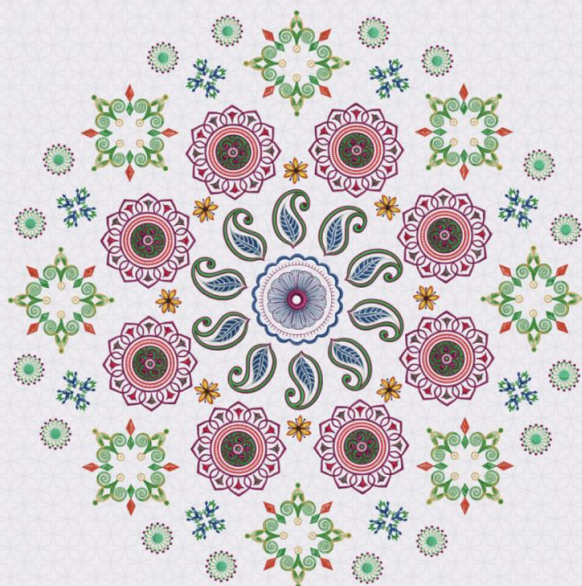


Digitizer V5.5



USER GUIDE
USER GUIDE

CUTWORK / STUMPWORK
CUTWORK / STUMPWORK

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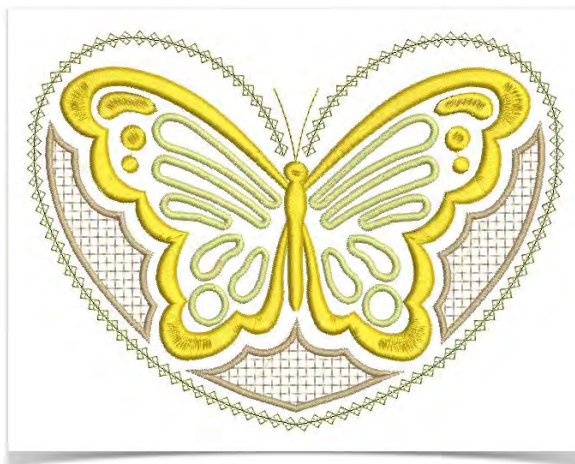
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INTRODUCTION

Openwork or 'cutwork' embroidery is a delicate form of needlework which involves cutting away portions of the background fabric and binding the edges with embroidery stitching. In addition to reinforcing the edges, resulting holes may be filled with embroidery or needle lace.

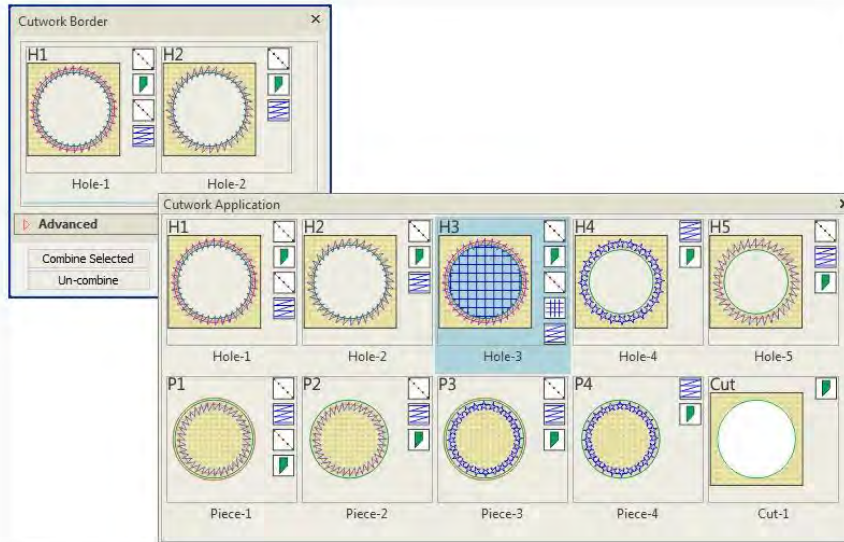
Stumpwork, on the other hand, is a raised form of embroidery. It is created on one backing fabric and transferred to another, 'ground fabric'. The software allows you to visualize all components of a stumpwork design in a single design window. At the same time, it lets you edit each stumpwork piece individually and output to machine.

Both cutwork and stumpwork designs are created with a common set of tools. Stumpwork can be made from cutwork pieces which are sewn onto the base design, usually with the addition of a wireline for extra stiffening.



CUTWORK BORDERS

Both cutwork and stumpwork designs are created with a common set of tools. Stumpwork can be made from cutwork pieces which are sewn onto the base design, usually with the addition of a wireline for extra stiffening. Both styles of embroidery make use of the Cutwork Border docker. This is organized by border type. The chosen border type determines which components are included in the cutwork / stumpwork object. The Cutwork Border docker has two aspects: the border gallery and associated settings. It can be floated as shown.








Border types

The Cutwork Border gallery contains three categories of border...

| Category | Use |
|----------|---|
| Hole | The user is primarily interested in the fabric that remains after the hole is cut. The resulting piece usually consists of some embroidery together with the cut. |
| Piece | The user is interested in the cut-out piece. The remainder will probably be discarded. Consists of some embroidery together with the cut. Piece border types are typically used for stumpwork. See also Stumpwork . |
| Cut | Open or closed cutting line without any embroidery. This can be used to create a simple cut-out piece to be sewn on as stumpwork. |

Cutwork components

All stitching components required by the machine are generated by the software. Like appliqué, cutwork objects are composite, containing multiple embroidery and cutting components. They may include any or all of the following:

| Component | Use |
|--|--|
|  Stabilizing runs | Stabilizing runs are used to reduce deformation of the material prior to cutting or stitching. There may be several stabilizing runs in the one cutwork object. |
|  Cutting lines | As the required cutting line would be unlikely to follow one of the standard cutting angles – 0°, 45°, 90° or 135° – a mix of different cutting needles is used to approximate the cutting line. The preferred mode of operation is to complete all cuts one cutting needle at a time. |
|  Tackdown runs | These are used to attach the stabilizer after a hole has been cut. Tackdowns are implemented as simple runs. They are not required for cutwork pieces. |
|  Net fills | Net fills are stitched onto the stabilizer inside a cut hole. They are created after holes are cut and stabilizers tacked down. When a fill is stitched out, the edges are covered, typically, by a satin or stemstitch line. Other stitch types are available. The stabilizer is subsequently dissolved in water so only a net of stitches is left within the hole. |
|  Embroidery | Depending on the border type, embroidery may be used to cover the edge of the hole. Alternatively, it may run at a certain distance from the cutting line and stitch out before or after the material is cut. It is implemented as either satin, blanket, wireline, or stemstitch. Satin or wireline are typically use for stumpwork. |

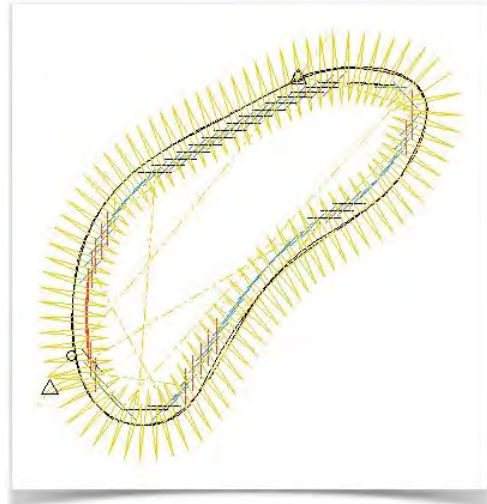
Component sequencing

Cutwork components are sequenced according to chosen border type. There could be dozens of cutwork objects in an entire design. Once the design is complete, components belonging to separate cutwork objects can be sequenced together to minimize cutting needle changes. In complicated designs containing mixed embroidery and multiple cutwork, however, it may not be possible to sequence all cutwork objects together.

Unlike appliqué, cutwork objects cannot be broken into single standalone embroidery objects and cutting line components.

BORDER TYPES

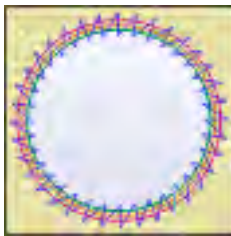
A border type specifies the components of a cutwork object and the order in which they are stitched. The border type also specifies allowed ranges for component spacings. For example, the simplest border produces only cutting lines. The digitized outline forms the shape the cuts follow. With another border type, the digitized outline may be used as the centerline of a satin line, while the cutting line is calculated with a corresponding offset. The following border types are available:







Cutwork holes

Cutwork holes are generally used for standalone cutwork. These types of designs are generally a delicate form of needlework which involves cutting away portions of the background fabric and binding the edges with embroidery stitching. In addition to reinforcing the edges, holes may be filled with embroidery or needle lace.

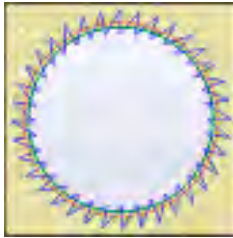
Hole-1






This border type creates a hole in fabric. A stabilizer is attached after cutting, fixed by tackdown, then final embroidery stitched out. It includes, in order, the following components...

-  Firstly, a stabilizing run is stitched to reduce deformation of the material prior to cutting.
-  A cutting line is inserted. After stabilizing the fabric, the hole is cut, one cutting needle at a time.
-  A tackdown run is added at this point to attach the stabilizer over the hole. The stabilizer needs to be placed in position under the hole before the machine is run.
-  Finally, an embroidery border is used to cover the edge of the hole. It may be implemented as satin, blanket, or stemstitch.

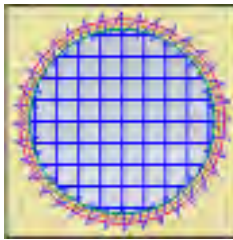
Hole-2








A variant of Hole-1, this border creates a hole in fabric with an embroidered edge but no stabilizer. It includes, in order, the following components...

-  Firstly, a stabilizing run is stitched to reduce deformation of the material prior to cutting.
-  A cutting line is inserted. After stabilizing the fabric, the hole is cut, one cutting needle at a time.
-  Finally, an embroidery border is used to cover the edge of the hole. It may be implemented as satin, blanket, or stemstitch.

