# AAS Users Guide

A. AAS Calibration

With one simple touch of a button, our patent pending *Auto Calibration* will automatically adjust the AAS module to get rid of possible offsets. There are two ways to calibrate the AAS system, automatic and manual.

A-1. AAS Auto Calibration

Step1: Go to the AAS Calibration function in the Function menu and press enter
(Main Menu → Func.(F4) → Advanced Settings → AAS Calibration)
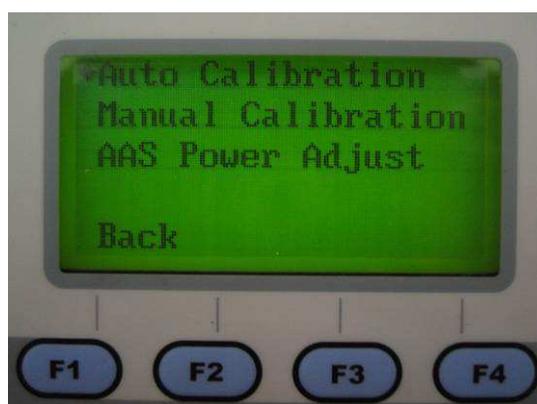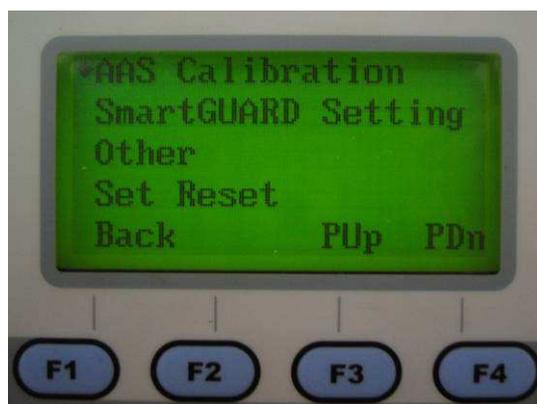
Step 2: Run Auto Calibration

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Notice：For users who used to print on HPGL command mode, please set your command mode as "Default" before running the Auto Calibration, and set back to HPGL mode after AAS module setup complete.   (Main Menu → Func.(F4) → Advanced Settings →Set Command Mode)

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(A 2-ply laminated plastic is included with the AAS module.)

Step 3: Place the 2-ply laminated plastic on the working table.

Step 4: Position the lens carriage to the top of the 2-ply laminated plastic.

Step 5: Use the focusing tool to adjust the laser focus to the surface of the laminated plastic.

Step 6: Select "Auto Calibration" from the control panel menu and press "Enter"
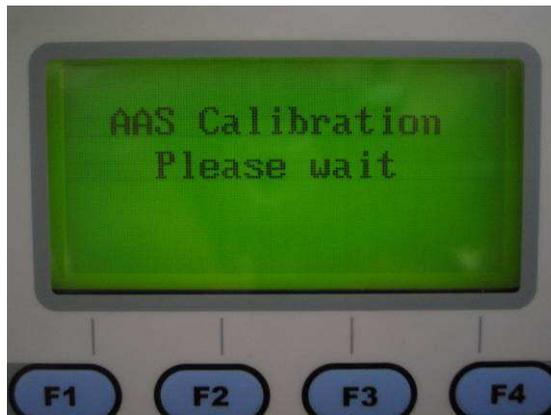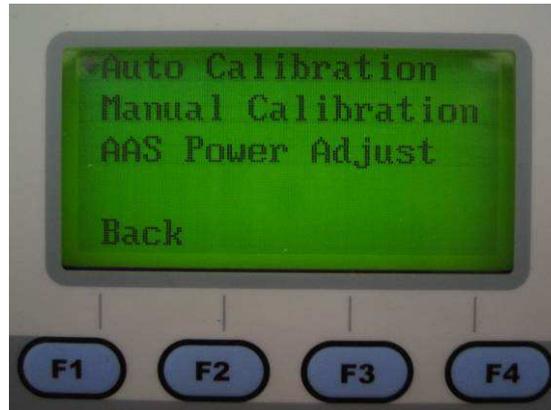
Step 7: After the Auto Calibration is completed, please press F1 key to go back to the function menu.
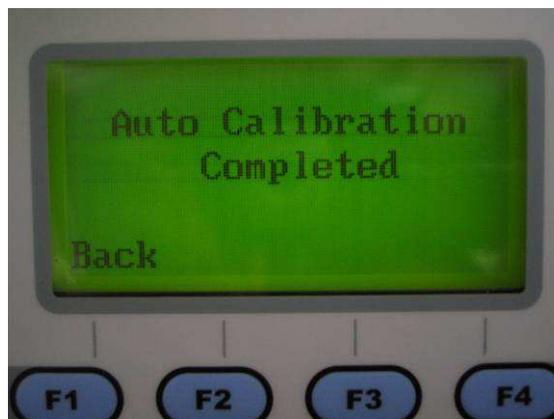
A-2 AAS Manual Calibration

For users who want to manually ensure accuracy, the Manual Calibration function can be used to fine-tune the AAS offset value in increments of 0.0125mm.

