Printing a 3D Airstream

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I was born in Switzerland in 1968 and as a child I was fascinated by shapes and colors. The toys which got my attention were the ones built in detail and they were always the most important to me. Soon, if I saw a toy I wanted which was not very detailed, well, I just had to build a better version myself! Eventually, this became the main reason I ended up as a designer and why «Think Differently» became my life motto.

I have found that I get really enthusiastic about my ideas and over the years this has developed into me becoming completely dedicated and tenacious to realize my visions. So for a long time, I have been a passionate designer, senior creative director and 3D artist.

From the moment we saw an Airstream, my wife Gabriella and I have been fascinated by their form and their mysterious charisma but, without an Airstream of our own for decades, we could only dream about what the ownership experience would be like. Eventually we decided we needed to be brave and adventurous and, in January 2015, we imported a 1972 Safari from the USA all the way to Switzerland. As soon as she arrived we started dismantling and renovating her with our interior design ideas, putting our passion and hearts into this beloved project.

Later I was looking for a model that I could put on my desk. After searching worldwide I found nothing in a suitable scale and nothing, as I mentioned above, which met my standards of detail or with the right level of vitality. Once again there was only one solution - I would have to build my concept of what an Airstream model should be like. As in the past, this model was to satisfy my own needs but something else developed from it as inquiries from the Airstream community started coming in!

You may be thinking that a three dimensional print is just an on-screen image that comes out of some kind of printer. This is not the the whole story! A 3D model component fresh from the printer is like a blank. Many steps, like the surface treatment, are needed before it reaches the required perfection. You can compare it to a cut diamond which gets its quality only from the last stage.

So, how is the 3D Airstream model created? In the beginning there is not an Adam and Eve, but a simple geometric cube in a three dimensional software space. I use a program called Cinema 4D and with this I digitally form the individual polygonal surfaces using templates from the chosen Airstream. Using the front, back, side, top and bottom views, I can get a rough basic form of the model to be mapped. It is exactly the same as a wood carving, just created digitally on the screen.

As the Airstream takes shape on the computer, I get the first feeling of the model and its characteristics. After that comes the really challenging part. Throughout the next stage the important features, such as the shapes and curves seen on the original, need to be recorded individually, formed in the program and then reshaped repeatedly until they are correct. The deciding factor comes from always having the original dimensions to refer to. An Airstream cannot be made by eye!

One of the fascinating things I find in my work is that, with each project, time and time again, background knowledge is required as well as the dimensions I am given. By the end I often have learned more about the object than the owner himself. On an Airstream, I have to deal with each individual rivet, screw and much more…

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Another special feature of a 3D print is that you also have to see the digital model from an engineering perspective. 3D printing has very specific physical properties and restraints as the printer cannot print freely in space. It always has to build layer by layer from a shape on the base. Another factor is the overall size of the model. For example, an Airstream 684 International (22') at the scale of 1:18 has a total length of 480mm (19"). The printer's volume range is limited to 150x150x200mm (6"x6"x8") and this restriction dictates that the model has to start as a carefully planned series of components to be assembled at the end from its various modules. There are many other things that have to be considered in 3D printing but I won't bother you with them here!

The 684 is not my first Airstream model and it won't be my last. I look forward to exciting creations ahead and am also grateful that I have been able to bring into to my career something that I love so much.

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