2 minutes to get to the perfect image

How to properly edit an
image for DTG printing

We are aeoon
All employees, partners
and customers are part of

Everything from one single source
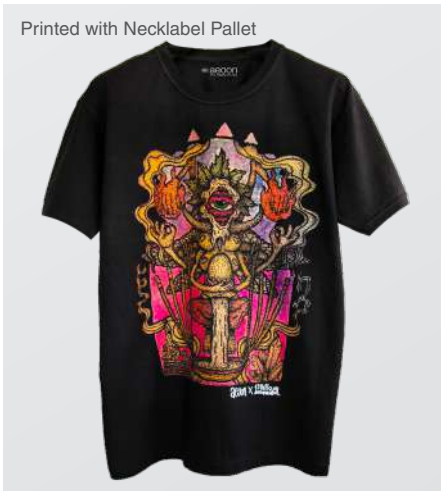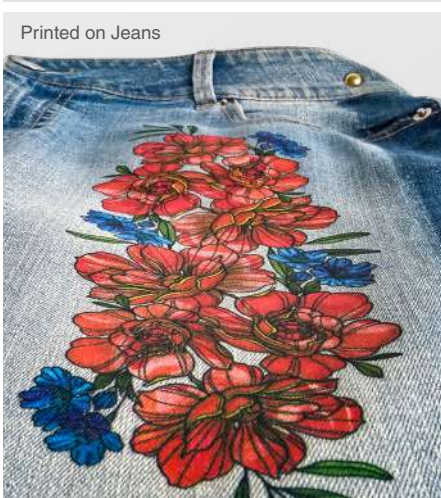We are your professional contact

Made in Austria
All of our printers are manufactured

Printed with Necklabel Pallet

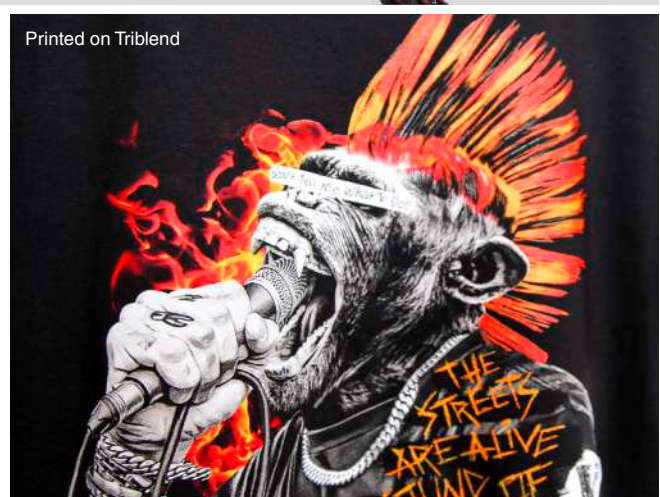Printed on Jeans

Printed on 50/50% material

Printed on Polyester

DTG printing and embroidery combined

Cotton Bags

Printed on Triblend

Colour ranges CMYK vs RGB

I In image editing, a distinction is made between two color spaces:

CMYK (Cyan, Magenta, Yellow, Contrast) - is used in Direct to Print Garment printing, and is on of the prerequisites for four-color printing.
RGB (Red, Yellow, Blue) - is used for on-screen display.

Caution: print data supplied in RGB mode can lead to drastic color deviations in the final printed result!
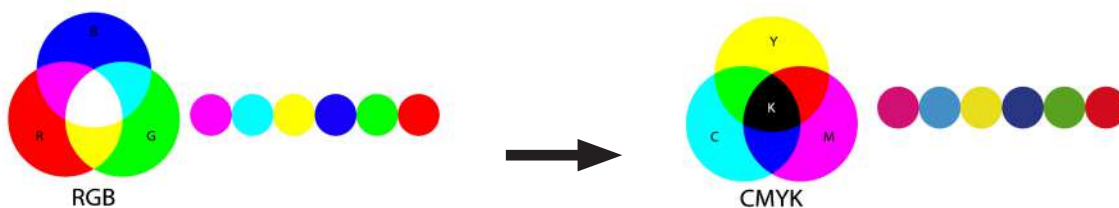
RGB colour range:

The RGB colour range is an additive color mixing method of the colors red, yellow and blue. This mode is used for all digital applications on the screen (e.g.: computer screen, TV, smartphones, digital cameras, etc.) and is additionally backlit on the PC.

CMYK colour range:

The CMYK mode is a subtractive color model used throughout the printing industry. This color model is composed of cyan, magenta, yellow and the key color black.

Lab colour range:

This colour space describes all perceivable colors and is completely device-independent. It is based on the physiology of human perception. Since the Lab color space is not dependent on devices, color information can be converted from other color systems without loss.
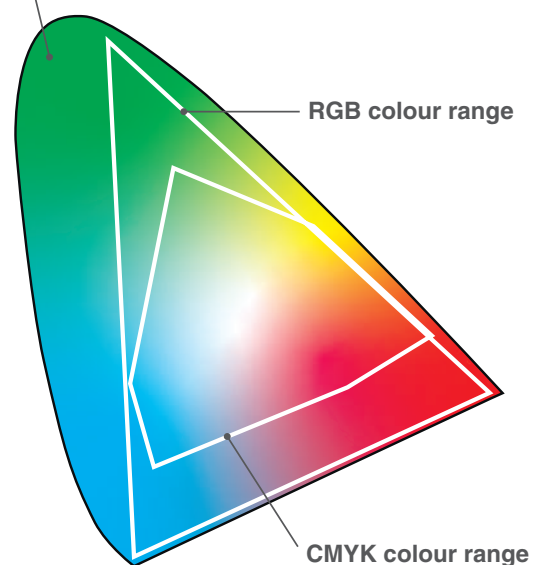
If an RGB file is converted into a CMYK file, color changes will occur. In order to achieve an optimal print result, a color adjustment must therefore be carried out.

Picture size

In addition to the color spaces, the resolution of the images also plays a major role. For DTG textile printing, an image resolution of at least 300dpi is required, but a resolution of 600dpi is ideal.