Step 1: Go to the AAS Calibration function in the Function menu and press enter (Main Menu → Func. (F4) → Advanced Settings → AAS Calibration Set → Manual Calibration)

Step 2: Draw a 10 x 10 cm square on CorelDRAW and add position mark of it.

Step 3: Print out the square with position mark in paper and place on the working area.

Step 4: Hand drag the lens carriage so that the red beam points to the top left position mark of your object.

Step 5: Set the parameters on LaserPro driver, and select AAS position mode on the

Advance page of the driver and then click "OK"

(Parameter：Speed-100%；Power-15%；DPI-400；PPI-500)

Step 6: Measure the offset distance between laser vector scribe and graphic on the paper.

Step 7: Press the arrow keys to fine-tune the offset value.

Step 8: Save the setting as AAS default offset value.

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Notice：Manual Calibration adjustment is based on the AAS default offset value. Every time you enter manual calibration, both X and Y axes start from 0.0000mm.

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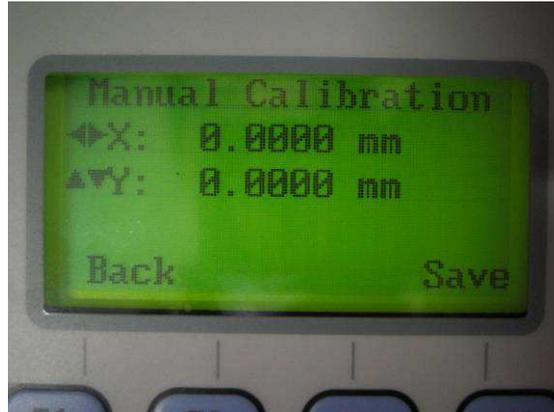
Step 9: AAS Power Adjust

(The default power is set at 20% for laminated plastic.)

If you are not using 2-ply laminated plastic for calibration, you may need to adjust the laser power setting to get a good laser engraving contrast result
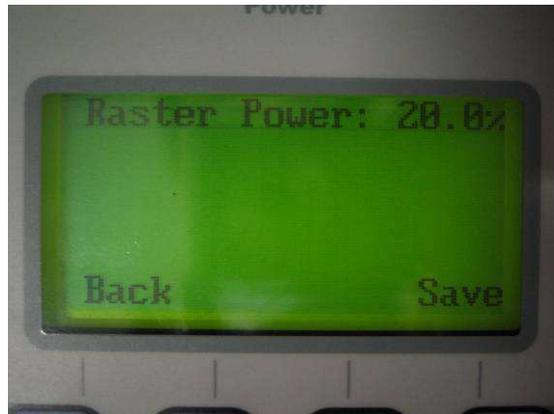
Step 10: Calibration is completed. Press back to return

