

LinkMotion and CorelDraw 9, 10, 11, 12, X3 and X4:

After you install LinkMotion software and setup all settings launch CorelDraw software.

Important notes:

Zero or thinnest line width and No fill are the most important things to remember when you are designing a file for Vector output. Do not fill the shape for any vector output.

Raster will have the fills and it is used mostly for the laser output. It is important to remove while fill when you import scanned files for raster work.

Solustan tests the primary function of accepting hair lines (vector lines) from the third party application software to make the vector moves on the machine using LinkMotion driver. Solustan may test additional functions. However, it is not a detailed testing. The developer and marketer of the third party software make changes to their applications quite often. It is the responsibility of the user to make sure that the necessary functions are available while making the choice of off-the-shelf application software.

Solustan's liability is limited to the purchase price of the LinkMotion driver software.

It is necessary for the user to own the application that will be used for the job design. There are many books of various levels available for all these popular applications. This document is simply a guideline to point the user in the right direction. We welcome feedback from our users. Share your findings with us and we will include them here for all users benefit.

(1) How to do Permanent settings in Corel 11, 12, X3 and X4?

Click on the **Layout** menu and Select **Page Setup**.

In the selection of the **Paper:** Select **Custom** by clicking on the arrow on the right. Plug in the proper **Width** and **Height** as the size of Your Machine. For example your machine's working area is 16"x12" then make sure you have set up **Width 16.0"** and **Height 12.0"**. Now click on the button **Save Custom Page** and you can give here **Your Machine Name**. Follow the instructions from **below** if you prefer to setup page setup this way all the time.

If you are using rotating tool machinery (engraving, routing, CNC, or lathe) or you wish to do only vector work with Laser machine you may want to set the following in a default mode:

- 1. Under Tools menu, select Customization.**
- 2. Double click on Document on the left side and you will see more items.**
- 3. Click on the Styles under Document on the left side.**
- 4. More options get displayed on the right and Under Styles, select Default graphics;**

- Select **No Fill** by scrolling on the arrow on the right side in the **Fill area**
- Click on **Edit button** on the right for **Outline**.
- Select **Hairline** under **Width** by scrolling on the arrow and click on the **OK** button.

5. Continue under Styles, select Default Artistic Text,

- Select **No Fill** by scrolling on the arrow on the right side in the **Fill area**
- Click on **Edit button** on the right for **Outline**.
- Select **Hairline** under **Width** by scrolling on the arrow and click on the **OK** button.

6. Continue under Styles, select Default Paragraph Text,

- Select **No Fill** by scrolling on the arrow on the right side in the **Fill area**
- Click on **Edit button** on the right for **Outline**.
- Select **Hairline** under **Width** by scrolling on the arrow and click on the **OK** button.

7. Go back and select Document again on the left side.

- Click on the **Save option as Defaults for new documents**
- Make sure all buttons are checked here including **Styles, Save Options, Page Options....**
- Click **OK** button and **Open a New document**.

Now, you will not have to remember setting the page size and selecting thinnest lines and un-filling of graphics every time. This will save you time and streamline your production.

(2) How to use Corel's basic Print Settings?

Use **Print** submenu under **File** menu to send the job to the machine. Before outputting jobs, choose the origin properly in the **Layout menu** (tab) of print dialog box. Select "**As in Document**" under **Image position and size**. It is important to select proper position in the Corel Layout menu for the job output. It is important to make sure that the page size on the Corel screen is the same as the working area of the machine it is connected to work with. **LinkMotion USB does allow you the option of setting a plate size (page size) smaller than your machine's table size for engraving machinery users. Understand clearly how that works from LinkMotion USB document before using that feature for proper output location.**