Hole-3




This border type creates a hole in fabric with a stabilizer and a net fill. The stabilizer attached after cutting, fixed by tackdown, then net fill and final embroidery stitched out. It includes, in order, the following components...


-  Firstly, a stabilizing run is stitched to reduce deformation of the material prior to cutting.
-  A cutting line is inserted. After stabilizing the fabric, the hole is cut, one cutting needle at a time.
-  A tackdown run is added at this point to attach the stabilizer over the hole. The stabilizer needs to be placed in the right position before the machine is run.
-  After the stabilizer is in place, a net fill is stitched inside the cut hole. The stabilizer is subsequently dissolved in water so only a net of stitches is left within the hole.
-  Finally, an embroidery border is used to cover the edge of the hole. It may be implemented as satin, blanket, or stemstitch.

Hole-4

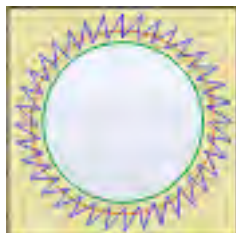


Hole-4 border is one of the simplest types, creating an embroidered edge followed by a hole. The cut must not damage embroidery as it is done after. The edges may look untidy as they are not covered. It includes, in order, the following components...


 An embroidery border is stitched first around the edge of the hole. It may be implemented as any line stitch type. The border itself stabilizes the fabric.


 A cutting line is inserted after the border. The hole is offset from the embroidery and cut, one cutting needle at a time.


Hole-5



A variant of Hole-4, this border adds a stabilizing run at the start. It includes, in order, the following components...

 Firstly, a stabilizing run is stitched to reduce deformation of the material prior to cutting.

 An embroidery border is stitched first around the edge of the hole. It may be implemented as any line stitch type. The border itself stabilizes the fabric.

 A cutting line is inserted after the border. The hole is offset from the embroidery and cut, one cutting needle at a time.

Cutwork / stumpwork pieces

Cutwork pieces are generally used for stumpwork designs although they may be used for stand-alone cutout pieces. Stumpwork is a raised form of embroidery. Stumpwork pieces are created on one backing fabric and transferred to another, 'ground fabric'. The cut is always done last, after the embroidery.

Piece-1



This border type creates a cutout fabric piece with an embroidered border. It is recommended for use with satin cover stitch. It uses two stabilizer run passes for easier cutting. It includes, in order, the following components...



Firstly, a stabilizing run is stitched to reduce deformation of the material prior to cutting.



Next, an embroidered border is used to define the edge of the cutout piece. It may be implemented as satin, blanket, or stemstitch. It can also be implemented as a wireline. This is commonly used for stumpwork to give cutout pieces stiffness and stability.

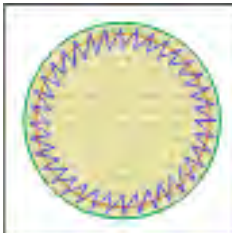


Another stabilizing run is added at this point to help stabilize the embroidery.



A cutting line is inserted. At this point, the stumpwork piece is cut out, one cutting needle at a time.

Piece-2



A variant of Piece-1, this border type creates a cutout fabric piece with an embroidered border. It includes, in order, the following components...



Firstly, a stabilizing run is added at this point to help stabilize the embroidery.

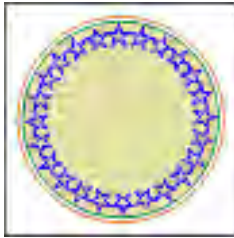


Next, an embroidered border is used to define the edge of the cutout piece. It may be implemented as satin, blanket, or stemstitch. It can also be implemented as a wireline. This is commonly used for stumpwork to give cutout pieces stiffness and stability.



A cutting line is inserted. At this point, the stumpwork piece is cut out, one cutting needle at a time.

Piece-3



Another variant of Piece-1, this border type creates a cutout fabric piece with an embroidered border. Piece-3 can be used when less stabilization is acceptable. It includes, in order, the following components...



First, an embroidered border is used to define the edge of the cutout piece. This may be implemented as pure embroidery or as an embroidered wireline.

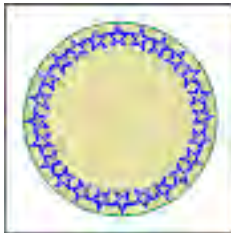


A stabilizing run is added at this point to help stabilize the cutting line.



A cutting line is inserted. At this point, the stumpwork piece is cut out, one cutting needle at a time.

Piece-4



Another variant of Piece-3, this border type creates a cutout fabric piece with an embroidered border but no stabilizing runs. It includes, in order, the following components...



First, an embroidered border is used to define the edge of the cutout piece. This may be implemented as pure embroidery or as an embroidered wireline.



A cutting line is inserted. At this point, the stumpwork piece is cut out, one cutting needle at a time.

Cut-1



This is the simplest border type. This scenario allows you to create a cutting line which can be run on the machine to cut out pieces for stumpwork or stand-alone work.

DIGITIZE CUTWORK

Openwork or 'cutwork' embroidery is a delicate form of needlework which involves cutting away portions of the backing fabric and binding the edges with embroidery stitching. In addition to reinforcing edges, resulting holes may be filled with embroidery or needle lace.

With a suitably equipped machine, you can eliminate most of the manual work associated with traditional cutwork. While the process is essentially the same, the design is stitched onto the fabric by machine and, by substituting needles with cutting needles, holes or pieces are cut. Cutting needles generally come as a set of four (4) with cutting angles of 0°, 45°, 90° and 135°. They are about 1.2 mm wide.



General procedure

The Cutwork / Stumpwork toolbox lets you digitize cutwork in much the same way as you digitize appliqué objects. However, because the number and type of cutwork components varies, the feature is organized around 'border types'. The chosen border type determines which components are included in the cutwork object. Nevertheless, most cutwork follows this general procedure...

- Stitch the design onto the fabric.
- Press and stiffen it with starch spray.
- Cut out the fabric between embroidered areas using sharp-pointed scissors.
- Make sure not to cut the embroidery threads.
- When finished, press the design once again.

Tightly woven fabrics such as linen, which do not fray easily, are generally preferred for cutwork. Depending on the stiffness of the fabric, stabilizers may or may not be used. Dissolving stabilizers can be used to temporarily stabilize the fabric while stitching, and then dissolved away after stitching. With the background cut away, fabric assumes a lacy appearance.



The software includes a sample cutwork design which the screenshots below derive from. All steps required to complete the design are provided in the associated project.

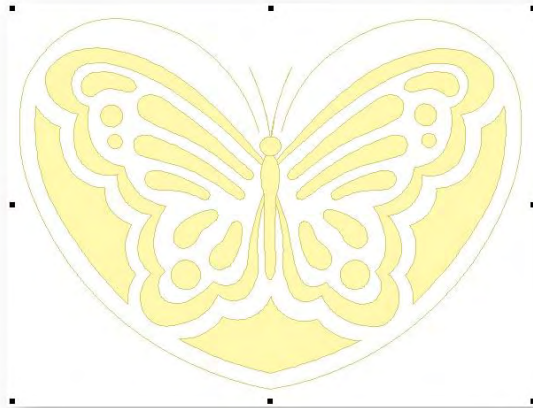
Digitize cutwork object



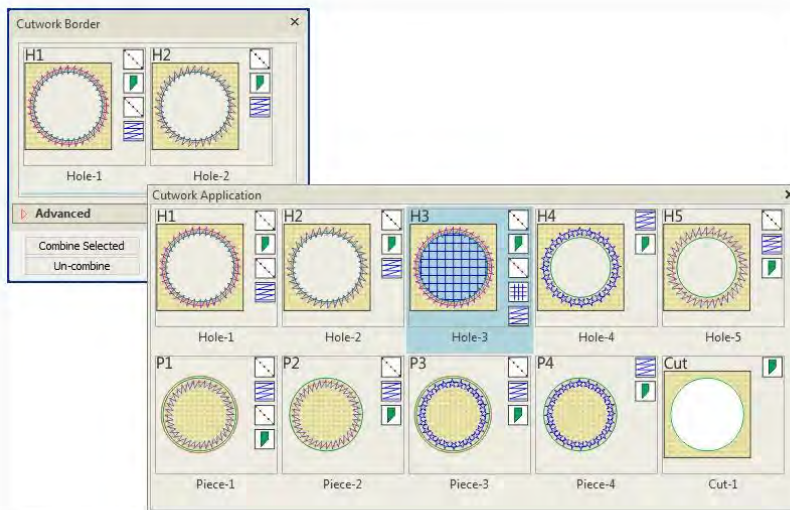
Use Cutwork / Stumpwork > Digitize Cutwork Border to create cutwork objects with up to five layers of embroidery and cutting components, including stabilizing runs, tackdown runs, cuts, embroidery, and net fills.

You digitize cutwork in much the same way as you digitize appliqué objects. However, because the number and type of cutwork components varies, you first select a border type which suits the work you are doing.

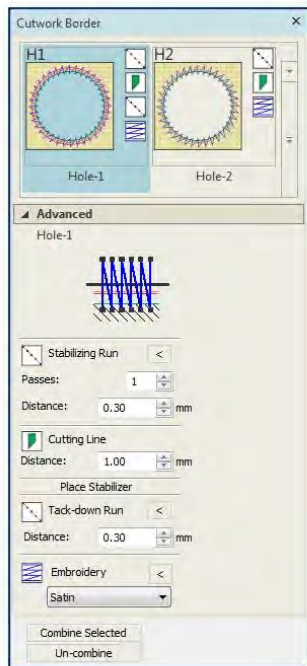
- Import suitable artwork as a digitizing backdrop.



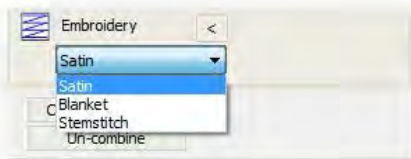
- Study the artwork carefully and decide which objects comprise cutwork and which will be normal embroidery.
- Click the Digitize Cutwork Border tool. The Cutwork Border docker opens.