What does dpi mean?
dpi means "dots per inch" - the number of dots per inch. However, the specification of dpi alone is not enough - it is also important on which image size you have a certain dpi number. An image that has a size of 10 x 10 cm at 72 dpi will thus be reduced to about a quarter of the area if the dpi value is changed to 300 dpi.

For printed products, a minimum value of 300 dpi is assumed. Naturally, very good printing results are achieved with higher values. For aeoon DTG Printer, a resolution of 600dpi is ideal.

72dpi   300dpi   600dpi
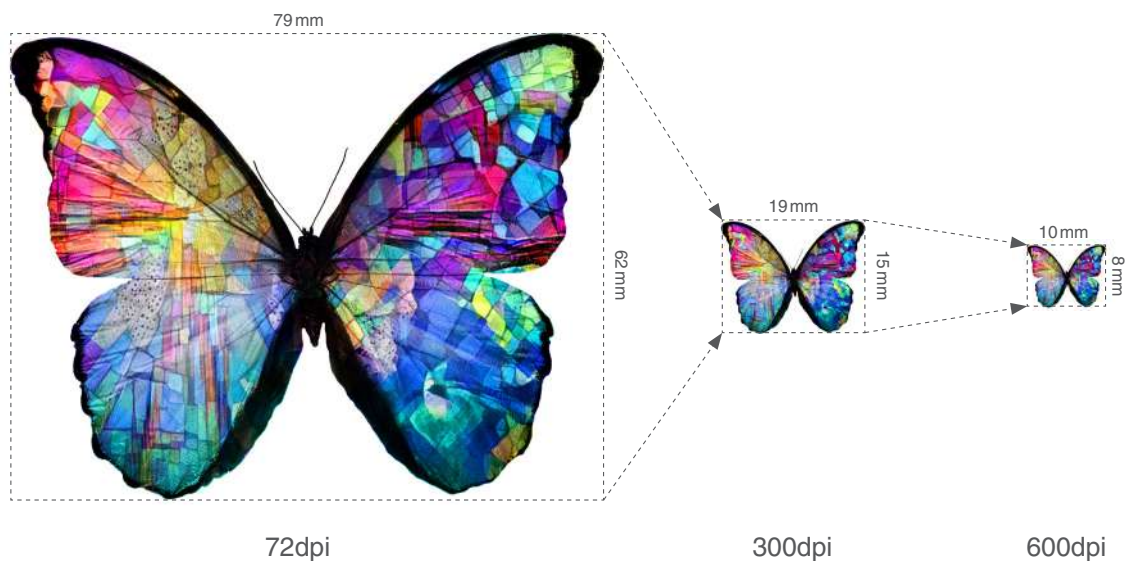
How to properly prepare an image for DTG printing:

»   Select CMYK mode

»   at least 300 dpi - 600 dpi are optimal

»   optimal standard image size is 40 x 50 cm

»   do not save integrated paper print profiles

»   transparent background

»   .tiff is the most optimal file format

»   crop image as tight as possible -> output loss!

»   (i.e.: do not save a 10 x10 cm design on a 40 x 40 cm file)

The settings in the following tutorial are not definite rules! The values should be set individually for each image by the person processing the image so that the best possible end result can be achieved in printing.

We recommend performing the following work steps:

1. Change the colour mode to CMYK

2. Check the DPI of the design

3. Remove the background for printing on dark/black garments (examples)

4. Adjust the graduation curves

5. Do a tone correction

6. Adjust hue/saturation

7. Adjust brightness and   **Kontrast**

8. Adjust colour balance

if the final result after 4. and 5. is still not satisfying

optional

1. Change the colour range of a picture in Photoshop:

Click on "Mode" (located among "Image") A little menu will appear on which you are able to choose the correct colour range.

Here you can see the difference between an RGB coloured picture before and after being transformed into CMYK colours. As you can see, the difference is very noticeable.
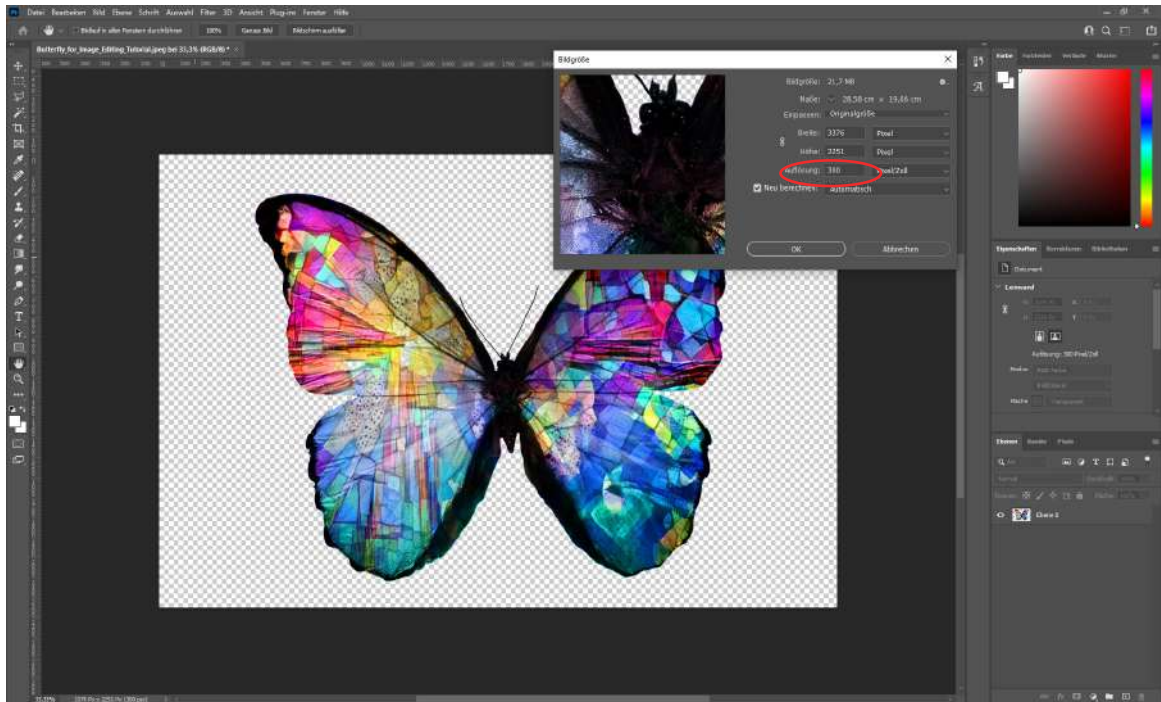

before the transformation - still in RGB   after the transformation via Photoshop - now in CMYK mode

