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CorelDRAW: The basics

Overview

There are many computer applications that you can use to drive a laser cutter. CorelDRAW is the most versatile and mastery of it will allow you to achieve the outstanding results from your laser system. CorelDRAW is a very powerful professional vector graphics package usually sold with other Corel products such as CorelTRACE and Corel PHOTO-PAINT. Some features will be familiar to those provided in similar applications such as Adobe Illustrator. CorelDRAW supports Windows shortcuts and is both configured with it's own additional shortcuts and can be customised to have additional shortcuts added. It has a vast array of import and export filters to allow you to work successfully with the majority of other applications you will encounter. Another advantage to be gained from using CorelDRAW is that it can be used to great benefit for a multitude of other tasks Teachers encounter in their day to day work. This manual for example has been produced in CorelDRAW.

Learning how CorelDRAW treats the various objects you create and import is an essential element of your training. A glossary of CorelDRAW terminology is provided with this material and you can find further explanations in the Help screens.

To begin this tutorial, let's take a look around the workspace. CorelDRAW has gone through many updates over the years and earlier versions will have some of the features located in different places to those described in this manual, however since Version 9 most of these have been standardised.

The Workspace

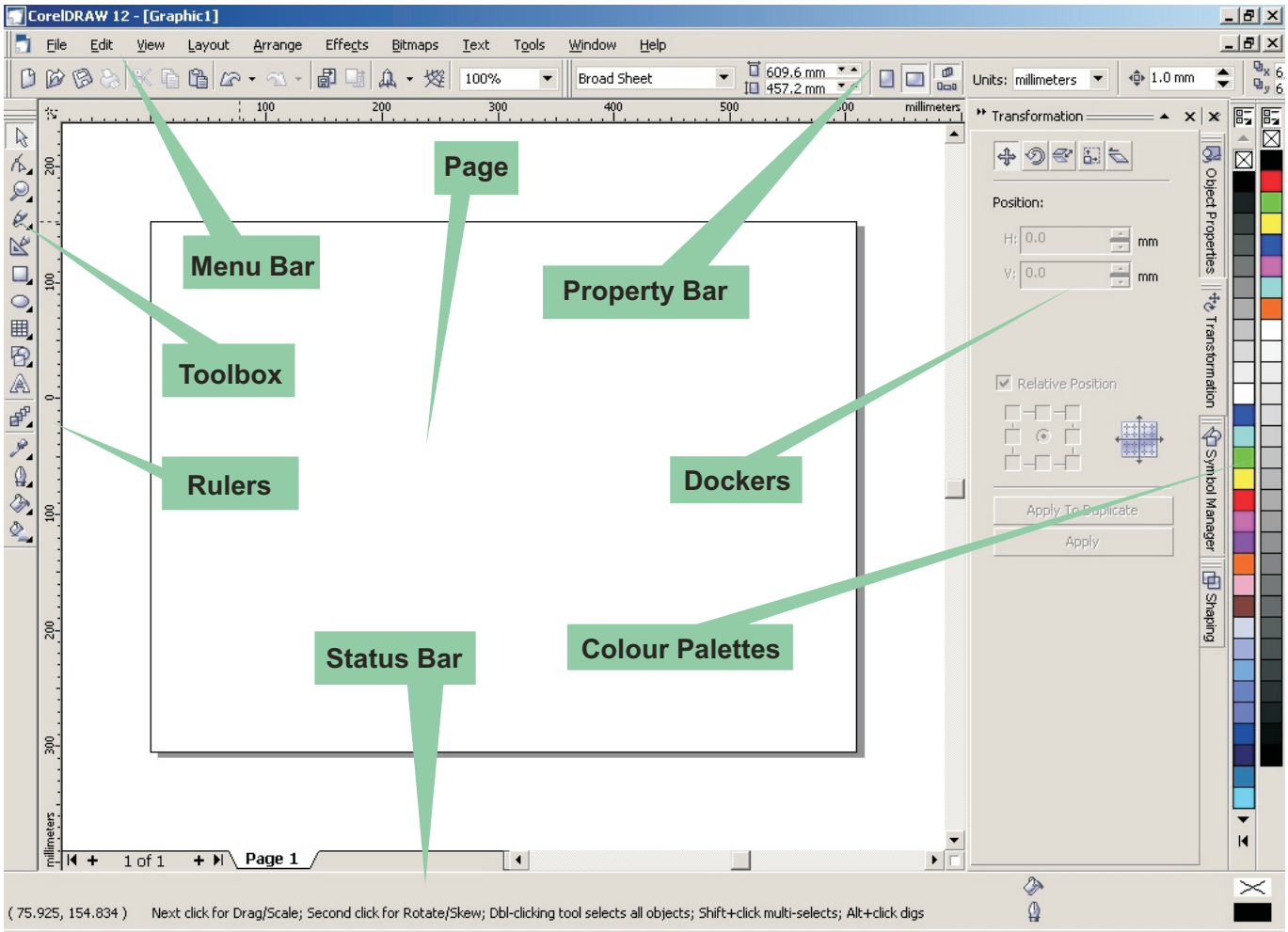
If you are entirely new to CorelDRAW or maybe you haven't had much opportunity to use it in the past he first thing to do is to familiarise yourself with the workspace.

At the top of the screen you will find the Menu Bar. The Menus contain a wide variety of commands to modify the characteristics of your workspace and the entities within it.

Beneath the Menu Bar you will find the property bar. This is adaptive dependent on the object you select or the tool you are using and you should note the various options you can control with each tool you use or shape you create.

On the left-hand side of the screen is the toolbox you use to create shapes and text with. At the bottom of the screen is the Status bar. This will tell you important details about the objects you select and is an invaluable guide to resolving problems.

A number of Dockers are available to allow you to manage your drawings and modify the components you create. A Docker is a toolbar that can be opened and closed as you wish and either kept floating or docked at the side of your workspace and collapsed to allow you greater screen space. I always have the following dockers open: Object properties, Transformations, Shaping. I frequently open the Object Manager and Undo Docker for advanced control of my drawing.



Configuring the Workspace

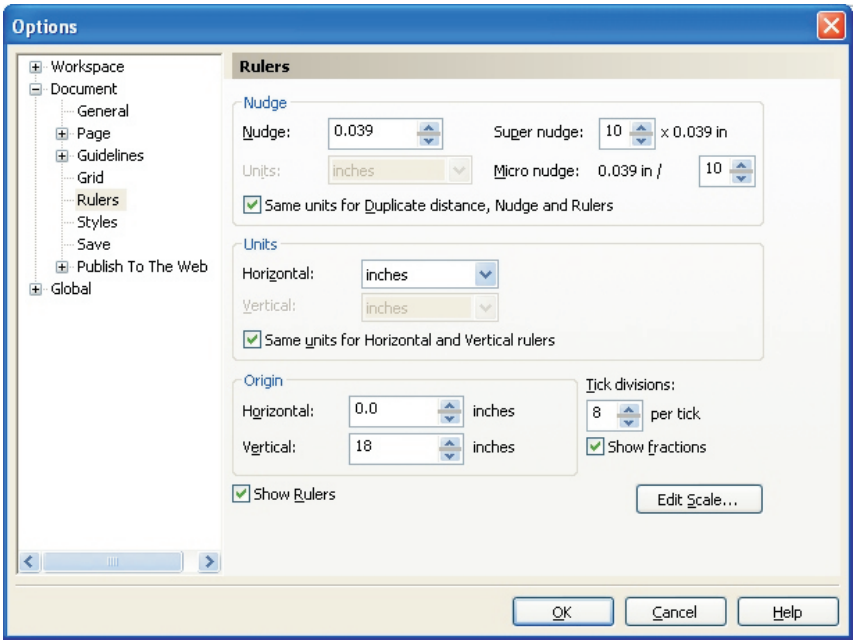
Defining the Page Size
You can create your drawings in any page size you find convenient however it is very important that when you print your file to the laser cutter that the page you print from represents the bed size of your machine. If it doesn't you will have no control over where the file is being cut.

The page size can be set on the Property Bar:

As the bed of your Universal laser cutter has been built to Imperial measurements, you may find it simpler to set the Units to Inches first before entering the dimensions. These are the actual dimensions depending on the model you have.

VL200 16” x 12”	VLS2.30 16” x 12”
VL300 24” x 12”	VLS3.500 24” x 12”
M-300 24” x 12”	PLS3.60 24” x 12”
M-360 24” x 12”	PLS4.60 24” x 18”
V-460 24” x 18”	PLS6.60 24” x 18”
X-660 32” x 18”	

The rulers on your laser cutter have their origin at the top left-hand corner and you will find it useful if your CorelDRAW page has the same. This can be defined by double-clicking on the rulers and entering the value you set the page height to in the Vertical Origin. Note it is easier to keep the units in Inches when you do this.

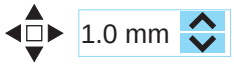


Nudge Keys
The Nudge Keys allow you to make quick precise incremental adjustments to the position of selected objects. Select objects and use the arrow keys on your keyboard to move them.

A Nudge is a movement by a defined amount. Double-clicking on the rulers opens the ruler options dialogue where the nudge amount can be defined. I recommend a value of 1mm is entered.

You will also see options for Super Nudge and Micro Nudge. These will move a selection by a multiple of the Nudge value you defined. I recommend for practical purposes you set the Super Nudge to 10 and the Micro nudge to 2. A Super Nudge will then be 10mm and a Micro nudge will be 0.5mm.

Depending on the version of CorelDRAW you have this can be set in the Property Bar **when nothing is selected** by entering a value in**:**



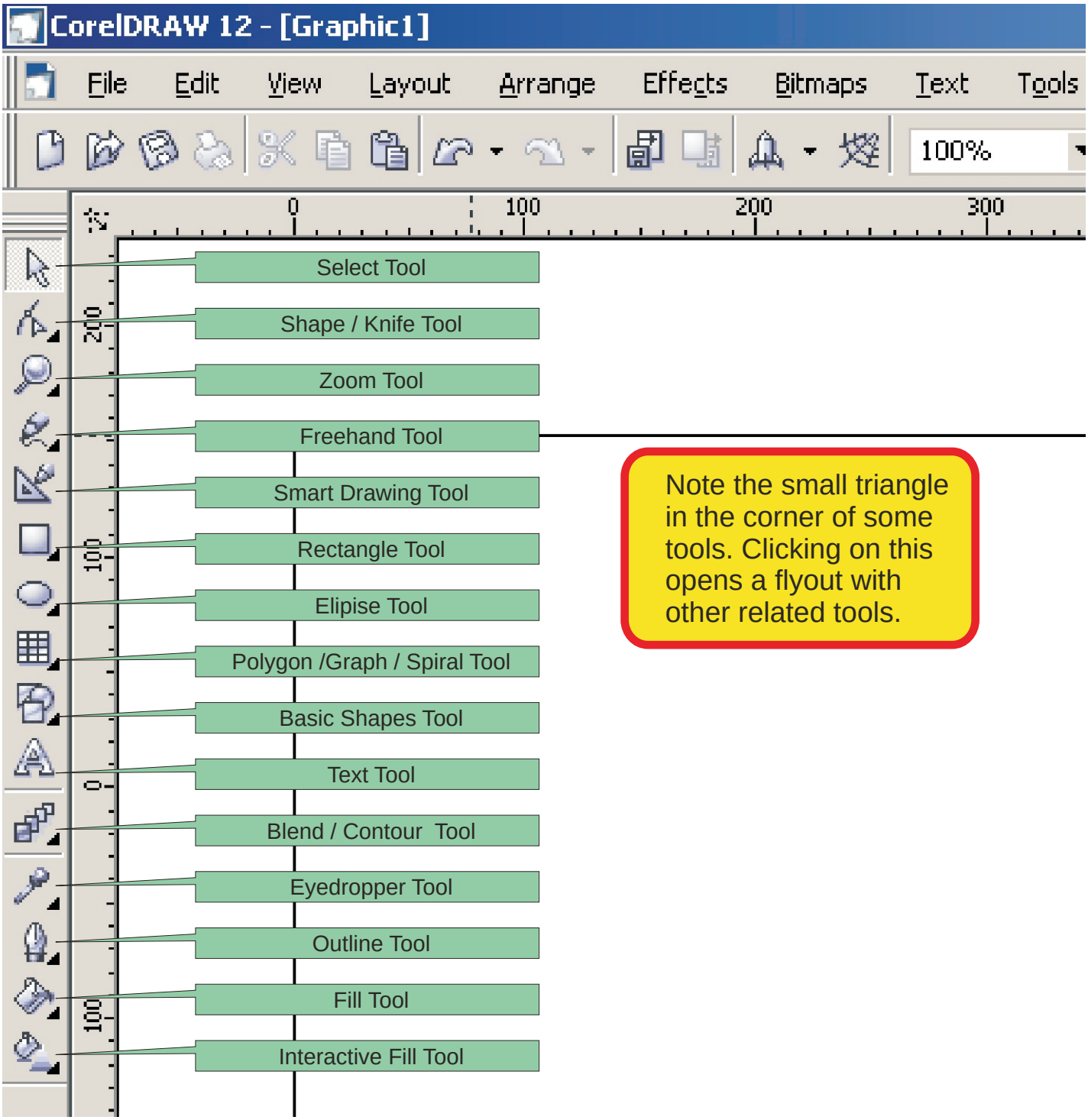
Note that the Super Nudge and the Micro Nudge factors cannot be set in the Property Bar and will be whatever factor has been defined in the ruler options.

To use Super Nudge, hold down the Shift key as you press the arrow keys.

To use Micro Nudge, hold down the Ctrl key as you press the arrow keys.

The Toolbox

Take a tour of the Toolbox. By default this resides on the left hand side of the screen but it can be moved anywhere else, sometimes inadvertently, particularly if you use a laptop computer with a touch mousepad!



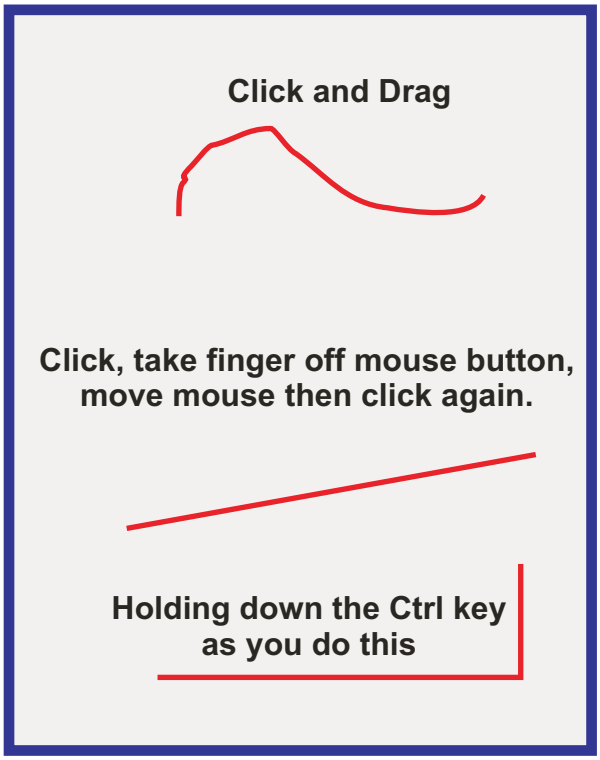
Drawing Basics

Drawing with CorelDRAW is best achieved by breaking the items you are creating down into a series of discrete components that are then sized using the Transformation Docker and shaped with the shape tool and the Weld and Trim tools in the Shaping Docker.

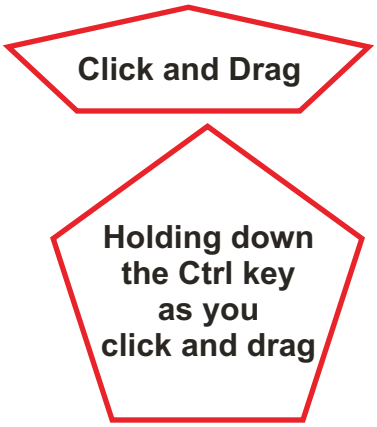
There are 4 basic tools used to create shapes:
Freehand Tool
Rectangle Tool
Ellipse Tool
Polygon Tool

Select any one of these tools and click and drag your mouse to draw.

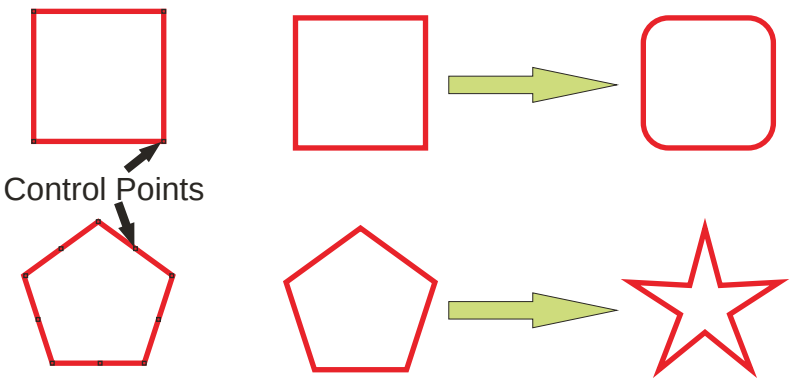
When using the Freehand Tool to draw a straight line you need to click, then move the mouse without dragging then click again. Holding down the Ctrl Key as you do this will constrain the line you draw to be horizontal, vertical or at 15 degree snaps between.



Holding down the Ctrl key when drawing the other shapes will constrain the shape to be regularly proportioned, i.e. rectangles becomes a squares, an ellipse becomes a circle and a polygon has identical sides.



The rectangle and polygon objects you draw can be modified in these ways: You can radius the corners of a rectangle and you can turn a polygon into a star shape. If you select the shape you will see control points where the lines connect and at the mid point of the polygon lines. Using the Shape Tool, click and drag these.