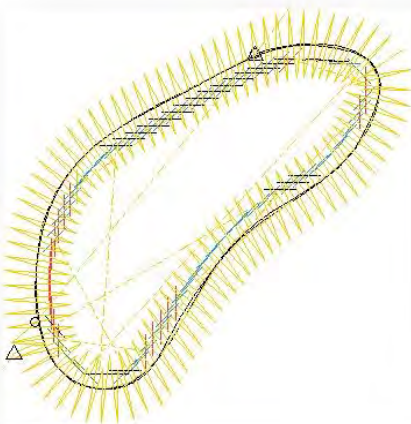
- Select a border type from the gallery. The settings available for each type are displayed in the Advanced panel. The components are listed in order of stitchout.



- Adjust settings for the particular border type as required. Alternatively, settings can be adjusted after digitizing.
- Choose the embroidery you want to use from the Embroidery droplist.



- Digitize cutwork as you would any closed object.



- Press <Enter> to close the shape.
The digitized baseline is interpreted according to the selected scenario. For example, take the case where:
 - A stabilizing run is applied first,
 - The cut is made, and
 - A satin line is applied to cover the edges of the hole.

In this scenario, you digitize a satin line. The offset to the cutting line can be no more than the width of the satin line because the edge of the hole needs to be covered. Similarly, the offset to the stabilizing run has to lie within the same width, but no further than the cut offset, as it must also be covered by the satin line and at the same time lie outside the hole.

- Digitize the remaining cutwork objects using appropriate border types.



- Digitize any additional embroidery as desired.

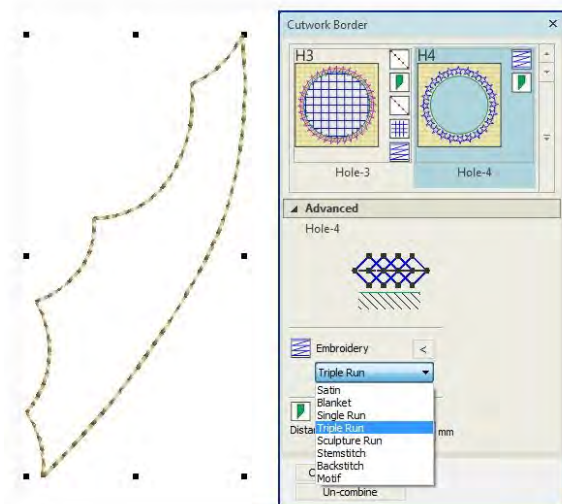


- Resequence embroidery and cutwork objects as necessary. Usually embroidery will be stitched before cutwork. And ideally, all cutwork should be stitched together.

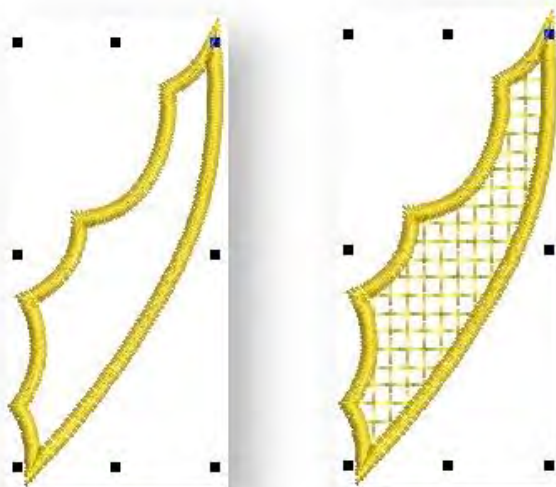
Adjust cutwork settings

Cutwork objects are composites made up of cutwork components generated according to a chosen border type. These can be changed at any time. And, because components are embroidery objects, their object details can be accessed and changed as well. To adjust cutwork settings...

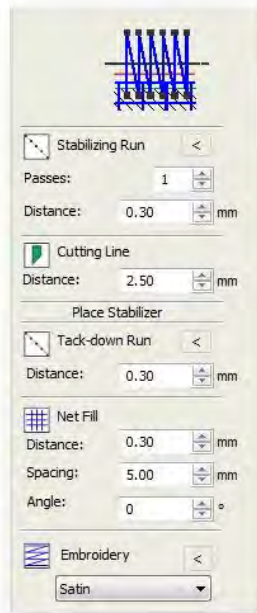
- Select the cutwork object you want to modify.



- To change embroidery type, select from the Embroidery droplist.



- To change border types, simply select a different border type from the border gallery.
- Adjust settings for the particular border type as required.
The settings available for a given scenario are displayed to the right. They are listed in the order they will be sequenced in the stitchout. Depending on the chosen scenario, some or all of the following components will be displayed:

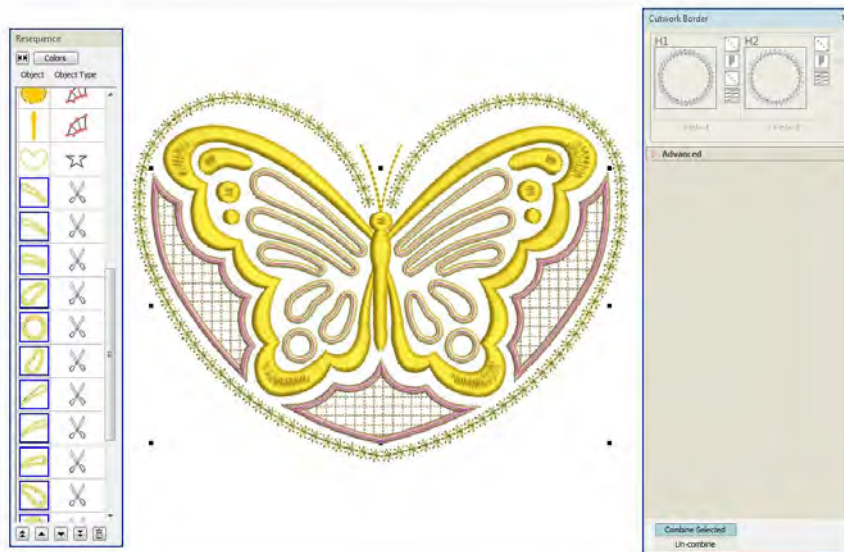


- Adjust cutwork settings as necessary. Values are limited to permissible ranges according to the chosen scenario.
- Access object properties of some cutwork components via the arrow button beside the component name.
For instance, clicking the arrow next to the selected border embroidery allows you access to all relevant settings.



Combine cutwork components

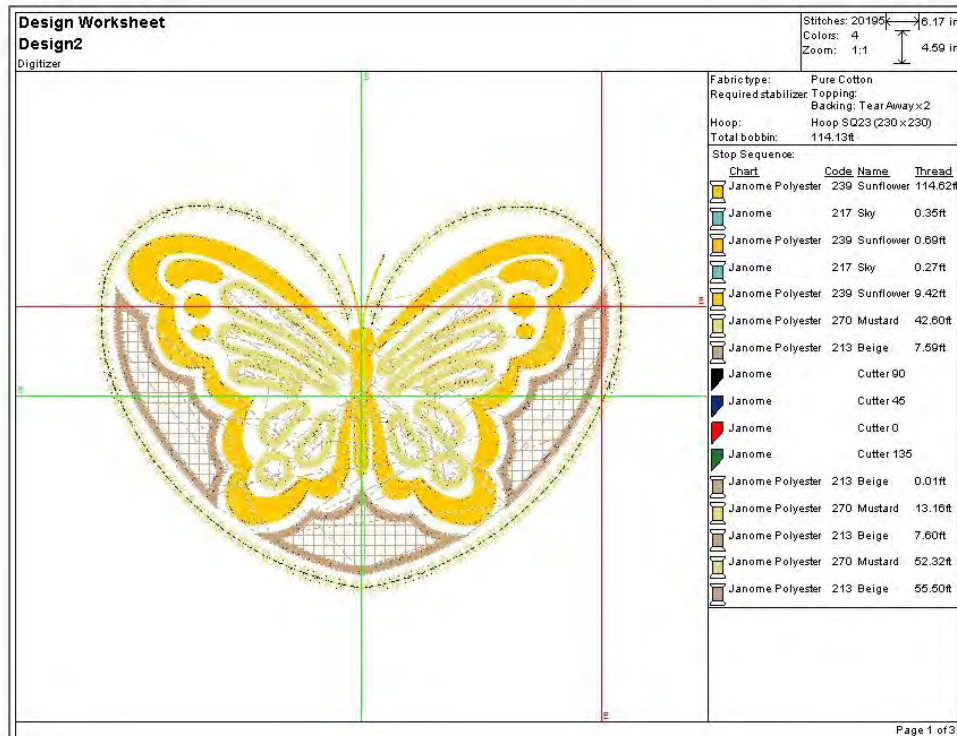
There could be dozens of cutwork objects in an entire design. Components belonging to separate cutwork objects can be sequenced together to minimize cutting needle changes. In complicated designs containing mixed embroidery and multiple cutwork, it may not be possible to sequence all cutwork objects together. When you select more than one cutwork object, the Combine Selected button becomes available. Click to ensure that all cutting lines are combined.



In complicated designs containing mixed embroidery and multiple cutwork, it may not be possible to sequence all cutwork objects together.

Output worksheet

In addition to thread information, the design worksheet contains information about the cutting needles and the order in which they will be used on the machine. These are listed as 'Cutter 90', 'Cutter 45', etc.

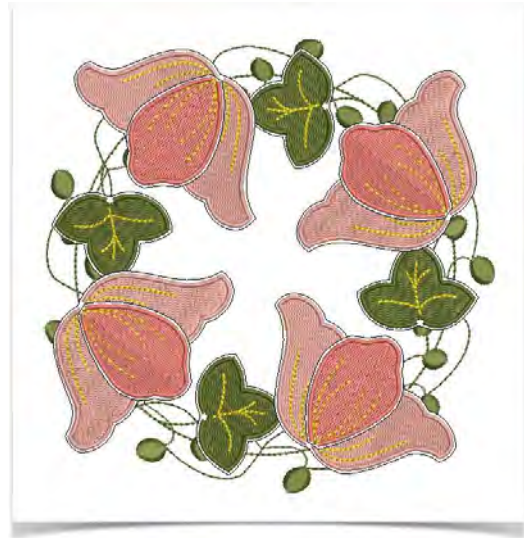


DIGITIZE STUMPWORK

The Cutwork / Stumpwork toolbox provides tools and techniques for expanding flat embroidery surfaces into raised or 'sculpted' surfaces.