1. Run Corel Draw installation program.
2. If you have already installed CorelDraw in your system, select "Modify", if this is the first time you install CorelDraw, and please go to Step 3.
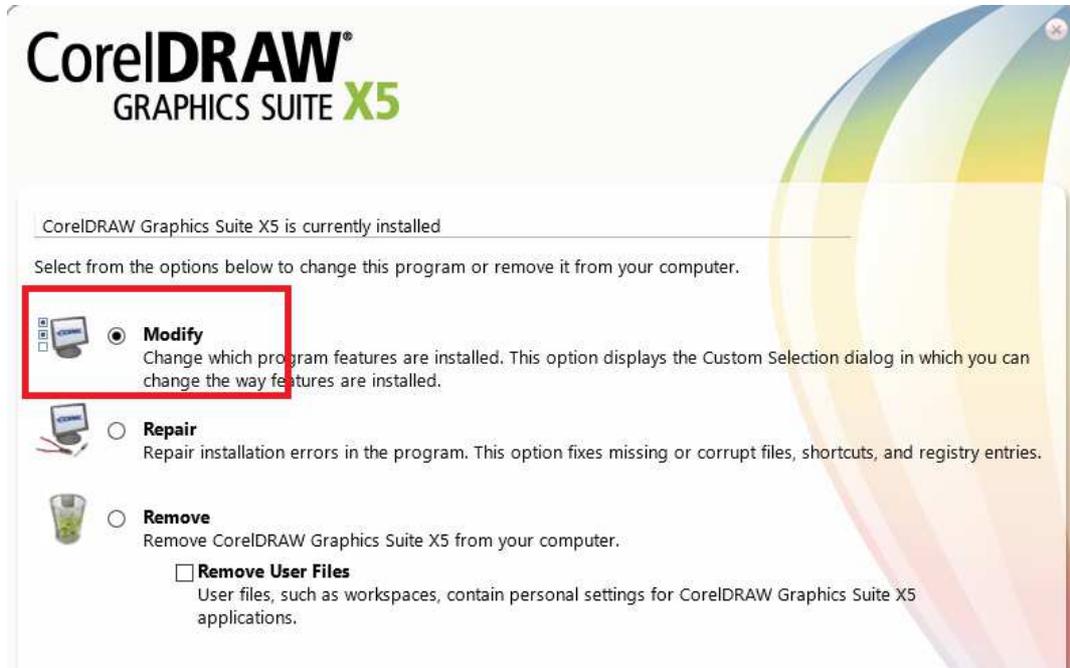
3. Go to "Features" tab, select "Utilities", and select "Visual Basic for Applications (version)" and "Visual Studio Tools for Applications".
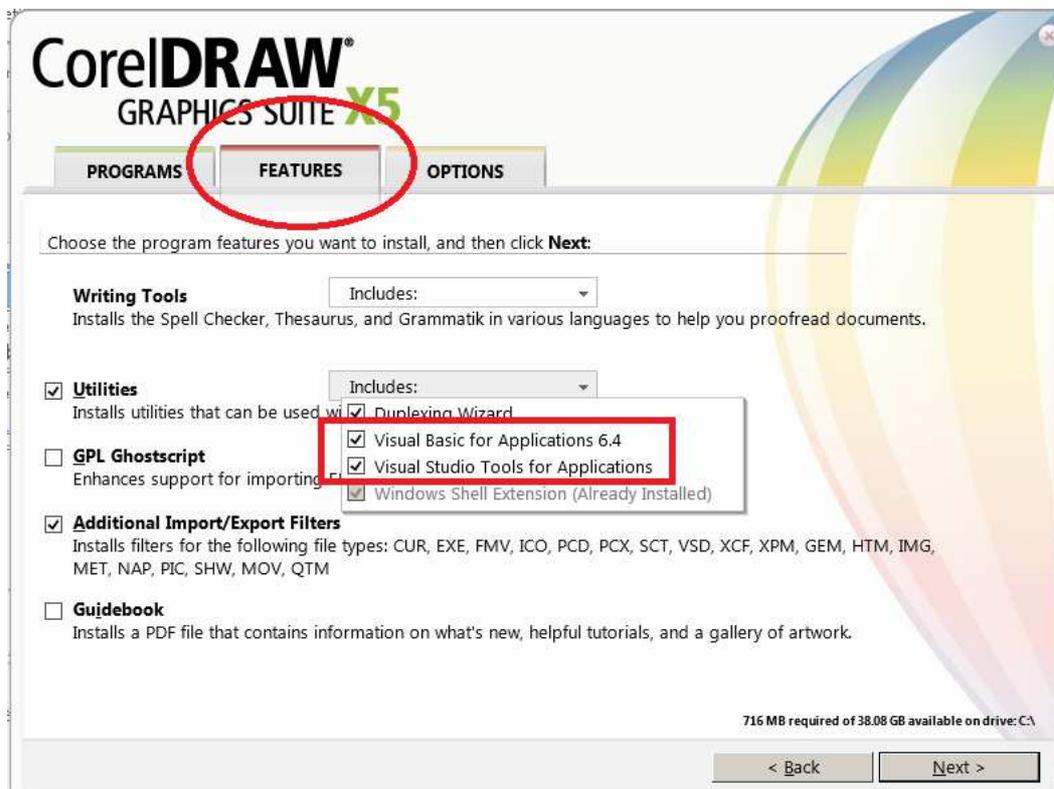
# B. Registration Mark Manager Installation Guide

Step 1: Quit the CorelDraw program before running the installation

Step 2: Locate and run the "Setup.exe" file

Step 3: Select the version of CorelDraw that the registration mark plug-in will be added to.