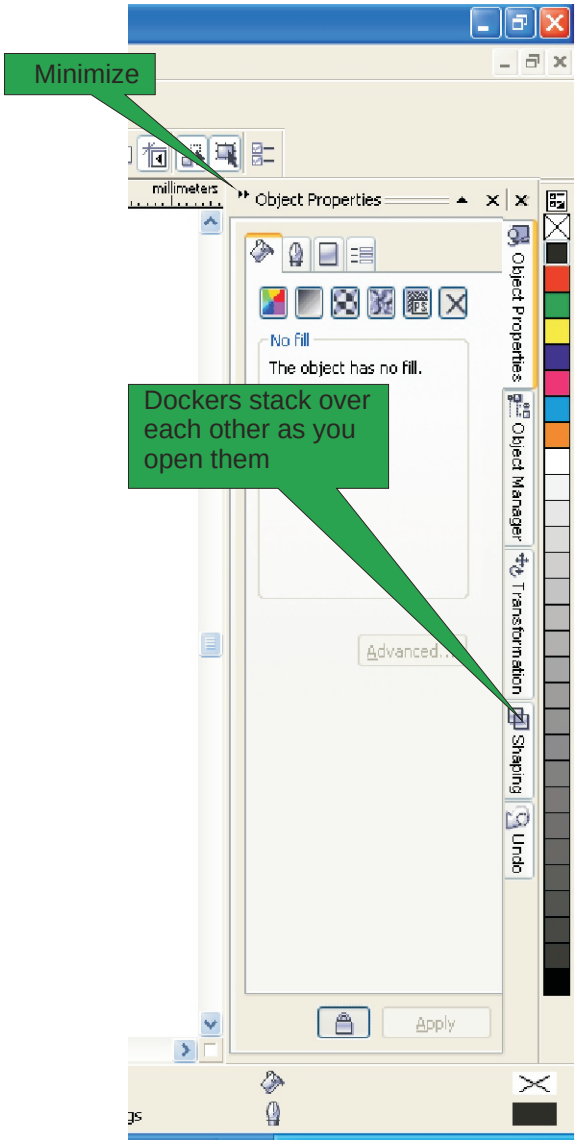
Dockers

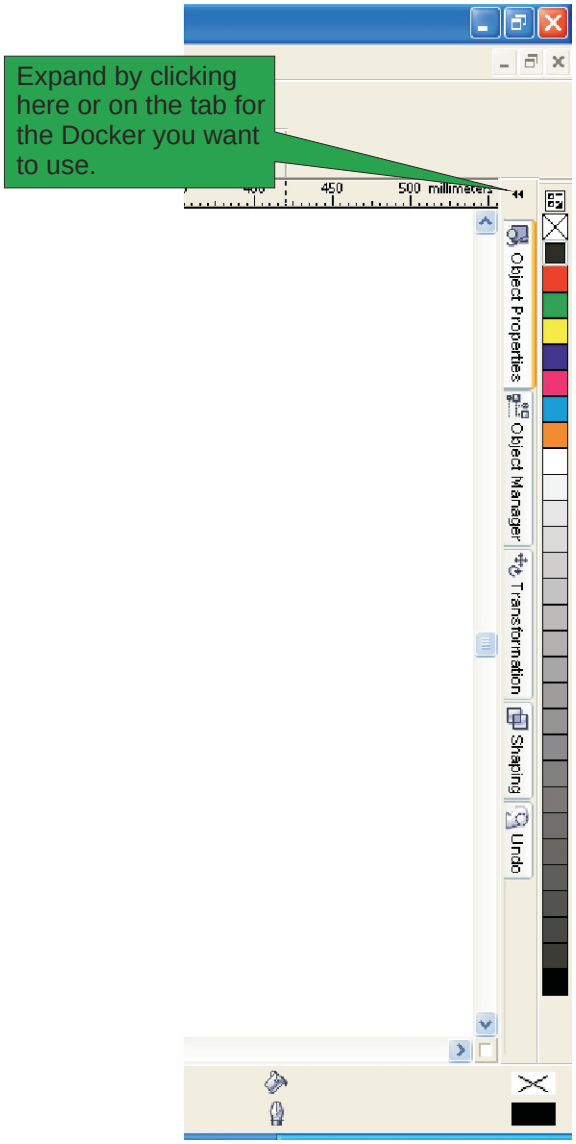
A Docker is a type of dialogue box that can reside on the screen to allow you quick access to commands, provide information about your work, to allow you to modify your work, to control your drawing in many ways.

There are a number of dockers that you may choose to keep open at all times. They can be minimized to keep your workspace as large as possible but are readily accessible, and can be closed down if you don't use them very frequently.

Dockers that are particularly useful and worth keeping open all the time are: the Object Properties Docker; the Transformation Docker; the Shaping Docker; the Undo Docker and the Object Manager Docker.

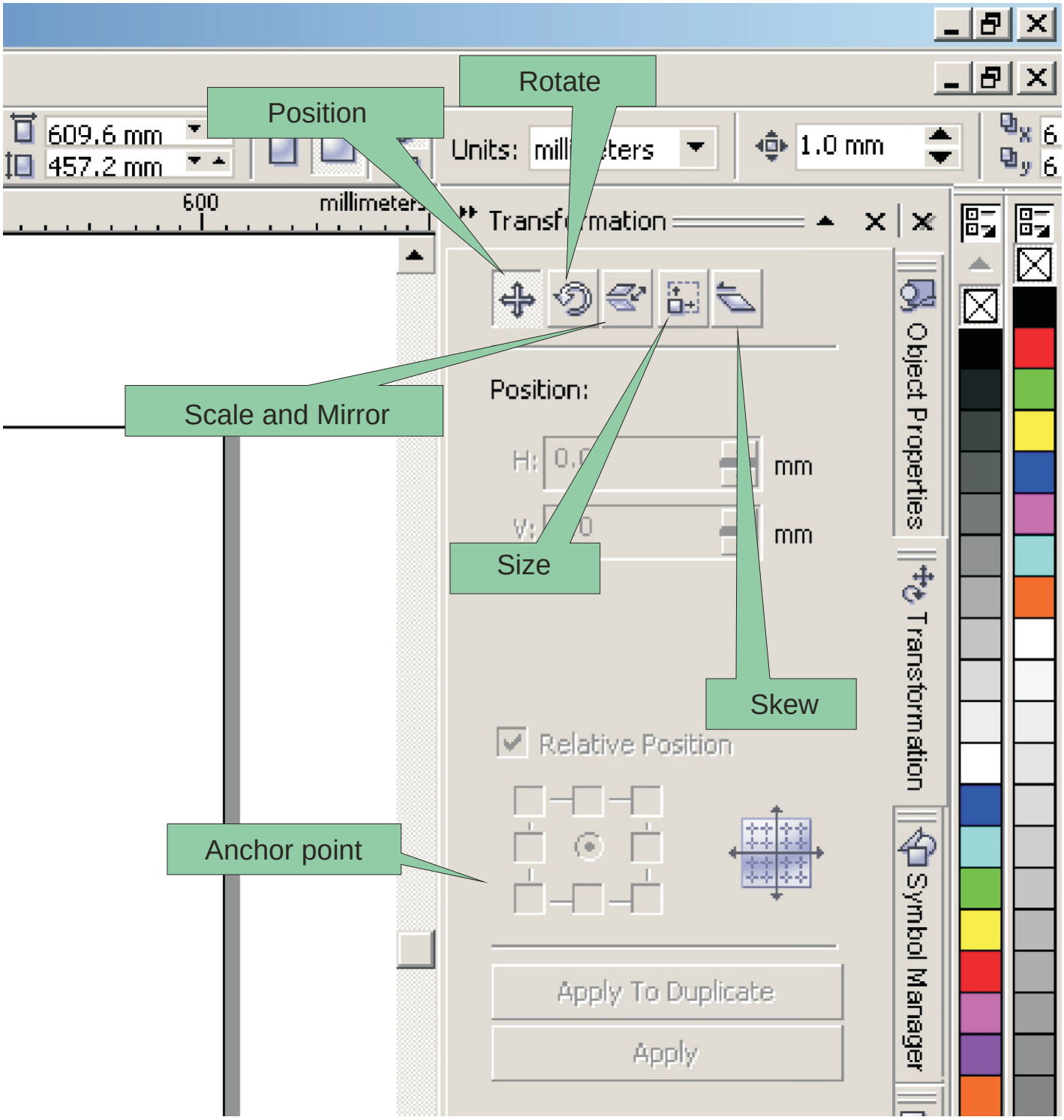
Dockers are opened through the Window drop-down menu.





The Transformation Docker

The Transformation Docker enables us to modify the objects we create or import in a precision way. We can move objects to a precise location, rotate, mirror, size and skew accurately.



The Shaping Docker

The **Shaping Docker** lets you achieve the following things;
Weld, Trim and Intersect. Late versions of CorelDRAW have added more functions to the shaping Docker that advanced users may find useful but of all the functions Weld and Trim will be found to be powerful tools that are the most useful.
In each function you are given the option to leave the original Source object and/or Target object. Checking these tick-boxes when you use these functions will create duplicate objects. This is useful for advanced users with good planning skills and enables better productivity.
It is advised that you leave these tick-boxes unchecked until you are fluent with using the Shaping tools.

The Source Object is the object you originally select to weld or trim.
The Target Object is the object you subsequently act upon.

It is important to understand that using these tools will affect the properties of the objects you are working with. The source object will take on the properties of the target object.

The best way to understand how these tools are used is by example.

Weld.
Draw a rectangle. Now draw a second rectangle that overlaps the first.
Apply a colour fill to the second rectangle.

With the second rectangle selected,
click Weld and with the arrow cursor that appears click on the first rectangle.
You will find the two rectangles have combined into a single object **without a fill.**

Try this again, this time selecting the first object and welding this to the second.
You will achieve the same shape but **this time the new object has a fill**.

Trim
Draw 2 rectangles as before. Select one and trim this to the other.
You will find that the **target object** has a piece missing where the **source object overlapped.**

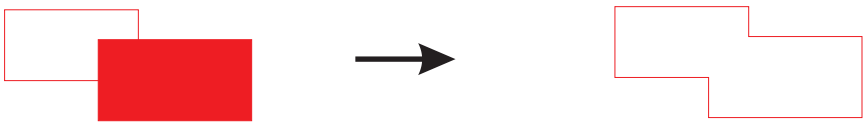
Using the shaping tools automatically converts objects to curves.

The Weld Command

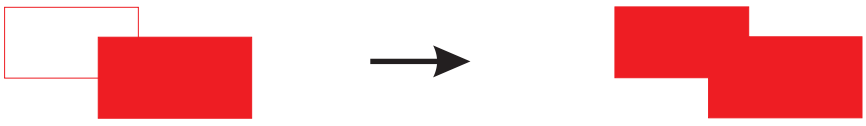
The Weld command creates a single curve from 2 or more components. The components may overlap, sit next to each other or be some distance apart.

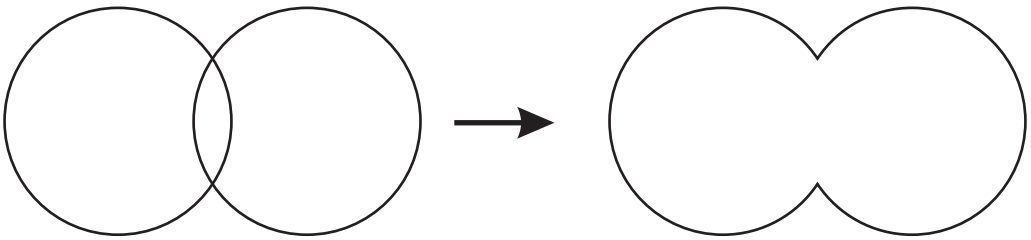
You are given the option to leave the original Source object and/or Target object. Checking these tick-boxes will create duplicate originals. This is useful for advanced users with good planning skills and enables better productivity. It is advised that you leave these tick-boxes unchecked until you are fluent with using the Shaping tools. The Source Object is the object you originally select to weld or trim. The Target Object is the object you subsequently act upon. It is important to understand that using these tools will affect the properties of the objects you are working with. The source object will take on the properties of the target object. The best way to understand how these tools are used is by example.

Draw a rectangle. Now draw a second rectangle that overlaps the first. Apply a colour fill to the second rectangle. With the second rectangle selected, click Weld and with the arrow cursor that appears click on the first rectangle. You will find the two rectangles have combined into a single object **without a fill.**



Try this again, this time selecting the first object and welding this to the second. You will achieve the same shape but **this time the new object has a fill**.



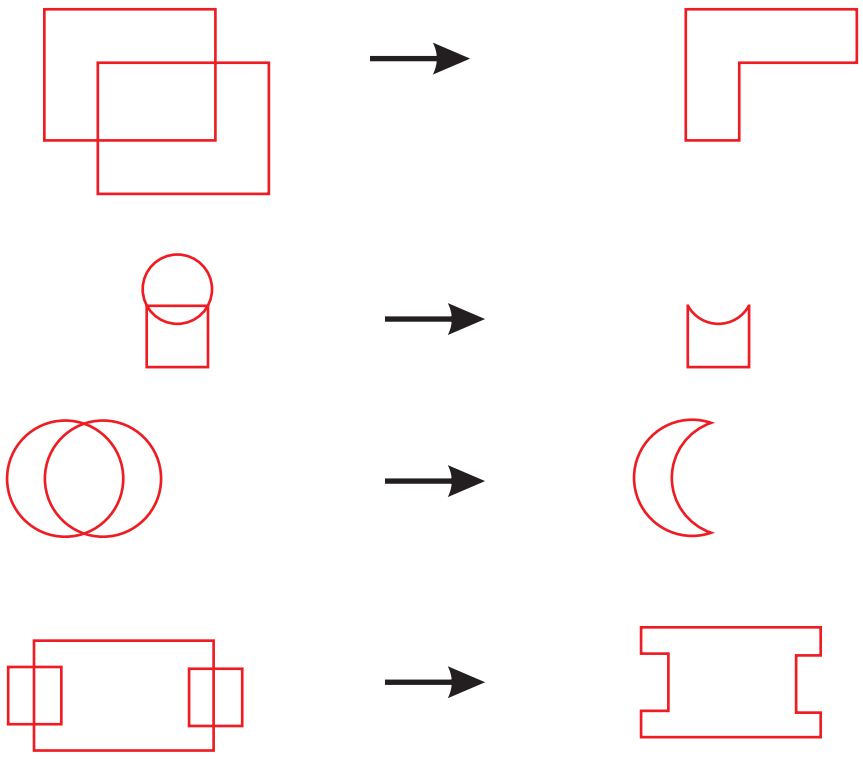


The Trim Command

The Trim command creates a single curve from 2 or more components. The components must overlap. Trim forms the shape of the selected object (Source Object) into the object you trim to where it overlaps. (Target Object).

You are given the option to leave the original Source object and/or Target object. Checking these tick-boxes will create duplicate originals. This is useful for advanced users with good planning skills and enables better productivity. It is advised that you leave these tick-boxes unchecked until you are fluent with using the Shaping tools. The Source Object is the object you originally select to weld or trim. The Target Object is the object you subsequently act upon. It is important to understand that using these tools will affect the properties of the objects you are working with. The source object will take on the properties of the target object. The best way to understand how these tools are used is by example.

Draw a rectangle. Now draw a second rectangle that overlaps the first. With the second rectangle selected, click Trim and with the arrow cursor that appears click on the first rectangle.

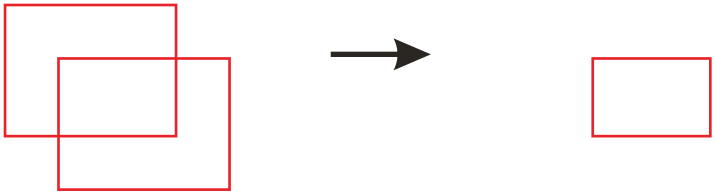


The Intersect Command

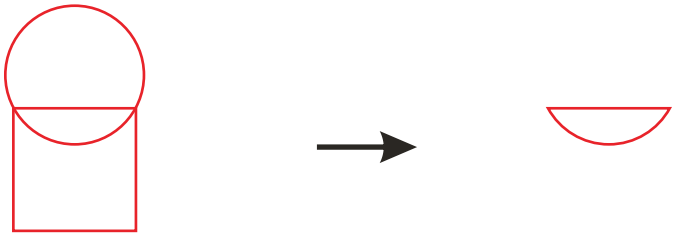
Intersect creates the shape that is formed by the overlap of 2 components.

You are given the option to leave the original
Source object and/or Target object. Checking these tick-boxes will create duplicate originals.

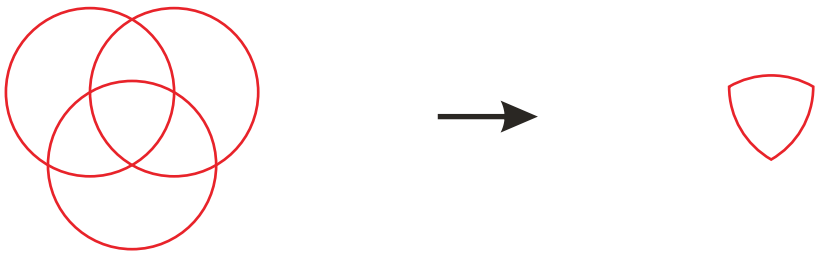
Draw a rectangle. Now draw a second rectangle that overlaps the first. With the second
rectangle selected, click Intersect With and with the arrow cursor that appears
click on the first rectangle.



