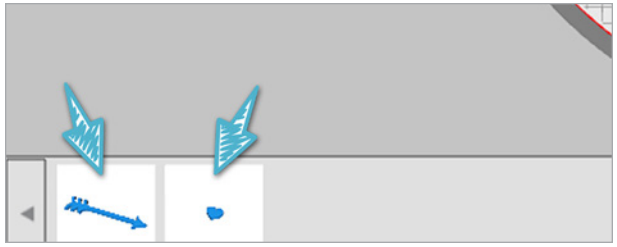


Ungroup the designs and delete everything except the heart and its nearest arrow. Move the heart to the center of the nearest arrow.



Here's an important thing to know. Even though they look like one piece here in the Design View, the pieces are not yet grouped.

Go to the 3D Print tab, and you'll see they are still two separate pieces. The arrow will print first, and you can see at the bottom of the screen that the heart is a separate shape that will have to be selected separately to print.

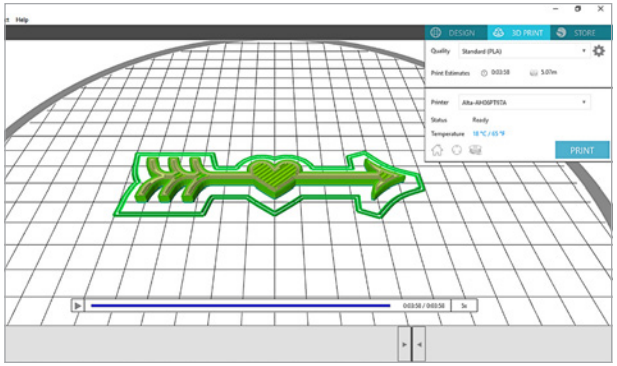


If you want them to print as a single merged piece, you need to either Group or Weld them in the Design tab.

Note: Group and Weld behave the same for overlapped objects in Silhouette 3D™. However, welded objects cannot be later ungrouped, whereas grouped objects can be later ungrouped.

Select both the arrow and its overlapped heart and choose Group.

Go back to the 3D Print tab, and you'll see they are now a single welded piece. It will print this arrow as you see it on the screen.



2D Design into a Cookie Cutter Extrusion:

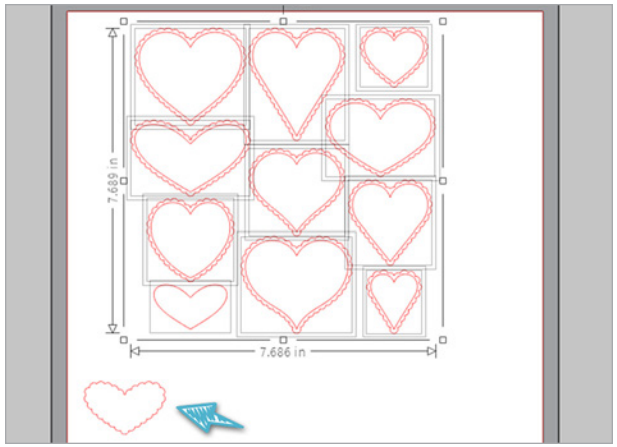
When you choose the cookie cutter option when opening a 2D Library design, the design is automatically converted to a cookie cutter with a base and thin walls, like this heart-shaped cookie cutter.

When opening a design with many pieces such as "11 Hearts" (Design ID #24813), the entire set opens, which is not ideal for cookie cutters. Simple shapes are best, not designs in large sets. If you want just one piece of the set, it may take some effort to single it out, and it may not convert well when resized.