Stumpwork is a raised form of embroidery. It is created on one backing fabric and transferred to another, 'ground fabric'. The system allows you to visualize all components of a stumpwork design in a single design window. At the same time, it lets you edit each stumpwork piece individually and output to machine.

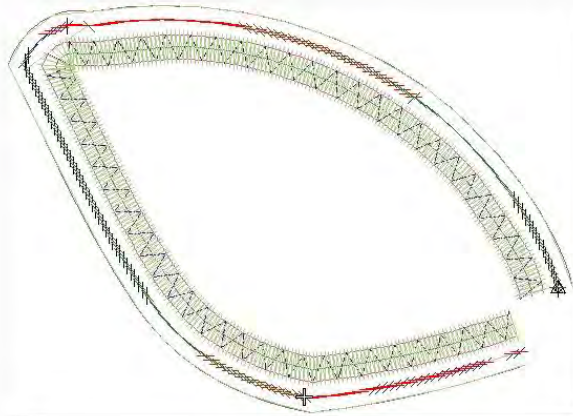
This section covers tools and techniques for expanding flat embroidery surfaces into raised or 'sculpted' surfaces, specifically by means of stumpwork.



Stumpwork embroidery

Stumpwork is a raised form of embroidery. It is created on one backing fabric and transferred to another, 'ground fabric'. Through the use of wire, it becomes three-dimensional in contrast to flat embroidery.

The difficulty for anyone trying to create this type of embroidery is in visualizing the complete design. The software allows you to visualize all components of a stumpwork design in a single design window. At the same time, it lets you edit each piece individually and output to machine as needed.



Typical stumpwork

Most stumpwork involves the use of wirelines to provide body and shape to the raised object. The process involves first sewing a guidetrack within which to place the wireline. Next a tackdown is used to sew the wireline into position within the guidetrack. Finally cover stitching is added, usually satin.

Stumpwork scenarios

Stumpwork usually conforms to one of the following scenarios:

- Generate stumpwork piece from existing embroidery

- Digitize stumpwork pieces from scratch with wirelines
- Digitize additional wirelines to lend support and shape
- Turn resulting pieces, including any additional embroidery inside the border, into stumpwork 'sub-designs'.

Stumpwork components

Stumpwork consists of some or all of the following digitized components. Each is separated in the stitching sequence by a machine stop.

| Component | Notes |
|-------------------|---|
| Stabilizing run 1 | This is internal to the stumpwork. It is not needed with wireline embroidery but may be required with other types. Stabilizing runs are used to reduce any deformation in the material prior to embroidery. |
| Embroidery border | Typical stumpwork makes use of a wireline but other borders may be used. Stop: If you use wireline, all necessary stitching and stops are included to allow you to place and sew the wireline. |
| Stabilizing run 2 | This is external to the stumpwork. This is generally used to stabilize the fabric for cutting. Stop: Change to a cutting tool or cut stumpwork out by hand. |
| Cutting line | Currently, a cutting line is automatically generated for cutting needles to follow. |

Machine recommendations

Here are some recommendations for producing stumpwork on the machine:

- Use a couching foot. It is transparent and is large enough to help hold the wire in place as it is tacked down.
- Use a foot control when tacking down the wire – it's easier to stop and start that way.
- Reduce to slow speed with the sliding speed control.
- After the wire is tacked down, it is ok to stitch at fast speed.
- When working with a stumpwork piece that has additional wirelines – such as a leaf with central veins – make sure the internal wires do not overlap the border.
- Alternatively, cut the internal wires slightly short. This means that stitching can continue right up to the border, thereby avoiding unwanted gaps.

Stumpwork user interface

The stumpwork user interface has three main components - the toolbox, the docker, and object properties.

Stumpwork toolbox



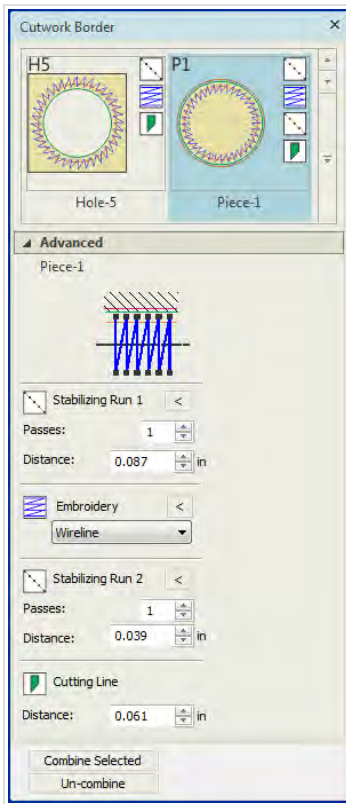
Use Cutwork / Stumpwork > Digitize Cutwork Border to create cutwork objects with up to five layers of embroidery and cutting components, including stabilizing runs, tackdown runs, cuts, embroidery, and net fills.

The stumpwork toolbox contains all tools needed to digitize stumpwork from scratch or create from existing embroidery. It is divided into three functional areas...

- The Digitize Cutwork Border tool allows you to create cutwork objects with up to five layers of embroidery and cutting components, including stabilizing runs, tackdown runs, cuts, embroidery, and net fills.
- The next group of tools allows you to create cutwork from existing objects.
- The last group of tools allows you to create separate cutwork 'sub-designs'. In effect, these are embedded designs which are displayed as part of the 'base design' but are not included in the stitchout. Instead, they are stitched out as separate components.

Cutwork docker

The Cutwork docker allows you to determine the characteristics of the cutwork or stumpwork you are creating.



← Border type chooser showing typical cutwork / stumpwork styles to choose from

← Preview current border settings

← Stabilizing Run 1 not needed with wireline stumpwork but may be used to support other types of cutwork or stumpwork

← Stumpwork border embroidery – usually wireline but may be simple satin border or any other stitch type

← Stabilizing run 2 used to stabilize fabric for cutting

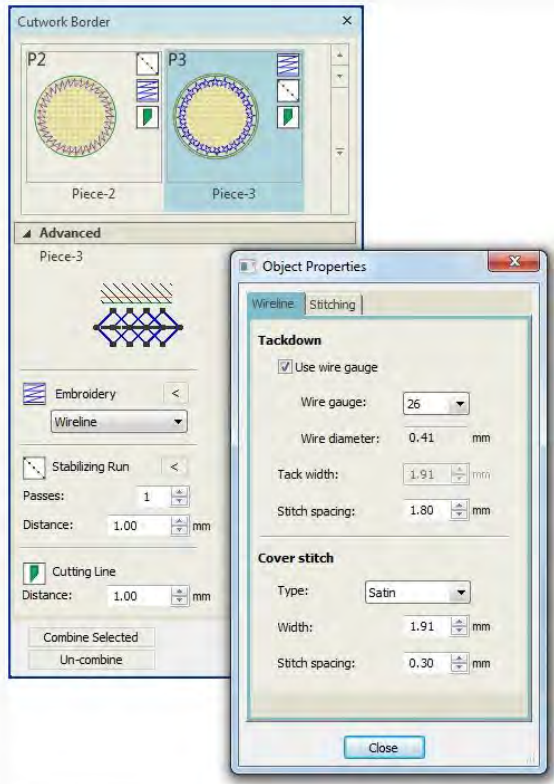
← The cutting line guides the cutting needles in cutting out the entire cutwork or stumpwork piece

The Cutwork docker allows you to preset options for both cutwork and stumpwork. The difference is that cutwork generally involves cutting holes within fabrics, while stumpwork

involves cutting out stumpwork pieces, similar to badges. For this reason, the scenarios you will want to use for stumpwork will be 'pieces' rather than 'holes'.

Object properties

Note that each element of a cutwork object has its own object properties - e.g. stabilizing run, cutting line, embroidery. Object properties for each element can be accessed via the < button next to each. For example, wireline properties can be adjusted via a dedicated Wireline tab.



If you have chosen Wireline as your embroidery type, the following properties can be set:

| Setting | Notes |
|--------------------|---|
| Tackdown stitching | The gauge of wireline you are using determines the width of guidetrack and tackdown stitching. You can choose to factor it into your cutwork properties or use the default value. |
| Wire gauge | The wire gauge numbers correspond to the American Wire Gauge (AWG) codes. This is a standardized wire gauge system for the diameters of round, solid, nonferrous, electrically conducting wire. The larger the AWG number or wire gauge, the smaller the physical size of the wire. |
| Cover stitch | Satin is the default. Alternatively, Blanket can be used. Width and spacing can be adjusted for both. |

Create stumpwork

Cutwork becomes stumpwork when you combine multiple cutwork elements into a layered design. In essence stumpwork is the finished layered embroidery made up of cutwork components. Thus the process of creating a stumpwork design involves digitizing cutwork elements and then creating stumpwork pieces from them. These are then visualized in a single stumpwork design.

Digitizing with wire and fabric is probably the most common scenario for creating stumpwork. It involves digitizing a simple stumpwork border. This is then sewn onto a separate piece of fabric, usually patterned, with the inclusion of a wire, and then cut out and attached to a base design. Another simple scenario involves creating design elements within a closed border without the inclusion of a wire. The software also allows you to digitize stumpwork after the fact. You can generate cutting elements from existing embroidery shapes with or without a wireline.