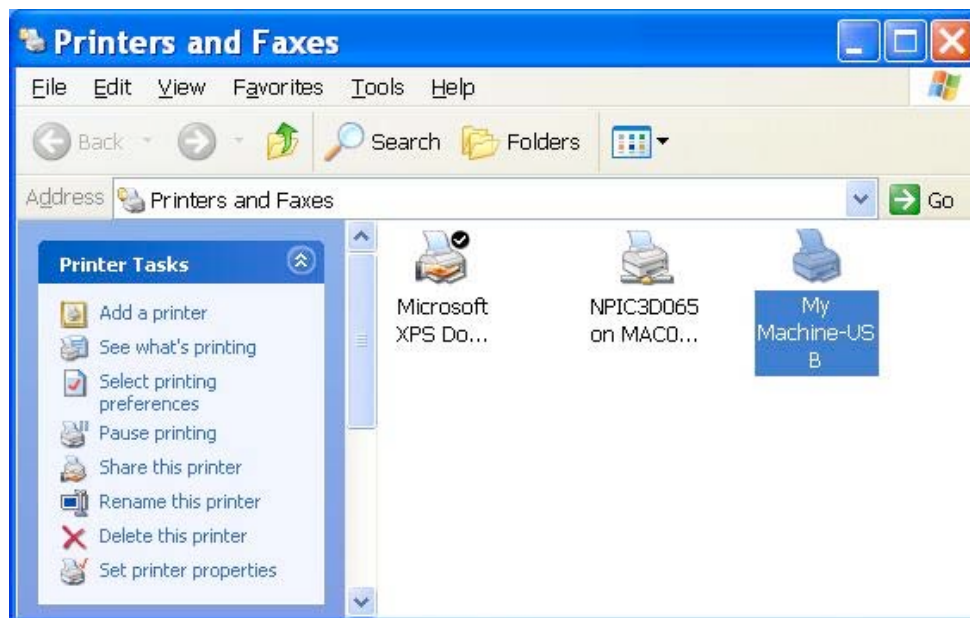
After you are done with your design go to the **File menu** and select **Print**. If you are sending your design for the output on your machine you simply click on the **Print** button. **If you wish to send only part of the job** you can **select the object** you want to print on you drawing and then **click on the selection button** in the final print screen before you click on the Print button in the final print screen. LinkMotion will be active and your machine should be in action.

If you have purchased **M and G-Code (RS274/NGC)** driver you need to click on the button for **Print to File** in the **Print** dialog box. Give proper **Name** to the file and make sure to save file in the proper **Location** and click on the **Save** button. Now you can work with your M and G-Code file.

(3) How to setup Corel's print commands properly to work with LinkMotion so it

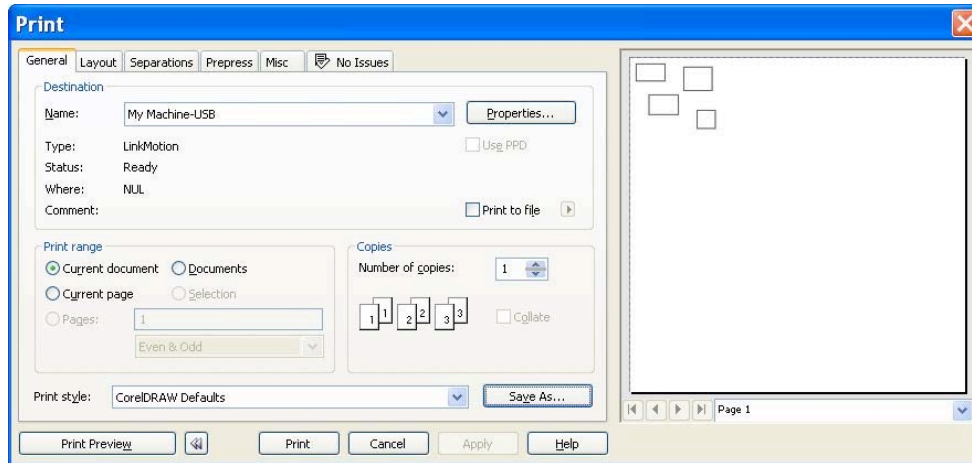
does not lock up when you open a new or previously designed files after sending existing job file to the machine?

