



Using the Ink Limit Wheel & HIVE Images

The Ink Limit Wheel and HIVE images are designed to give detailed information to properly set ink limit values. They can show issues not normally seen in the black diamond section of the Advanced Ink Limit image. The two images are found in the Samples folder for X10.2.5 and Thrive 1.2.5.

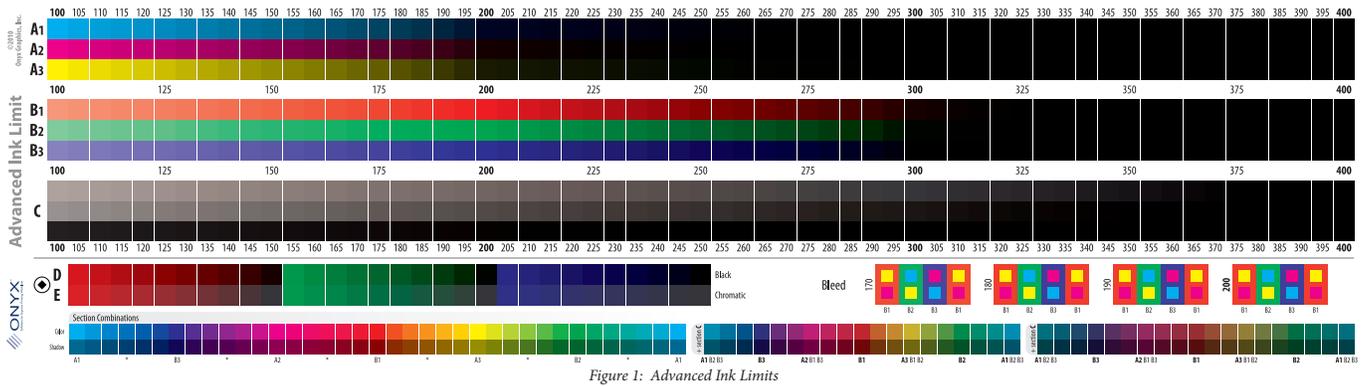


Figure 1: Advanced Ink Limits

The Advanced Ink Limit image is divided into two sections. The first section has groups of rows, A, B, and C. The bottom section (black diamond) has two parts to it. The first part, D and E, shows if too much ink has been removed. Section Combinations shows darker color transitions. It is used to determine additional ink combinations that have too much ink.

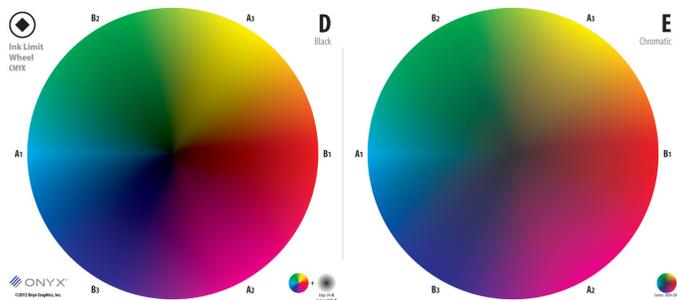


Figure 2: Ink Limit Color Wheel

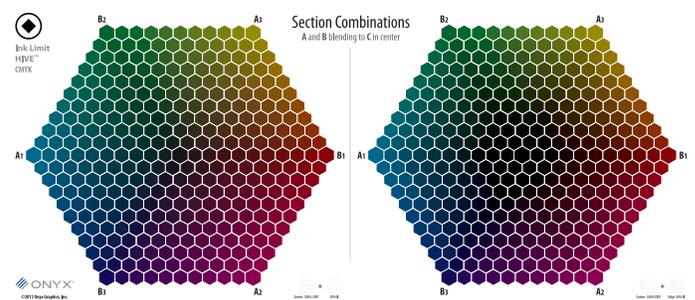


Figure 3: Ink Limit HIVE

In most cases the Advanced Ink Limit image contains all the information needed to set values for ink limits. In some situations, this does not show existing issues with the gamut. The Advanced Ink Limit image has a limited number of patches and can be difficult to detect and fix some issues. Because of this, the Ink Limit Wheel and HIVE images were created.

Using the Ink Limit Wheel Image

The Ink Limit Wheel provides a detailed-visual method in determining gamut issues caused by ink limiting. The Ink Limit Wheel is divided into two parts, D and E. Both parts correspond to the same D and E section in the Advanced Ink Limit. The difference is the image provides a detailed picture of how the gamut will be impacted.

Two examples will be used to illustrate how to use the Ink Limit Wheel.

The first example shows dull propeller shapes. These dull shapes appear when the ink limits are reducing too much color.

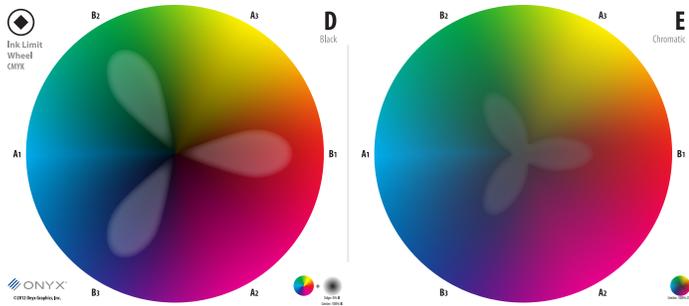


Figure 4: Desaturated Color Wheel

This is resolved by increasing the values for D and E. Disable the options for Automatically calculate the setting in the black diamond section of Ink Limits. Increase the values in D by 15% and E by 5%. Reprint the image. The goal is to reduce the dull propeller shapes and soften the edges. They will not be completely eliminated, but should be reduced. The values may need to be increased even more depending on the severity of the issue.

