

Cleaning up artwork and working with Nodes

1 This lesson is designed to show you how to clean up artwork and working with Nodes. Unfortunately you will not always get clean, ready to use artwork from your customers. To be able to clean up artwork you need to have a good understanding of how Nodes work.

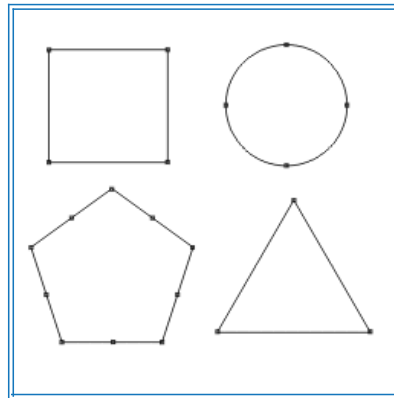
2 **What are nodes and why do I need them?**

Nodes are the small points along a line or curve that gives it its shape.

Nodes within a shape can be moved enabling the shape to change. Without Node you wouldn't be able to create shapes. Every shape you place on the screen is created by using Nodes.

A shape can contain as little as two Nodes or as many as several thousand Nodes.

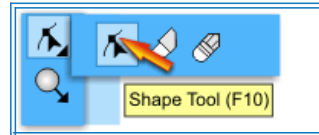
As you work with the program you will learn more Nodes are not necessarily better when creating a shape. In most cases the fewer Nodes the better.



Sample shows basic shapes displaying nodes.

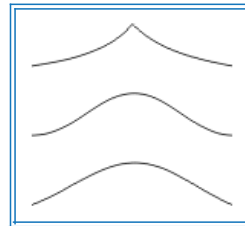
The following gives you information on some of the things you may run into while using the program. It would be hard to cover all the different possibilities in one document, so we will cover the top issues you may run into.

Nodes are controlled using the Shape/Node Edit Tool. This tool is found with the other Editing Tools. Second tool down on the Toolbox first tool on the fly -out menu.

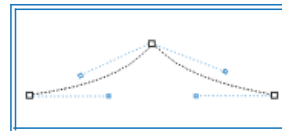


3 **How Nodes work**

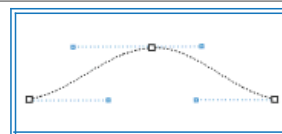
There are different types of Nodes, Cusp, Smooth and Symmetrical. Depending on the type of the Node used will effect the way the line is shaped. Each Node can have two control handles. Which also effect the way the line is shaped.



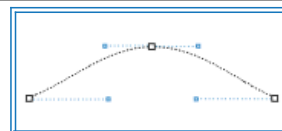
4 **A Cusp Node** acts like a hinge letting either side of the line have its own angle. Its control handles move separately of each other allowing sharp angles to be created.



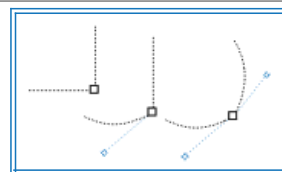
5 **A Smooth Node's** control handles stay parallel of each other. However there can be different distances from the main Node.



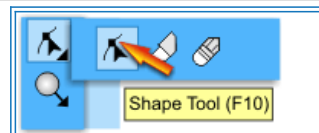
6 **A Symmetrical Node's** control handles also stay parallel of each other along with mirroring equal distance from the main Node.



7 Nodes also control two different types of lines, straight lines and curves. If the shape is created out of all straight lines none of the Node will have control handles. The Nodes themselves control the placement of the line. The Node at the end of a curve line connecting to a straight line will only have one control handle. The Node at the between two curves will have two control handles.



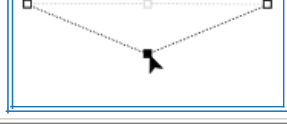
8 **To select a single Node** you will need to select the Shape/Node Edit Tool from the Toolbox. The Shape/Node Edit tool is the second tool down on the Toolbox, first tool on the fly -out menu. Select a Node by clicking on it and the Node will fill with Black.



9 **To move a node** simply select the Node and drag it where you would like it to be placed. The node will be filled with black as long as it is

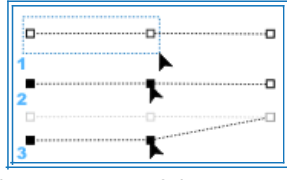


selected.