Go to the **Windows Start button** and select and open **Control Panel**. Now double click on **Printers and Faxes**. Here you will see all the printer drivers you have installed. Default driver has a check mark on it. Initially when you installed LinkMotion driver for your machine we guided you to select that as a default driver. We will change that by making any other printer driver as a default driver. Bring the arrow of your mouse on any other printer driver (not LinkMotion loaded driver) and click right mouse button and **select any other driver as Default Printer**. Following picture shows that LinkMotion was loaded for My Machine-USB so printer driver name is My Machine-USB and that is not selected as default driver here.

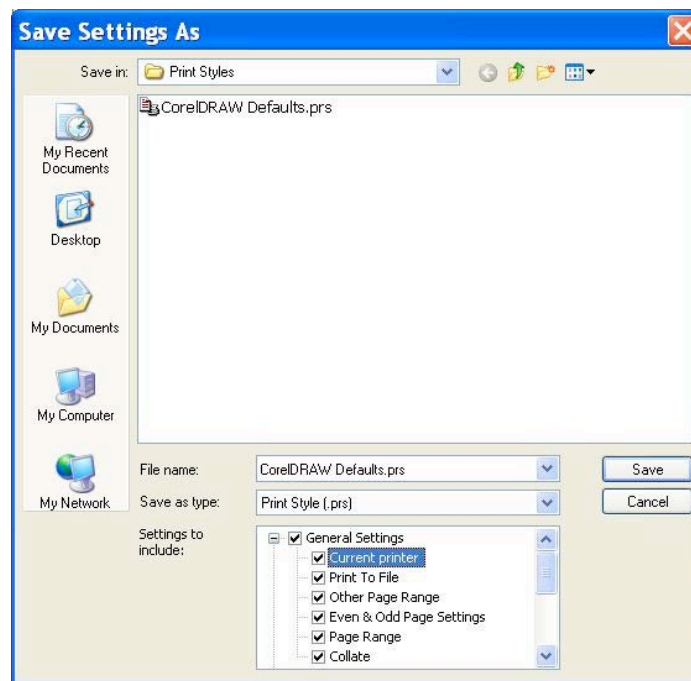


After making this change you can **close Printers and Faxes as well as Control Panel**.

Now **Launch CorelDRAW**. Open an existing design or start a new design. Remember to use same page size as you machine's table size with no fill and hairline thickness of the shapes. Now go to the **File menu and select Print**. Print dialog box will open. In **Destination section** you will see **Name** in which driver with your Machine name should be selected by scrolling on the arrow on the right. Following picture shows when we had installed the LinkMotion printer driver for **My Machine-USB** and that is selected. **It is extremely important to have driver for your machine name in the Name area for it to output to your machine.**



Here above the Print Preview button you can see **Print style**. In Print style you will see **CorelDRAW Defaults.prs**. Click on the **Save As** button on the right of CorelDRAW Defaults and **Save Settings As** dialog box will open. Following procedure and picture shows how to setup your LinkMotion loaded driver (My Machine-USB) permanently so you do not need to remember to check every time.



Double click on the **General Settings** at the bottom in **Settings to include** area. Check the box for **Current printer**. Now click on the **Save** button on the right. A long message will show up asking you if you want to replace the old settings. Click on the **Yes** button.

Now you are all set and opening a new file or existing file will not be a problem any more.

(4) How to do Basic Design?

Select page setup under the Layout menu and create your initial settings. There is also a master page setting available under tools menu and select object manager. User can set up proper grid and guidelines on this page. It is very important to design any text or graphic shape in Corel with no fill and thinnest outline in order for it to engrave or rout on a machine. Only in case of a laser work user can set fill as well as different thickness for the lines.

How to apply thinnest outline and no fill commands on any object? An object can be text or graphics.