2. Check the dpi

» Photoshop -> Image -> Image size

3. Removing the background of an image:

» Photoshop -> Magic Wand -> Select the background -> Remove via STRG/x

» this method is only recommended for images with simple and clear outlines and backgrounds with contrasting colors; for designs that are difficult to crop, we recommend consulting the designer directly for removing the background
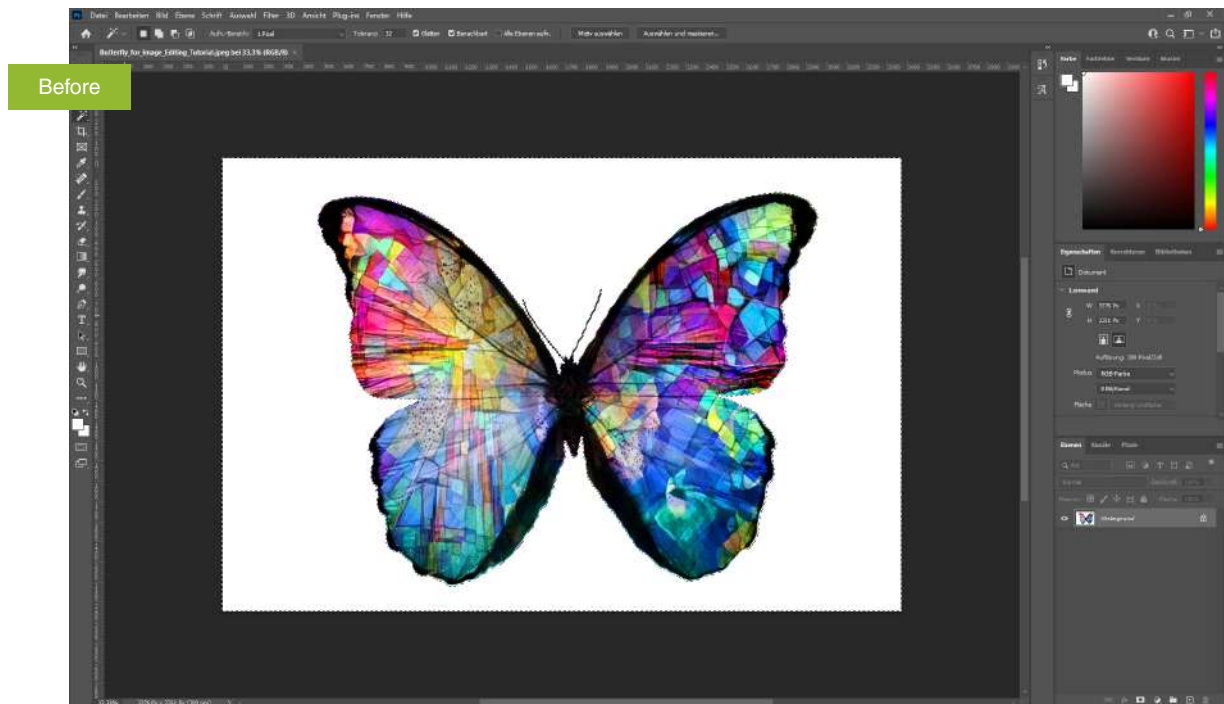
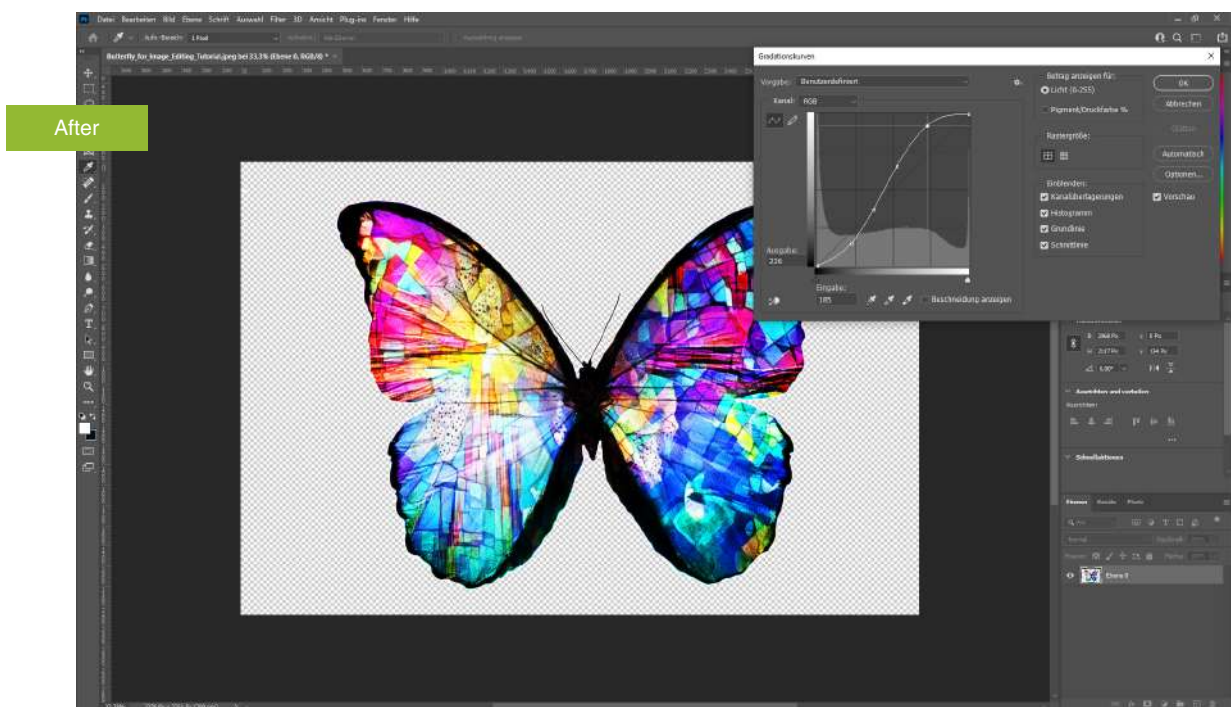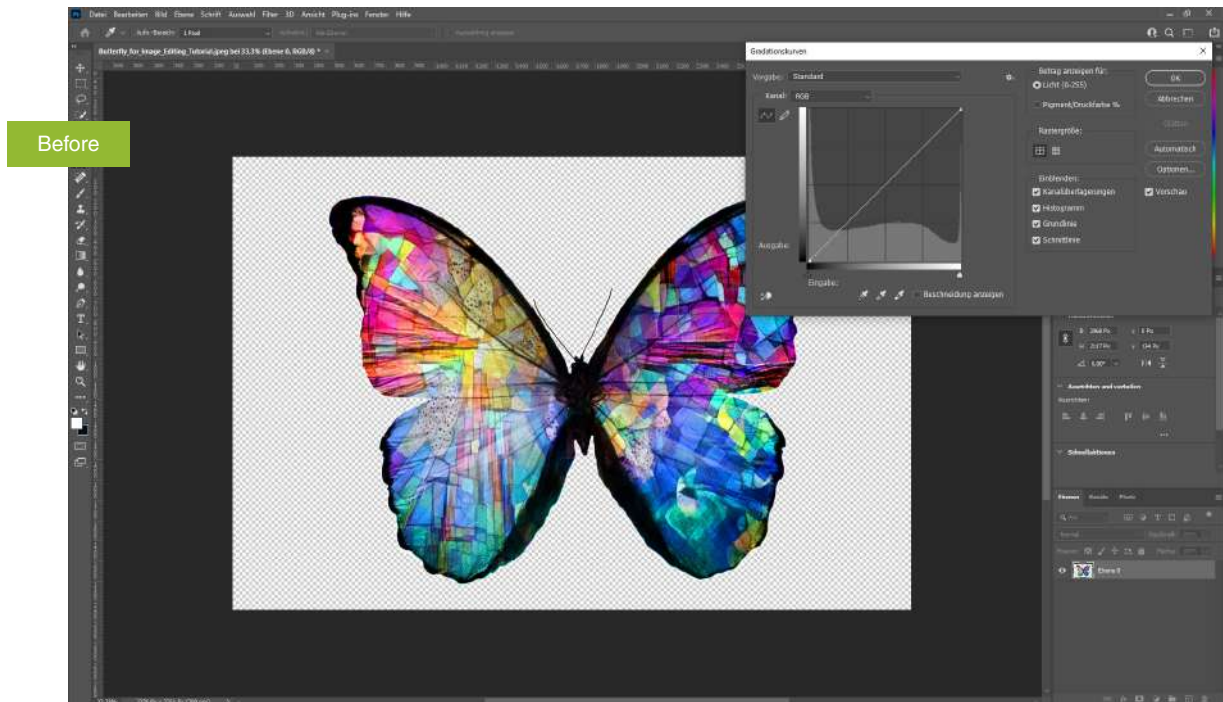**Transparent background:**