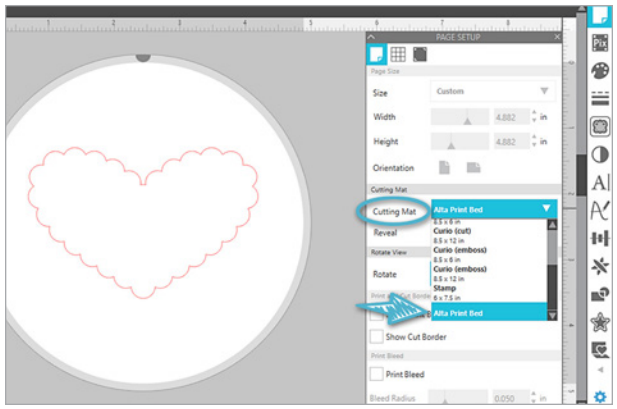
A great way to single out a piece from a group or to make any modifications to a 2D design is to do it in Silhouette Studio® before opening it in Silhouette 3D™.

Go to Silhouette Studio® and open the same "11 Hearts" collection.

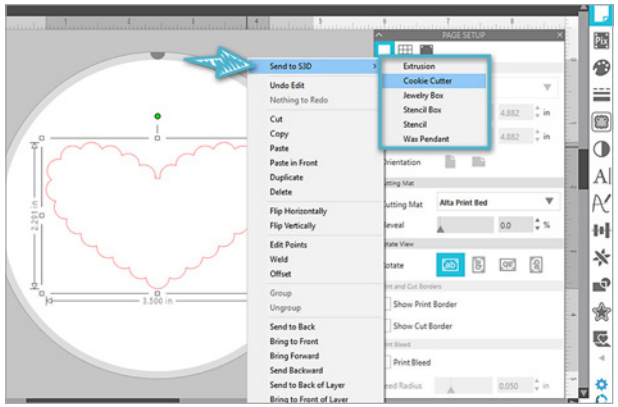
Ungroup the set (twice), and delete everything but the frilly heart in the lower left corner.



In Silhouette Studio® version 4.2 or higher, you can choose the Alta Print Bed as your Cutting Mat choice so that you know the area you are working with.



Right-click on the design sitting on the Alta Print Bed, and choose Send to S3D > Cookie Cutter.



The design will open as a cookie cutter in Silhouette 3D™ and is ready to be printed in the 3D Print Tab.

Note: You can also open Silhouette Studio® files from within Silhouette 3D™, and it will give you the same six extrusion options to choose how to open each 2D design.

2D Design into a Jewelry Box Extrusion:

Now let's look at the Jewelry Box option. This red heart box with a lid is an example of what you can make from a simple 2D heart design.

It automatically converts a design to a jewelry box with a lid. In this selection, the design protrudes from the lid base.

In Silhouette 3D™, choose the "Hearts" design (ID #177304), and select Jewelry Box when your import choices pop up.

This box prints in two pieces. Go to the 3D Print tab, send the first piece to print, and then let it cool when finished.

Remove it from the platform and put the platform back in the Alta before selecting the second part to print. Always let newly printed pieces cool before removing them from the platform.

The lid and base pieces match perfectly when finished.

It's very similar to the Stencil Box, which you'll see next.

2D Design into a Stencil Box Extrusion:

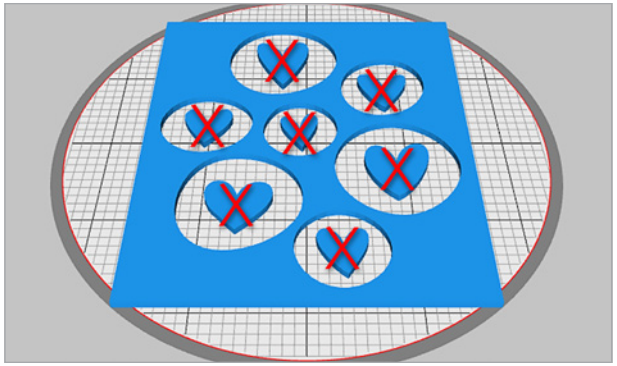
The Stencil Box choice automatically converts the design to a jewelry box with a lid, but this time the design is inset into the lid.