First select the object with an arrow tool. Next, select Outline Tool icon (Looks like a pen) from the tools on the left of the page design and select Hairline Outline (This is the thinnest line with arrows on top and bottom). Also, select Fill Tool (just below the Outline Tool) icon and then select No Fill here. No fill selection is made with a selection of X from choices under the fill tool.

Alternately, you can use the procedure described in Permanent Settings in Corel 11, 12 and 3X above.

Draw exact Square or Circle - Drawing tool with shift key pressed allows you to draw even dimension shape both in X and Y direction.

Duplicate - Select an object. Drag the object to another location where you want to place the copy and **Click with right mouse button before you release the left mouse.** This will leave the original in its place and place the second copy where you dragged.

Reverse Image - Select an object. Drag from the left to right (Center control point) with **Control key pressed and Click the right mouse button** before releasing the shape. It should duplicate the image in reverse mode of **mirror image**. Similarly **dragging from the top to bottom** will create **vertical mirror image**.

(5) How to use Text Tool?

Artistic Text - When you select the text tool and start typing it always is in Artistic mode.

Paragraph Text – Select the text tool and drag a rectangle. Now the text is in paragraph mode and it will stay within this box. Designing a plaque with text in **multiple columns** is easy to do in Corel. This should be done in a **paragraph mode**. Select the **Text tool**. And drag on the area with your mouse where you want to place this text. Type all the names. You can type as many as you want even if goes out of bounce and you do not see it. You can adjust proper font, font size and upper case lower case after you are done entering. Select this paragraph box. Go to the **Text menu** and select **Format Text**. Under **Character menu** you can select proper font and the size. **Paragraph menu** will allow you to select the **alignment**. Most of the trophy design needs center or left alignment. **Select Columns menu**. Enter number of columns. At the bottom you can adjust column size as well as the space between the columns. Click on the **OK** button after you are done with your adjustments. You will see the result of your text in two columns if you select two for number of columns.

Enter your text. Select the **Shape Tool**. Now all the letters in your text should show a node at the beginning of each letter. Now you can click on that node and move that letter in any direction. This is useful when you want to place them or make them larger and adjust how it looks without changing it to curves. It remains in text mode only. **Dragging the button icon on the bottom right** allows you to create **more space between the letters**. **Shift key and drag** will control proper **space between the words**. The **icon on the left bottom** side allows you to **create more line space**. After writing few lines of text if you drag the text by pressing the Shift key it will enlarge the size by keeping the center of the text in focus. Corel allows you to change the text in title case, Upper case and Lower case easily without retyping the text.

(6) How to use Shape Tool?

Draw a **rectangle**. Select a **Shape Tool**. **Click on any control node** and drag with left mouse button click and you will see the **rounded corners** of your rectangle.

Draw an **ellipse**. Select the **Shape Tool**. **Click on the control node** and if you **drag inside the ellipse** shape it should create like **pie shape**. If you **drag on the outside on the ellipse** it should create an **arc**. **If shapes are converted to curves** it allows you to edit nodes by selecting the **Shape Tool**.

(7) How to see the direction and start position of the object or text to engrave or cut? (Direction is available only in Corel X4)

If you wish to see either the **direction or the starting position** of a **shape or any text object** you need to convert them to curves. Select your shape or the text and go to the **Arrange menu** and select **Convert To Curves**. Now select the **Shape Tool** from the left under the Pick Tool(Arrow tool). It will now show you the **Arrow** where the shape ends and the direction of the arrow will tell you if that shape will engrave or cut in clockwise direction or anticlockwise direction. When this **Shape Tool** is selected you will also see more sub tools on the tool bar. Selecting the tool called **Reverse curve direction for Selected Subpaths** will allow you to change the direction of your output.

(8) How to Design in Layers?

Under **Tools menu** select **Object Manager**. First open page will be your **layer 1**. Then at bottom left corner of this object manager there is an icon for **New Layer**. Click on that icon or the plus sign to add another layer. There is also a master page in this object manager and user can set up with proper grid and guidelines on this page. There are three different icons for control on the layers.