Step 4: Start the CorelDraw application and the registration mark plug-in icons can be found on the upper right corner of the application
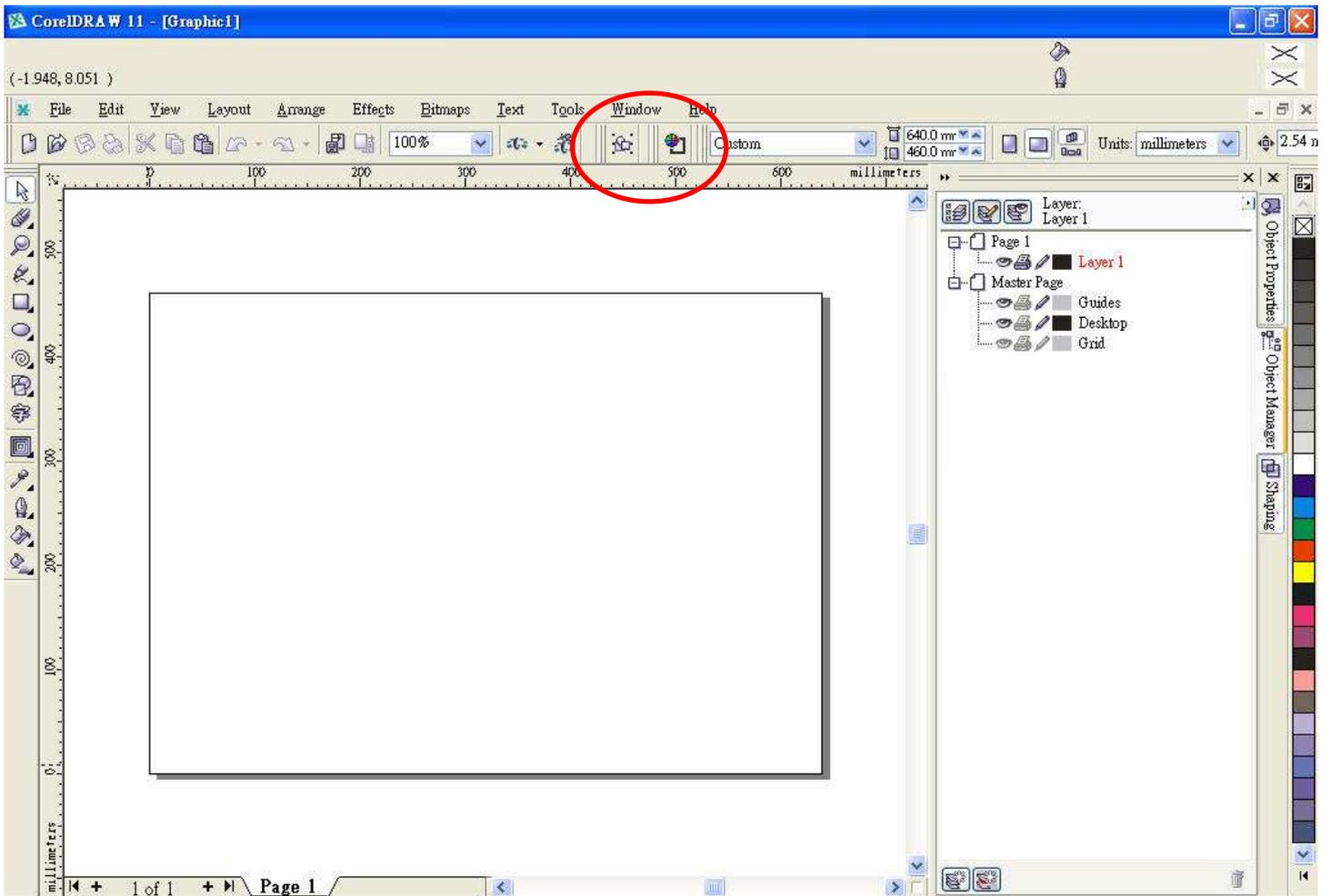
B.1 Insert Registration Mark Icon ( ):

The "Insert Registration Mark" icon will insert 4 or 5 registration marks to the graphic depending on the size of the graphic.

B.2 Associate Registration Mark Icon ( ):

The "Associate Registration Mark" icon will convert existing registration marks to recognizable format.

C. Operation

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Note：The AAS Plug-in program only supports CorelDRAW 11 to CorelDRAW 13.   For other application programs, please export the graphic to a format recognizable by CorelDRAW and then add or convert the positioning marks.