Try intersecting circles with squares

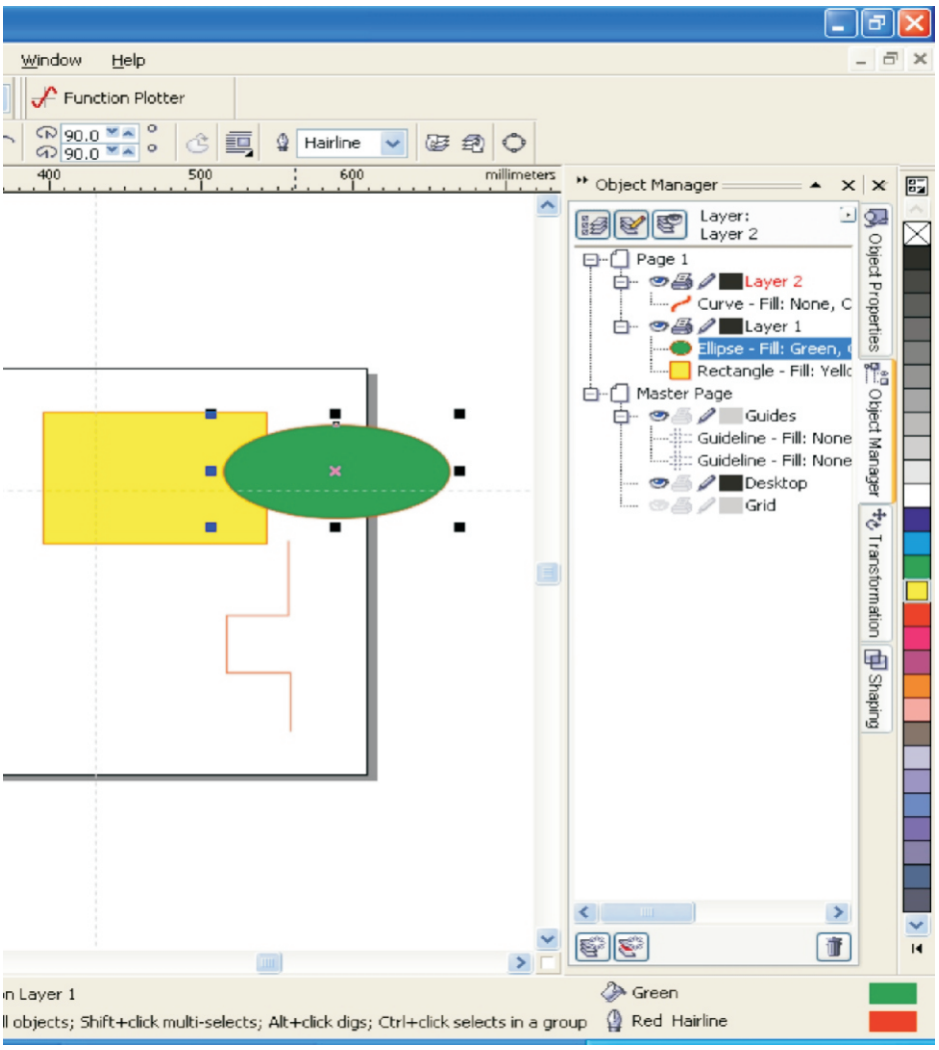


In this example I have Intersected one circle with another then intersected this with the third.



The Object Manager Docker

Advanced CorelDRAW users make much use of the **Object Manager Docker**. Each item you have created can be identified, accessed and modified in the Object Manager.



New layers can be created in your drawing in the Object Manager and it allows you to move objects between layers and pages. You can do this by dragging the item to another layer or page. Dragging objects within the layer they are on will change the order within the drawing.

Each page you create within your drawing will appear in the Object Manager and selecting objects within these pages will automatically switch the view to the page they are on. You can give names to the layers and pages here too. Right-click on the layer or page and click on rename.

Layers
Layers allow you to manage your pages efficiently and productively. You can turn on viewing, printing and editing of individual layers. An example would be in the production of a printed carton. Images that are to be printed on the carton will be created on one layer. A second layer is used for the creation of the vector cutting and scoring part of the file. Turn off printing of the cutting layer when you are printing the images, reverse this when printing to the laser cutter.

Master Page
Each new file has one Master Page that contains and controls three default layers: the **Grid**, **Guides**, and **Desktop** layers. The Grid, Guides, and Desktop layers contain the grid, guidelines, and objects outside the borders of the drawing page. The **Desktop** layer lets you create drawings you might want to use later. You can specify settings for the grid and guidelines on the Master Page. **See the section on Guidelines for further information.** You can specify settings, for example colour, for each layer on the Master Page.

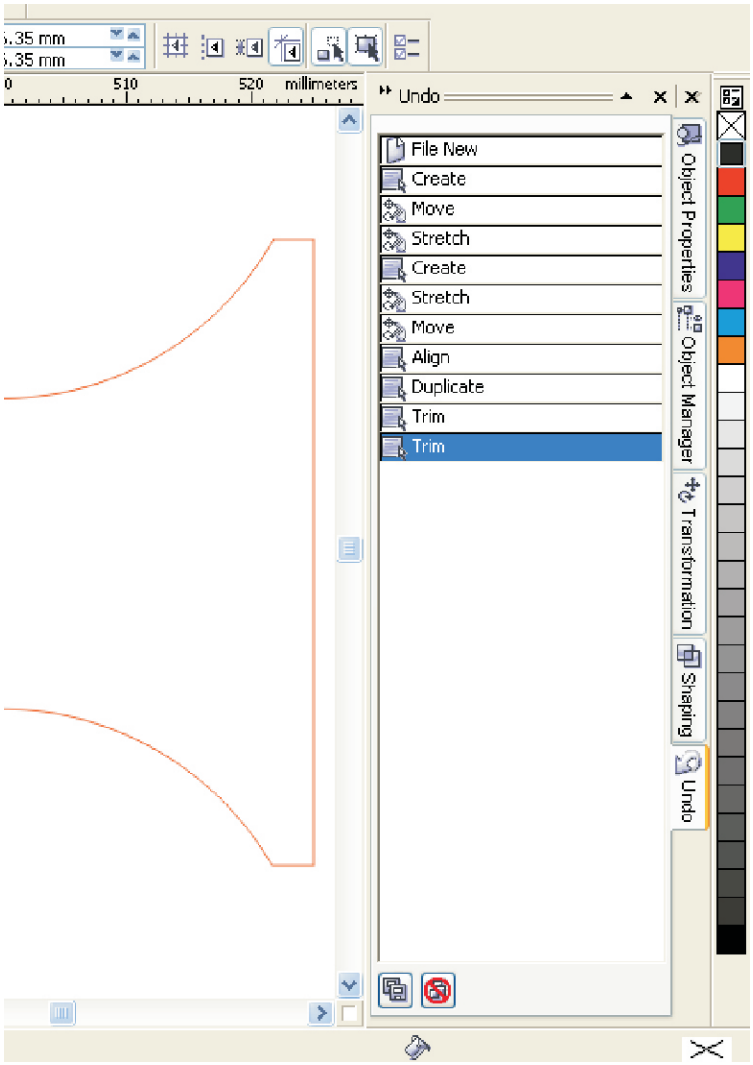
You can add one or more master layers to a Master Page. This layer contains information that you want to display on every page of a multipage document. For example, you can use a master layer to place a header, footer, or static background on every page.

The Undo Docker

The Undo Docker
This lists the sequence of events that you have made in your drawing and allows you to get back to a specific point without losing the work you have done. It is particularly useful for teachers as it will let you see how your students have constructed their drawings. You can use this to go back to a point in your drawing where you constructed an item and copy this item to the clipboard. Then go to the last event and paste the item from the clipboard into your drawing again.

If you go back to a previous point and then change something you will lose the other work you did from that point on.

It is important to remember that the number of undo steps available has to be configured in the CorelDRAW setup. The default is around 20 steps but you will find this limiting at times. If you have a reasonable amount of RAM on your computer I would suggest you increase this to around 50 steps or more.



Outlines and Fills

When you create drawings to be cut or engraved on the laser you have to ensure the following criteria are applied:

Outlines need to have a line weight of **hairline**.
They need to have a colour that the laser driver recognises as a command, i.e the precise colour as defined in your laser manual.

Filled areas of your drawing can only be engraved.

We can set the **outline** colour by simply **right-clicking** on a colour in the colour pallette. It can also be set using the Outline Tool in the Object Properties Docker.

We can set the **fill** colour by simply **left-clicking** on a colour in the colour pallette. It can also be set using the Fill Tool in the Object Properties Docker. You will only be able to see and print a fill in a closed path however the object will own fill properties if these were applied. Once the path is closed the fill will be visible and can be printed. For information about closing paths refer to the section on curve editting.

You will have received a CorelDRAW colour pallette with your laser driver. The colours in this pallette are the specific colours that the driver recognises and which you can assign tasks for the laser to do. This palette needs to be copied to the CorelDRAW palettes folder and opened using Window - Colour Palettes - Open Palette then locating the palette from its location.

In the Universal Laser Systems colour pallette there are 8 primary colours and 19 shades of grey. The grey colours will apply a percentage of the power you set the black colour to corresponding to the percentage of grey you use, i.e. 50% grey applies 50% of the power you set for black.

Aligning Objects

As you build your drawing you will find it necessary to arrange components so that they align with other components. There is a variety of ways to do this and CorelDRAW has some quick methods. Select the objects you wish to align then go to the Arrange dropdown menu Align and Distribute then select the method of alignment you need. Note the shortcuts listed to the right of the options:

L aligns the objects to the left of their bounding box
R aligns the objects to the right of their bounding box
T aligns the objects to the top of their bounding box
B aligns the objects to the bottom of their bounding box
E aligns the objects to the to their centres Vertically
C aligns the objects to the to their centres Horizontally
P aligns the objects to the centre of the page

Remembering these shortcuts will speed up the production of your drawing. Just select the objects and press the keyboard character corresponding to the alignment mode.

A few things to note:
All the components you select will be aligned in the same way and this may not be quite what you intended. Imagine the example below for a simple keyring. The keyring shape has been drawn, a hole for the ring has been drawn and you are ready to place the text to be engraved.

Oops!

Selecting everything and aligning them centrally will place the keyring hole in the centre too. To avoid this happening, first group the keyring shape and the hole, then align the text on the keyring.

Format text before you align it as formatting after will lose the alignment.

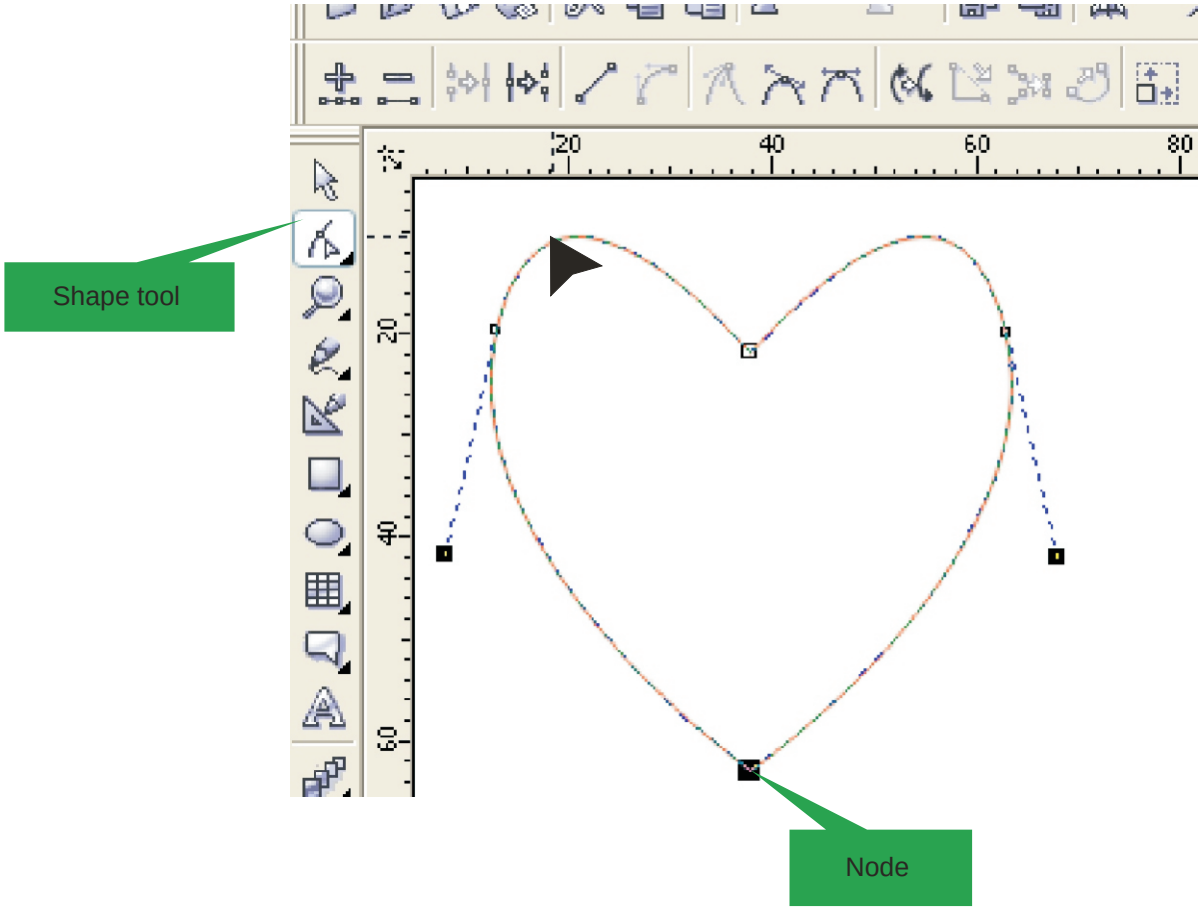
About Curves

A curve is a series of line segments, each line segment have a node at each end. Line segments can be straight or curved and they need not be connected to each other within a single curve.

Curve objects can be modified in different ways to the other objects you create. Each simple shape you draw using the tools in the toolbox can be modified in its own particular way. Rectangles can have their corners radiused, ellipses can be converted to arcs or pies, polygons to stars etc and text can be edited. Converting any of these to curves loses that ability but gives you the ability to infinitely modify the shape of the object.

Certain commands automatically convert objects to curves. An example is when using the Shaping Docker tools. Converting to curves is a one-way street so make sure your object is exactly as you want it to be before you do this. You will not be able to correct a spelling mistake once you convert text to curves and the process of changing the radius on a rectangle is much more complicated.

One of the great assets CorelDRAW has is the powerful curve editing capability. This is provided by the Shape tool in the Toolbox (Not to be confused with the Shaping Docker tools). See the section on Curve Editing for more information.



Curve Editing

We have almost infinite ability to change the shape of the curves we create. The position and type of nodes can be controlled, whether the line relating to the node is straight or curved, whether adjoining nodes are connected, whether nodes exist at all.

Node editing is achieved with the Shape tool in the Toolbox. You can use this to select the curve you are editing, pick up individual nodes and move them around, drag the line segment to change its form, move the node control points to alter the form of line segments, add and remove nodes.

There are four node types: cusp, smooth, symmetrical, or line. Nodes can be changed from one type to another.

Cusp nodes make the node's intersecting line take on the shape of a corner or point when you adjust the position of the node's control points.

Smooth nodes make the node's intersecting line take on the shape of a curve. Each control point can be shortened or lengthened independently, giving you smaller or larger angles to work with.

Symmetrical nodes make the node's intersecting line take on the shape of a curve as well as intersect the node at exactly the same angle.

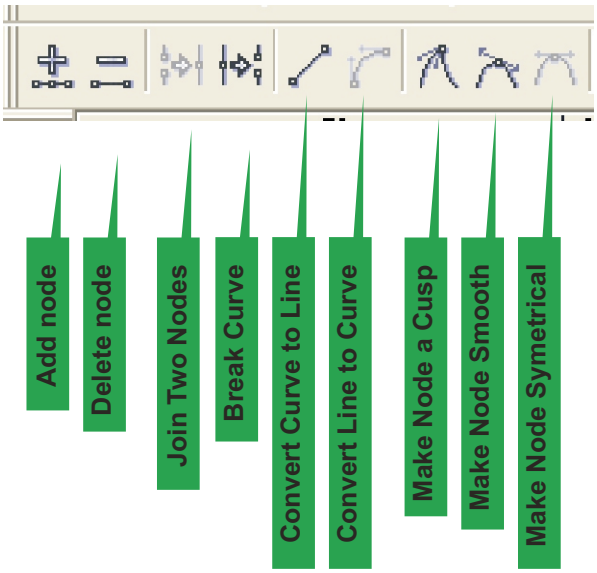
Line nodes let you shape objects by changing the shape of their segments. You can make a curve segment straight or a straight segment curved.

The more nodes there are in a curve, the greater degree of control is possible with its shape however beware of adding too many as this will increase the work your laser has to do and may slow down its operation.
Nodes can be added by clicking on the point of the curve you wish to add the node then clicking on the **+** icon on the Property Bar. They can be removed by selecting them and pressing delete, clicking on the icon on the property bar or by double-clicking on the node.

Selecting a node and clicking on the Break Curve icon separates adjoining nodes. You can also use the shape tool to click on a line segment then click on the Break Curve icon to break the curve at that point. If the path has 2 separations it is possible to break the curve apart using the Break Curve Apart command in the Arrange dropdown menu. This will produce 2 separate curves.

Selecting 2 adjoining nodes and clicking on the Join 2 nodes icon connects them.

You do not have the ability to define an absolute position for nodes directly but you can get them to snap to guidelines or to a grid to achieve this. You can also get their control points to snap to guidelines.



Combining and Breaking Apart

Terminology that applications use can sometimes be confusing and misleading especially when it is in conflict with our usual appreciation of the same terminology. In the case of CorelDRAW a curve for example may consist of only straight lines. It may also be comprised of several seemingly separate entities. This can often be a difficult concept to grasp because the tendency is to think of these entities as a group.

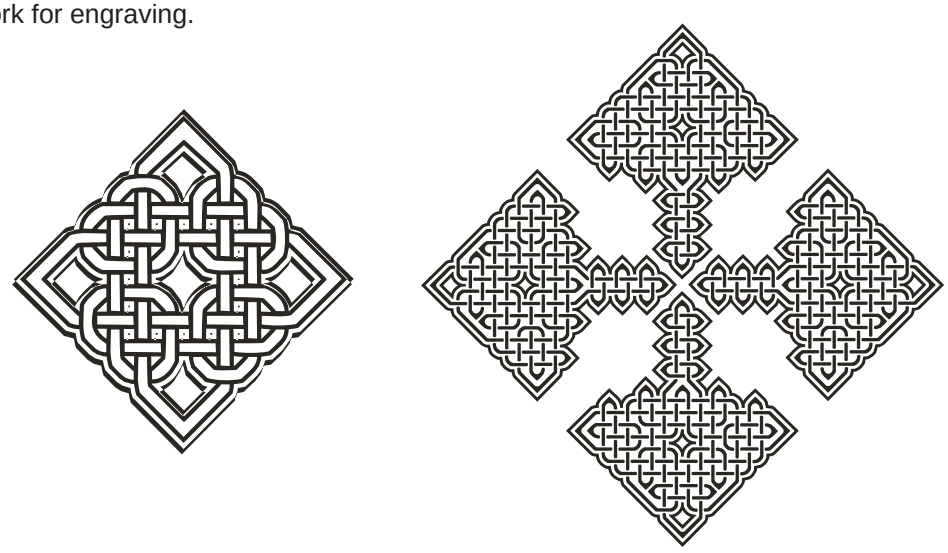
Individual components can be combined into a single curve. This provides very useful properties regarding fills and editing capability. The process of separating them is called breaking apart. A number of commands we apply to our work automatically combine curves and it may be necessary to break these curves apart before we can continue editing them.