Follow the same steps as in the Jewelry Box explanation with the same Hearts design, but choose Stencil Box as the import option.

2D Design into a Stencil Extrusion:

The Stencil choice takes the design and makes holes in a flat plate to create a stencil.

To create appropriate stencils, you need a simple shape with no inner holes when choosing the Stencil import option. If you try to create a stencil with a design that has cutouts as part of the design, the cutouts will become separated when printed and will not be part of the final stencil.



Design sets will include all pieces of the set in the stencil, and they cannot be detached in Silhouette 3D™.

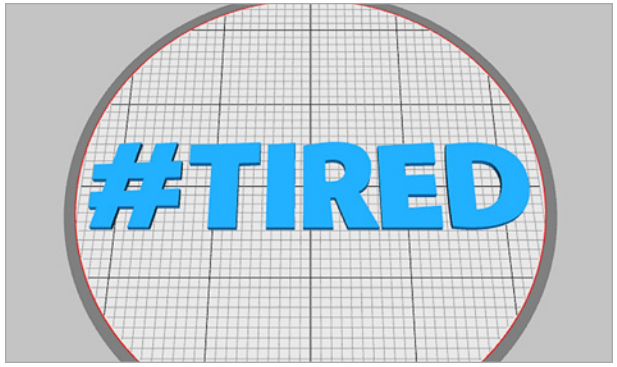
Remember, you can single out pieces of a set in Silhouette Studio® before opening that altered design in Silhouette 3D™.

Note that when opening 2D designs, Silhouette 3D™ will resize them to fit the virtual build plate. Large sets will be smaller in order to fit them on the platform. Saving as a .Studio3 file in Silhouette Studio® will not retain its size when opened within S3D, but designs resized to fit the Alta Print Bed cutting-mat choice then opened with a right-click directly to Silhouette 3D™ will retain their size.

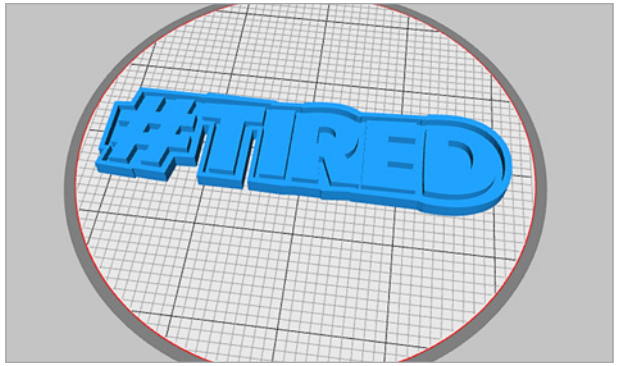
2D Designs into a Wax Pendant Extrusion:

This #Tired print comes from selecting the Wax Pendant choice. It's basically an Extrusion design placed on a solid base. This one is a great choice for turning phrases into keychains.

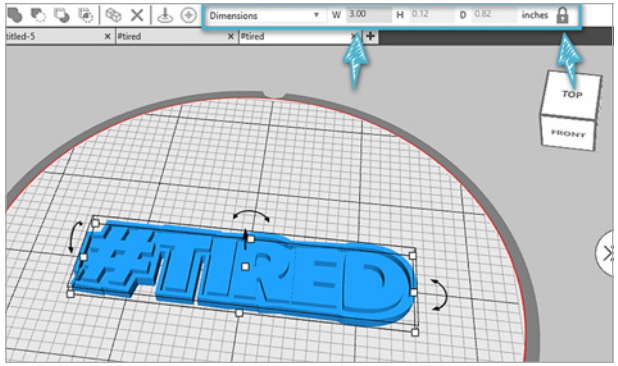
If you open this #Tired phrase (Design ID #229238) as an Extrusion, the letters are all separated and won't stay together when printed.