First icon that look like an **eye** is for what ever you design on this layer if you want to see this or not see it for your next layer work. Selecting and deselecting this will show you the different functions.

Second icon of a **printer** is the way you decide if you want to print things designed on the layer. When icon is grayed out it does not print.

Third icon looks like a **pen** and this allows you to select objects on this layer. If you deselect than it will behave as if objects are locked on this layer.

(9) How to organize your design objects(shapes) for proper order of the output?

First create your design. Now go to the **Tools menu** and select **Object Manager**. Object manager will open on the right. Here you will see all different object individually listed. Select any one object (shape) on your design page and you will see the details of that object highlighted in the object manager on the right. Similarly if you click on any one object from the object manager you will see that object selected on your drawing. Now if you send this design to the printer it will print in the order that you see on the object manager. It starts with the bottom most listed as the first object and the second from the bottom and so on. Now if you wish to change this order simply click on the object you wish to change and drag it below the position you want it to be. As an example if you had three objects in your design. After you are done designing the order of printing was object 1, 3 and 2. Now you wish to output as 1, 2 and 3. You should select number 2 and drag it between number 1 and 3. Now it should output in that order.

(10) How to Design an Engraving Plate?

After you are done with the basic setup in Corel you can start designing a Plate. There are various ways how you can design a plate or plates in Corel. You can decide what works best for you.

(1) Draw the outline of your plate design. Make sure to draw correct dimensions for the height and the width. Place it on your Table where you want it to be engraved. This should be designed on one layer if you do not want this to be engraved and actual engraving part on the second layer. Follow the instructions from above for **Design in Layers**. After you are done with this outline plate design create another layer. Click on the **bottom left button** under the Object Manager. This will show a second layer in the object manager. Now press **Enter** key on the keyboard and it will create the second layer. Highlight with arrow tool **Layer 2**. Select the **Text tool** from the Toolbox. Type the text you want. You can then highlight each line or the words individually and change the fonts as well as the size to fit within your plate. Now select the **Arrow tool** and select both text and the outline plate. Go to the **Arrange** menu and select **Align and Distribute>Align Centers Horizontally**. Go to the **Arrange** menu and select **Align and Distribute>Align Centers Vertically**. This will bring your text in the center of the plate.

Now highlight **Layer 1** from the Object Manager. Deselect the printer icon. This process **will not send the items drawn on the Layer 1**. It will **output only the text part** of the design.

Text for you Plate Design:

Text can be written with two different formats and this is seen under the text menu. Artistic Text and Paragraph Text is available in Corel. Artistic Text can be stretched to fit within the boundary easily. Paragraph text is defined by the X and Y dimension and it will automatically flow the text in the next line. Explore Corel's manual for details on both type of text composition. Once you write the text in one format, you can change the format easily. Select the text with an arrow and select the text menu. Here you will see the selection for either **Convert to Paragraph Text** or **Convert to Artistic Text**.

Depending on how you want your design to look you can use one or the other. Refer the Text section above for some more functions of the Text tool.

After the text is in place you can select with an arrow the text block as well as outline of the plate. Go to the **Arrange** menu. Select **Align and Distribute**. Here you can select **Align Centers Horizontally** as well as **Align Centers Vertically** for proper adjustment. Similarly you can also select Align left, right, top or bottom depending on your design. You can also import **Graphics or Clip Arts** and place them within the design area.

Send the job for output by selecting the Print from the File menu. Understand the options: If you have designed the job in one layer and you wish send everything but the outline you can send job by selection. First select the objects you wish to engrave. Then in the Print dialog box check the button for Selection. Now click on OK to send the job.

If you have designed the job in two layers and you wish to send everything but the outline you can simply send the layer that needs to be printed. Outline of the plate is a reference for your design and that layer can be selected for not printing.