A simple way of understanding this is to think of text characters. The letter A for example comprises an outline shape with a triangle inside. The fill surrounds the triangle **but the triangle itself is not filled.**

Try the following. Draw the letter A using the text tool. It may help if you enlarge it to a size you can see clearly. Convert this to curves (Arrange Convert to Curves). With the object selected look at the status bar at the bottom of the screen. It will tell you it is a curve. Now break the curve apart (Arrange Break Curve Apart) and notice what happens to the fill and what the status bar tells you. We now have 2 objects. Because the triangle is a curve in its own right now it has its own fill. Now combine them again (Arrange Combine) and you will see the letter A as before.

Converted to Curves Broken Apart The individual pieces can be moved

The ability to control fills in this way has a huge impact on the creativity that is possible when you are producing artwork for engraving.

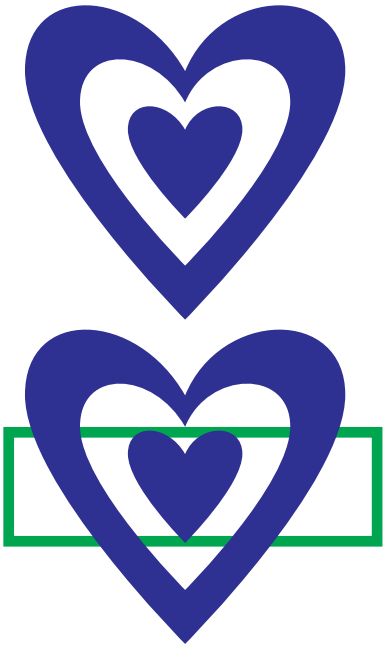


Combining and Breaking Apart Part 2

Objects can be combined to create a curve object that has particular properties. A fill only fills the gap between the inner and outer parts of the curve. Although the curve is made from 2 or more components it is treated as a single curve. An example is shown below.

This curve was created by drawing the heart shape and placing a duplicate smaller heart inside. The 2 objects are seleted together and combined into a single curve using the Combine command in the Arrange drop-down menu. The curve can then be filled. The shortcut for Combine is Ctrl + L.

Text can be Broken Apart too. The process works as follows. Paragraphs are broken into Sentences. Sentences then have to be broken Apart into Words. Words can be Broken Apart into individual Characters. The text is still editable as text but it's no longer linked to the text it was previously part of. Characters that are converted into Curves can be Broken Apart into the individual curves that form them, for example the letter B is formed from 3 components.



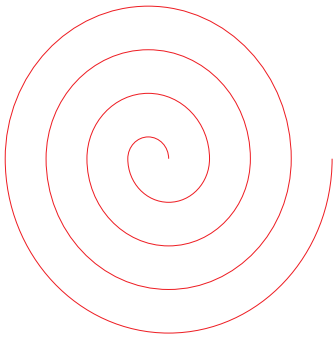
This is one curve. It was created by taking the heart shape and duplicating 2 smaller heart shapes inside. The 3 shapes were then combined so that when filled there is an open area between the filled areas of the curve. The open area can be seen in the illustration below.

Tip
Files containing text objects can only be opened on other computers having the font that is used installed. Converting text to Curves means that the text is now a graphical object that can be opened on computers that do not have the same font installed. Obviously, once text is converted to curves it cannot be edited as normal.

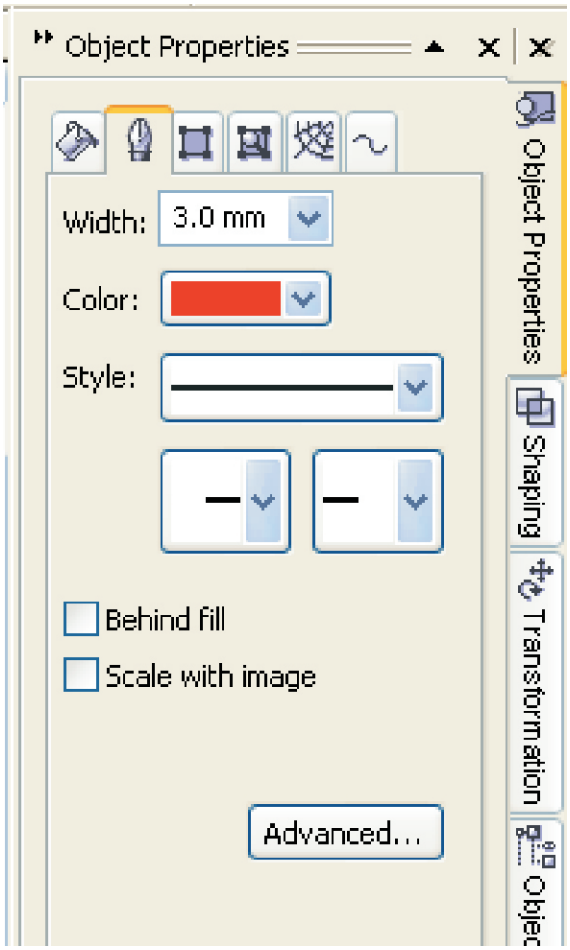
Convert Outline to Object

The Convert Outline to Object command can be used to produce solid objects from open curves.

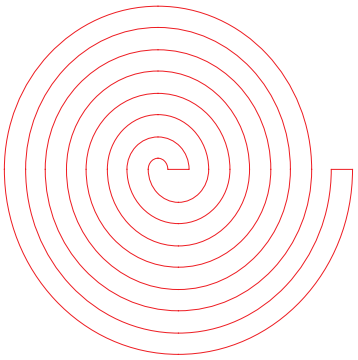
In this example I have drawn a spiral.



Set the line weight to a given thickness.



Now set the Convert Outline to Object command (Arrange - Convert Outline to Object). Give the object an outline and remove the fill.



Note:
When you convert an outline to an object you still retain the original line. This line is invisible but can be located in the object manager and deleted if necessary.

An example of a complete project created using this technique is shown later.

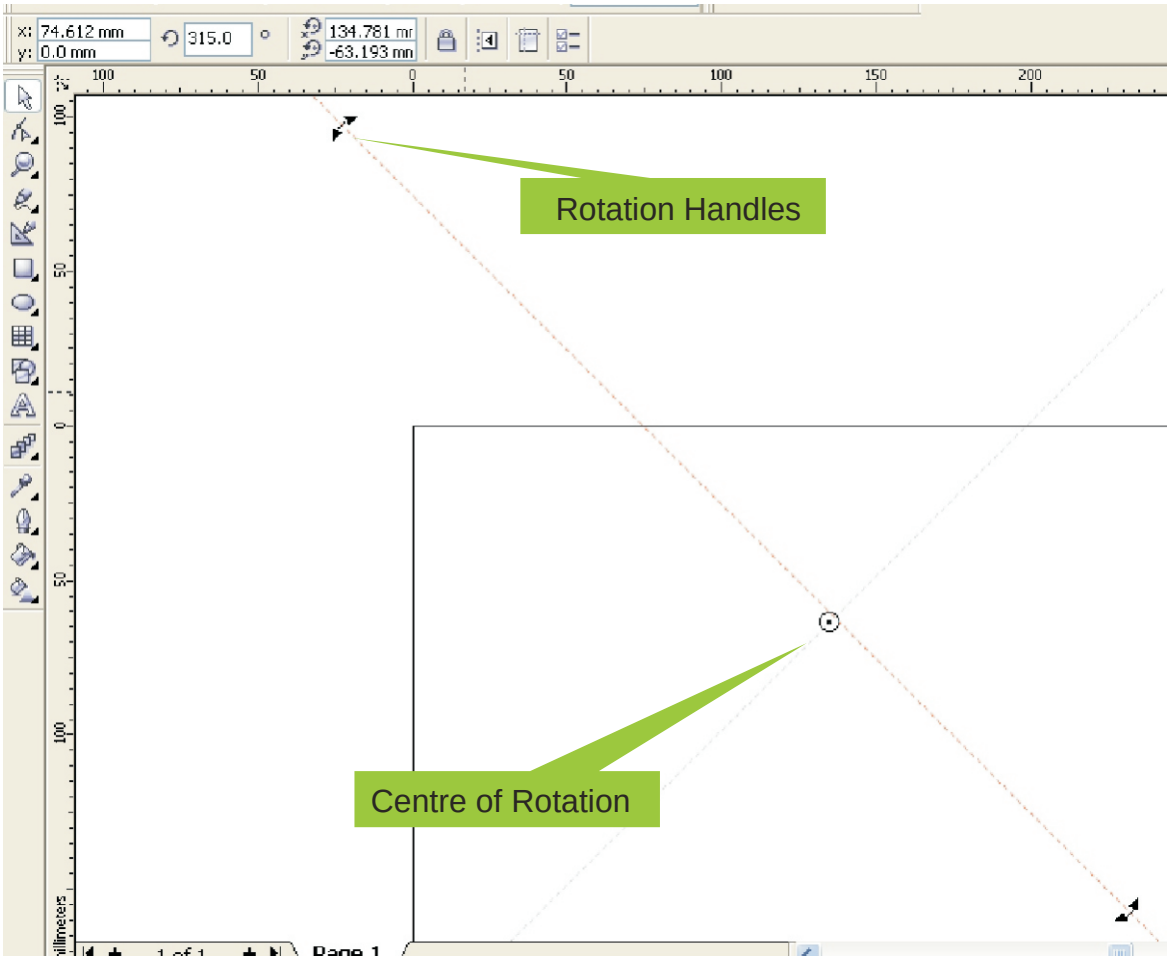
Using Guidelines

Guidelines can be extremely useful tools in the drawing creation process and CorelDRAW gives many options for their use.

Simple Guidelines
Simple guidelines can be produced by clicking and dragging the rulers. They can also be produced by entering the guidelines setup **(View Guidelines Setup)** The left-hand ruler produces a vertical guideline, the top ruler produces a horizontal guideline. You can drag them to the rough location you require and you can set them to a precise location on the workspace. You can rotate the guidelines, either roughly or to a precise angle. You can create guides from shapes you draw and you can snap to the guidelines.

When you create a guideline it will appear as a red dotted line. The property bar will show its position. Entering a value in the **Object's Position** will move the guideline to the location you require. When you deselect the guideline it will appear as a faint grey dotted line.

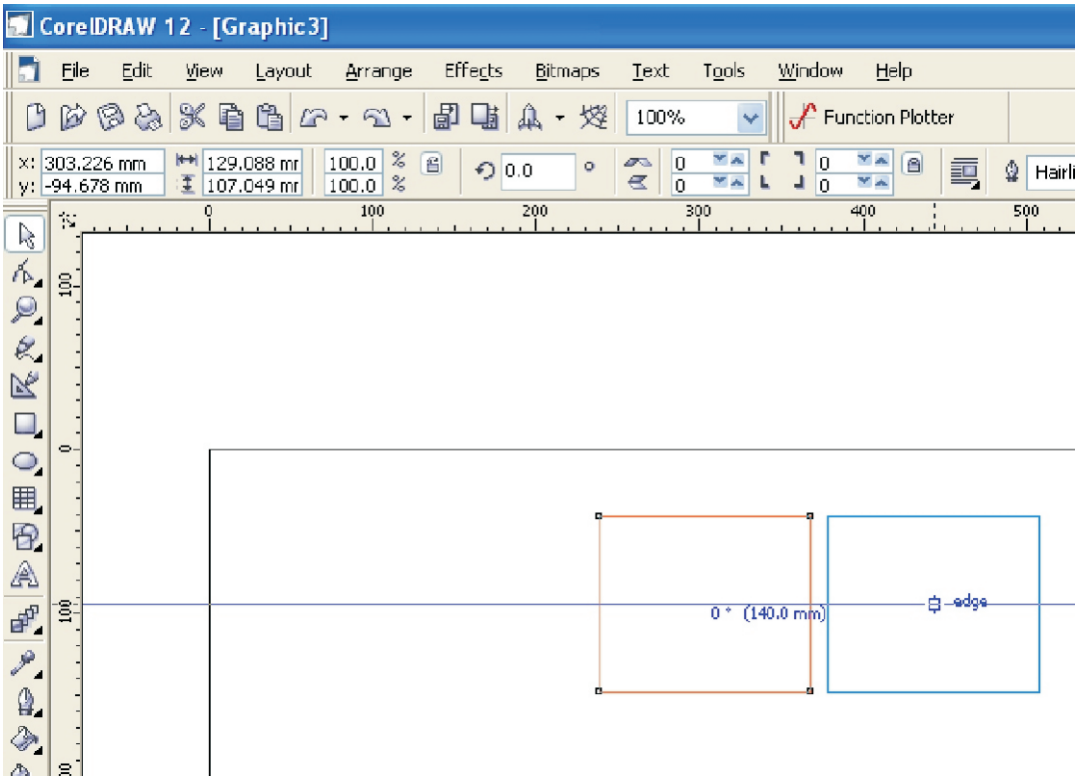
Rotating Guidelines
Selecting the guideline and clicking on it again will open the **Rotation Handles** enabling the guideline to be rotated at will. If you want to set this to a precise angle this can be set in the **Angle of Rotation** on the **Property Bar** and the centre of rotation can also be set.



Snapping to Guidelines
Snapping to guidelines can be turned on or off in the Property Bar when no object is selected or go to **View Snap to Guidelines** if you have objects selected. Objects can be snapped to guides at their Bounding Box or centre. The edge of the object will appear as a blue dotted line when it is snapping.

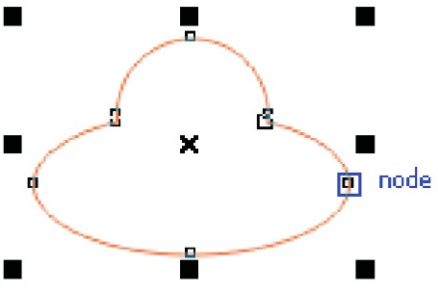
Creating Guide Objects
Guideline reside in the **Guides Layer** on the **Master Page** in the **Object Manager Docker.**
If you make this layer active, anything you draw will be treated as a guide object. Such objects will not have fill properties and will appear as a faint grey outline. You can drag objects from other layers into the Guides Layer. You can of course copy objects and then paste them into the Guides Layer when this is active.

Dynamic Guidelines



Dynamic guides were introduced in **CorelDRAW 12** and can revolutionise the way you work. You will need to turn them on either in **View - Dynamic Guidelines**, by using the icon in the **Property Bar** or by **Alt+Shift+D.** They can be somewhat unnerving until you get used to them as they flash up as blue lines when you create or move objects relative to other objects. It is well worth persevering because they will improve your productivity once you have mastered them.

As you drag an object the **Dynamic Guidelines** will tell you if you are moving it orthogonally or at a preset angle and how far you are moving it.



They will tell you the specific place you are grabbing the object. They will automatically snap to other objects and tell you the specific place you are snapping to.

You can set the Dynamic Guideline options in View Dynamic Guidelines Setup.

Shortcuts

Many of you will be familiar with Windows shortcut keys. CorelDRAW supports all the usual shortcuts and has a number of its own to speed up production. You can also assign your own shortcuts to suit your particular working methods. The common shortcuts you are likely to find useful with producing drawings for your laser cutter are listed below. As you become familiar with the program you are likely to use it for other purposes. A comprehensive list of CorelDRAW shortcuts can be found in Tools Customisation Commands Shortcut Keys View All. You can save these to a comma separated text file or print them out.

Ctrl + Z	Undo
Shift + Ctrl + Z	Redo
Ctrl + C	Copy
Ctrl + V	Paste
Ctrl + X	Cut
Ctrl + G	Group
Ctrl + U	Ungroup
Shift + PgDn	To Back
Shift + PgUp	To Front
B	Align Bottom
E	Horizontally aligns centres
C	Verically aligns centre
L	Aligns left
R	Aligns right
P	Aligns to centre of page
Ctrl + L	Combine
Ctrl + K	Break apart
↑	Moves selection up by defined nudge
↓	Moves selection down by defined nudge
←	Moves selection left by defined nudge
→	Moves selection right by defined nudge
Shift + ↑	Moves selection up by Super nudge factor
Shift + ↓	Moves selection down by Super nudge factor
Shift + ←	Moves selection left by Super nudge factor
Shift + →	Moves selection right by Super nudge factor
Ctrl + ↑	Moves selection up by Micro nudge factor
Ctrl + ↓	Moves selection down by Micro nudge factor
Ctrl + ←	Moves selection left by Micro nudge factor
Ctrl + →	Moves selection right by Micro nudge factor

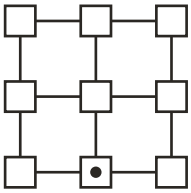
Box Project 1

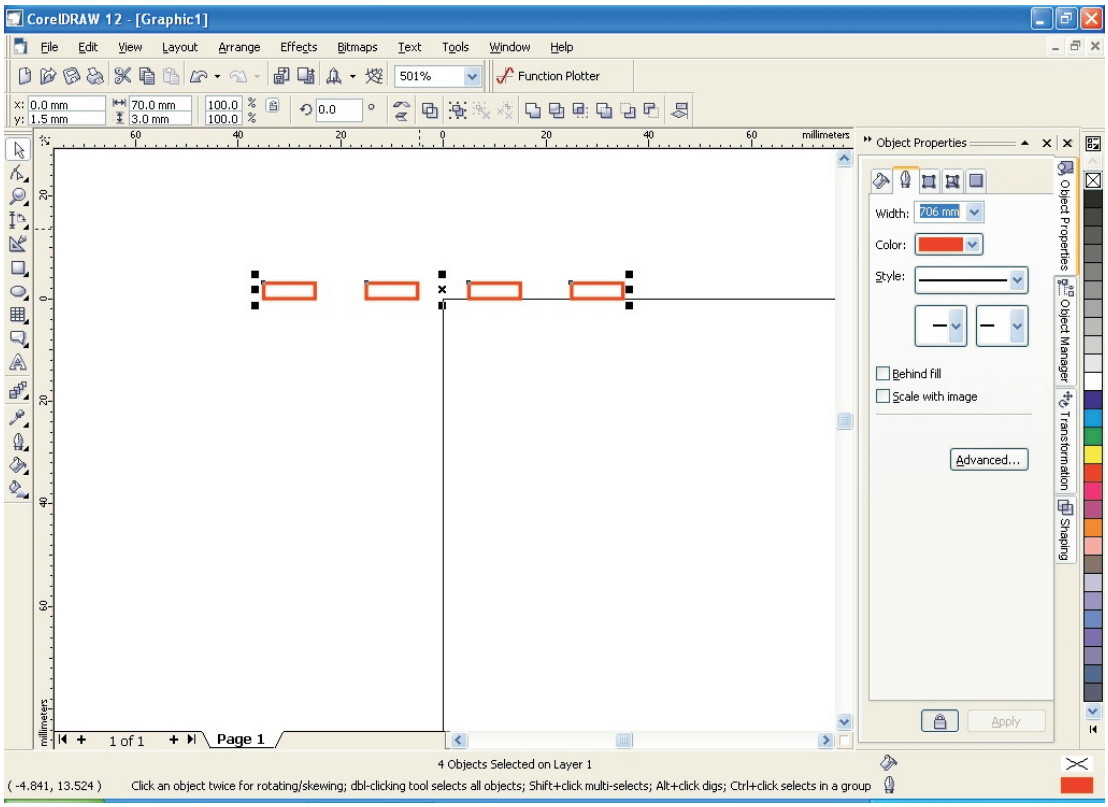
So let's apply the techniques we've covered so far
and use them to create a jointed box.
Step 1
Draw a rectangle.