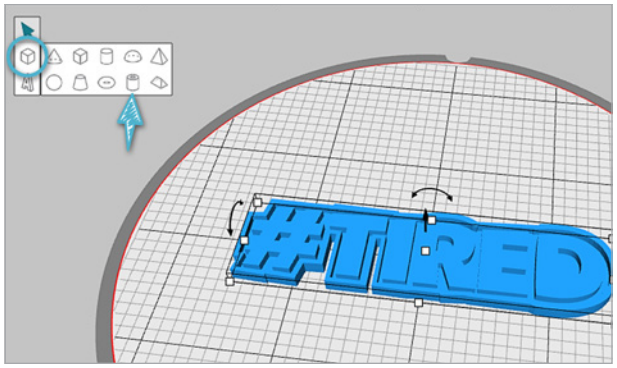
Delete this, and then choose the same design as a Wax Pendant. You'll see it's automatically fused to a base.



To turn it into a keychain, resize it to 3 inches wide with the dimensions locked.

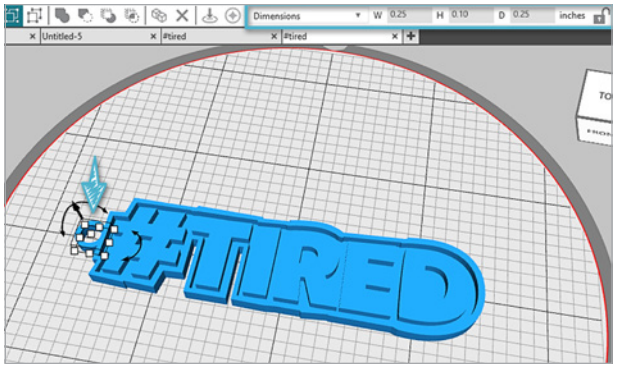


Open a tube shape from the shape creation tools on the left.



Move the tube to the side and resize it to .25 inches with locked dimensions, and then unlock the dimensions and change the height to .10 inches.

Move the tube into position so it's overlapping the phrase. You can use your right mouse key and the scrollbar to change the view, and the spacebar with your mouse to pan.



Remember to select it all and choose Group or Weld so the loop and keychain design fuse together. Now you're ready to select your print settings in the 3D Print tab.

Don't forget you can create your own phrase or name in Silhouette Studio®, and then open it in Silhouette 3D™ as a Wax Pendant choice before resizing it and adding a keychain loop.

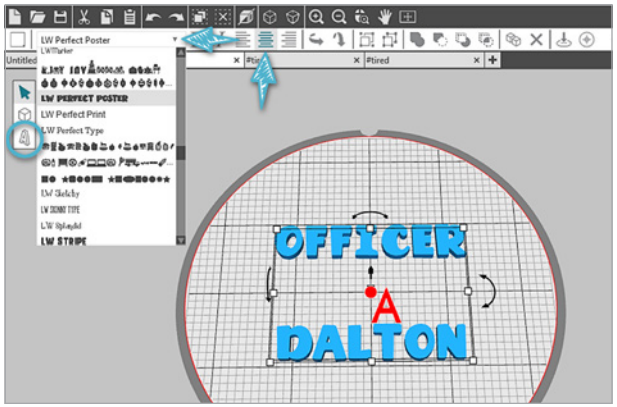
Now you can see how to get creative with your existing 2D designs with the six import options in Silhouette 3D™.

Text

The last key design feature of Silhouette 3D™ is text. In the software, you'll find the Text Tool on left side of the Design workspace. Let's explore one application of text by adding text to a badge design.

Click on the Text Tool and then type your text into the pop-up box and click OK. (Type Enter or Return between lines to create line breaks.)

Now text options appear on Quick Access Toolbar. Your font list includes any installed on your computer. This project uses "LW Perfect Poster" (Design ID #238798).