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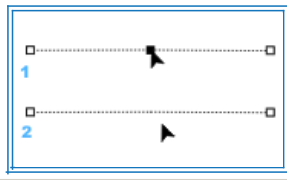
To select several nodes you will need to Marquee the Nodes. Place the cursor above and to the left of the Nodes. Hold down the mouse button and drag down and to the right until all the Nodes are within the dotted marquee box. Release the mouse button and all the selected Nodes will fill with Black.



Place the cursor over on of the selected nodes. Hold down the mouse button on one of the selected nodes and drag it to the new location. All of the selected nodes will move.

11

To delete single Node simply select the node and press the Delete Key on the keyboard and the Node will be removed. You can also double click on a Node to remove it or select the "-" on the Properties Bar



12

To add a single Node simply click the on the line where you want the Node to be placed. Then select the + on the Properties Bar to add the Node. You can also double click on the line to add a Node.



13

Too many nodes in a shape. Depending where the artwork originated it could contain hundreds or even thousands of nodes. This section will show you several examples of objects that contain too many nodes and how to reduce them.

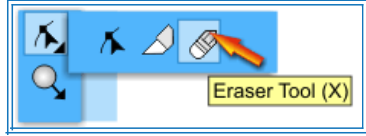
14

Welded Script Lettering - When Script lettering is welded it can create hundreds of nodes in the shape depending on what version of CorelDRAW you are using. Whether you are using CorelDRAW 9 or 12 or any version in between the quick way of reducing the nodes is the same.



15

The Eraser Tool can be used to quickly reduce the number of nodes in the design. The Eraser Tool is located with the other Editing Tool in the Toolbox at the left of the screen.



Count down two tools from the top of the Toolbox, click and hold down the mouse button to activate the fly -out menu. The Eraser Tool is the third tool on the fly -out menu.

The Properties Bar will display the options for the Eraser Tool. Set the size of the Eraser Tool to a size you are comfortable with.



To the right of the size setting is the Auto -Reduce on Erase, this option controls the number of nodes added or removed from the shape when the eraser is used.



16

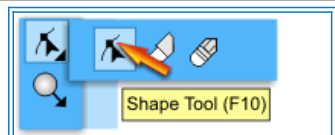
When the Eraser Tool is used on script lettering it will reduce the number of Nodes in the script without changing the shape. The trick to using this tool on script lettering is to place the Eraser Tool close to but not actually touching the letters.



Hold the mouse button down and drag the cursor about an inch along the outside of the letters. Once you release the mouse button the hourglass will be displayed while the program is reducing the number of Nodes. If you accidentally erased parts of the letters, use Edit and Undo to bring the letters back. Then attempt to use the Eraser Tool again.

17

Now hold down the mouse button on the Eraser Tool in the Toolbox to activate the fly -out menu. Select the Shape/Node Edit Tool. The Status line at the bottom of the screen will show the new Node count.



18

Scanned and Traced Designs – When a design is scanned and traced it can also contain too many Nodes.

Sample Shows outside shape selected.



The Eraser Tool can be used in the same way as describe above to reduce the number of Nodes.
The Eraser Tool is the third tool on the fly -out menu.



The Properties Bar will display the options for the Eraser Tool. Set the size of the Eraser Tool to a size you are comfortable with.



To the right of the size setting is the Auto -Reduce on Erase, this option controls the number of nodes added or removed from the shape when the eraser is used. When the Eraser Tool is used it will reduce the number of nodes without changing the shape. The trick to using this tool, is to place the Eraser Tool close to but not actually touching the shape. Hold the mouse button down and drag the cursor about an inch along the outside of the shape.

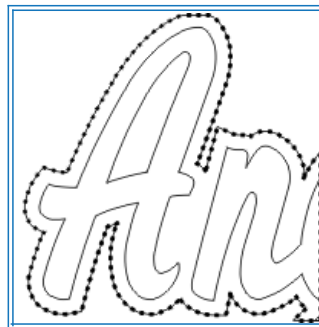
Once you release the mouse button the hourglass will be displayed while the program is reducing the amount of Nodes.
If you accidentally erase parts of the shape, use Edit and Undo to bring the shape back.
However if the lines are rough or wavy it may not clean them up as much as you need. Please refer to the sections below.



Sample Shows outside shape selected.