Create stumpwork from existing embroidery



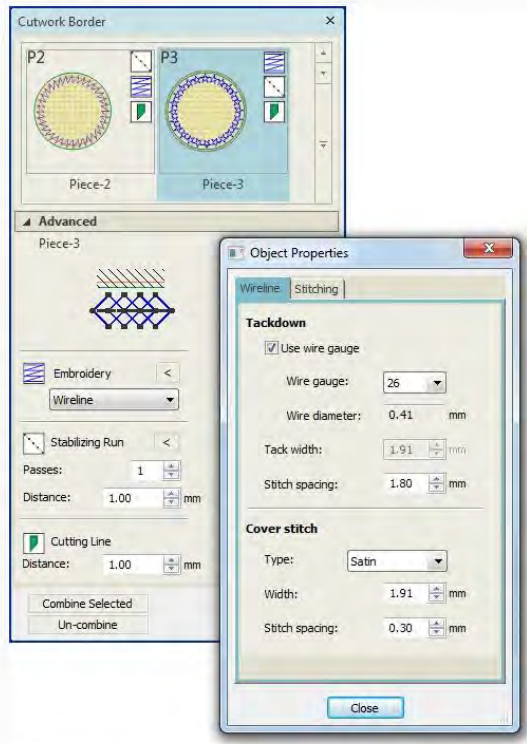
Use Cutwork / Stumpwork > Digitize Cutwork Border to create cutwork objects with up to five layers of embroidery and cutting components, including stabilizing runs, tackdown runs, cuts, embroidery, and net fills.

Probably the simplest way to create stumpwork is to take an existing design and adapt it. This scenario involves selecting embroidery shapes from which to generate the mandatory cutting element. This usually includes a wireline but doesn't have to. The resulting stumpwork is sewn separately with wire and border. It is then cut out and sewn or attached to the base design.

- To create a stumpwork design from existing embroidery, open a suitable design. You may have to adapt or re-digitize embroidery objects as necessary.

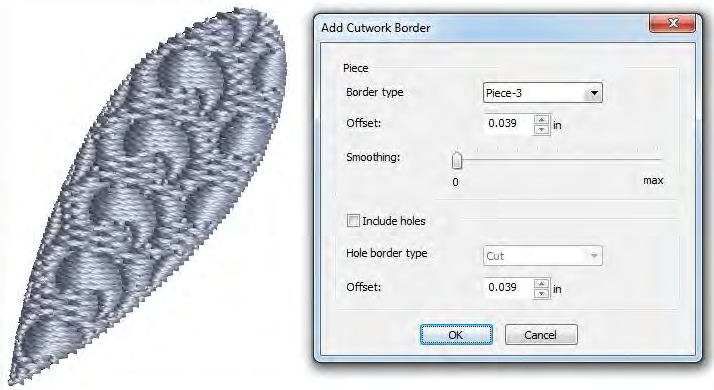


- Right-click the Digitize Cutwork tool to open the Cutwork Border docker. Preset your preferences. For example, choose 'Piece-3' and select 'Wireline' as your embroidery.
- Click the associated < arrow button and preset your wireline preferences. The wire gauge numbers correspond to the American Wire Gauge (AWG) codes. This is a standardized wire gauge system for the diameters of round, solid, nonferrous, electrically conducting wire. The larger the AWG number or wire gauge, the smaller the physical size of the wire.
- The thickness of the wire, in turn, determines the minimum width of cover stitch required. This does not update dynamically according to the selected wire gauge. Adjust the cover stitch width as preferred.



Use Cutwork / Stumpwork > Add Cutwork Border to generate a cutwork / stumpwork border from selected objects which may consist of embroidery border, cutting line, and one or more stabilizing runs.

- Select the object or objects you want to turn into stumpwork. In this case, we are using a single object.
- Click Add Cutwork Border to create the cutting element. The Add Cutwork Border dialog opens. The settings are predefined by the Cutwork Border docker but this dialog allows you to choose border type. If your selected object contains holes, you can also set a border type or simple cutting line for those as well. In this case, the object does not contain holes so the option is unticked.

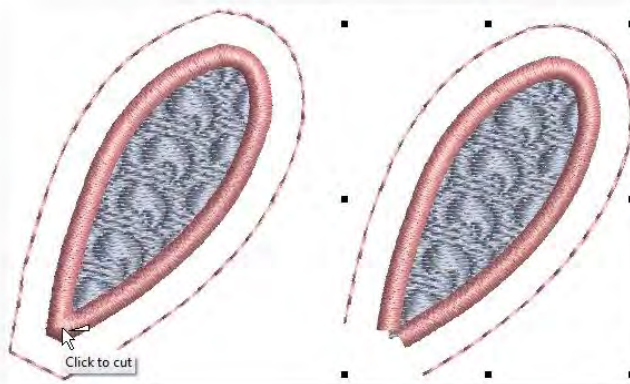


- Use the offset settings to adjust border offset from the source object/s. You can also adjust smoothing to determine how closely the border follows the source object/s.

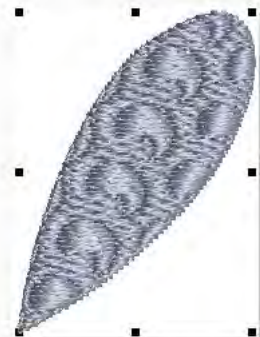


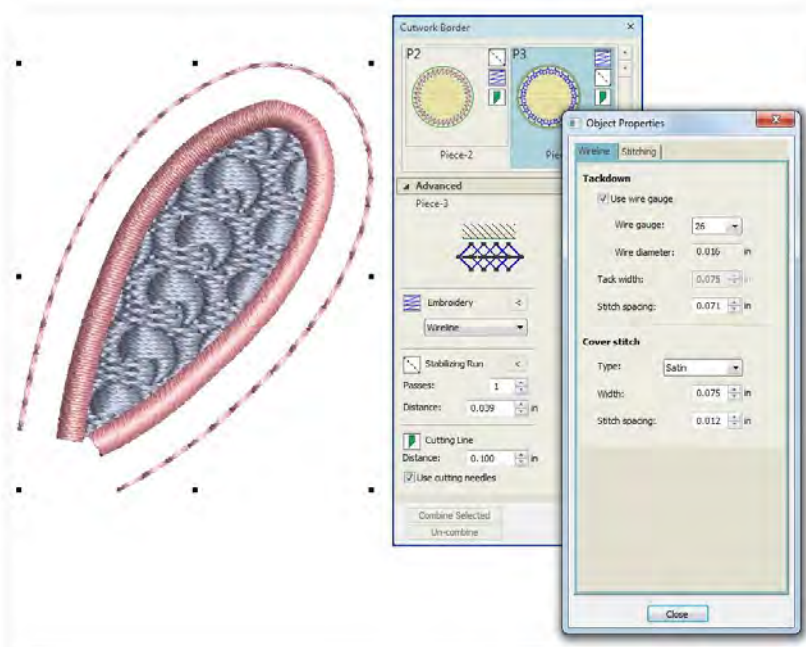
Use Cutwork / Stumpwork > Cut Closed Cutwork Border to cut a closed cutwork / stumpwork border to leave an opening for wire ends.


- You are prompted to mark a cutting point where the wire ends will protrude. All selected objects are automatically grouped.




- You can adjust cutwork settings after the fact by double-clicking the border. Click the associated < arrow button and adjust embroidery or other preferences in the Object Properties dialog.





 Use Cutwork / Stumpwork > Digitize Wireline to create a wireline with a digitized outline and current settings.

 Use Cutwork / Stumpwork > Create Stumpwork Sub-design to create sub-design from selected objects which include embroidery within a stumpwork border.

- Optionally, use the Digitize Wireline tool to insert additional wirelines for extra support.
- Select the stumpwork border and any other embroidery within that you want to include, and click Create Stumpwork Sub-design.
Selected objects are bundled into a sub-design which is embedded in the base design. The stumpwork sub-design appears at the bottom of the Resequencer dock because it is a separate design.
- Continue to generate other stumpwork objects as desired. Or copy the same one as desired.



Note that if you create multiples of the same stumpwork object, you only need to output one of them as a machine file. This can then be stitched multiple times in a single hooping.

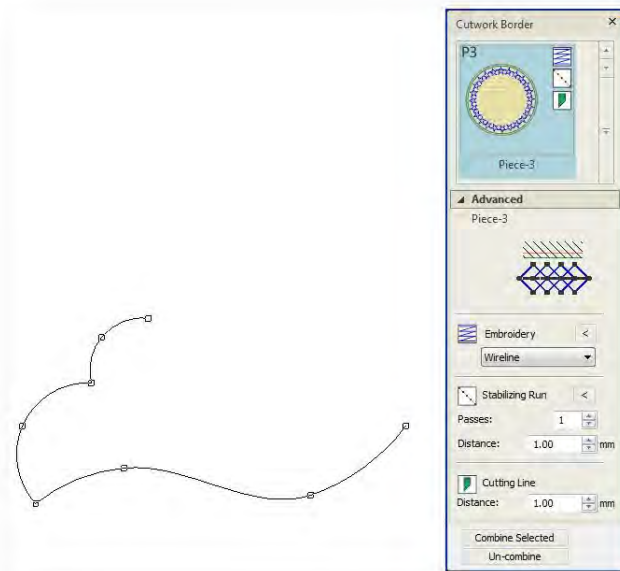
Create stumpwork with a wireline



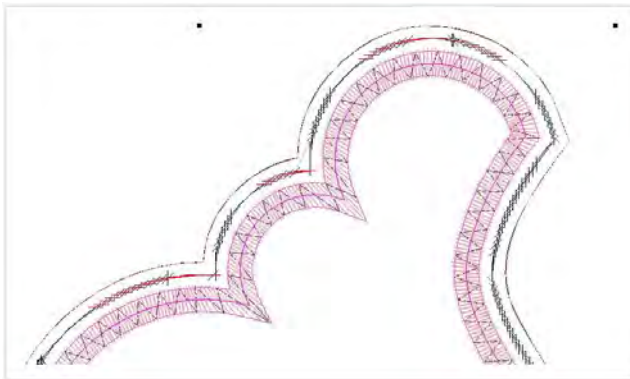
Use Cutwork / Stumpwork > Digitize Cutwork Border to create cutwork objects with up to five layers of embroidery and cutting components, including stabilizing runs, tackdown runs, cuts, embroidery, and net fills.

This scenario looks at how to create stumpwork with open borders. Generally, with open borders, you will use a wireline. The most common scenario for wireline stumpwork is the Piece-3 scenario which involves embroidery, a stabilizing run, and a cutting line.