White background:

Black background:

4. Adjusting the graduation curves:

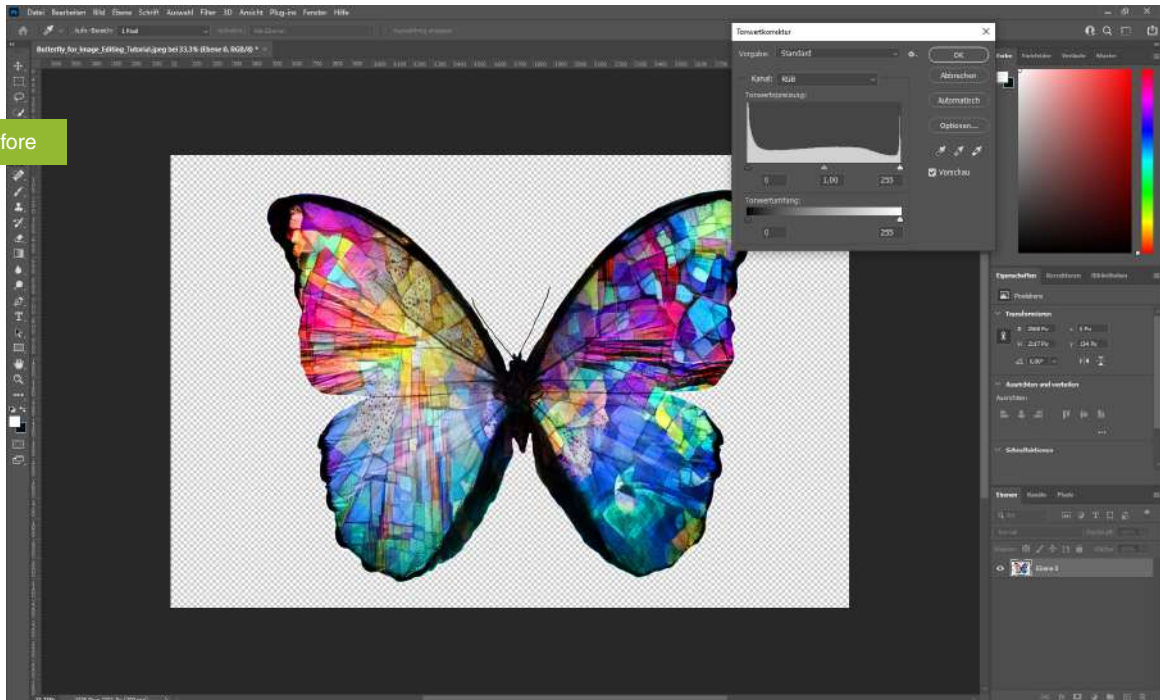» Photoshop -> Image -> Corrections -> Curves