Step 2
Size the rectangle to 10mm long by 3mm tall

Step 3
Select the rectangle and using the **Relative** positioning tool
enter 20mm and click Apply to Duplicate 3 times

Step 4
Uncheck the Relative tick-box and click the bottom centre radio button.
Select the 5 rectangles and enter a value of H:0.0 and V: 0.0 and click Apply.

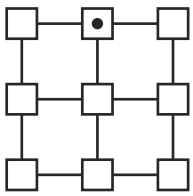


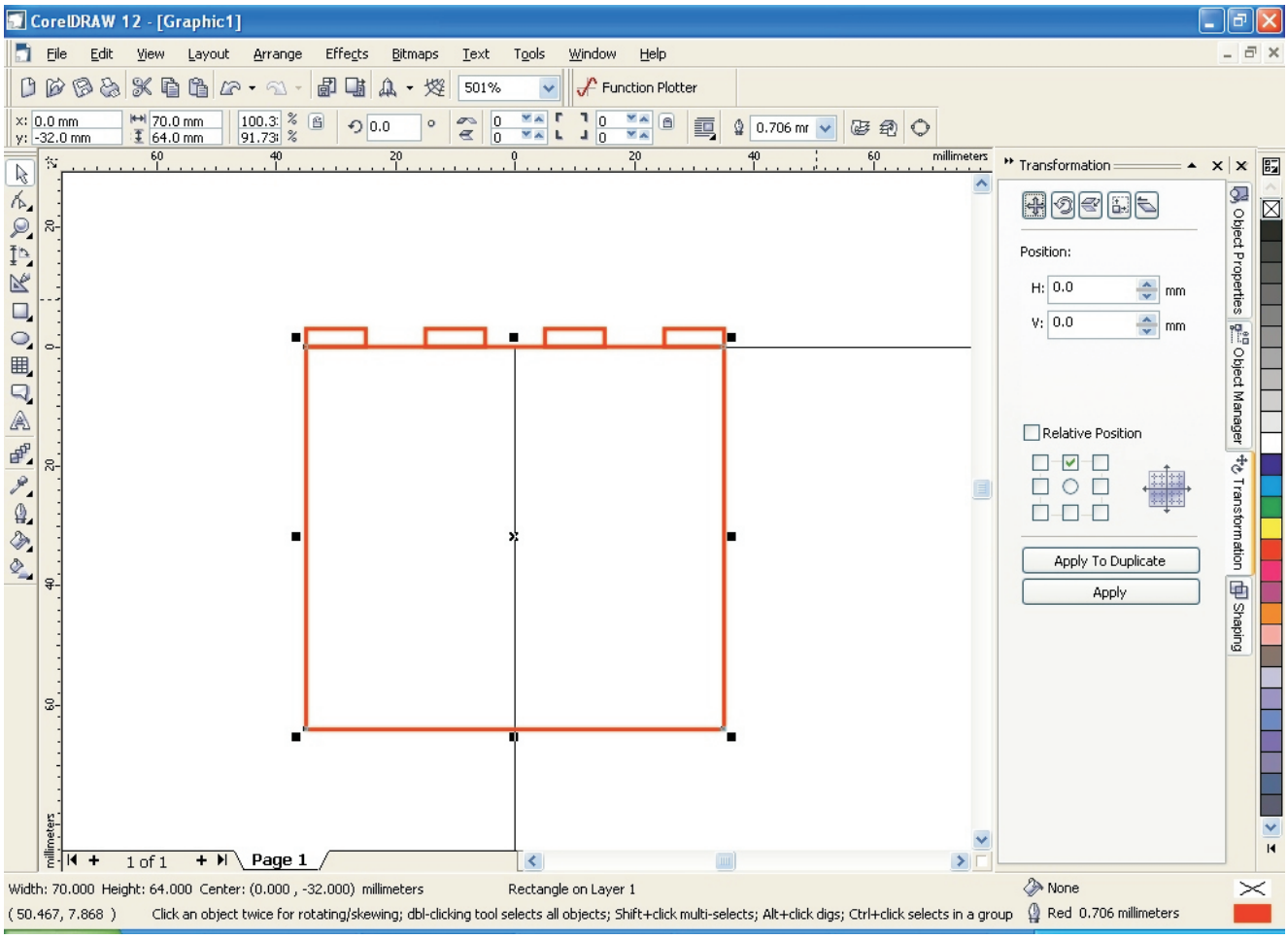


Box Project 2

Step 4
Draw another rectangle and set the size to be 70mm x 64mm

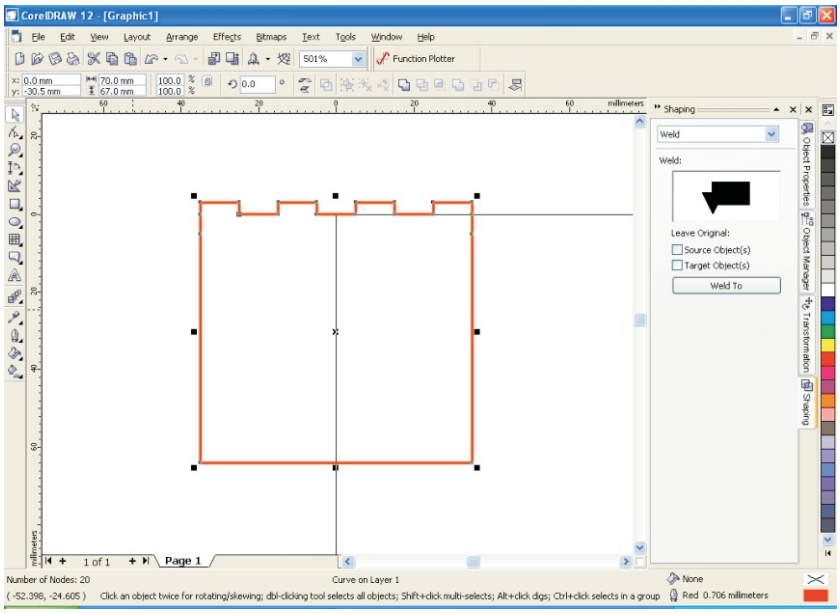
Step 5
Set the anchor point in the position tool to be the top centre.
Enter a value of H: 0.0 and V: 0.0 and click Apply





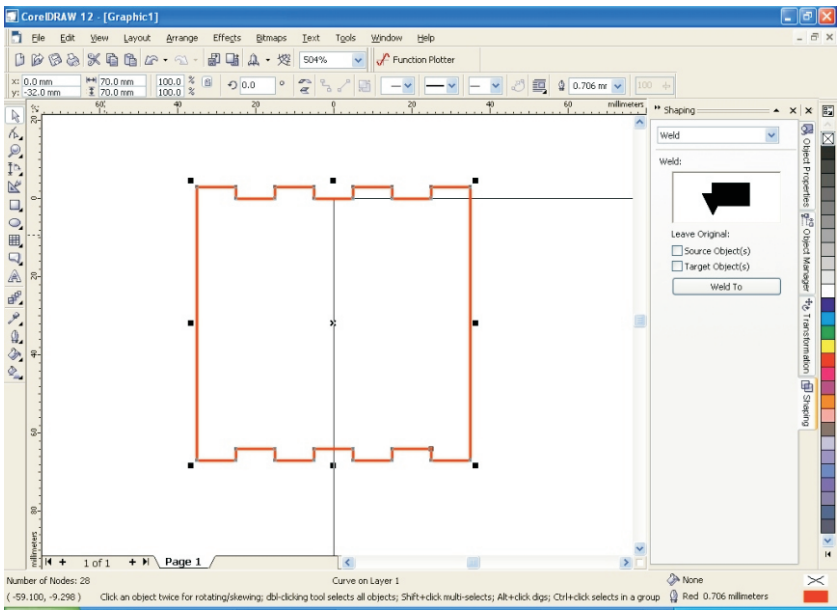
Box Project 3

Step 6
Select the 4 small rectangles and copy to the clipboard (Ctrl=C) or Edit - Copy
In the Shaping Docker click Weld and touch the arrow cursor on the large rectangle.



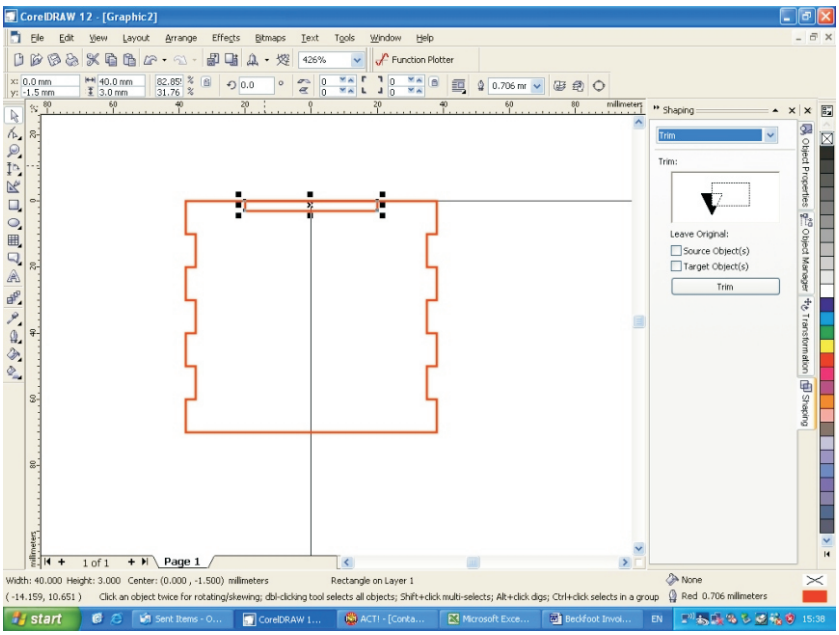
Step 7
Using the Rotate tool, enter a value of 180 degrees and click Apply.
Now position the top centre of the object to H: 0.0 and V: 0.0

Step 8
Paste the 4 rectangles held on the clipboard and Weld these to your object

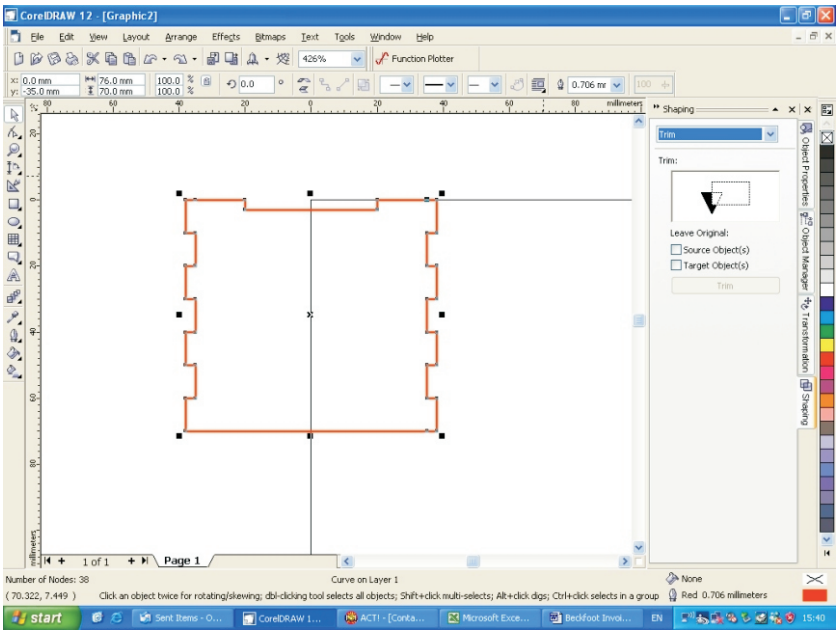


Box Project 4

Step 9
Using the Rotate tool, enter a value of 90 Degrees and click Apply.
Position the top centre to H:0.0 V:0.0 and click Apply
Draw a rectangle and set the size to H:40mm and V: 3mm
Position the top centre to H:0.0 V:0.0 and click Apply

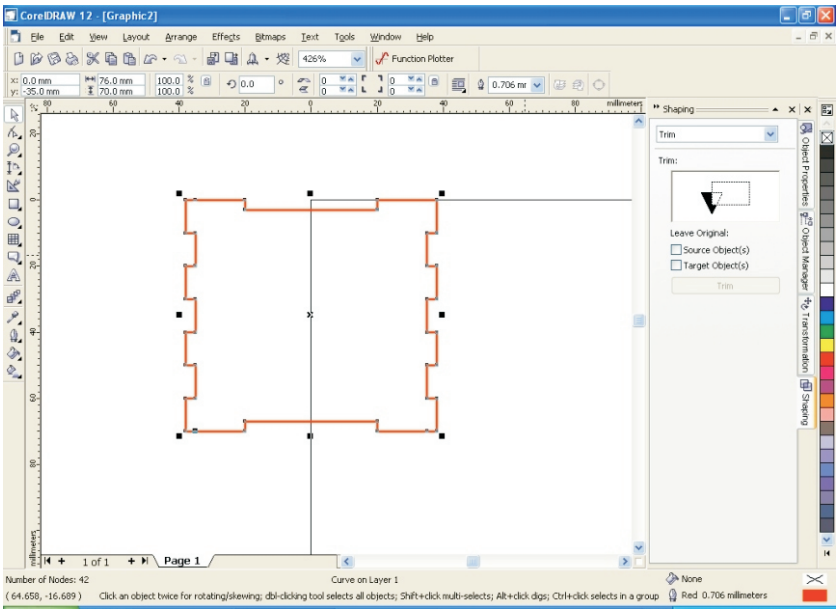


Step 10
Copy this to the clipboard then Trim it to the other object.



Box Project 5

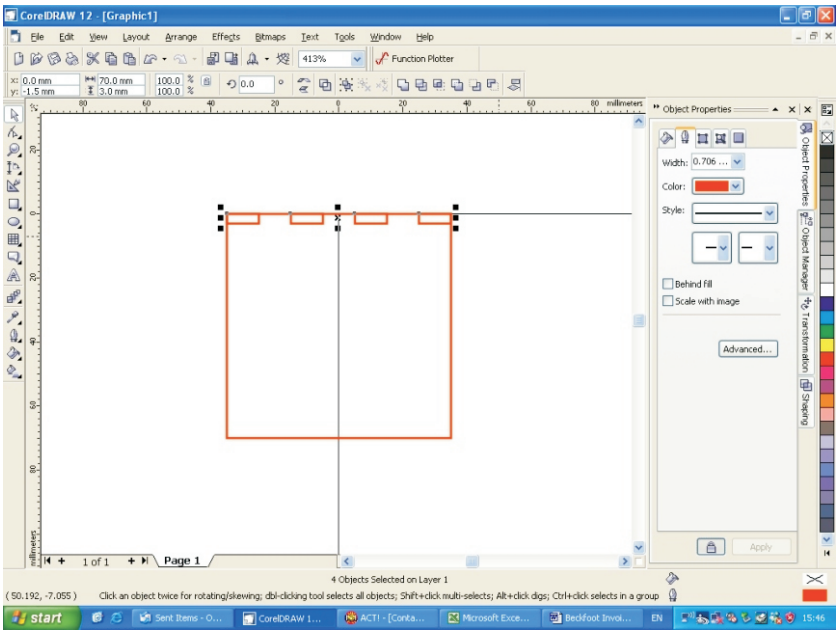
Step 11
Rotate the object 180 degrees
Paste the rectangle from the clip board and Trim this to the other object.



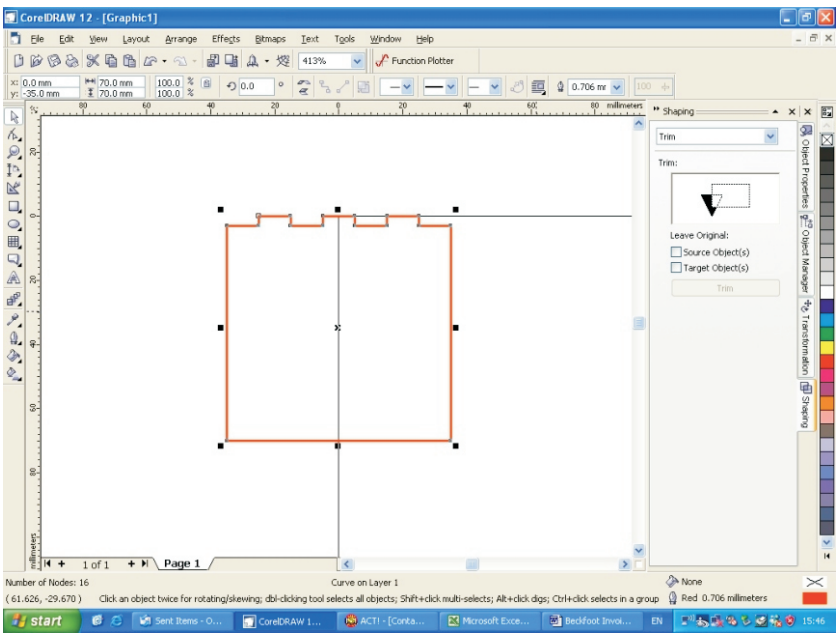
We have now completed 1 side. The opposite side will be identical.
Move the object away from the zero-zero point ready for the next part.