(2) Second method of designing a plate is to create your plate size same as your machine table size. Now drag the guidelines from both top and the sides to create the estimated plate size. These guidelines can be dragged by selecting the arrow tool and left mouse click from top to bottom from the ruler area will bring down the guide line. Similarly you can bring the guideline from the left ruler. Place these lines on your plate dimension area. You can place them at an exact point by double click on them and enter the value in the dialog box that opens. This way you have your plate size area to work with. Create your design within this area and you can send the output without worrying about the layers.

(11) How to Merge text and send a Single plate at a time?

Design a single plate with proper size (Same as page size) and all the graphics and text you want to place. Make sure to select proper font type, font style and the size.

Go to the **File** menu and select **Print Merge>Create/Load Merge Fields**.

Select **Create From Scratch**. You can choose **Select from an existing file** if you created and saved a file earlier.

Write the **Field name** and **Click on the Add button**. Here you can also create **Serial Numbers** by checking the button for **Incremental field data** and enter the begin number and the last number.

After creating all the fields **Click on the Next button**.

Enter all the data for each field.

Click on the **Next button**.

Save this as a text file.

You should see a Dialog box on the screen '**Print Merge**'.

Select the **First Line** that you want to print from the merge text. **Double click on the line** and **highlight the text**.

Now **Click on the arrow tool** from the **Print Merge** Dialog box. You will see the Name replaced by

<Names> field.

Similarly **select the second line** and **select second field** in the **Print Merge** dialog box and **Click on the arrow** and it will be replaced by the second field name.

Go to the **File menu** and select **Print Merge>Perform Merge** or **Perform Print Merge** icon is also available on the Print Merge dialog box. This will load the text file into the fields and **Print dialog box** will open.

Click on the **Print Preview button** from the bottom left of this Print dialog box.

You should see the plate with first data record on the screen. At the bottom you will see number of records from your data file. You can click on the arrows to the right and left to see each next record.

User can send each file individually by selecting **Print This Sheet Now** from the **File menu** or (**Ctrl+T**). This is the best way to send one plate at a time.

(12) How to Merge text and send Multiple plates output?

Design a single plate with proper size (Same as page size) and all the graphics and text you want to place. Make sure to select proper font type, font style and the size.

Go to the **File menu** and select **Print Merge>Create/Load Merge Fields**.

Select **Create From Scratch**. You can choose **Select from an existing file** if you created and saved a file earlier.

Write the **Field name** and **Click on the Add button**. Here you can also create **Serial Numbers** by checking the button for **Incremental field data** and enter the begin number and the last number.

After creating all the fields **Click on the Next button**.

Enter all the data for each field.

Click on the **Next button**.

Save this as a text file.

You should see a Dialog box on the screen '**Print Merge**'.

Select the **First Line** that you want to print from the merge text. **Double click on the line** and **highlight the text**.

Now **Click on the arrow tool** from the **Print Merge** Dialog box. You will see the Name replaced by <Names> field.

Similarly **select the second line** and **select second field** in the **Print Merge** dialog box and **Click on the arrow** and it will be replaced by the second field name.

Go to the **File menu** and select **Print Merge>Perform Merge** or **Perform Print Merge** icon is also available on the Print Merge dialog box. This will load the text file into the fields and **Print dialog box** will open.

Click on the **Print Preview button** from the bottom left of this Print dialog box. You should see the plate with first data record on the screen.

Select the second tool **Imposition Layout Tool** from the left side tool bar.

Make sure and check the **Property Bar** from the **View menu**.

Go to **What to Edit** section and scroll down on the arrow and select **Edit Margins**.

Click on the button for **Equal Margins**. This will place your plate on the top left corner.

Go to **What to Edit** section again and scroll down on the arrow and select **Edit Basic Settings**. Click on the arrows for **Pages Across/Down** for both horizontal and vertical direction. Create proper number of columns and rows you wish to output. If you now click on the Pick Tool from the left side tool bar you will see all of your plates with different data records. Close the **Print Preview** dialog box. You should be back to Print dialog box. Click on the **Print** button and you will see the output for all the plates. If you want to output individual pages you can do that from the print preview dialog box. Pages are displayed as a Signature 1, Signature 2, Signature 3 etc. Select each one and **Print This Sheet Now** from the **File menu** or (**Ctrl+ T**) will output one page at a time.