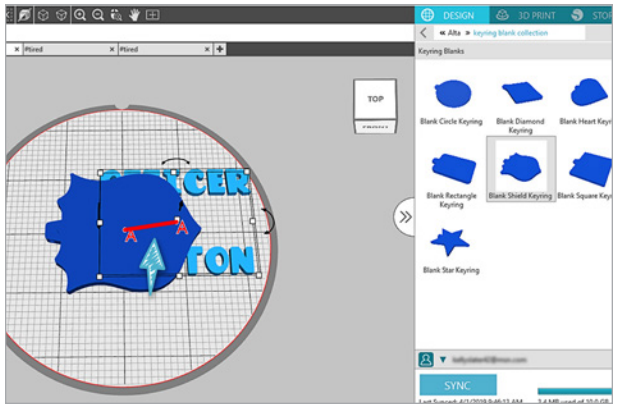


Choose the Center Justification option.

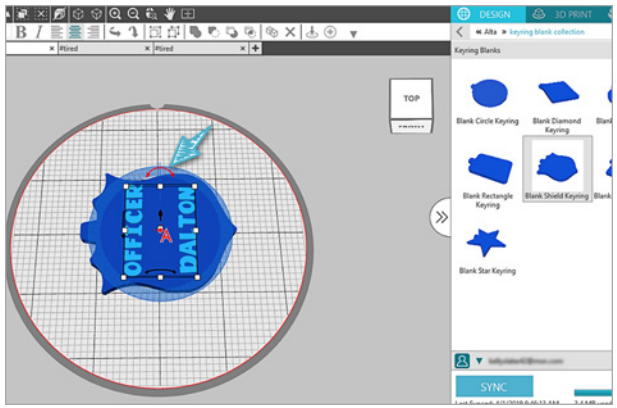
Notice the Snap point that appears with text, indicated by the red dot and red letter A.

Go to the "Free with Machine" folder, open the Keyring Blank Collection, and choose the Blank Shield Keyring. A snap point will also appear on the shield shape.

Drag the text to the shield. A line appears between the two objects when the snap points are ready to snap together.



The text snaps to the shape, and you can still adjust or edit the text by double clicking on the text. Resize smaller by dragging a corner handle of the text, and rotate it by dragging the rotate arrow.



There's no need to group when you've used text snap points. The text automatically becomes attached to the design because of the snap points.

Several free designs have snap points for text, indicated by the red letter "A."

As with the duck example for Snapkits, you cannot print in two colors, but you can print in a single filament color and paint the raised letters a different color.

Save Projects

One note about saving projects: If the design opens with the name of the design showing, we suggest going to File > Save As > Save to Hard Drive, or it might save to the Library under the same name it opened as, creating a duplicate title.

If it's labeled as Untitled, you can use the normal Save icon to give it a name.

Open Non-Silhouette 3D™ Files

Silhouette 3D™ will open many files designed in other 3D printing software.

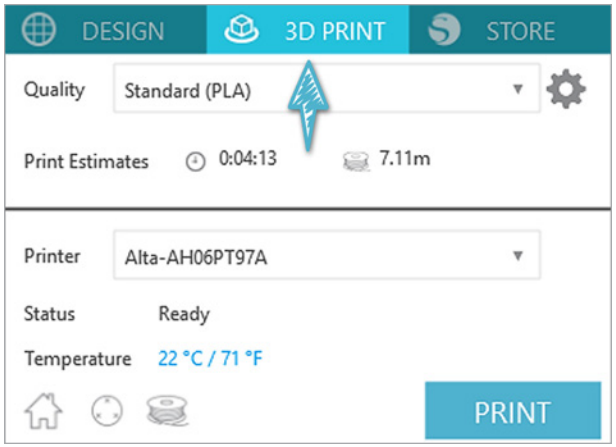
This flexible dinosaur keychain is one example of a file found on Thingiverse.com as an .STL file. There are lots of free downloadable designs online that can be opened and printed in Silhouette 3D™.

If you know how to create 3D files in other 3D software and can save them as accepted file types, then you can generally open and print them in S3D. Keep in mind that the maximum size the Alta can print is about 5 inches high and just under 5 inches wide.