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C.1-1 Create/Import a graphic to CorelDRAW
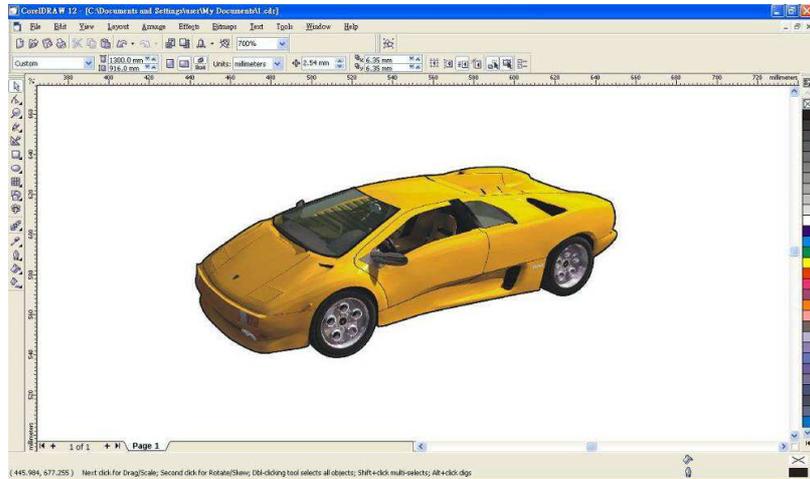
C.1-2 Make a contour of the graphic
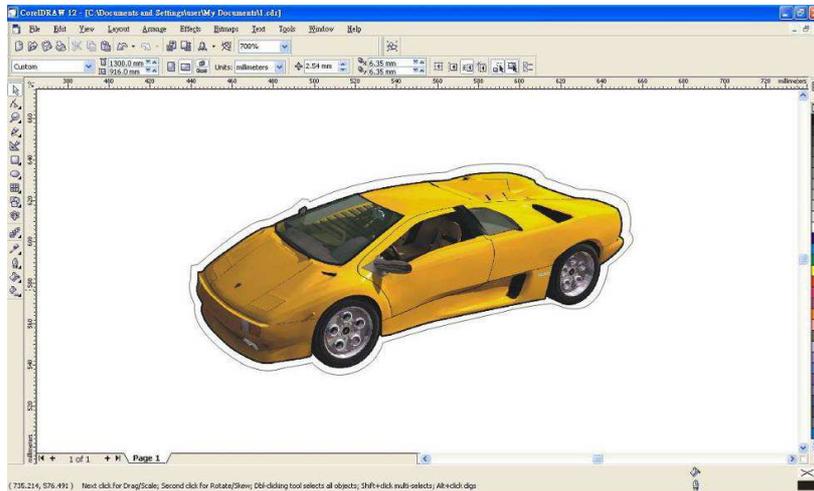
C.1-3 Select the contour vector and click on the "Insert Registration Mark" icon.

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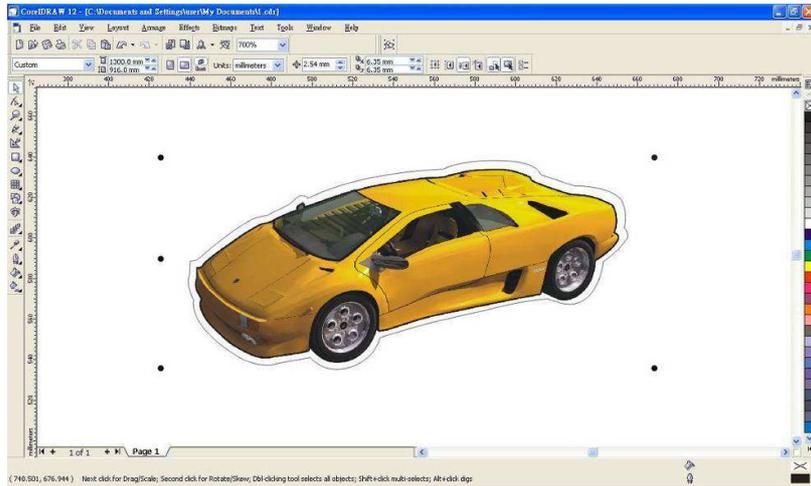
Note：4 position marks will be inserted to graphics measuring less than 10cm in the Y axis. 5 position marks will be inserted to graphics measuring over 10cm.