Box Project 6

Step 12
Create 4 rectangles as we did in Steps 1 - 4 and position them so that the top centre is at H: 0.00 V: 0.00
Create a rectangle and set the size to be 70 x 70mm
Position this rectangle so that the top centre is at H: 0.00 V: 0.00

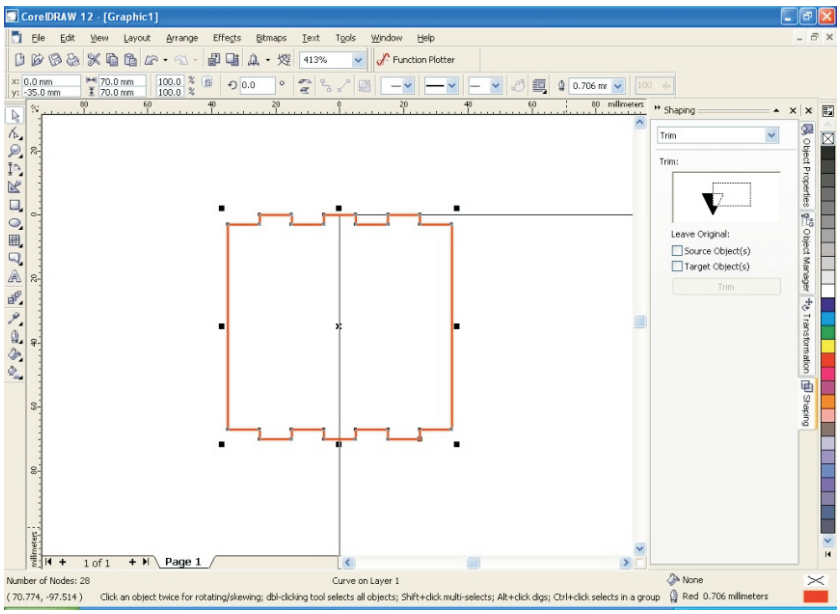


Step 13
Select the 4 smaller rectangles and copy these to the clipboard
Trim these to the larger rectangle

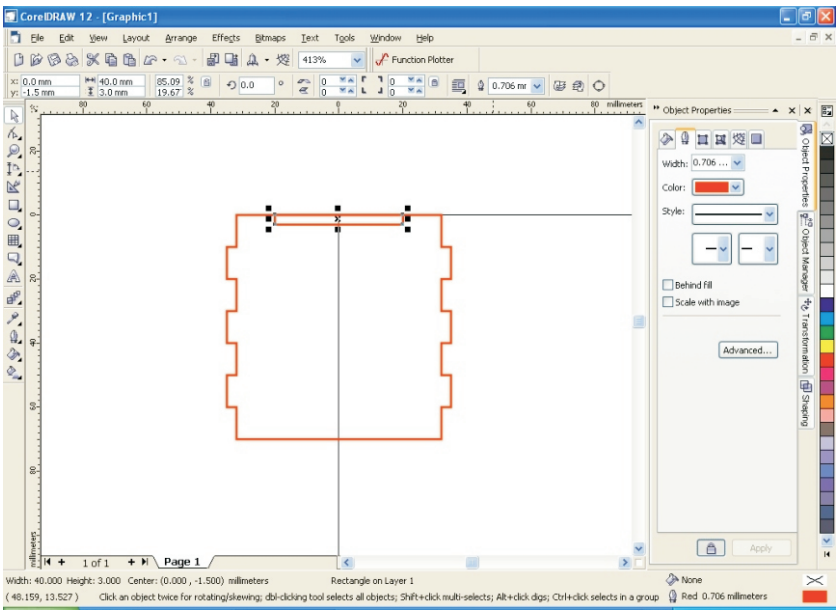


Box Project 7

Step 14
Rotate the object 180 degrees, copy the rectangles from the clipboard and Trim these to the other object.

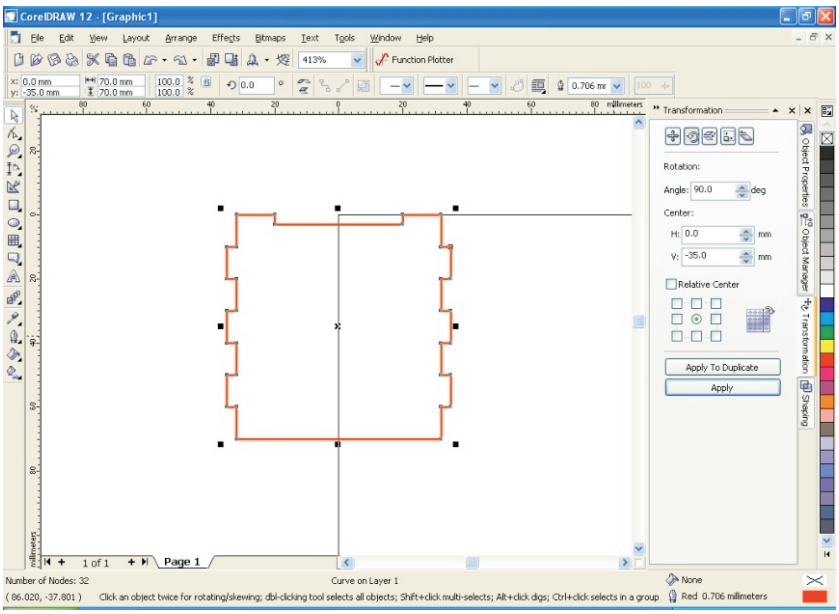


Step 15
Rotate the object 90 degrees.
Create a rectangle and set the size to be 40mm x 3mm.
Position this rectangle so that the top centre is at H: 0.00 V: 0.00

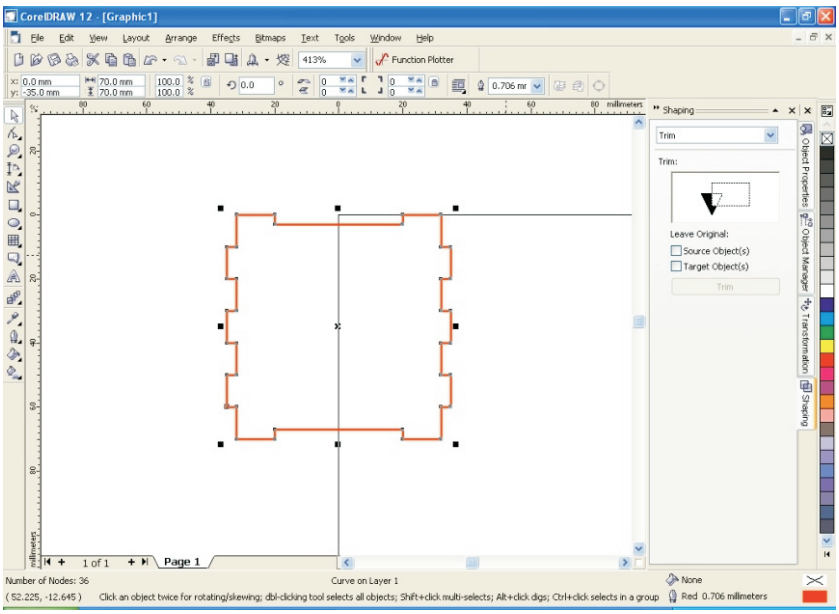


Box Project 8

We now have a joint for the base



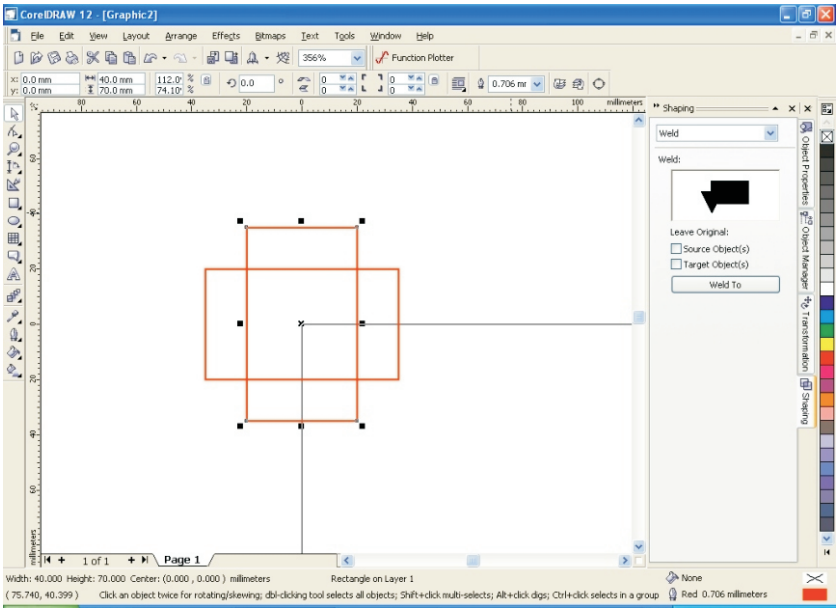
Step 16
Rotate the object 180 degrees.
Paste the rectangle from the clipboard and Trim this to the other object.



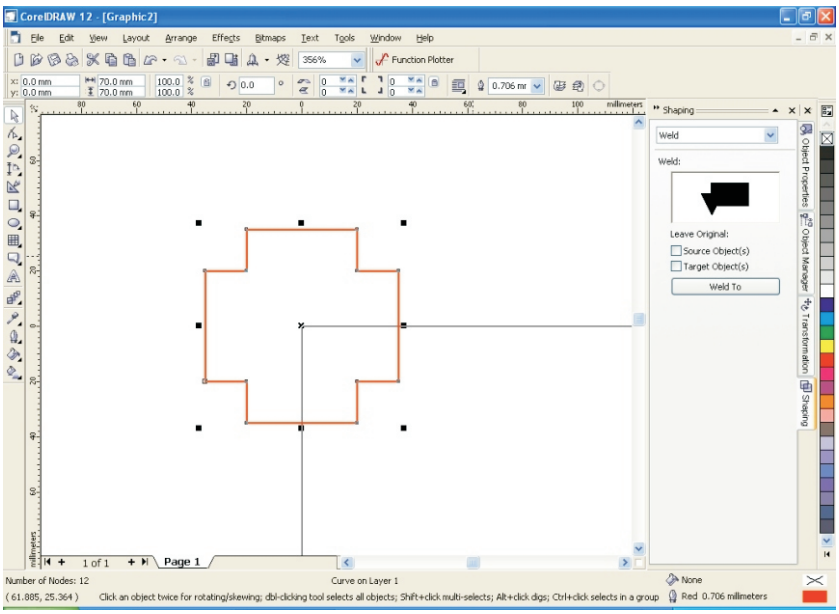
We now have a side that will joint into the first side we made.
Again, the opposite side will be identical.
Move this piece out of the way ready for the top and bottom pieces

Box Project 9

Step 17
Create a rectangle that is 40mm x 70mm
Position this so that the **Centre** is at H: 0.00 V: 0.00
Rotate 90 degrees **THIS TIME CLICKING Apply to Duplicate**

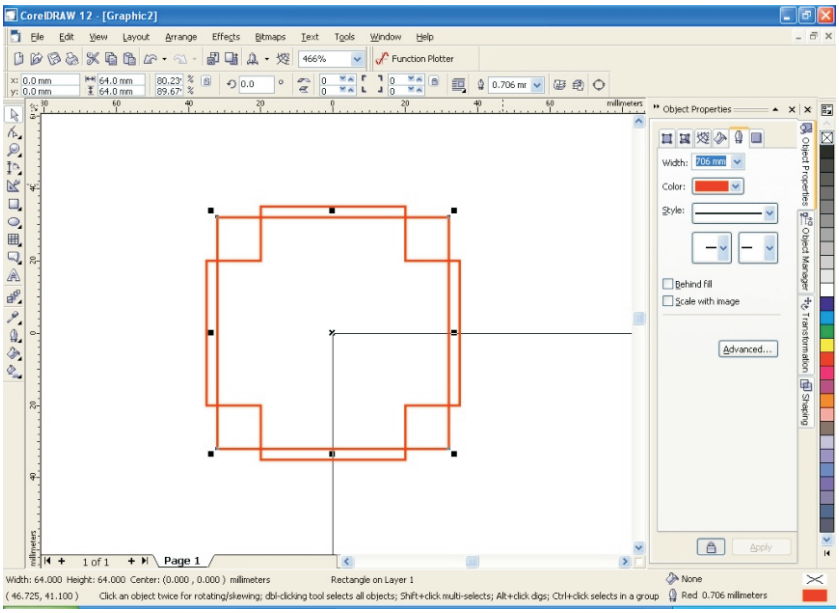


Step 18
Weld the second rectangle to the first.

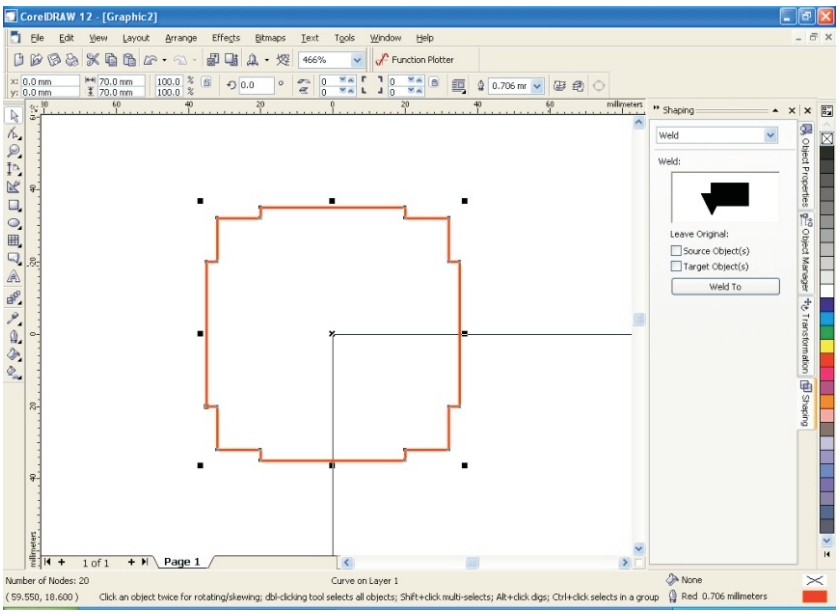


Box Project 10

Step 19
Create a rectangle that is 64mm x 64mm
Position this so that the Centre is at H: 0.00 V: 0.00



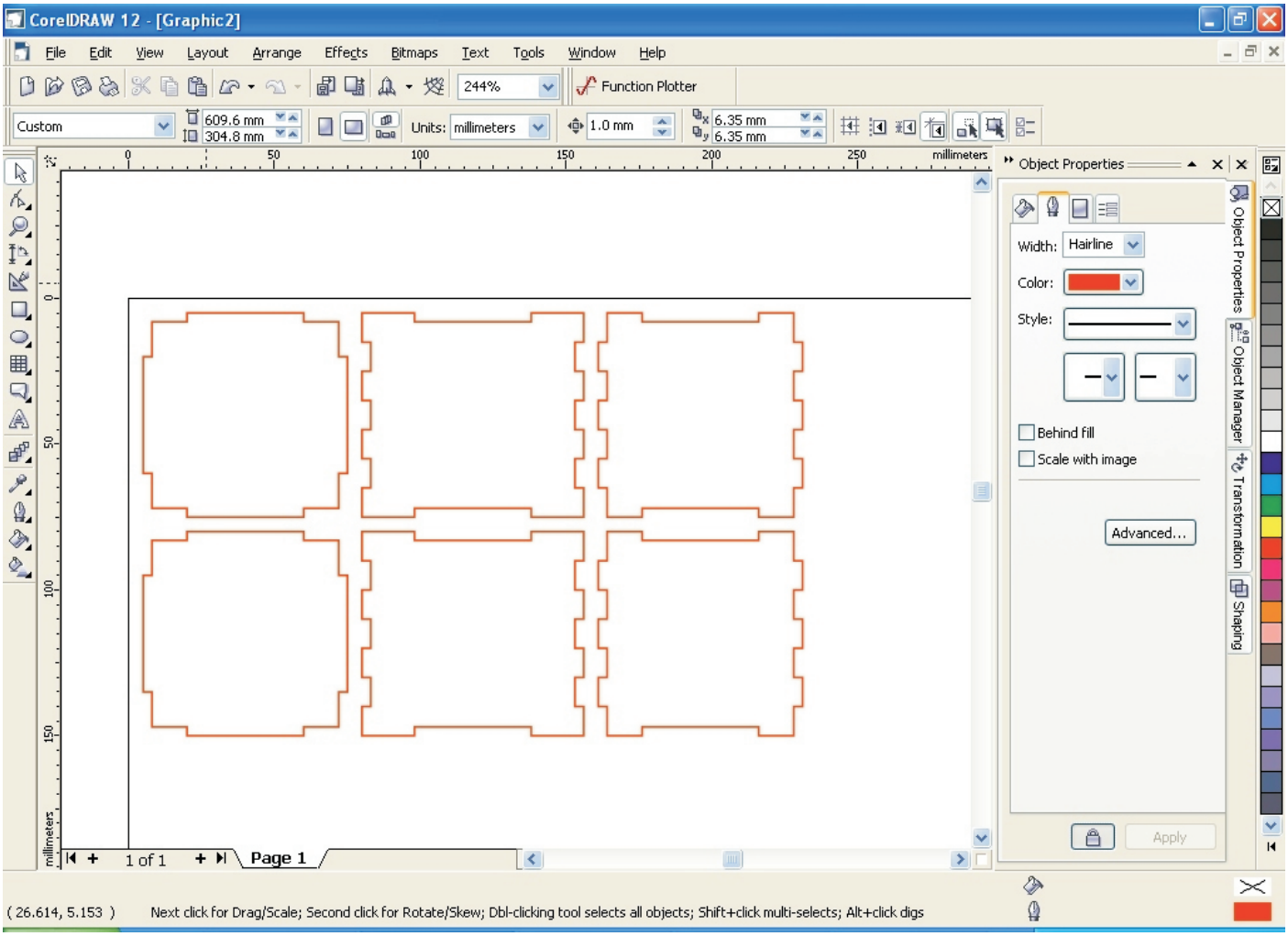
Step 20
Weld the rectangle to the other object.