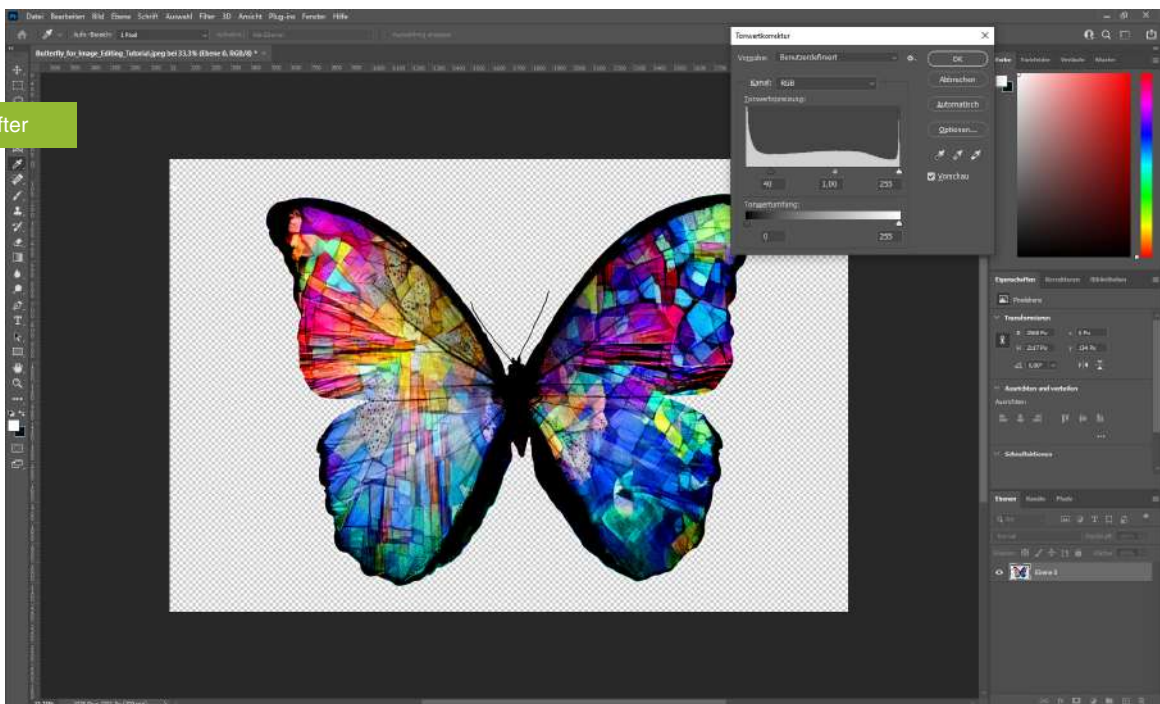» Example: before/after as seen on images below

Before

After

5. Doing a tone correction:

» Photoshop -> Image -> Corrections -> Levels

» Example: before/after as seen on images below

Before

After

6. Adjusting hue/saturation:

» Photoshop -> Image -> Corrections -> Hue/Saturation
» Example: before/after as seen on images below