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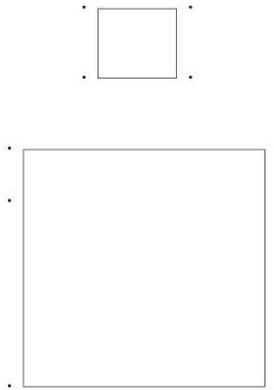
C.1-4 Remove the contour vector line and print out the graphic with the inserted positioning marks (Please print the graphic with at least 360 DPI for better AAS recognizing accuracy.)
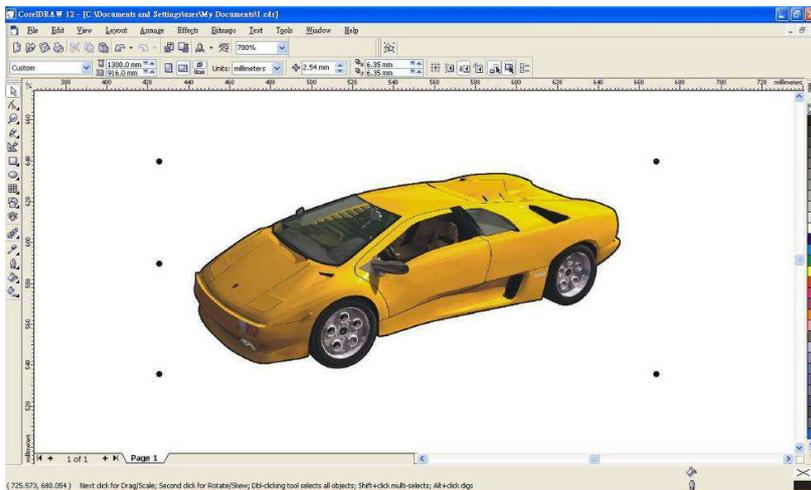
C.1-5 Print to LaserPro engraver

    C1-5.1 Remove the graphic and print the contour vector with the position mark via the LaserPro driver.
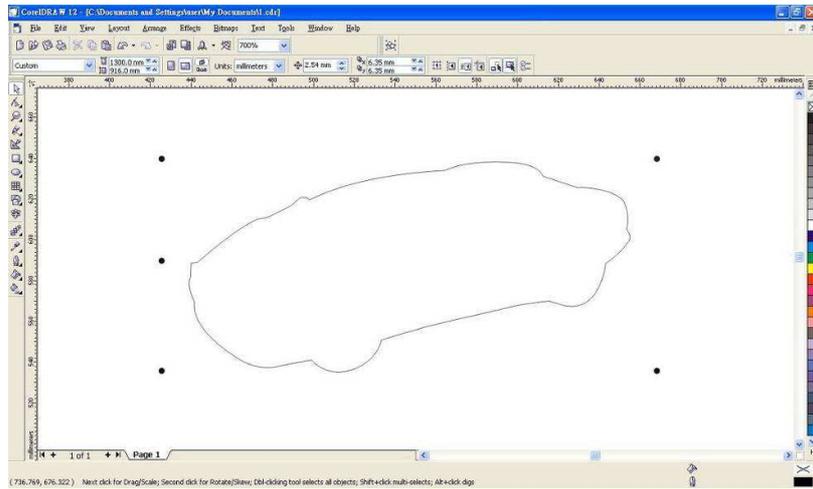
C1-5.2 Ensure that the paper size is set correctly by selecting the AAS paper size if the AAS hardware is installed on the machine. Note that by selecting the AAS paper size, the working area will be capped to the maximum working area of the laser engraver with the AAS system installed.
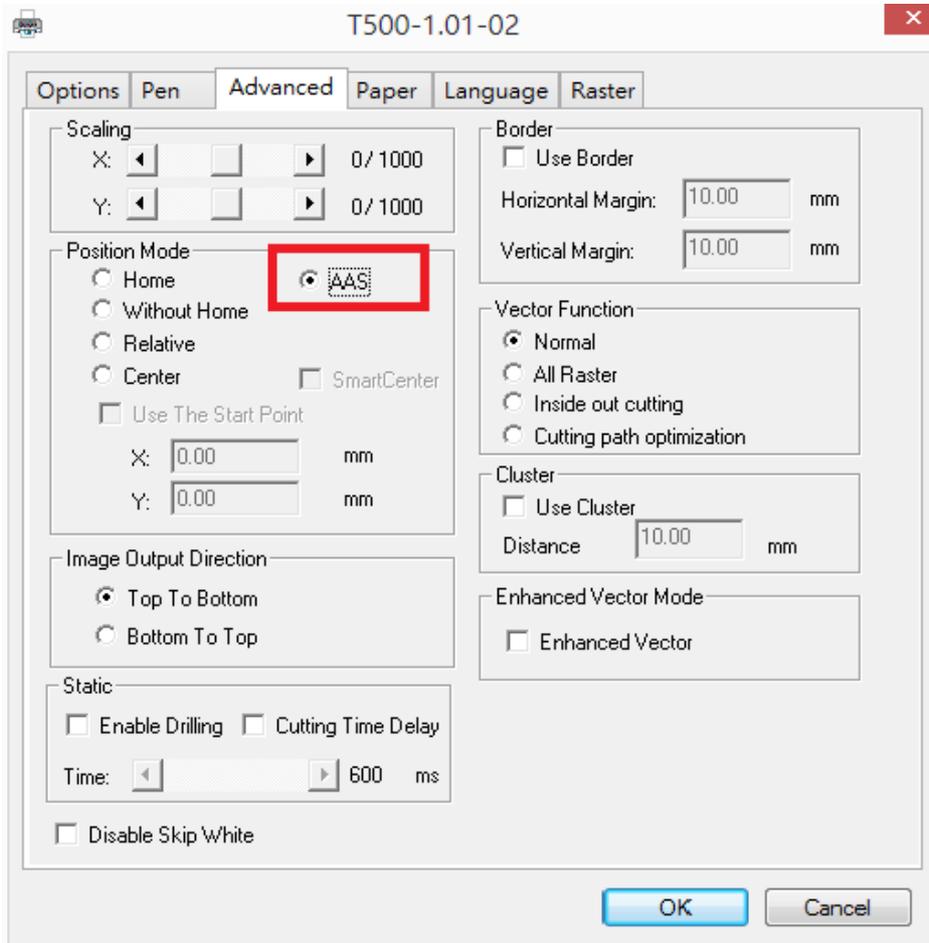