19

Contours - Contours on text and objects can also contain a high number of node.
When contours are added to text, especially script letters it can double or triple the number of nodes placed in the contour compared to the node count for the script letters.
Depending on the version of CorelDRAW you are using, the amount of Nodes may be different.



20

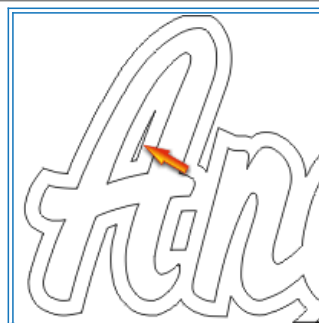
Once the contour is placed on the text you will need to go to Arrange and Separate/Break Contour Group Apart. Click off the text and reselect just the contour.
The Status Line at the bottom of the screen should show the number of nodes currently in the contour.
Again as described above select the Eraser Tool from the Toolbox.
Erase close to but not touching the contour.
Hold down the mouse button and drag the cursor about an inch and release the button.



The hourglass will display letting you know the program is performing the reduction of Nodes.
Once complete, select the Shape/Node Edit Tool to see the total Node count has been reduced.

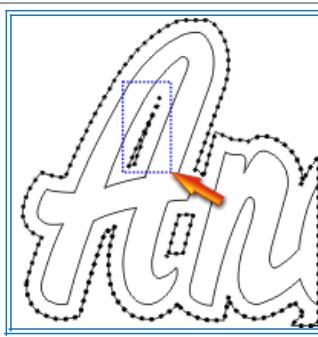
21

Small shapes cause by the Contour Tool – When the Contour is used on lettering it can also create small shapes inside the cavities of the letters.
If you are sending the design to a cutter you may want to remove the small shapes.



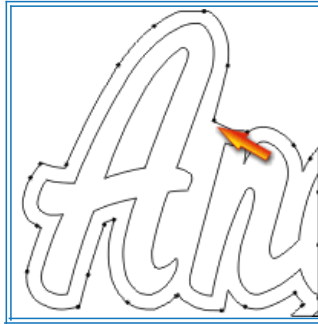
22

Select the Shape/Node Edit Tool from the Toolbox. The Nodes will be displayed on the shape. Marquee select any of the Nodes inside letters you wish to remove, then press the Enter key on the keyboard. The shapes will be removed.



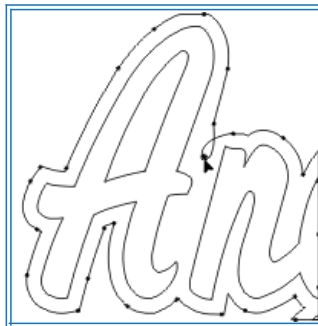
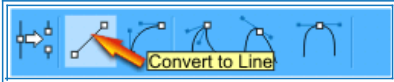
23

You can also edit the way the contour falls around the outside of the letters. Use the Shape/Node Edit tool to marquee the sections you wish to remove then press the Delete key on the keyboard.



24

Sometimes when you remove the unwanted shapes between letters the line will turn into a loop. To fix this, click on the line using the Shape/Node Edit Tool. The line will be marked with a little star shape. On the Properties Bar at the top of the screen select the "To Line" option to change the curve to a straight line.



Continue to use the Shape/Node Edit Tool to move the Nodes, adjusting the Contour around the letters as needed.

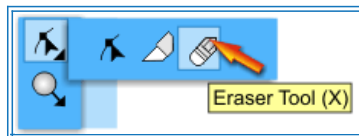
25

Spikes on Contours- Depending on the font and size of the font used you may run into spikes on the contour. These spikes can be very annoying but are fairly easy to remove. With the Contour selected, select Arrange and Separate/Break Contour Group Apart before you can remove the spike. Once the contour and the original shape are separate objects you may want to start by reducing the number of nodes in the contour. Click off the design so nothing is selected. Select the Contour around the text.



26

Select the Eraser Tool from the Toolbox. The Eraser Tool is the third tool on the fly -out menu. The Properties Bar will display the options for the Eraser Tool. Set the size of the Eraser Tool to a size you are comfortable with.



To the right of the size setting is the Auto -Reduce on Erase, this option controls the number of nodes added or removed from the shape when the eraser is used.

When the Eraser Tool is used it will reduce the number of Nodes without changing the shape.

The trick to using this tool is to place the Eraser Tool close to but not actually touching the shape.