Before

After

7. Adjusting brightness and contrast:

» Photoshop -> Image -> Corrections -> Brightness/Contrast

» Example: before/after as seen on images below

Before

After
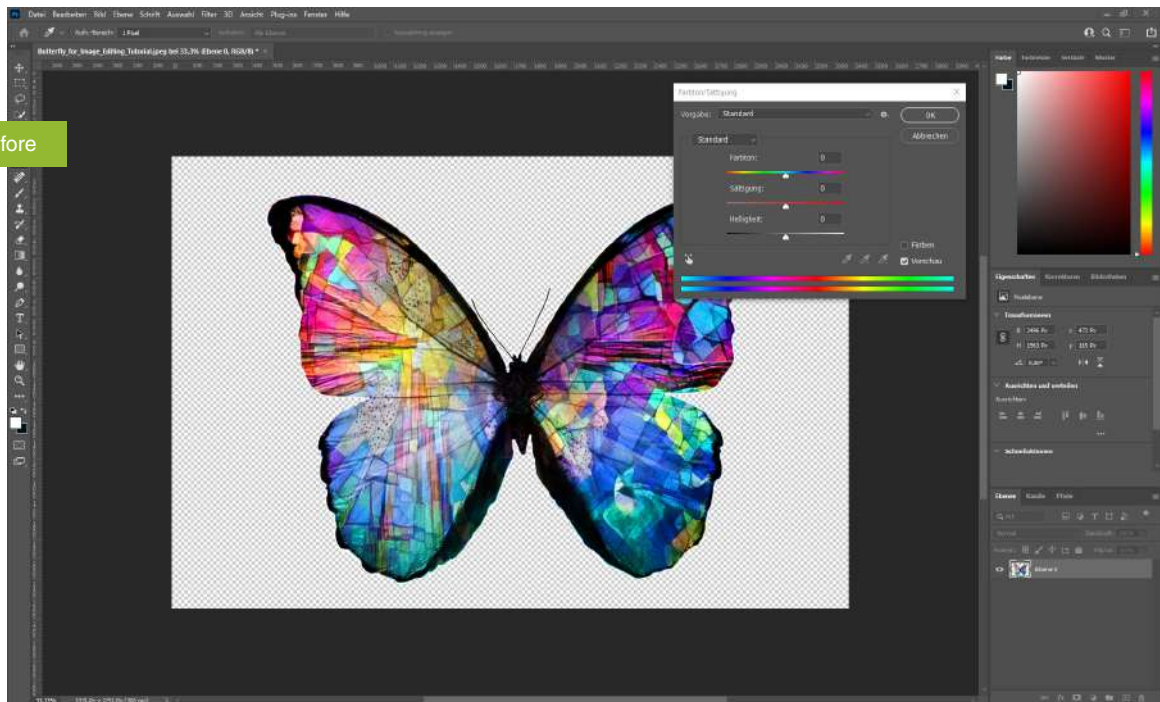