Select the "AAS" mode under optional item to activate the AAS mode.

Different work area and engraving speed will be capped when AAS module is applied.

T500	w/o AAS	w/ AAS
Work Area; Speed	1300x905mm; 40ips	1300x905mm; 40ips

Spirit	w/o AAS	w/ AAS
Work Area; Speed	640 x 460mm; 60ips	510x410mm; 40ips

Spirit LS*	w/o AAS	w/ AAS
Work Area; Speed	740 x 460mm; 60ips/ 80ips	520x420mm; 40ips

Spirit GLS	w/o AAS	w/ AAS
Work Area; Speed	960x610mm; 80ips	755x570mm; 60ips

X252	w/o AAS	w/ AAS
Work Area; Speed	635x458mm; 40ips	458x432m; 40ips

X380/ MG380Hybrid	w/o AAS	w/ AAS
Work Area; Speed	960x610mm; 40ips	790x580mm; 32ips

C.1-6 Place the printed material on the LaserPro machine working area.

C.1-7 Hand drag the lens carriage so that the red beam points to the top left position mark of your object.
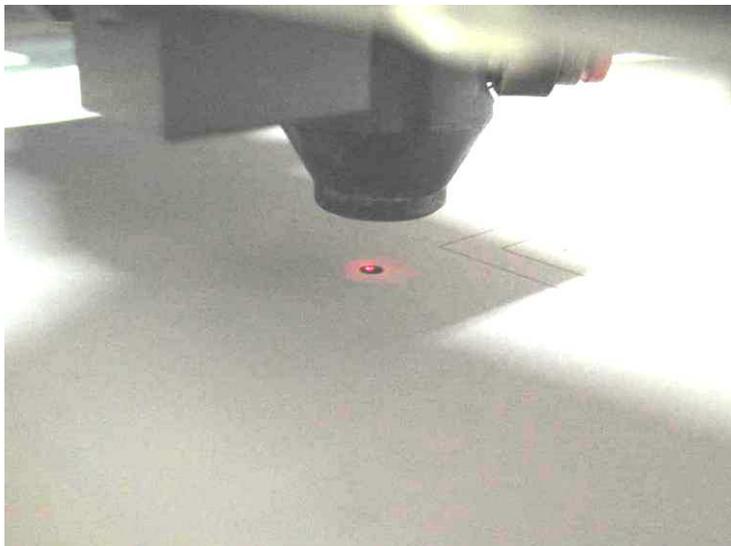
C.1-8 Press "Start" on the control panel of the LaserPro machine, and the AAS module will identify the position marks and contour cut the graphic with precision

C2 Importing AutoCAD(.dxf) files

C.2-1 Locate and select the "Import" function in CorelDraw.