Hold the mouse button down and drag the cursor about an inch along the outside of the shape.

Once you release the mouse button the hourglass will be displayed while the program is reducing the amount of Nodes.

If you accidentally erase parts of the shape, use Edit and Undo to bring the shape back.

27

Once you have reduced the number of Nodes you can now remove the spike. You will need to tab through the Nodes to select the Node at the end of the spike. Just like using the Tab key to move from object to object on the page, you can use the Tab key to move through the nodes in a shape.

28

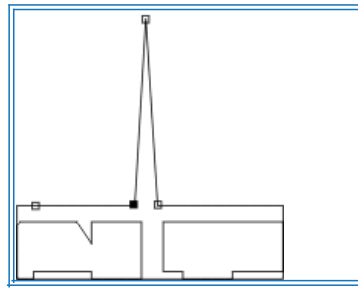
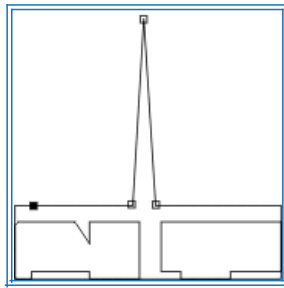
You may want to zoom in to the base of the spike to make this easier. Select the Zoom Tool from the Toolbox and marquee the base of the spike.



29

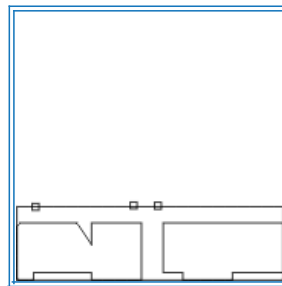
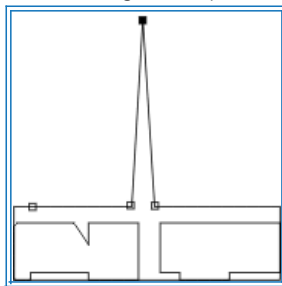
Select the Shape/Node Edit Tool from the Toolbar. First you will need to determine the direction the nodes were created. Select one of the Nodes near the base of the spike. Press the Tab key on the keyboard. The program will highlight the next node turning it black. If pressing the Tab key selects a Node farther away from the base of the spike, select a Node on the other side.

Again press the Tab key to move through the nodes.



30

Once the Node at the base of the spike is highlighted, press the Tab key one more time. You may not see a highlighted Node if the tip of the spike is out of your viewing area. However the node at the tip of the spike should now be selected. Press the Delete key on the keyboard and the node at the end of the spike will be removed. When you zoom back out, the spike will be gone. Repeat this for any other spikes you may have on the contour. You may also get a loop in the line once the node at the end of the spike has been removed. If this happens use the information in step 24 for removing the loop.



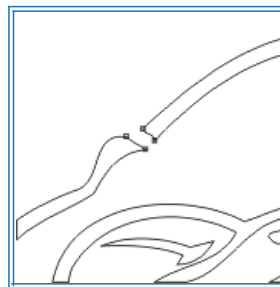
31

Broken lines- Dealing with broken lines in a design can be one of the hardest things to correct. The broken lines were there when the design was scanned and tracing didn't correct them. This is why it is recommended you check the artwork before you scan. Look carefully at the artwork to make sure the lines connect throughout. If the artwork is drawn in pencil you will need to make adjustments at the time it is scanned to bring the design in darker to help connect the lines. In most scanning programs this is a threshold adjustment. The other option would be to scan the design then print it out before tracing it. Clean up the print then scan it back in. Or the scanned image could be taken into CorelPHOTO PAINT and cleaned up.



32

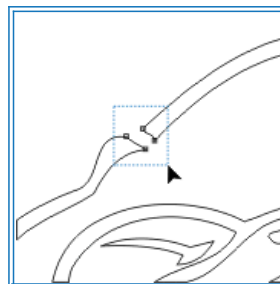
If you still find your self with a broken line you must fix you will need to use the following steps. There are two different types of broken lines you will run into. First is the broken line that is two separate shapes. You will need to start by combining the two shapes together. Select the one shape, hold down the Shift Key and select the other shape. Select Arrange and Combine from the top of the screen. Select the Zoom Tool and zoom into the section where the two shapes need to connect.