We have now completed the top piece.

Box Project 11

Step 21
All that remains now is to position the 3 pieces we have drawn so that they are aligned with each other and duplicate them.



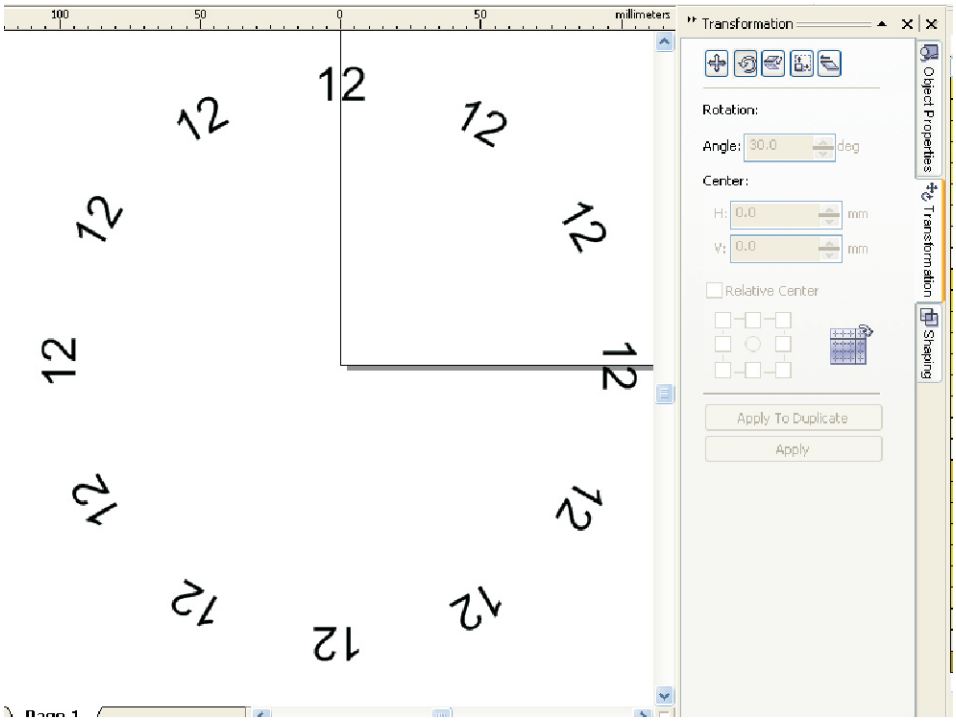
Position the parts within your graphic where you wish them to be cut and save your graphic.

Creating Clock Face Numerals

Using the Text tool, choose your font and with the font Centre Justified type 12.

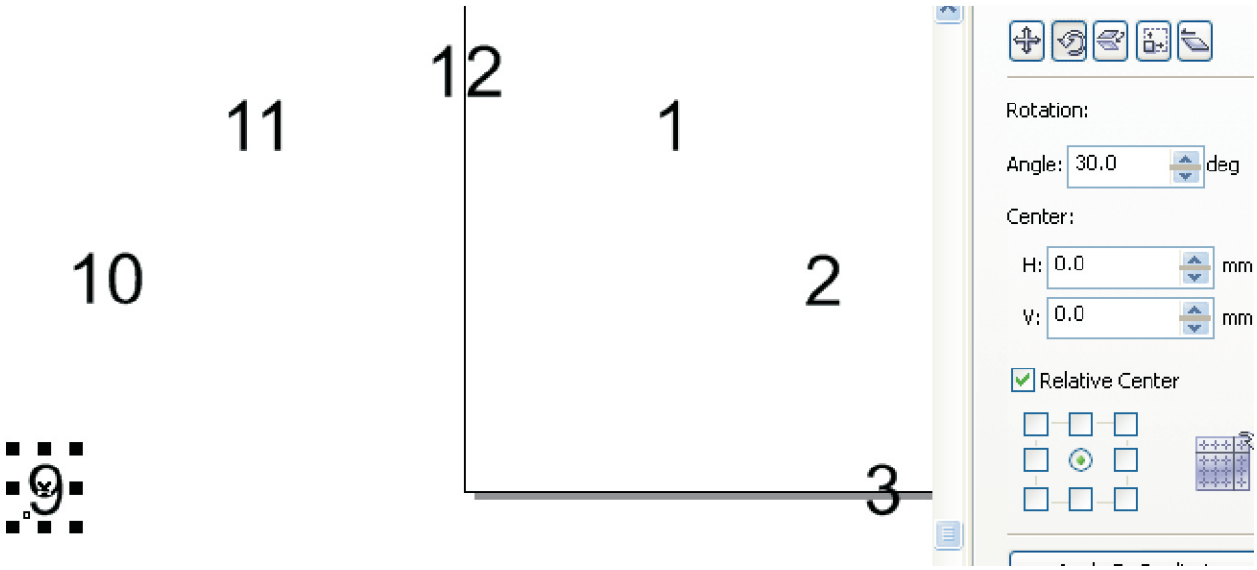
Position the text at H: 0.00 and V: 100.00

In the Rotate tool enter a value of 30 deg, set the Centre of Rotation to be H: 0.00 and V: 0.00 then click apply to Duplicate 11 times.



Now select each number in turn and in the Text drop-down menu choose edit text and modify the text to be the number required for its position on the clock face.

The numbers can be rotated relative to the position each has by checking Relative Centre in the Rotate tool, set the anchor point to be in the centre and with the Angle set at 30 deg click Apply a number of times until the number is viewed correctly.



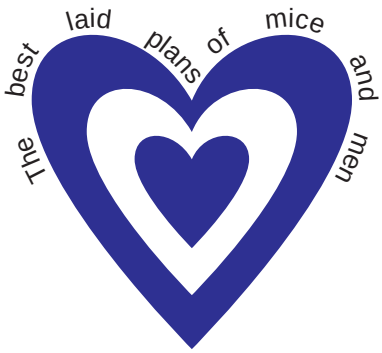
Select all the numbers and group them. The Group command is in the Arrange drop-down menu but you can also use Ctrl + G as a shortcut. The clock face numerals can now be

Using Text Creatively

CorelDRAW refers to 2 different text modes: Artistic Text and Paragraph Text. They are used for different purposes.

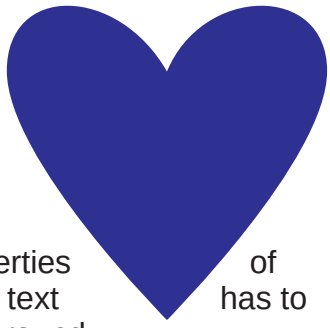
Artistic text can be used for small amounts of text and is generally simple to manage. It can be used to follow a path around a shape, or be manipulated using the extrude tool etc.

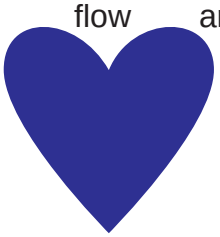
Paragraph text is used for large bodies of text and is used creatively to have the text flow around or inside objects. It can be linked to other text boxes that work interactively with each other.

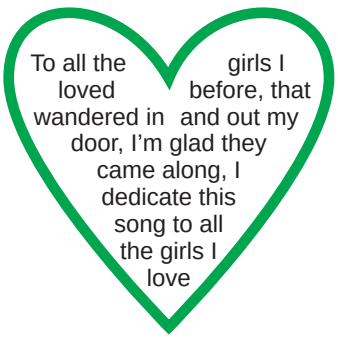


To get text to follow a path you can simply type the text then select it and click on Fit Text to Path in the Text drop-down menu.

Getting text to flow around shapes is achieved by setting the text wrapping properties of the objects the text has to flow around.







Text can be fitted within an object in the following manner. Draw the frame for the text then Unig the text tool hover over the edge of the frame. You will see the cursor change to this  or this. 

This cursor is used to fit the text within a frame. When you get this cursor click and start typing.

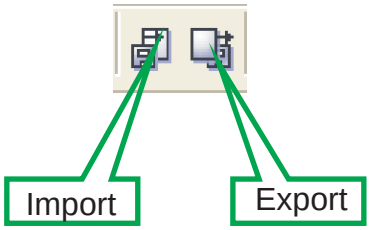
This cursor will automatically fit text to a path around the object. It is not necessary to use the Fit Text to Path command if you use this option just click and start typing when you get this cursor.

To link text from various text boxes, select the text then click on the square at the top of the text box. Now click on the text box this needs to be linked to.

If the at the bottom of a text box contains a black inverted arrow like this, 
it is telling you there is an overflow of text in this text box. You will either need to make the text box larger of link the text box to another that can take the overflow.

Importing into CorelDRAW

CorelDRAW supports the import and export of many different file-types. Files can be imported using the Import command in the File drop-down menu or by clicking on the Import icon on the Standard toolbar. You can also drag files from Windows Explorer into CorelDRAW to import them or you can copy objects from other applications and paste them into CorelDRAW.



Graphics that have been imported into CorelDRAW will be grouped so if you intend to modify them you will need to ungroup them first.

Although CorelDRAW does its best to keep up with the files other applications produce, these are constantly being revised. Corel's import filter is usually one or 2 versions behind the files other applications produce. If you experience difficulty with importing, try saving the file as an earlier version.

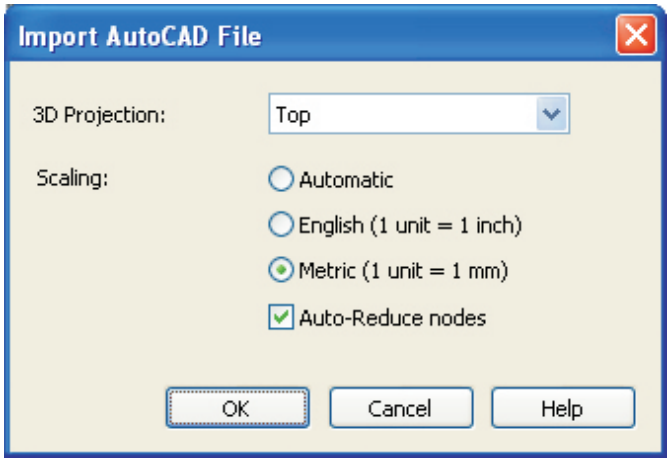
Graphics from other applications will be imported as curves however they may not always have their nodes joined, it depends how the application that created the graphic works. Generally, polyline objects have connected nodes. If the nodes are not joined you will not be able to apply a fill to the object.

The most common export option for graphics packages is DXF format. It is also the most tedious and unreliable to work with. When you import a DXF file into CorelDRAW you are given the option to select the units (either Inches or Metric) you wish the file to be imported with. In some instances you will need to ensure the application that the file was exported from was set to the units you will be importing as well.

DXF files sometimes have components rearranged when they are imported. This usually occurs when the files are particularly large. You should check the file looks like it did before it was imported before proceeding.

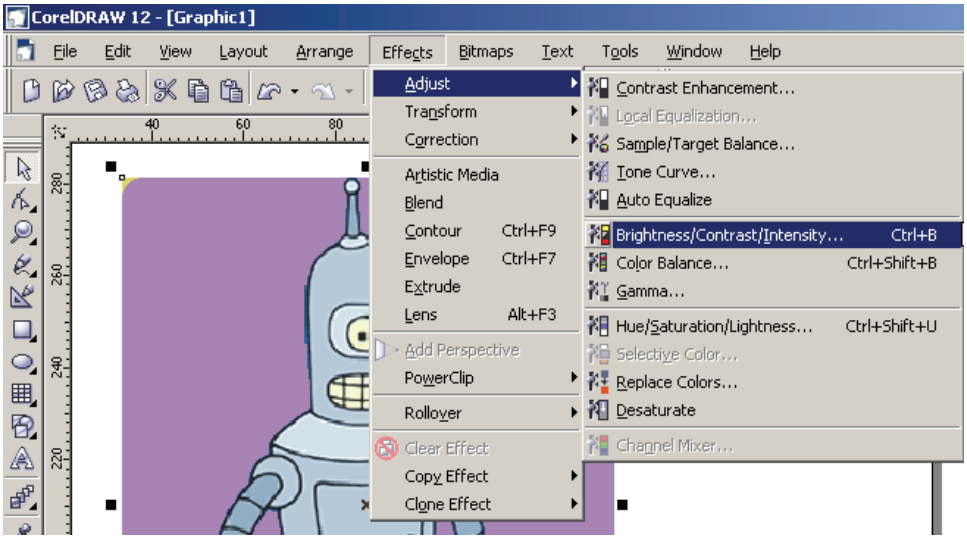
Sometimes DXF files have additional lines and nodes. CorelDRAW gives you the option of automatically reducing nodes when you import to reduce this.

Some applications treat circles as a series of straight lines rather than a circle. The number of lines that comprise the "circle" are a function of the application that created it, in some instances this can be setup in the application but regrettably not always.

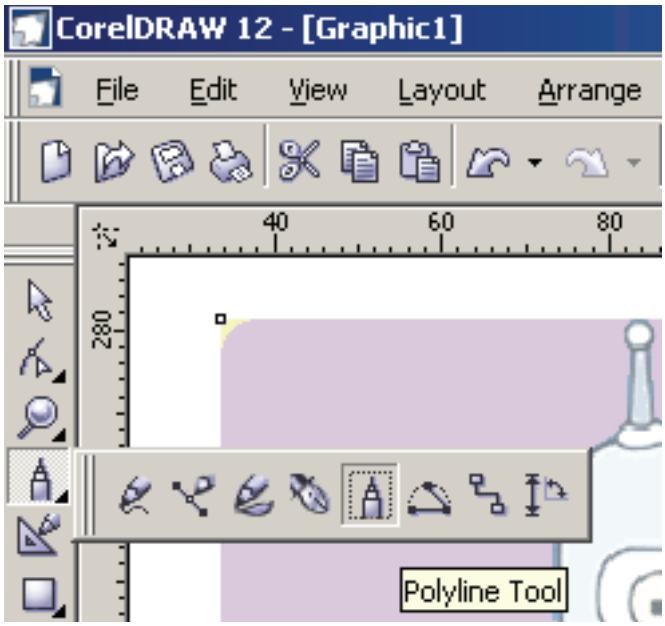


Tracing Basics 1 of 3

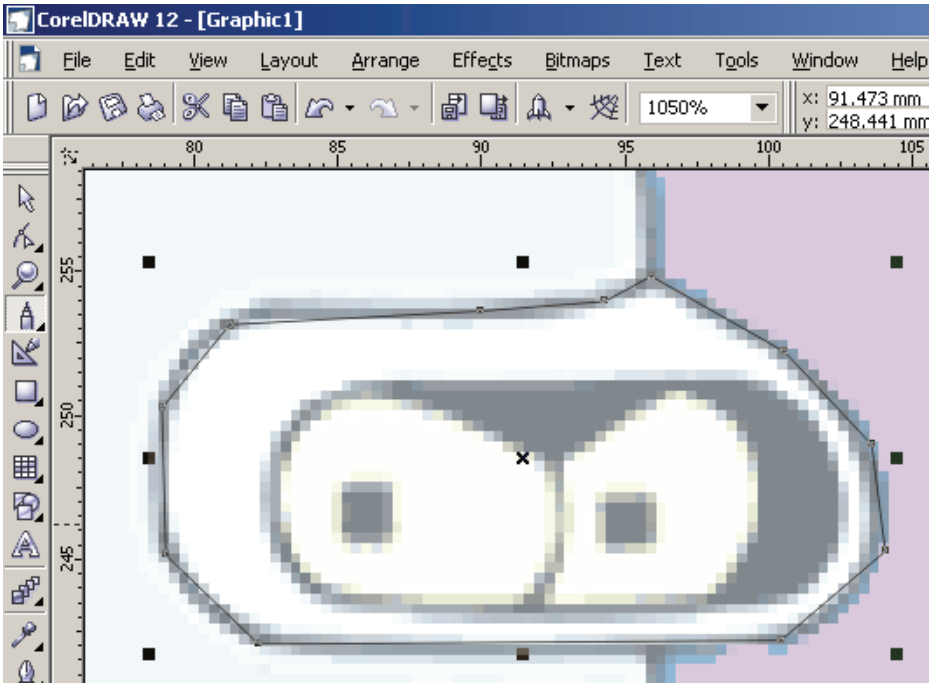
Step 1 >>
Lighten your image, using the arrow (pick tool). Then click on effects > adjust > brightness/contrast/ and set the settings to
Brightness: 30
Contrast: -40
Intensity: 0
Then press OK!



Step 2 >>
Click on the small arrow to get the menu to fly out then click on the polyline tool. (Note: to zoom in and out simply roll the mouse wheel).



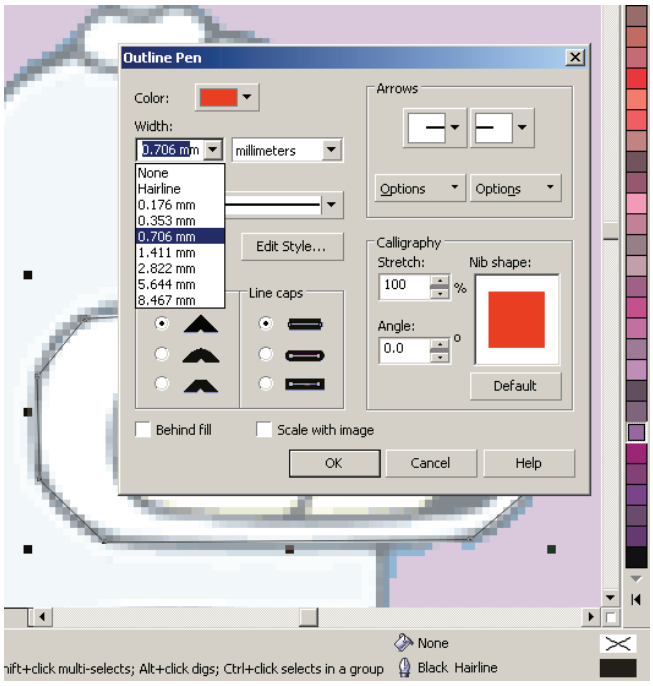
Step 3 >>
Using the polyline tool roughly trace the shape from your image, then double click when you reach the end this closes the line. (Note: if you don't the line will keep on going!)



