Instructions
5350-600 Jet Clog Color Compensation Instructions

Clogged Nozzle Compensation

In addition to automatic electrical defective nozzle compensation, the 5350-600 now offers compensation for clogged nozzles.

Before printing, and, at regular intervals during printing, the printer wipes the ink cartridge jets at the service station. This function is user selectable during printing or between prints. Still, ink cartridge jets can become clogged, especially with prolonged exposure to the air or with non-use. Printing the Prime pattern helps to clear the jets and to check that the ink cartridges fire properly. Océ recommends priming cartridges daily to ensure the best possible print quality.

During multi-pass printing, the printer will automatically compensate for electrically damaged jets. The only intervention needed is to verify that there are no clogged jets and then choose which print mode is most appropriate. This is done by printing the Prime test pattern and then setting the print mode.

Procedure Purpose:
The Prime menu option is a test pattern that enables you to evaluate the status of each jet on the color cartridges.

When To Use:
You should print a prime before you start a long print job, at the beginning of each print day, whenever you change cartridges, or if you experience reduced print quality.

Overview:
The printer first prints color bands for each ink color. The reason for printing these bands is to warm up or "prime" the jets on each cartridge so that the ink will flow freely, in preparation for printing the jet status information. The numbers on the right of the color bars indicate the order of the cartridges on the carriage.
After printing the color bands, the 5350-600 will print a grid which shows the status of each of the 208 jets. The grid pattern is made up of vertical lines for each ink color, intersected by a horizontal bar of the same color between the vertical line intervals.

Each horizontal bar is slightly staggered which gives the appearance of a stair step pattern. The number below each grid cell corresponds to that jet number on the black, cyan, magenta and yellow cartridges.

**Clogged Jets:**

If a jet is clogged, it will appear as a gap in the sloping line for each cartridge. Clogged jets cannot be automatically detected and therefore must be cleared manually. To clear a clogged jet, clean and prime the affected cartridge according to the instructions in User Manual. The goal is to eliminate gaps in the “stair step” pattern before starting the job. In addition to the prime pattern, you can also print a jet status plot which allows you identify (by color and number) individual clogged jets.

Manually enter the jet numbers (by cartridge color) to compensate for the clogged jets. Jet compensation data is stored on the cartridge chip.

In the illustration, yellow jet 15, magenta jet 14, cyan jet 13 and black jet 12 contain no horizontal line, indicating they are clogged. Additionally, the yellow jet 12 and magenta jet 12 lines print out of alignment, indicating that the jet is misdirected. Either manually compensate for those jets or clean the cartridge before printing again.

When a grid cell is filled with a block of solid color (the same color as the ink), then the jet is electrically defective and the firmware is automatically compensating for the failure. Automatic compensation occurs when the printer uses another jet in place of an electrically defective jet.

In the illustration, the printer is already, automatically compensating for yellow jet 12, black jet 13 and cyan jet 15, which are defective.
To print the manual jet compensation list:

1) From the main menu, select Utility Menu/Calibration Menu/Open Jet Menu/Print Jet List.

The jet status list prints as illustrated below, showing current jet compensation list by number for each cartridge.

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Manual Jet Compensation List
Y: None
M: 1,3,10
C: None
K: 10, 21, 30, 128
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2) To add a jet to the compensation list, press the button that designates the color of the cartridge where the jet resides.

3) To compensate for a specific jet, press the button until the number of the jet is displayed. Then press the Toggle button to toggle the jet's status. Repeat for any other jets for which you need to compensate.

4) Press OK to accept the settings. If you have manually compensated for jets in any cartridge, be sure to clear the compensation when a new cartridge is installed by pressing Clear List Menu. If a grid cell contains a block of color (lighter than the ink color but the block does not fill the entire cell, then that jet was manually turned off. This procedure is known as manual compensation. You would manually compensate for clogged jets (which appear as blank cells in the prime) or misdirected jets.

![Jet Compensation Diagram]

Activate manual compensation via the display panel. In the illustration, yellow jet 14, cyan jet 13 and black jet 12 were turned off manually.

Notice that the yellow cell still displays a horizontal line, while this line is missing in the cyan cell. The black cell the line also appears to be missing. Whether the line is visible or not depends on the normal positioning of the line in the cell or whether the jet for that cell has become unclogged.

**Color Dead Band Test**

**Procedure Purpose:**

The color dead band test prints a variety of different dead band alignment patterns for the four ink colors. This test allows the customer to compare current calibration settings against variety of other values for the same color.

**When To Use:**

A correct color dead band alignment produces accurate dot placement for bi-directional printing, giving straighter and crisper edges on your print.

Run a color dead band test when:

- the printer shows misalignment- run a slow dead band test followed by a color dead band;
- changing ink cartridges or ink sets, for example from OCE SC ink to OCE OC ink. (The Océ 5350 600 will automatically change its internal heater settings when new ink set cartridges are installed which might effect the color dead band alignment;
-when jagged edges or banding occurs in prints.

Overview:

When starting the color dead band test, the printer will move the carriage to the left side of the platen. The carriage will then travel from the left side to the right side of the media, printing evenly spaced, upper and lower black lines with a gap in between and a set of values under each set of lines. Each value is printed under a group of four lines.

When the carriage reaches the right side of the platen it will travel back across the platen again, this time printing a centerline to fill in the gap between the upper and lower lines. These centerlines will not print in the same position in relation to the upper and lower lines. Some will skew to the left of the existing lines, some to the right and one (maybe two) will line up well with the upper and lower lines. These alignment patterns are printed for black, cyan, magenta and yellow.

The placement of the centerline with the upper and lower line indicates how accurately the carriage is aligned with the platen for bi-directional printing. The upper, lower and center vertical lines need to produce a smooth, straight set of vertical lines for each color.

These lines do not have to line up exactly with the centerlines to be within acceptable tolerances, but the closest value gives the best calibration. The number under each group of four vertical lines is a calibration value. The numbers and text at the bottom show the current calibration value set for each color.

In this example, the calibration values are set at: Black=84, Cyan=76, M=68, Y=76 and the slow dead band calibration value is set to 1. These settings should represent the best calibrations for each color, but the current values do not represent the best alignment for all colors. The best alignment values are in fact: Black=84 (same as current value), Cyan=68, Magenta=52, Yellow=76 (same as current value).

Examine the patterns in the test prints and circle the best alignments for each color. Review your choices against the current values printed at the bottom of the patterns. When the current value does not match the best value, make an adjustment to that dead band value. When the values are the same, do not make changes.
The slow dead band alignment can affect the accuracy of the pattern alignments in the color test. For images where alignment is critical, Océ recommends checking the slow dead band alignment before running the color test. After running the color dead band test and making adjustments to the color dead band values, run the dead band test to ensure that all of the colors are in alignment with each other.

**Procedure Steps:**

1) Navigate to and select the Slow db Test option.

2) Navigate to and select the Color Db Test option: Utility Menu/Calibration Menu/Color DB Menu/Color db Test

3) The alignment patterns and their values will print for each color.

4) Circle the value that represents the best alignment for each color

5) Compare chosen value to the current best value for each color

6) If your numbers are different from the current values, change the current values to the new values for each color using the Color Db Menu options