- Right-click the Digitize Cutwork tool to open the Cutwork docker. Preset your preferences - e.g. choose 'Piece-3' and select 'Wireline' as your embroidery.
- Digitize the border as you would any other object.



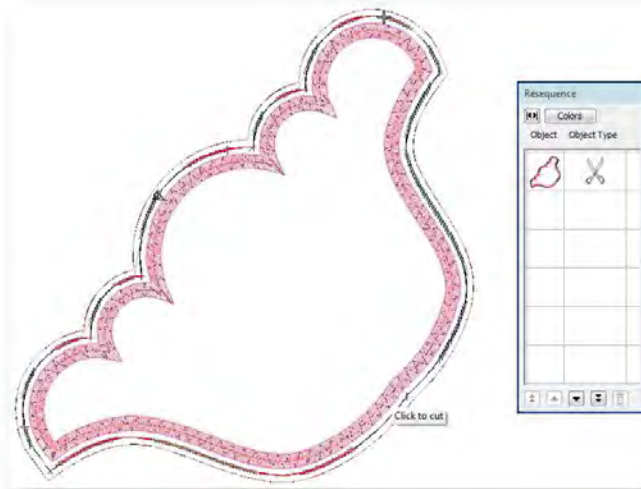
- Press <Enter> to complete. A closed cutwork object is generated based on presets. Zoom in for a closer look.





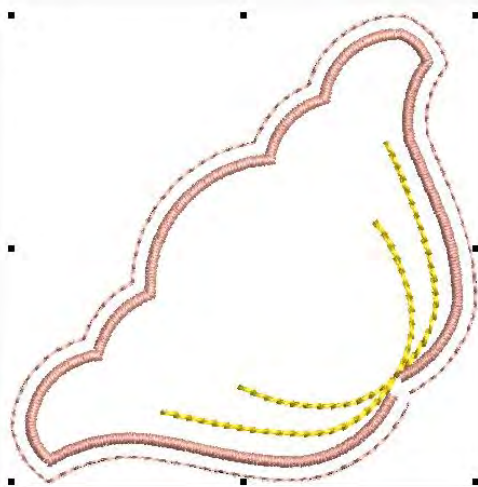
Use Cutwork / Stumpwork > Cut Closed Cutwork Border to cut a closed cutwork / stumpwork border to leave an opening for wire ends.

- Use the Cut Closed Cutwork Border tool to cut an opening in the border for your wireline.



Use Cutwork / Stumpwork > Create Stumpwork Sub-design to create sub-design from selected objects which include embroidery within a stumpwork border.

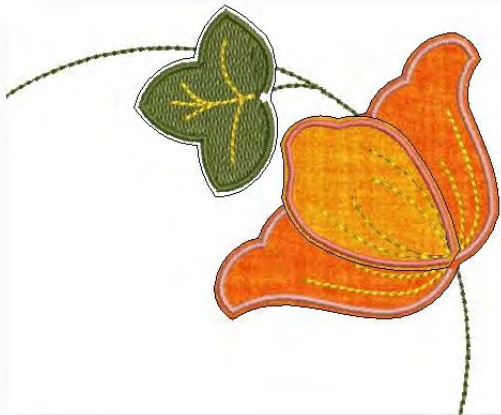
Select the border and any other embroidery you want to include and click Create Stumpwork Sub-design.



Use Cutwork / Stumpwork > Open Stumpwork Sub-design to view and edit selected sub-design.

- Optionally, edit your stumpwork object by selecting and clicking Open Stumpwork Sub-design.
The stumpwork object opens in a separate window where you can edit properties such as wire gauge, satin cover width and offsets, etc.

- Optionally, add a background indicative of the fabric you will be using.



When stitching out stumpwork, it is often easier to glue the wireline in place with fabric glue before attempting to add the cover stitching. Study the Stumpwork_Floral design included in the sample designs folder. Try stitching it out to practice the techniques involved. Check your machine documentation.

Create stumpwork with a closed border

Another simple stumpwork scenario involves creating design elements within a closed border. Like open-border stumpwork, these elements, or 'sub-designs', are sewn onto a separate piece of fabric, usually patterned, but without the inclusion of a wire. They are then cut out and attached to the base design.



The steps for creating closed stumpwork are essentially the same as for open stumpwork. The difference lies in the selection of embroidery.

- Use your normal embroidery tools to create a design, or take an existing design you want to modify.
- Open the Cutwork docker and preset your preferences – for example, a satin border.



Use Cutwork / Stumpwork > Digitize Cutwork Border to create cutwork objects with up to five layers of embroidery and cutting components, including stabilizing runs, tackdown runs, cuts, embroidery, and net fills.



Use Cutwork / Stumpwork > Add Cutwork Border to generate a cutwork / stumpwork border from selected objects which may consist of embroidery border, cutting line, and one or more stabilizing runs.

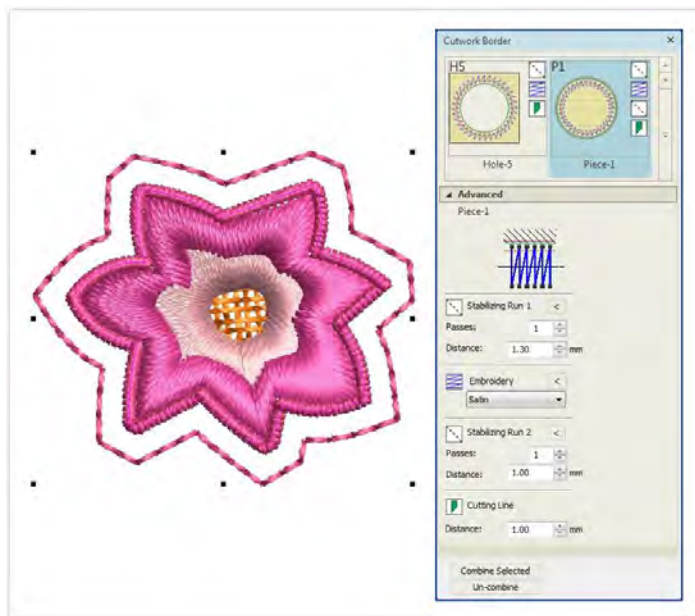


Use Cutwork / Stumpwork > Create Stumpwork Sub-design to create sub-design from selected objects which include embroidery within a stumpwork border.



Use Cutwork / Stumpwork > Open Stumpwork Sub-design to view and edit selected sub-design.

- Digitize the border or add one to existing objects.
- Select the resulting border and everything else you want included in the stumpwork sub-design, and click Create Stumpwork Sub-design. Selected objects are bundled into a composite object which resides on a separate 'layer' to the base design.



- Optionally, edit your stumpwork object by clicking Open Stumpwork Sub-design. The stumpwork object opens in a separate window where you can edit its properties.
- Close the sub-design to return to the base design. You will be prompted to save.

If you later decide to add a wireline to a closed border, you need to first cut an entry point. Use the Cut Closed Cutwork Border tool for this purpose.

Edit stumpwork



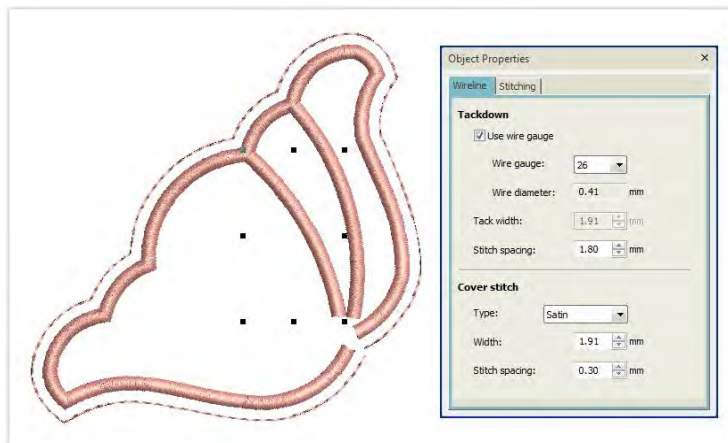
Use Cutwork / Stumpwork > Digitize Wireline to create a wireline with a digitized outline and current settings.

Once you have created your stumpwork, you can always go back and edit it. A common requirement is to add wirelines for more support. This is simply achieved. Sometimes, you might want to edit a stumpwork sub-design as a whole, changing object sequencing, stitch colors, types, densities, and so on. This too is simply carried out.

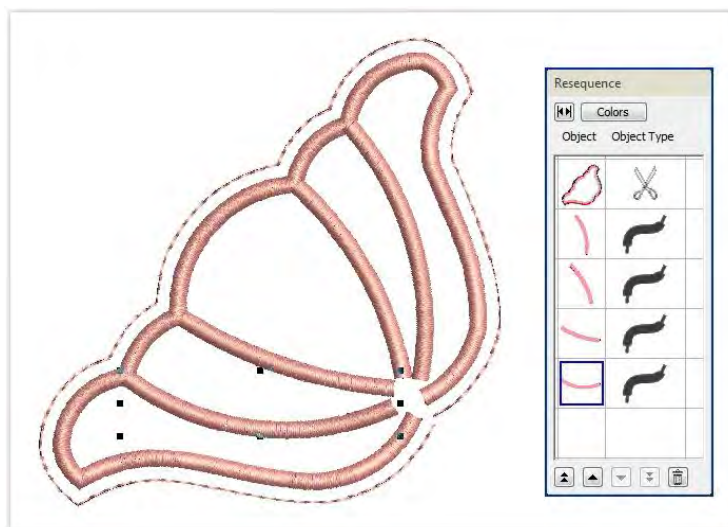
Add wirelines

This scenario involves digitizing additional wirelines. Additional wirelines provide more shape to a piece than a simple border wire. They can be added as you create the stumpwork or added to an existing stumpwork sub-design.

- Create stumpwork borders from existing embroidery or digitize manually as preferred.
- Before selecting stumpwork elements and clicking Create Stumpwork Sub-design, select the Digitize Wireline tool. Alternatively, if the stumpwork sub-design already exists, first click Open Stumpwork Sub-design to open it in its own design window.
- Digitize additional wirelines as you would any open object. The software automatically creates the wire placement tracks, wire tackdown and cover stitching.