The situation may happen when D or E is maxed out. The ink limit values indicated by the propellers to need to be increased.

The next example shows the same propeller shapes, but they are bleeding and dark. This situation happens when ink limits is placing too much ink.

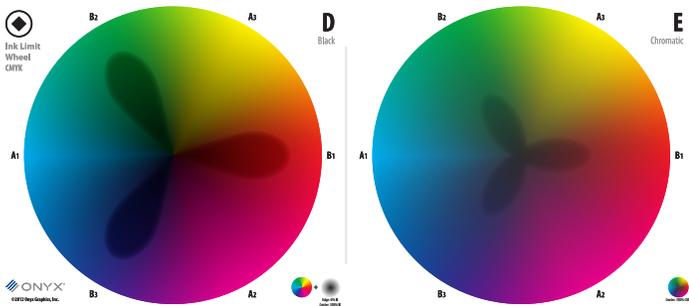


Figure 5: Bleeding Color Wheel

This is fixed by reducing the values for D and E. Reduce section D by 15% and E by 30%. Reprint the image and verify if the bleeding is gone. The goal is to completely eliminate the bleeding.

If D or E are at 0%, the ink limit rows affected need to be reduced. Lower the values of the rows indicated by the propellers. In this example rows B1, B2 and B3 must be lowered. Reprint the image to verify the new results.

Using the HIVE Ink Limit Image

The HIVE Ink Limit image provides a better-visual method in detecting issues in darker ink combinations. The two sections in HIVE Ink Limit corresponds to the rows in Section Combinations. The HIVE Ink Limit image is made up of six rows and six slices. The HIVE contains a greater amount of detail than Section Combinations.

Below are two examples that illustrate how to use the HIVE Ink Limit image.

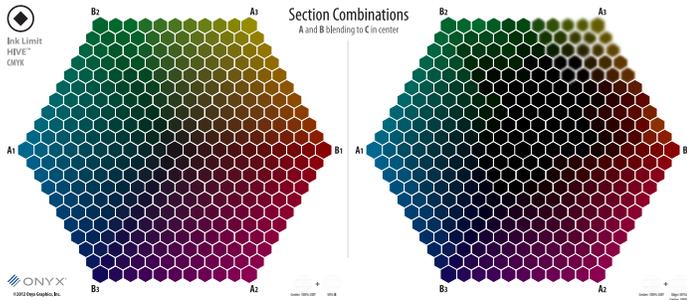


Figure 6: HIVE Dark Patches

The first example shows bleeding and very dark patches. This can be caused when one or more rows have ink limit values too high. These rows are determined in the slice of the image where the problems are present.

There are two ways to fix this. First is to reduce the problem rows' ink limit values. If the ink limits are set low, the issue might be caused in ink restrictions. This is indicated by the bleeding and artifacting getting worse at the outer edge patches.

Fixing this will impact one or more channels. Go to the Ink Restrictions step and look at the graphs for the impacted channels.

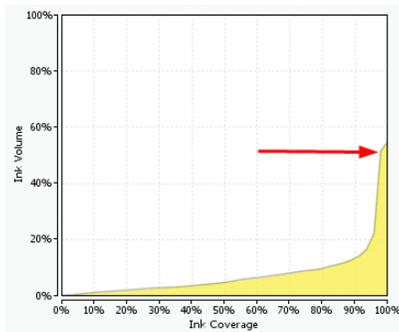


Figure 7: Yellow Ink Restrictions

In this example, the yellow channel has a sudden spike in the curve. This abrupt change will cause issues seen in the example. Lower the max value for the yellow channel. If more than one channel is causing the issue then review each channel's graph.

The second example shows uneven transitions within the slices. If the slices show sudden color shifts or regions of bleeding, that might indicate the settings in section D and E are too high. Lower the values for D and E.

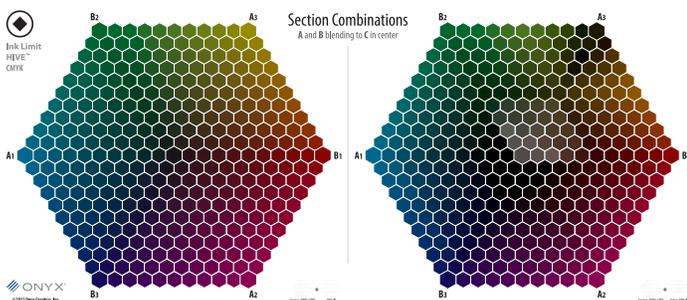


Figure 8: HIVE Desaturated

If the problem areas show a sudden desaturation, settings for D and E are too low. If D and E are maxed out and the ink limit values are very low, review the ink restrictions. Lower the values for the affected channels.

Any modifications to the ink restrictions step will require the proceeding steps to be redone.