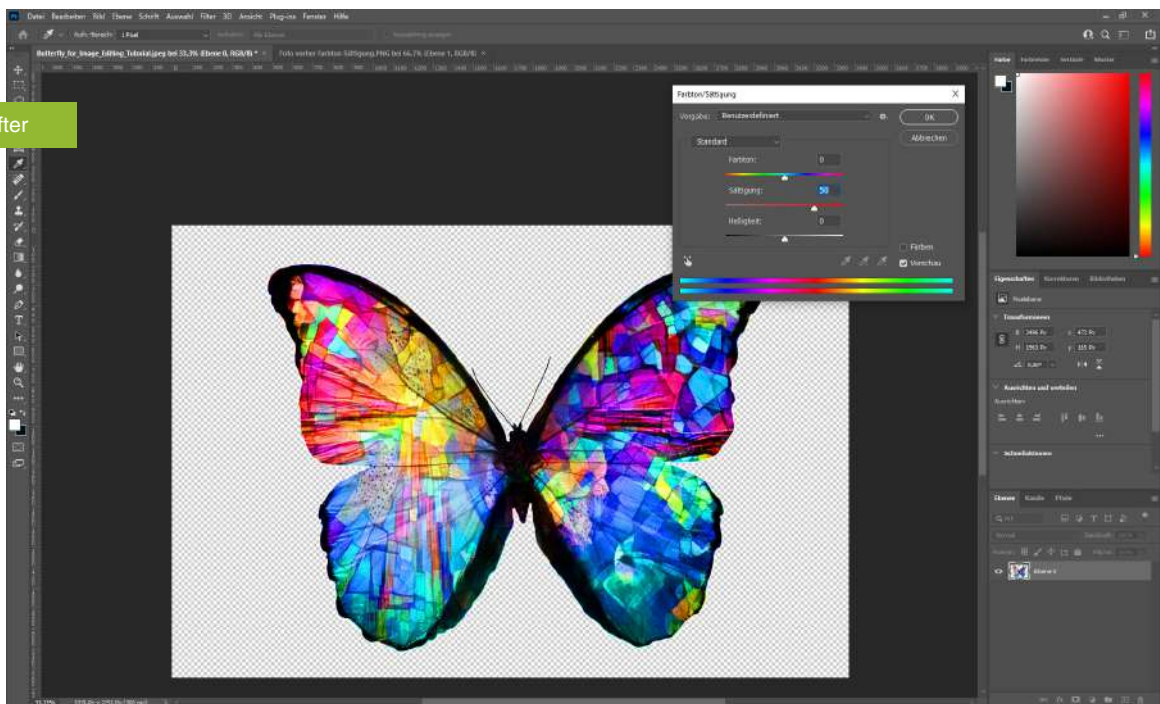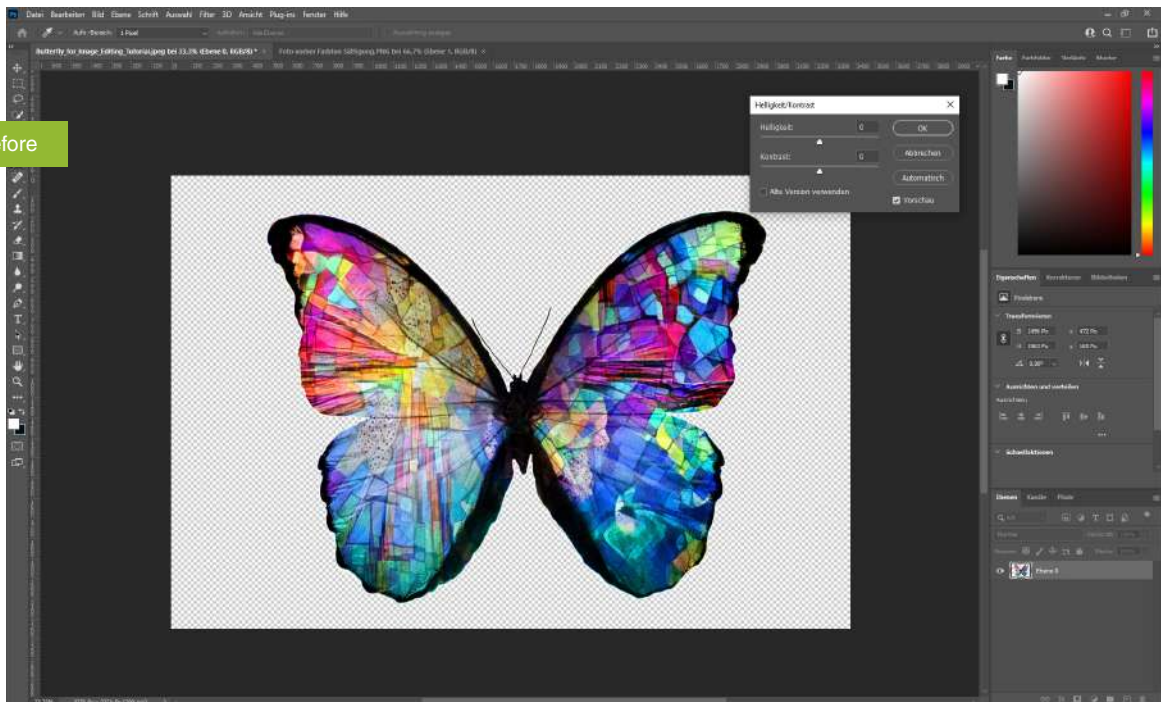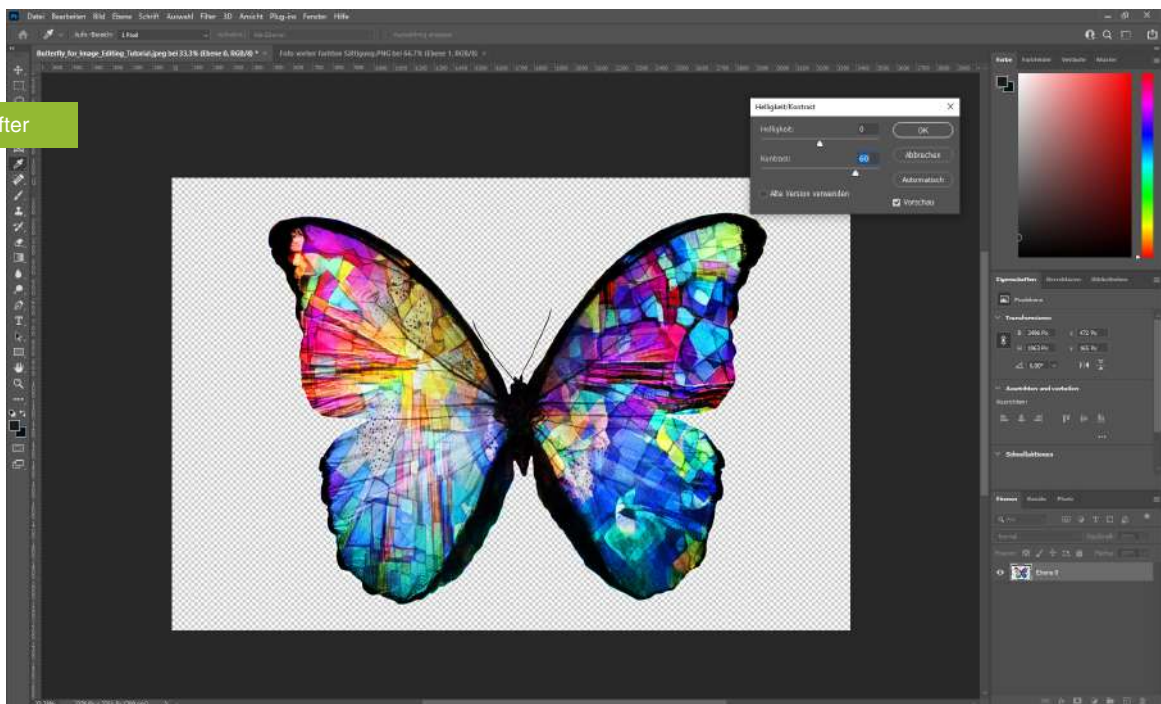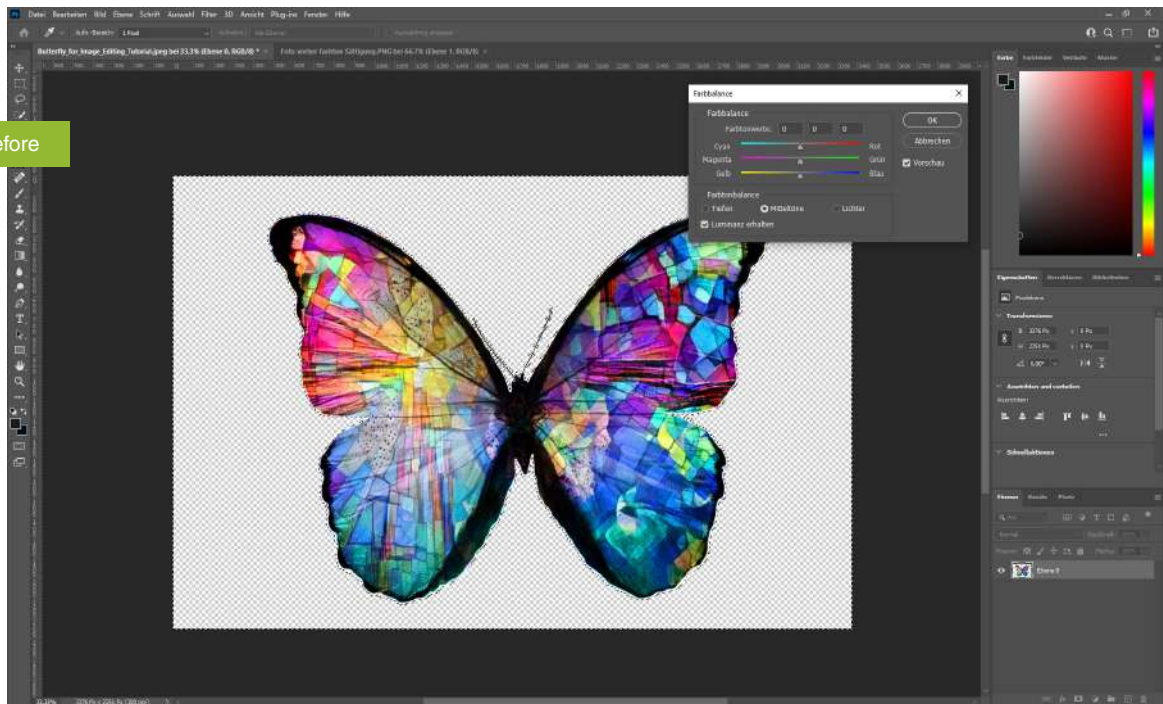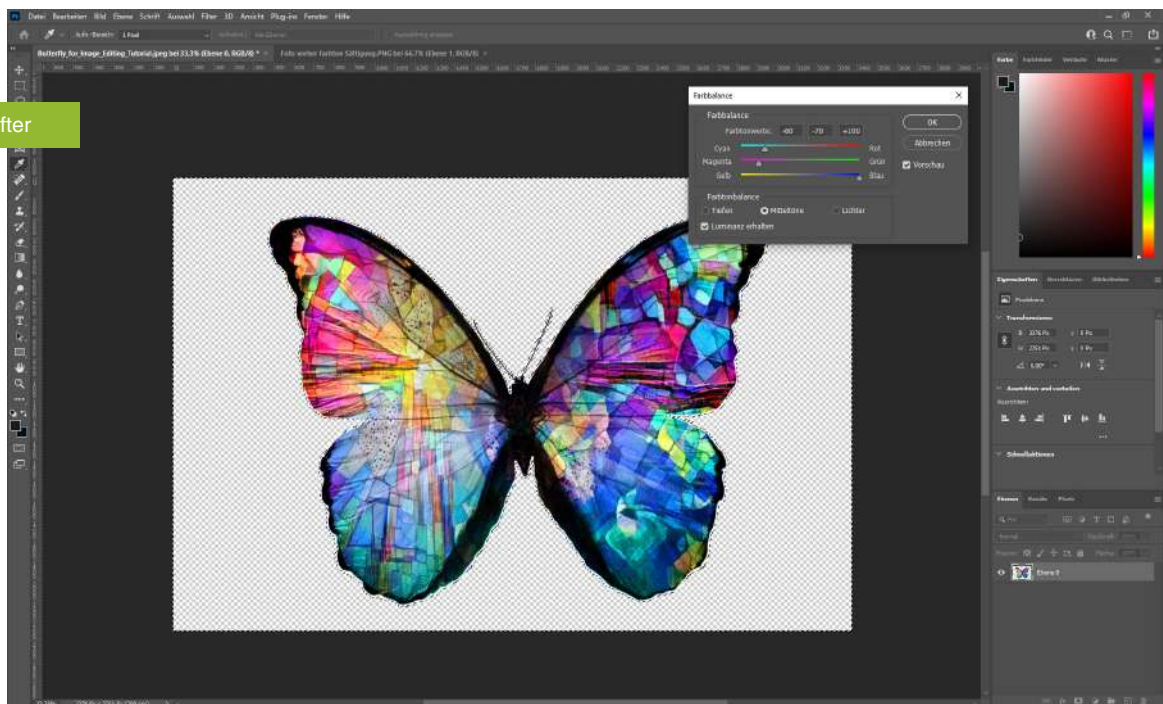
8. Adjusting the colour balance