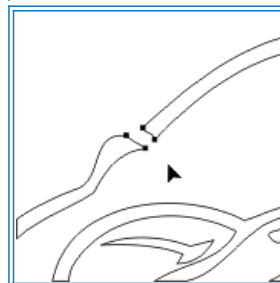
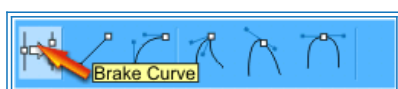
Sample shown in Wireframe Mode.

33

Select the Shape/Node Edit Tool from the Toolbox. Marquee select the nodes by placing the cursor above and to the left. Hold down the mouse button and drag down and to the right until all the nodes are within the marquee.

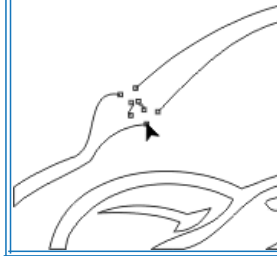


Release the mouse button and all the nodes will be highlighted in black. Select the Break Node option from the Properties Bar.



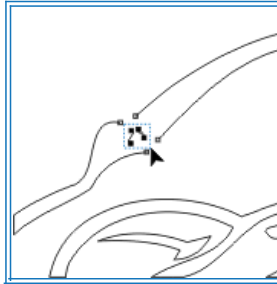
Click on a white area to release the nodes. One at a time move the

Nodes away from the other exposing the break in the shape.

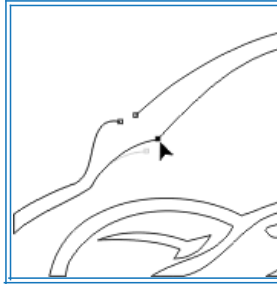


Marquee select any unwanted nodes to remove them. Place the cursor above and to the left of the nodes. Hold down the mouse button and drag down and to the right until all the nodes are within the marquee.

The nodes will highlight in black. Press the Delete key to remove the unwanted nodes.



You now need to connect the corresponding nodes together. Select one of the nodes and drag to the Node it needs to connect to. Release the mouse button. The two Nodes will become one. Repeat this for the other side.



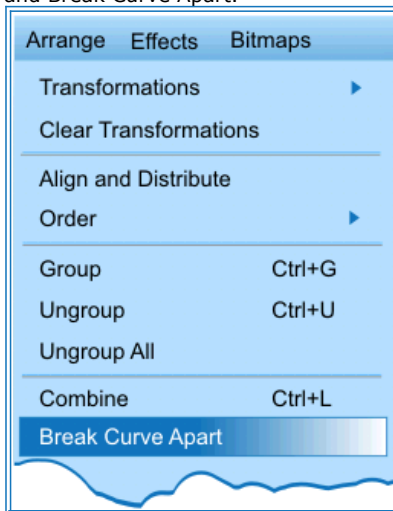
34

The second type of broken line is one that occurs on the outside of the design stopping an inside shape from being colored.

You will need to follow all the same steps as shown above for fixing a broken line repeating step 33. The difference will come at the end. The shape is still seen as one shape. It needs to be two separate shapes so they can have different colors.



Select the Pick Tool from the Toolbox. Select the shape you just corrected. Select Arrange and Break Curve Apart.



The inside shape will turn black, this is normal. Because the two shapes were the same color when they were combined as one, once they are broken apart they will have the same color. Depending on the version of Core!DRAW you are using it may also put the background color on top of the inside shape.

Click off the shape so nothing is selected.

Click on just the out side shape. Select Arrange, Order and To Back.

Click off the design.

Click on the inside shape and choose a new color (sample shows the color red).

If you having problems selecting the shape change to Wireframe. Select View and Wireframe. Select the line for the inside shape then select a new color. Select View and Enhanced to return to the full color view.



35

Rough or wavy lines-Rough, wavy or jagged lines are all cause by ether too many Nodes, the wrong type of Nodes or a poor quality



original.

As explained in the beginning of this lesson, there are different types of Nodes, Smooth, Symmetrical and Cusp.

If the design traced in all curves and Cusp Nodes the design will look rough.

Unfortunately if the design is made up of these types of Nodes it is not an easy process to clean it up.

The quickest way is to marquee select sections of the design and change the Cusp Nodes to Smooth Nodes. Then adjust the control handles as needed. Also to delete as many un - needed nodes as possible.

It may be to your advantage to redraw designs when you receive artwork that is not ready to scan.