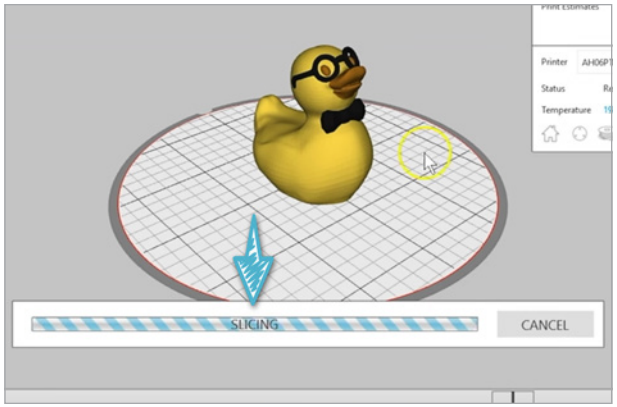
3D Print Settings

We've looked at the 3D Print Tab already, but let's talk more about the Print Settings in the software.

Once you have your design ready to print, go to the 3D Print navigation tab to check your settings and send the design to the Alta.

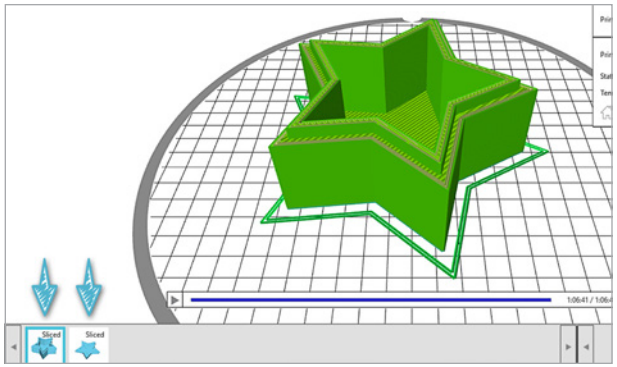


Each time you make an adjustment to the print quality or settings, you may notice a change on the slicing progress bar. This is just the software thinking through the layers breakdown, after which it will give you an estimated time and estimated filament usage.

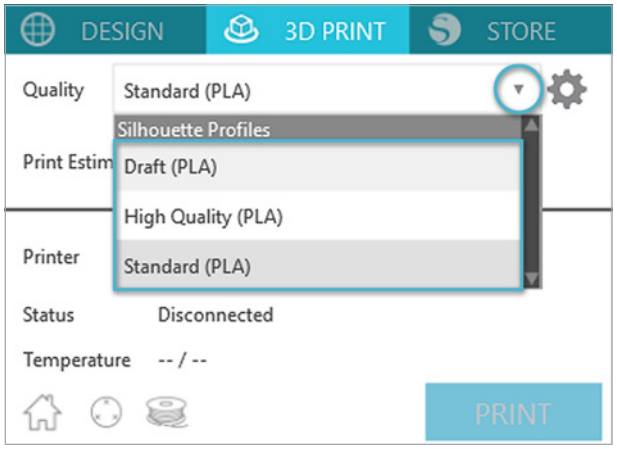


Just like in the Design tab, you can use your mouse scroll bar in this view to zoom, or right-click + drag to change the view.

When you have ungrouped pieces, look at the bottom task bar to see separately-queued pieces that can be selected and printed one at a time.