(13) How to increase or decrease space between the lines of text?

Write few lines of text. Highlight the line of text with a cursor where you want to increase or decrease the space between the lines. Go to Text Menu. Select Format Text. Select Character Menu. Here go to % of pt. Size in the bottom middle area. Clicking on the up arrow will give positive values and will decrease the spacing between the lines. Clicking on the down arrow will give the negative values and will increase the spacing between the lines.

(14) Upper case text becomes lowercase even if I type correctly. Why?

This requires proper settings in Corel. Go to **Tool menu**. Select **Customization**. Click on the **Text**. Select **Quick Correct**. Uncheck **Capitalize first letter of sentences** and **Correct two initial, consecutive capitals**.

(15) How to Snap Objects?

Snapping objects can be done in three different ways. Snap to grid, Snap to guidelines and Snap to objects are the choices available under view menu. When you select an object and drag it near a grid or a guideline or an object where you want to place it, it will go and snap to the nearest selected choice. If you want to snap near the intersection of the guides you can do that as well. Simply drag your object nearest to where you want to place and it will snap.

(16) How to change all objects to a different size?

Select Arrange menu and select Transformations. Here you have several choices of Position, Rotate, Scale, Size and Skew. Select Scale for changing the size of the objects. Select the object that you want to scale with an arrow tool and then you can declare percentage number for scaling it larger. Corel also gives choices for the position of the scale object in relation to the original position of the object. User can select here how he/she wants to scale.

(17) How to duplicate Objects with step and repeat?

Select Arrange menu and select Transformations. Here user selects Position. Select the object that you want to duplicate with an arrow tool. Select a button where you want to duplicate in the relative position area. Now plug in the value in inches where you want the duplicated object and then click on the button Apply To Duplicate. Now you should be able to see the duplicated object. You can repeat this as many times as you want by following the procedure again and again. If you have multiple objects you can group them by first selecting all the objects with an arrow tool and then selecting Arrange menu and select group. With a single click on the object now all the grouped objects are selected and can be duplicated again with same method as above.

(18) How to create contour fills as well as compensation line for an object?

Select **Contour** under the **Effects** menu. Select Inside for creating the contour fills. Plug in the offset value depending on the tool size that you will be using. Next is to plug in the number of steps and then click on the **Apply** button. You should see the contours in your object. The number of steps can be higher than you need and Corel will ignore the number after which it cannot create any more contours. If you selected less number of contours than you need to re do it with a higher numbers. If you have multiple shapes inside the shapes then you need to select objects and go to **Arrange** menu and use **Combine** function for it to fill properly. If your job was designed with several colors then Combine function will retain color information of the last shape selected when you select shape to combine. Now it should create contours in proper order. Same concept is used for creating tool compensation except here user will plug in the number 1 in the steps area for creating compensation.

(19) How to create a dot and drill the hole?

Draw a circle with .001” diameter (X and Y dimensions should be the same) and when this small size circle is sent for the output you can use proper bit to create the hole.

(20) How to Scan and Vectorize an image and import in Corel?

Launch Corel trace program or your Scanner may have its own scanning software. You need to follow those instructions for scanning your artwork. We found the *.TIF file structure to work very well for Corel Trace to outline or vectorize the bit map art work. Next, you can vectorize the scanned design. Save the vector file and import into the Corel Draw! Software. In Corel first convert lines to the thinnest lines and no fill. Select arrow tool and select the shape that you want to clean. You will see the Property Bar menus on the top. On the right there is a command for selecting all the nodes. Click on it and all nodes will be highlighted. Then apply the curve smoothness (to the right). You should be careful in using this such that you do not loose your shape of the design. User can clean nodes by deleting individually as well. Refer to Corel’s manual for more details.