- Sequence objects you want to include in the Resequence docker.

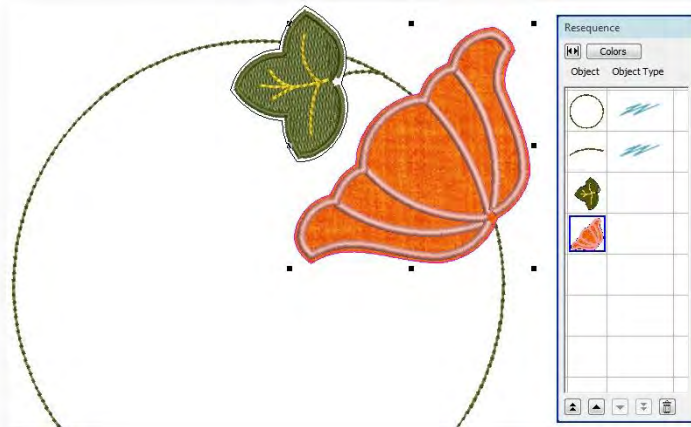


Note that the wirelines shown in the sample above exit very close together. During stitchout, take care not to insert the wire at a point where it may be hit by the stitching needle.



Use Cutwork / Stumpwork > Create Stumpwork Sub-design to create sub-design from selected objects which include embroidery within a stumpwork border.

- Select all objects and click Create Stumpwork Sub-design. If you are editing a stumpwork sub-design, save and return to the base design.



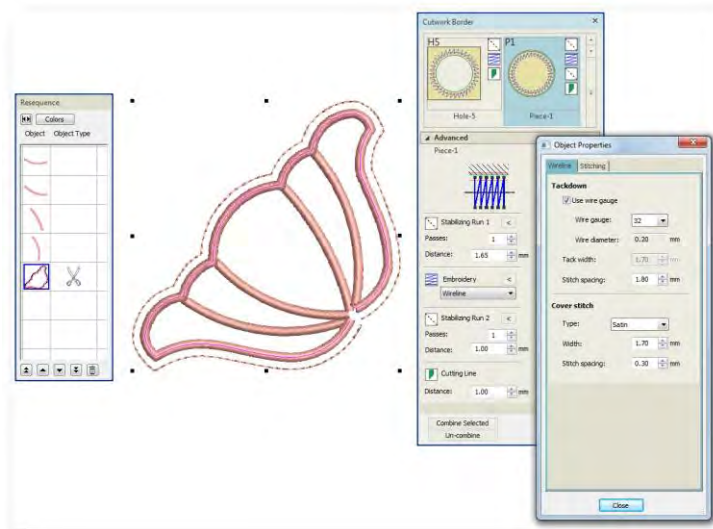
Edit stumpwork





Use Cutwork / Stumpwork > Open Stumpwork Sub-design to view and edit selected sub-design.

Once the Create Stumpwork Sub-design function has been applied, the resulting stumpwork resides on a separate 'layer' to the base design. Stumpwork objects can be edited as standalone designs.

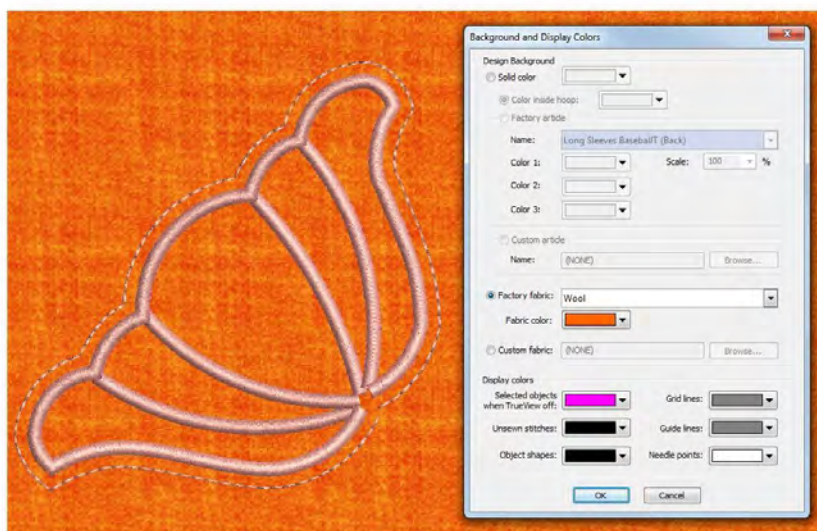
- Select the stumpwork object you want to edit.
- Click Open Stumpwork Sub-design. The stumpwork design opens in a separate design window.
- Edit stumpwork borders via the Cutwork docker – e.g. add or remove stabilizing runs or cutting lines.
- Click arrow button to access object properties for each included stumpwork component. Edit properties such as wire gauge, satin cover width and offsets.



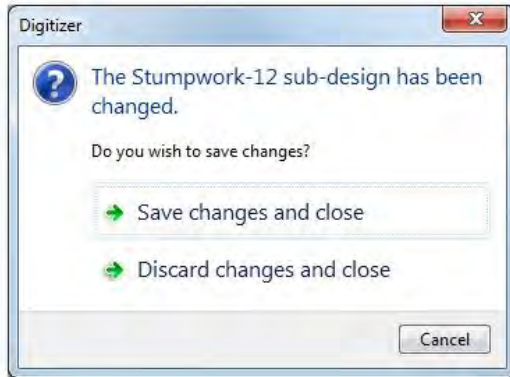
 Use Cutwork / Stumpwork > Digitize Wireline to create a wireline with a digitized outline and current settings.

 Use Cutwork / Stumpwork > Cut Closed Cutwork Border to cut a closed cutwork / stumpwork border to leave an opening for wire ends.

- Digitize other objects as desired. Use the Digitize Wireline tool to insert wirelines for extra support and shape.
- Use the Cut Closed Stumpwork Border to cut a selected closed-stumpwork border to leave an opening for wire ends.
- Sequence objects in the Resequencer dock as preferred.
- Use the Design Settings > Background and Display Colors command to specify a fabric type if you are creating stumpwork with fabric and wire.



- Close the stumpwork design to return to the base design. Save changes as prompted.

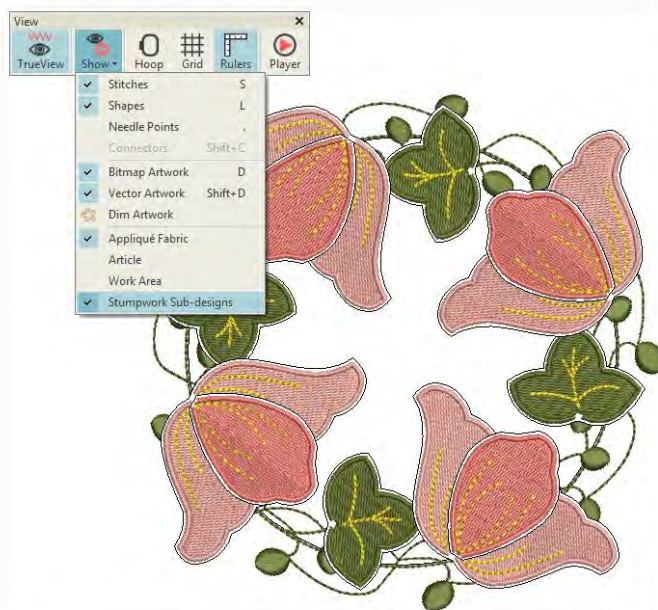


Visualize stumpwork

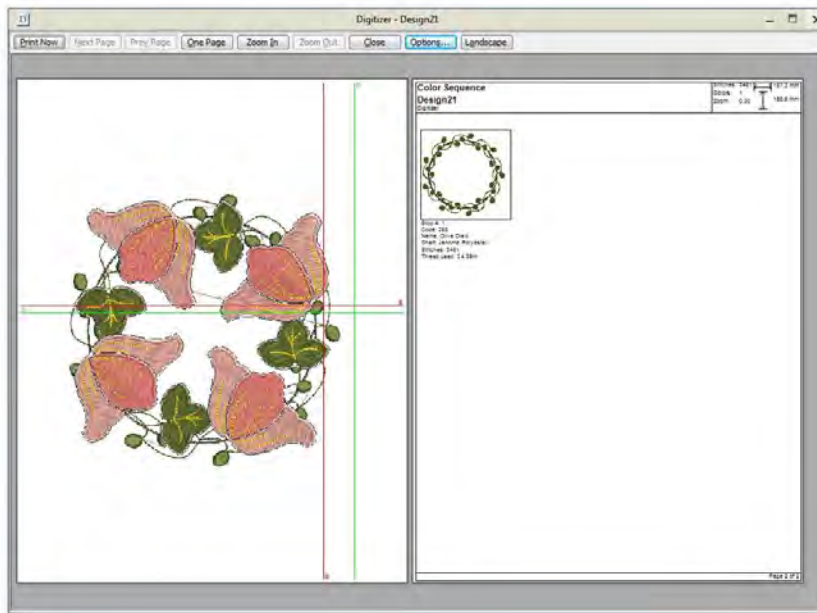


Use Output Design / Standard > Print Preview to preview design worksheet. Print from preview window.