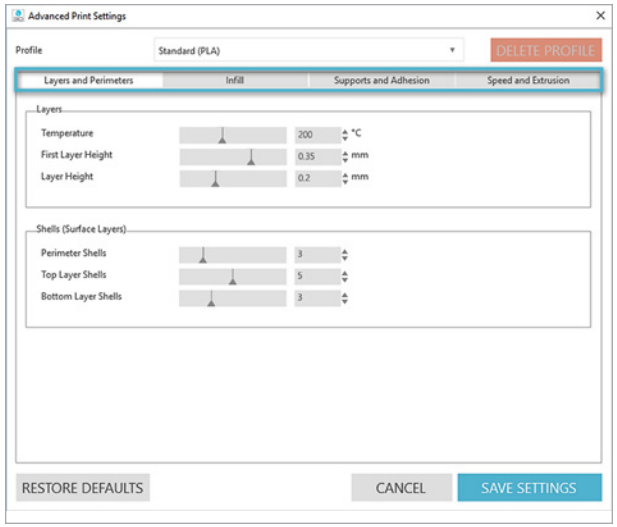
You have three default Quality settings: Draft, Standard, or High Quality. Your choice depends on what kind of print you are making and how finished-looking or durable it needs to be.



The box where the Print Settings are located also provides print estimates for time and material.

Advanced Print Settings: Click the Gear icon to find Advanced Print Settings. You can find details for all the advanced print settings in the manual, so we'll just touch on a few commonly used settings.

Standard settings are appropriate much of the time, but if you do need to make adjustments when troubleshooting a print, this is where you can do it.



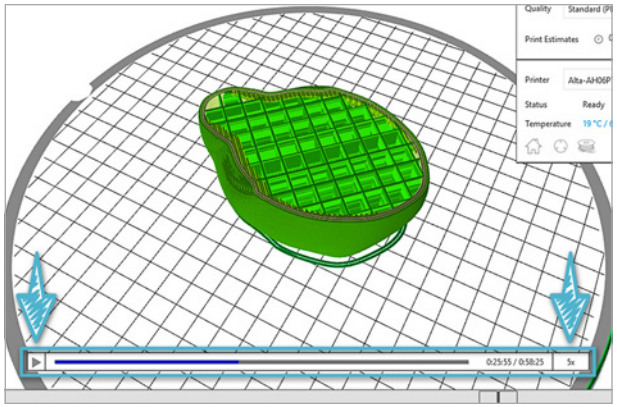
Layers and Perimeters: In the Layers and Perimeters tab you can adjust the temperature, among other things.

Infill: Infill is how much inner material it places for support.

Look at this partially printed duck. Most of the design is relatively hollow, but the infill provides support and structure while the layers are building.

The density of infill changes with standard, draft, or high quality. Draft quality leaves bigger gaps in the infill, High quality has a denser infill, and Standard is in between.

The animation slider in the 3D Print tab lets you watch the entire print at various speeds or lets you choose a point in the process so you can see exactly how the print will come together. Different colors in the sliced design are associated with different speeds.

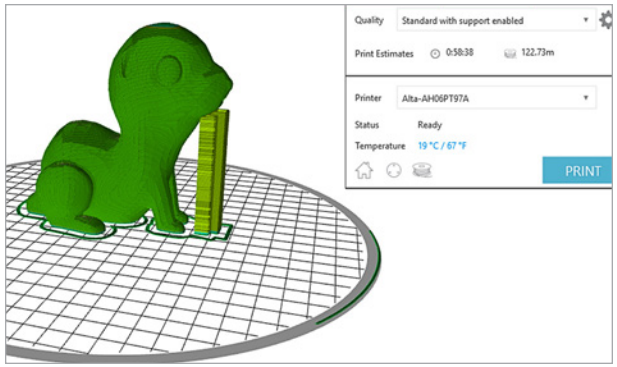


Supports: When a design like this otter Cutipet has an overhang, you might want to try printing it with supports.

Click the gear icon again and go to the Supports and Adhesion tab. Check the box for Supports, and click Save Settings.