C.2-2 A pop-up window will be shown as below
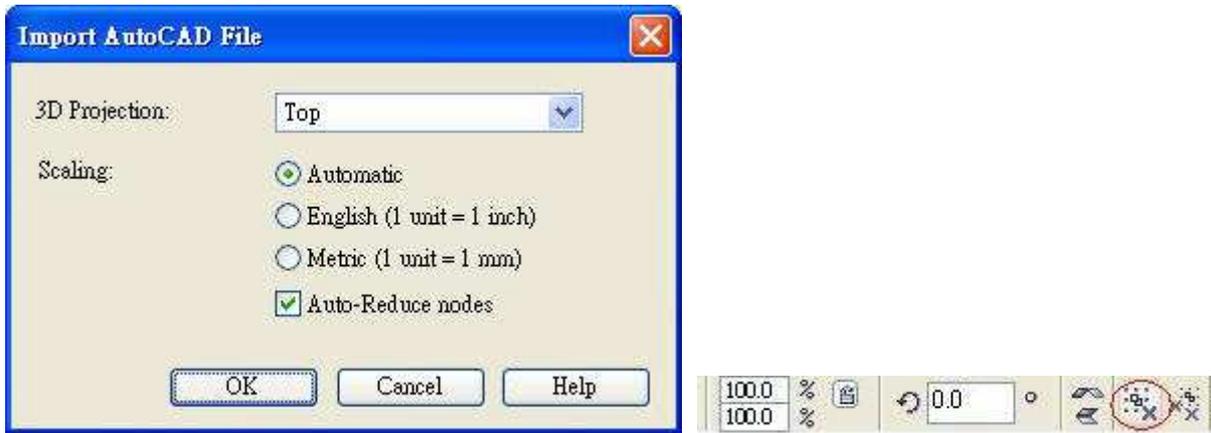
C.2-3 Select Automatic Scaling and Auto-Reduce nodes

C.2-4 Ungroup the graphic

C.2-5 Select the existing registration marks one by one and click on the "Associate Registration

Mark" icon . Repeat until all registration marks have been converted to recognizable

format, i.e. 3mm x 3mm solid filled squares or circles. The file is now ready for use with the

AAS system.

AAS registration mark notes:

➢ AAS can recognize black registration marks printed over material with color contrast

➢ In some cases, if the AAS fails to read the registration mark, another background color will need to be used

➢ For transparent materials, a black registration mark over a small white background will help the AAS to recognize the registration marks.

Registration marks printed with a contrast background
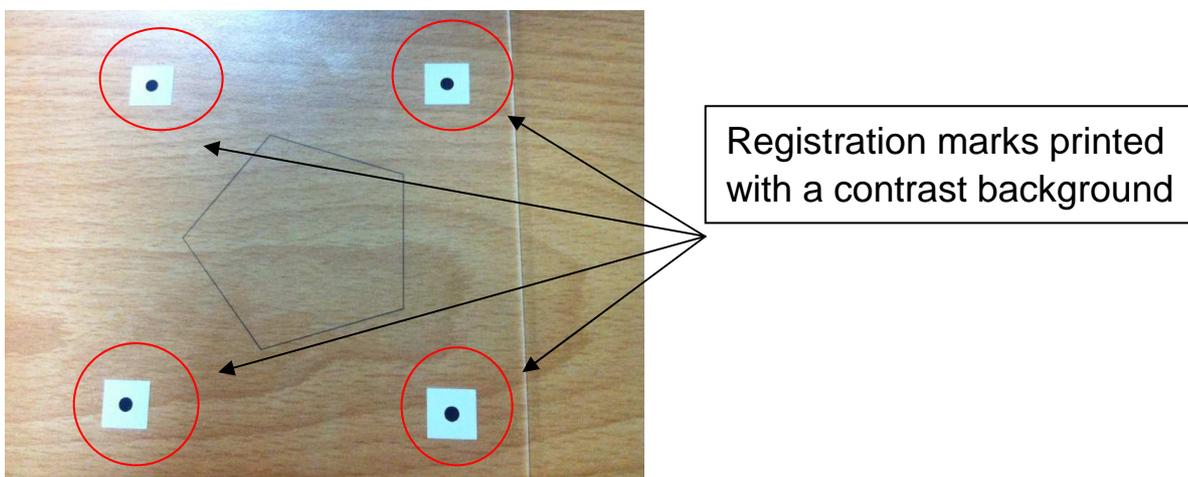
➢ In cases where the AAS fails to read black registration marks printed directly on colored backgrounds, user can

    (i)   Use material with another background color

OR

(ii) Print a small patch of white background with the black registration mark. If printing a white background is not possible, the colors in the chart below can be used to contrast the black registration marks. It is recommended to print a small 2x2.4 rectangle patch contrast the black registration mark.

Background color	black
	OK
	OK
	OK
	OK