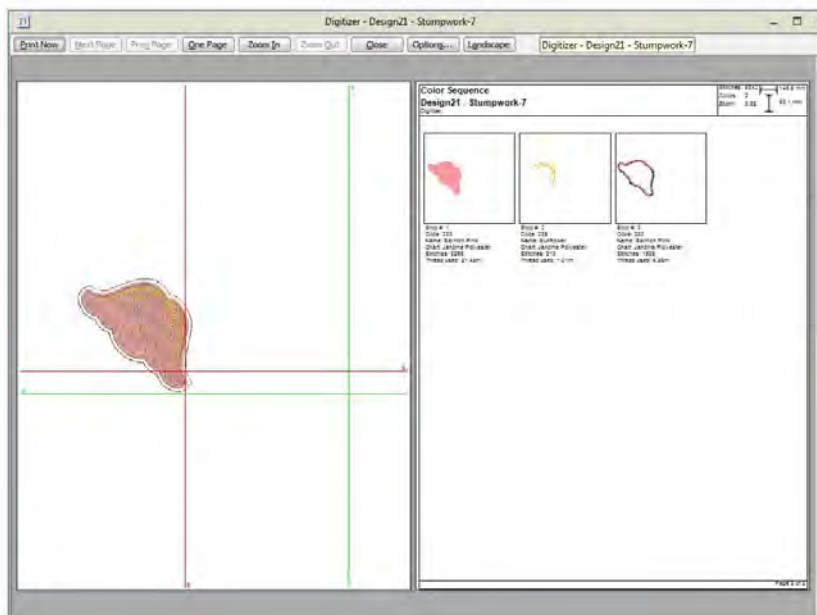
- Use the Show Designs droplist on the View toolbar to show or hide stumpwork objects within a design.



- The worksheet preview shows the entire stumpwork design in preview but only the base design in the Color Sequence.



- To print out a worksheet for the stumpwork portions of a design, open the stumpwork object in its own window and preview it there.



Study the Stumpwork_Floral design included in the designs folder. Try stitching it out to practice the techniques involved. Check your machine documentation.

Output stumpwork

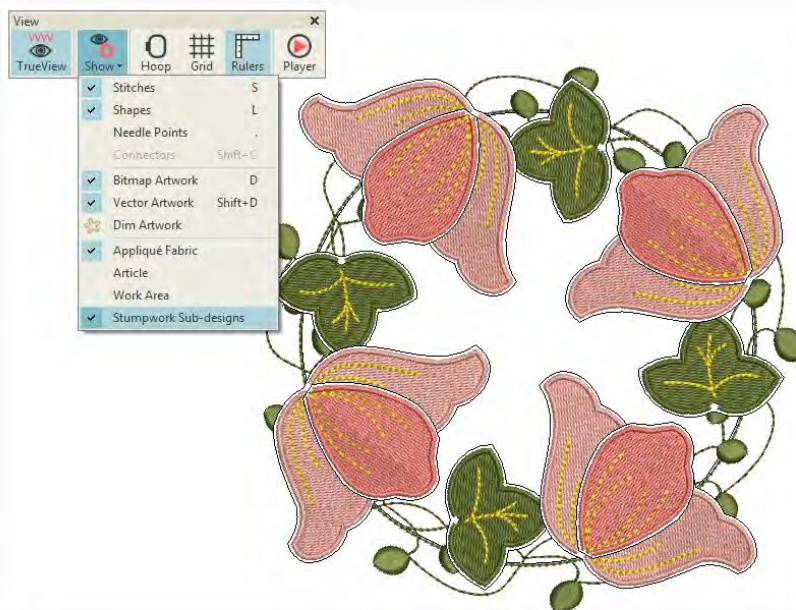
Stumpwork designs, like any other design in your embroidery software, are saved to native EMB file format. The EMB format contains a complete set of design information in a single 'all-in-one' file – object outlines and properties, actual stitches and machine functions, thread colors, a picture icon and comments. It also includes all stumpwork elements in addition to the base design. When it comes time to output the design, however, it is necessary to create separate stitch files for the machine.

View stumpwork



Use View > Show Design to show or hide design elements. Click to open droplist of view settings.

Open the stumpwork design file you want to output.



Use the Show Design options to selectively view the stumpwork elements together with the base design.



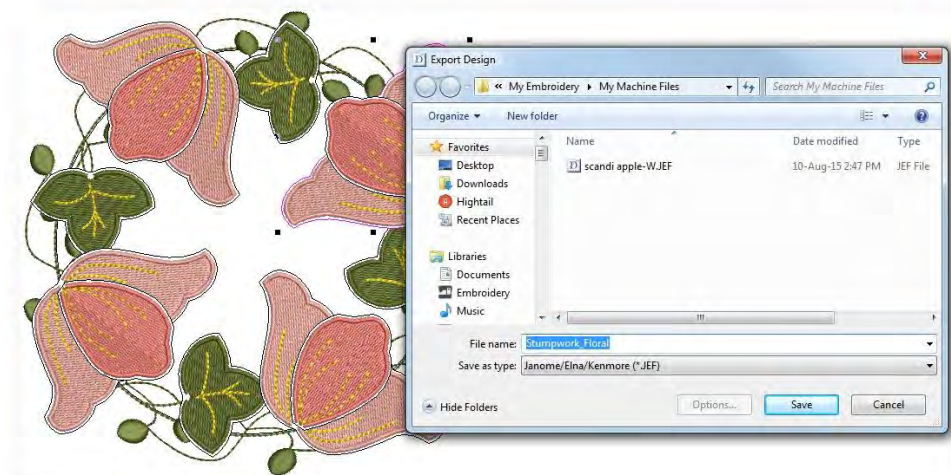
Export base design



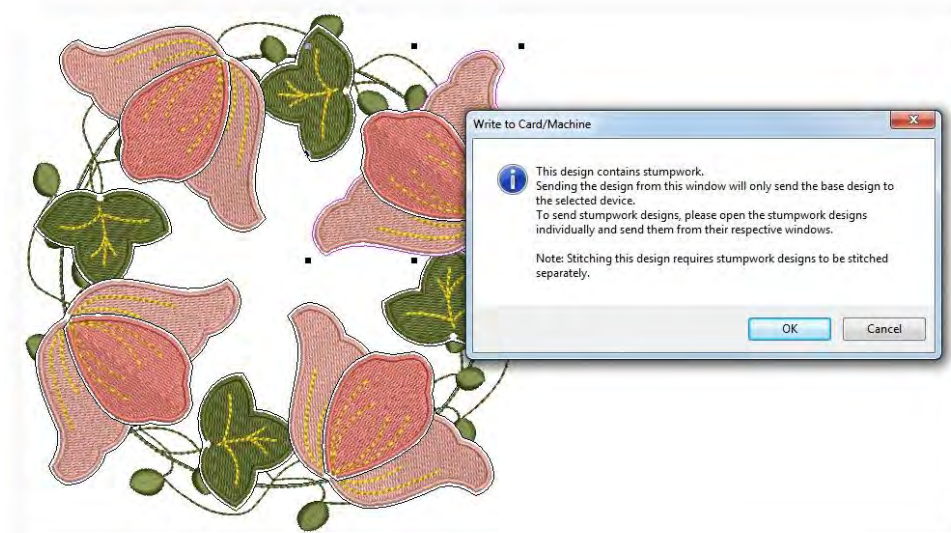
Use Output Design > Export Design to convert current design to a format other than your selected machine.

It doesn't really matter which order you export the design elements, but it's logical to start with the base design.

- Go to the Output Design toolbox and choose the Export Design option.



- The Export Design dialog will open by default onto your 'My Machine Files' folder.
- Choose the machine file you want and save it out. The warning message you receive will tell you everything you need to know about exporting stumpwork.



- If you then open the exported machine file, you will only see the base design without the accompanying stumpwork pieces.



Export the stumpwork pieces



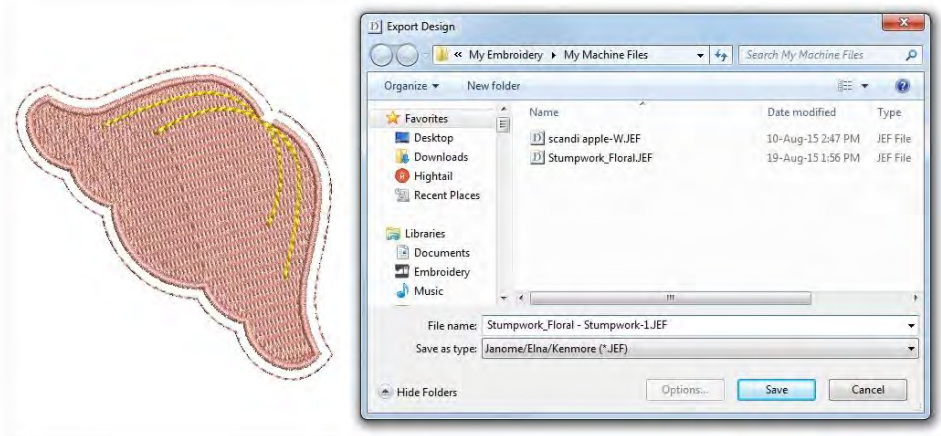
Use Cutwork / Stumpwork > Open Stumpwork Sub-design to view and edit selected sub-design.



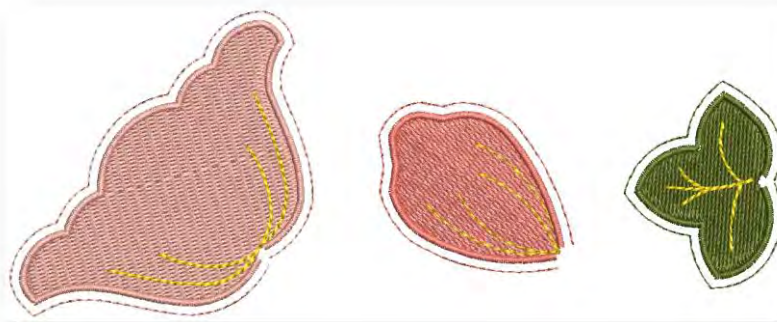
Use Output Design > Export Design to convert current design to a format other than your selected machine.

If a design such as the one shown here, includes repeating stumpwork elements, there is no need to output each one to stitch file.

- Choose a single instance of the stumpwork element and open it as a sub-design.



- Again use the Export Design function to output the stumpwork piece as a machine file.
- Repeat the same action for each unique stumpwork piece making up the design.



- Each piece can be output as many times to machine as necessary to assemble the final design.

For maximum efficiency, you may want to copy all stumpwork sub-designs into a single design and stitch them out together in one hooping.

Print a worksheet



Use Output Design / Standard > Print Design to print the current design.



Use Output Design / Standard > Print Preview to preview design worksheet. Print from preview window.

Finally, it's a good idea to output a design worksheet to accompany your stitch files. You will refer to this when assembling the final stumpwork design.