» Photoshop -> Image -> Corrections -> Balance
» Example: before/after as seen on images below

Before

After

File formats

Last but not least, the file format in which the design is saved is important. The different file formats differ from each other and do not have the same properties. Files in .tiff format are best suited for DTG printing.

Recommendation: Ideally, all fonts in designs should always be vectorized.

List of the most common file formats:

- .tiff - Tagged Image File Format

. The TIFF file refers to large files that always maintain the optimal image quality. They do not contain hidden data and links, and thus cannot hide virus codes. TIFF files are ideal for storing important, confidential information and data, since it is very difficult to alter or even falsify them. This is why this file format is so well suited for DTG prints, as no important image data is lost. Transparencies are saved with TIFFs! TIFF can be used for pixel files.

- .psd - Adobe Photoshop

This file type can not only save different image layers and transparencies, but can also be edited afterwards if required. Photoshop files can only be used to a certain extent for passing on data, as it cannot always be assumed that the recipient has a Photoshop license. Therefore it is advisable to convert this file type before passing it on. Photoshop files are optimal for saving designs and images whose editing is not yet complete. PSD files are pixel files.

- .png - Portable Network Graphic

PNG files are relatively large because they display images and designs at a very high resolution. PNG files have good compression options, use relatively little disk space, and still ensure high image quality. PNGs are relatively large, however-er, because they display images at a very high resolution. PNG files can store transparencies! It is a format for pixel files. However, PNG files only work with the RGB color space, so they are not really suitable for DTG printing.

- .jpg

JPGs are ideal for websites and the like, as there are no loading times because the amount of data is so small. JPGs can also be used for images when the image quality is not so important and the memory is not so big. JPG files cannot store transparencies! JPGs are pixel files and work only in RGB color space, so they are not recommended for DTG printing.

- .pdf - Portable Document Format

PDFs are a popular file format and are used primarily for longer texts. Colors, raster, vector graphics and fonts are rendered accurately and completely. The display of PDFs is platform-independent, as there are display programs for all common platforms. PDFs can also display transparencies and are used in the printing industry primarily for vector graphics.

- .eps - Encapsulated PostScript

This file type is one of the most transparent file types, it contains file descriptions so users can view many details of the im-age without having to access the image. EPS files are very configurable and scalable. EPS images are very versatile when it comes to storage and resizing. EPS files are vector based and can display transparencies. EPSs are vector files.

Pixel files vs. vector files

Pixel files are so-called raster graphics. They consist of pixels arranged in a raster. Each pixel is assigned a color value and together these pixels make up the finished image. They are well suited for displaying photos and color gradients. The main disadvantage of pixel files is the severe degradation of image quality when the image is enlarged. The rasterization creates what is known as a "staircase effect" - the images look blurry and pixelated when enlarged.

Vector files, on the other hand, are so-called image rasters. In contrast to pixel files, they do not consist of pixels, but of geometrically defined basic elements. The individual vectors consist of lines, circles, curves, etc. and as a whole result in complex graphics. Vector graphics are particularly well suited for the representation of geometric designs and fonts. They can be enlarged without limitations - no matter how large you make a vector file, it will always maintain the same image quality. They require less memory than pixel files, but they cannot display photos, etc. They are popular in the printing industry. They are popular in the printing industry because you can print regardless of size and a business card, for example, can be printed with the same file as a large format poster.

Saving vectors as pixel files

You can save vectors as pixel files. For example, Adobe Illustrator files can be exported to a .tiff file. If you save a vector as a pixel file, however, you must know that the saved image then also naturally no longer has the properties of a vector. This is important to know because of the size of images. For example, if you export a vector in the size 5x5cm to a pixel image, then this image is logically also 5x5cm. From this size, the vector can be easily stretched into a 50x50cm image. However, if you try to bring the corresponding pixel file to this size, the final result will be heavily pixelated. Therefore it is important to save a vector as a pixel file in the size you want to continue working with or print.

On the following page you will see an example for how vector files and pixel files differ.

Vector file:

As you can see, for a vector, size doesn't matter!

Pixel file:

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