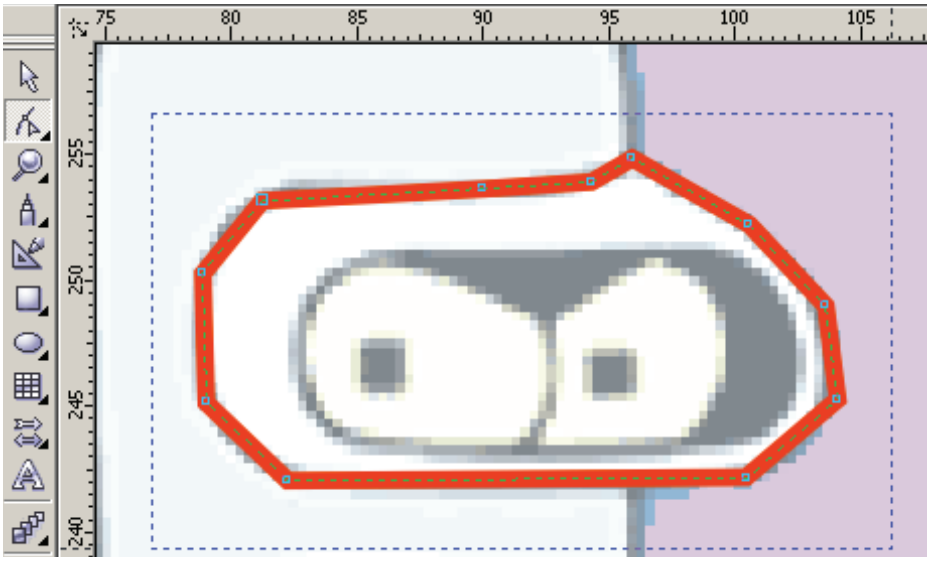
Watch the detailed tutorials to learn more at:
http://www.lanfrancdt.co.uk/software/coreldrawtracing.htm

Tracing Basics 2 of 3

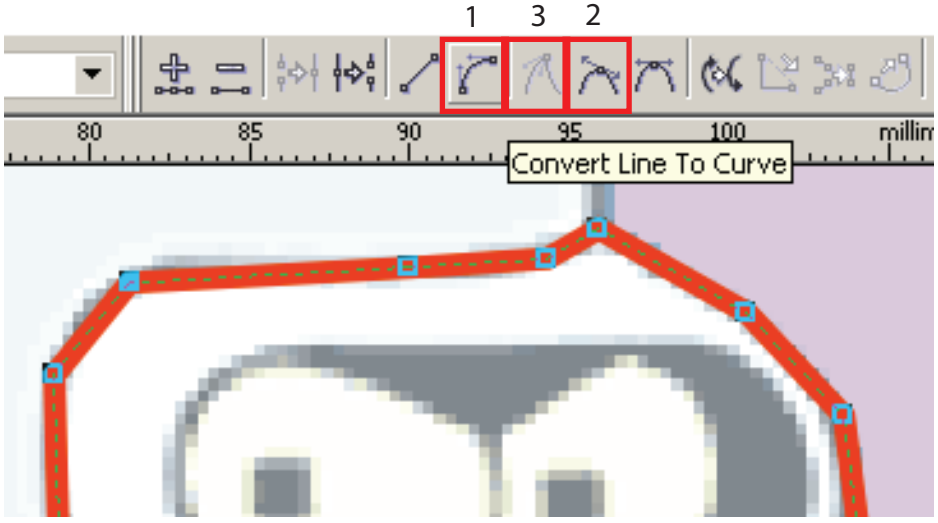
Step 4 >>
Now we need to increase the line thickness and colour so we can see it. Using the arrow (pick tool) click on your line. Next double click in the corner of your screen on the outline colour (the rectangle next to the small pen). Set your colour to red and your line width to something thicker then press ok!



Step 6 >>
Now click on the shape tool and draw a box around the whole of your shape. This will let you curve, smooth and cusp all nodes on the line instead of one by one!



Step 7 >>
Now you will see options at the top of the screen. Click on 1. Convert line to curve, then 2. Make node smooth, then 3.Make node a cusp. You will now be able to easily curve the lines.



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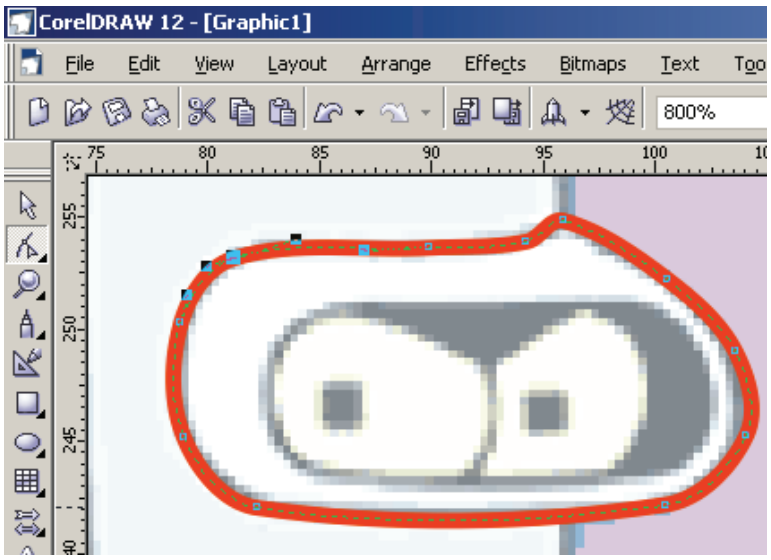
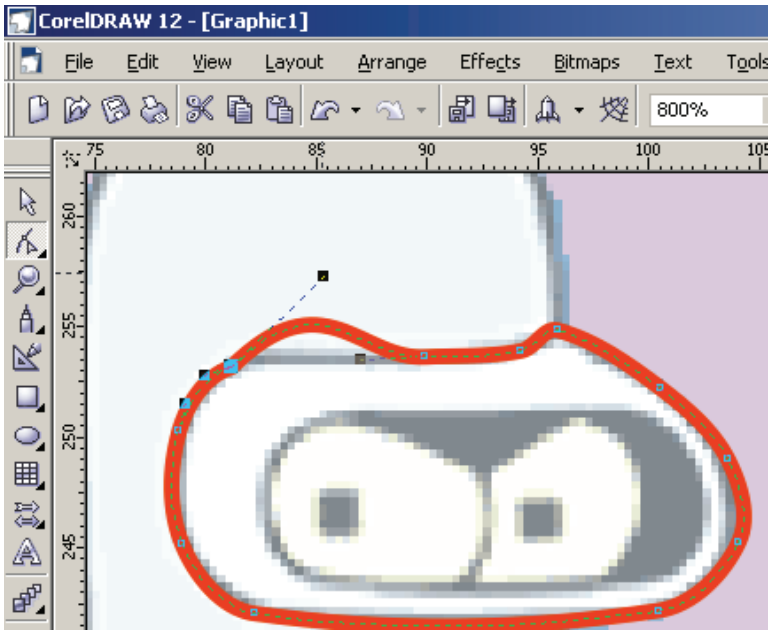
Tracing Basics 3 of 3

Step 8 >>
Now select the arrow and click away from the shape to unselect it. Next select the pick tool and click on your shape then click on a node on your shape. You will now see two handles appear from your node.



Step 9 >>
Now drag the nodes handles to create any curve you wish. Now shape your line to fit the image your tracing. Now trace your whole image.



Want to know more about Corel Draw?

On the same page as the tutorial is a Corel manual. It is the last link on the page. Or use the direct link below:

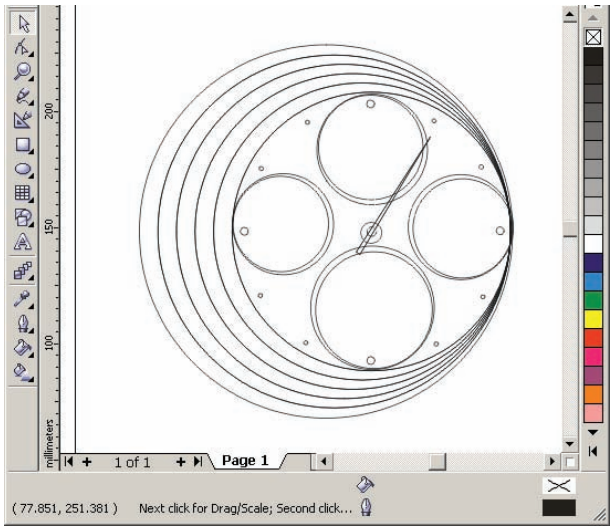
http://www.lanfrancdt.co.uk/websiteprintablepdfs/HowtouseCorelDRAW.pdf

The manual tells you much more about Corel and the many things it can do. Have fun with Corel Draw and get learning!

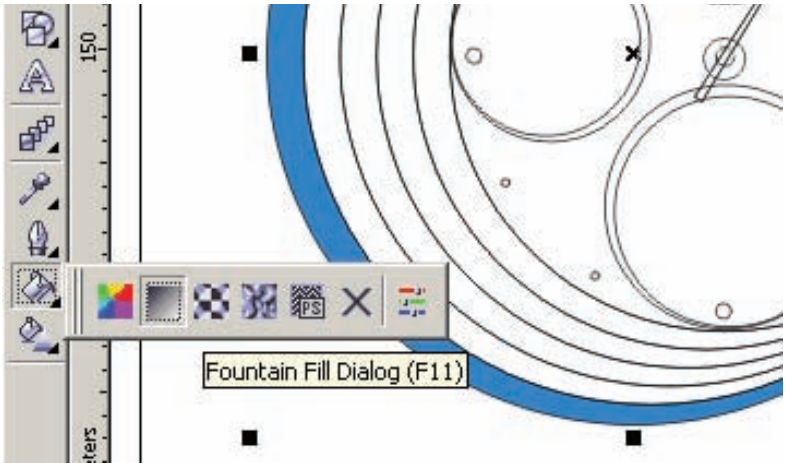
Watch the detailed tutorials to learn more at:
http://www.lanfrancdt.co.uk/software/coreldrawtracing.htm

Rendering 1 of 2

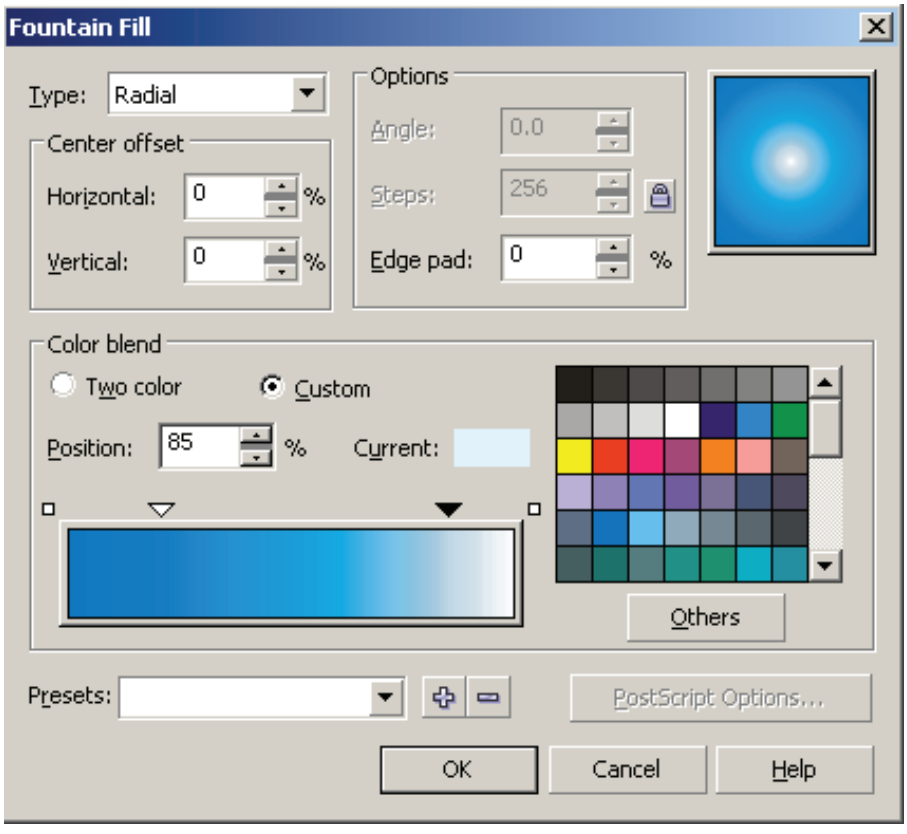
Step 1 >>
Using the arrow click on the part of the drawing you wish to render. Then click on the colour you wish it to be from the colour panel on the right.



Step 2 >>
Next click on the fill tool then click on the fountain fill tool. The fountain fill window will then open.



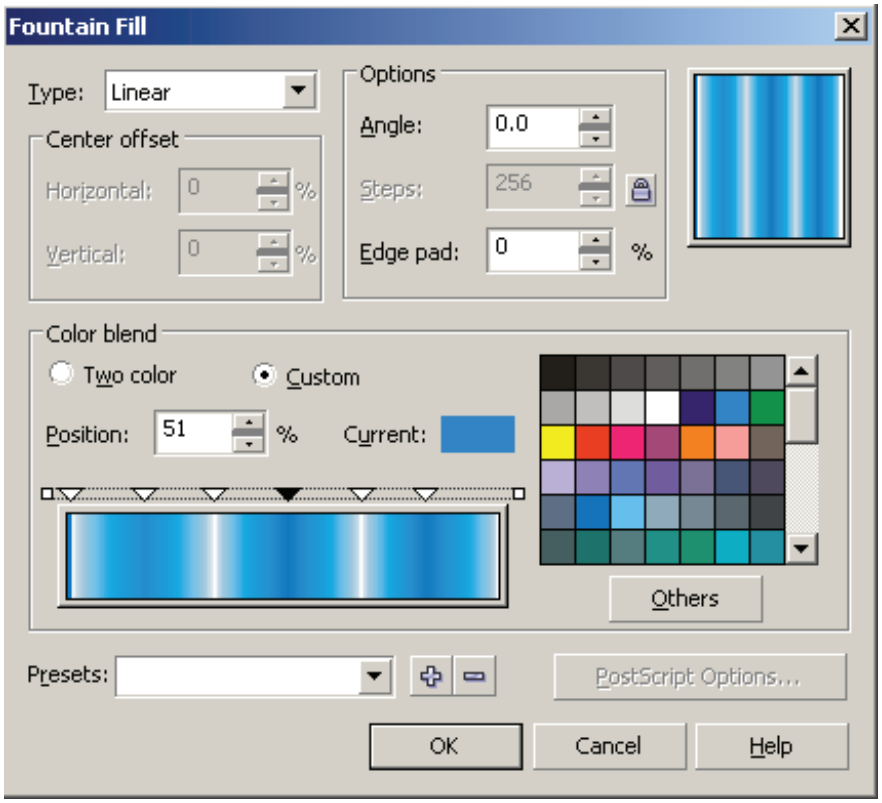
Step 3 >>
Now click on the custom button and a custom colour bar will appear. Now click on an arrow then pick a colour and the bar will change. Double click anywhere on the bar to add a new colour. You can also drag an arrow this helps you blend the colour. Note: you can choose a radial blend or a linear blend under type at the top.



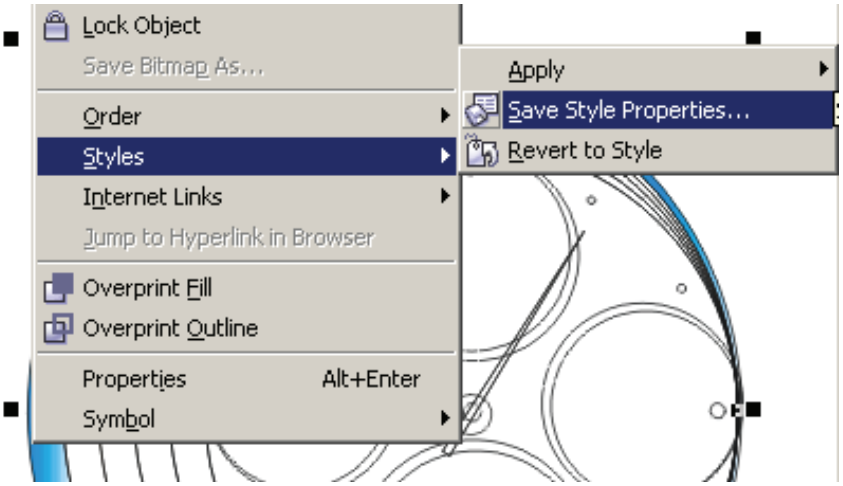
Learn more about corel draw here:
http://www.lanfrancdt.co.uk/software/coreldraw.htm

Rendering 2 of 2

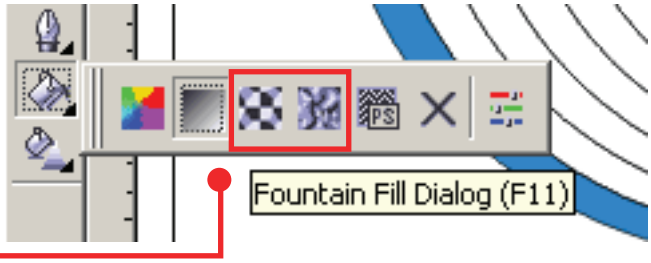
Step 4 >>
Here you can see i have added several blends to make up my render. Once done press the ok button to apply it to your drawing.



Step 5 >>
Right click on your rendered shape, then select styles and choose the save style properties option and enter a name for your style i called mine blue1. Now right click on an un-rendered shape and choose styles, then choose apply and pick the styles name you just saved. This will add the same style to the other shape.



Step 6 >>
Now create more styles and add them to your shapes. Also try the other render options from the fill tool menu try pattern and the texture options.



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