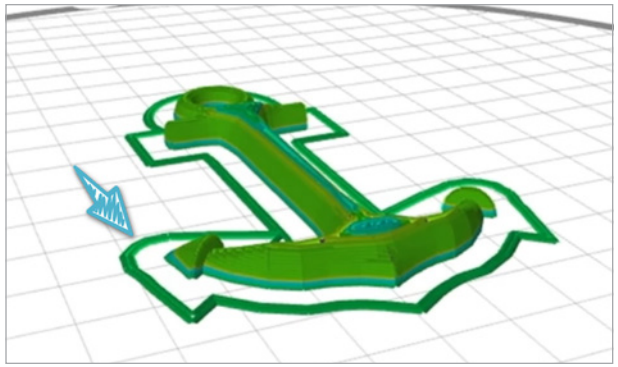
You'll need to give a new name to the settings whenever you make adjustments because you can't save over the three default quality settings.

The software automatically places support material under overhangs when supports are turned on so that the filament isn't extruding hot plastic over open space.



It prints as you see it. The supports are easy to break off, and then you just have some cleanup to do where it was lightly attached.

Brim: This extra filament that prints along the outside before the main model is called a Brim (a.k.a. Skirt in the 3D printing world).

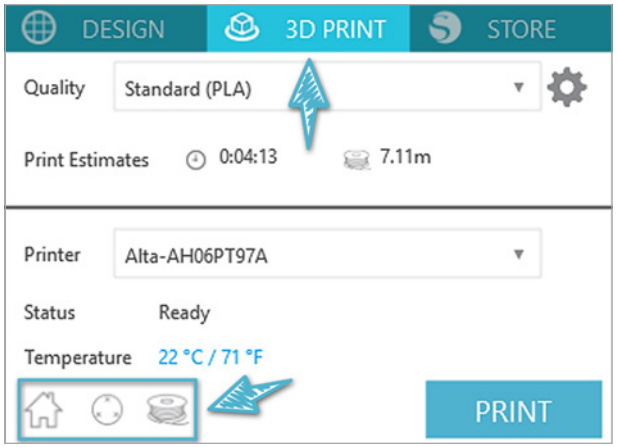


It serves two purposes:

1. Makes sure material is flowing and sticking as expected
2. Helps with thermal insulation and prevents warping by providing more surface area for prints. You can increase the brim width and decrease the gap in the Advanced Print Settings.

There are more adjustments you can make in Advanced Print Settings as you try and fine tune your prints based on troubleshooting suggestions.

Other icons you'll find in the 3D Print tab are at the bottom of the window:



Home resets the print head position.

Calibration is very important, and we talked about that at the beginning.

We also talked about the Filament icon, which walks you through loading or unloading the filament.

You'll find Manual Controls with the Filament choice as well. This allows you to heat the print head, reposition the print head, or feed the filament in case it's stuck.

Finishing a Print

Your options for finishing a print are varied. If you feel like your print isn't perfectly straight off the platform, you're not alone. All 3D prints, not just those made with the Alta, might need some touch-ups.

You can

- Leave the print plain
- Sand it with sandpaper (dry or wet)
- Paint it (acrylics with a paint brush or spray paint are both options)
- Search for many online resources for finishing PLA prints (not exclusive to the Alta)

Conclusion

We hope you feel more confident in what the Silhouette Alta® can do, how it works, and how to use the Silhouette 3D™ software to create or open your 3D prints.

This is a machine that rewards experimentation, so feel free to play with a lot of different design types and adjust your settings and finishing techniques as you continue to learn.

We also have a lot of resources on Silhouette101.com. Just search for "Alta" and you'll find videos, instruction, troubleshooting tips, and inspiration to help you out.

Happy printing!

Designs Used:

Seaside Pendants - Anchor | Free with Alta machine | Page 8
Snapkit Design a Duck | Free with Alta machine | Page 11
Echo Park Arrows | Design ID: 43091 | Page 13
11 Hearts | Design ID: 24813 | Page 14
Hearts | Design ID: 177304 | Page 15
Hearts | Design ID: 118442 | Page 15
#Tired | Design ID: 229238 | Page 16
LW Perfect Poster Font | Design ID: 238798 | Page 17
Cutipets – Set 1 Otter | Free with Alta machine | Page 21