

Rick Baker, The Star Wars Famous Makeup Artist Uses 3D Printing for The Creation of Monsters and Props.



*“A lot of people that started out with me or who have worked with me over the years, have also gotten into 3d printing. They all said good things about **Raise3D** and I thought this looks like the printer for me, so I bought one. So right away, right out the box, I started printing things and I pretty much didn’t shut it off...*

I’ve also been really happy with the service. And I can’t say that about the other printers I’ve had where it’s been very difficult to get someone to respond to an email or an answer. I found this company to be great about that.”

- Rick Baker_Special Makeup Effects Artist

Rick Baker has been able to create parts and scaled copies of his movie characters by using the technology of 3D printing. This technology along with the digital design has helped to decrease overall time spent for the creation of the movie models.

In the film industry, special makeup effects are always evolving. Many traditional methods include hand sculpting in clay, mold making, and casting; but now with the introduction of innovative tools such as 3D printing and new materials high and better performance to create printed models is achieved. Artist Rick Baker has been doing makeup since he was 10 years old. As the first generation of kids who grew up in front of the TV, Baker was fascinated by the classic horror film monsters that he grew up watching.

Rick Baker, an Artist Was Born

Rick Baker was born on December 8, 1950, in Binghamton, New York, USA as Richard Alan Baker. He is known for his work on **Star Wars: Episode IV – A New Hope (1977)**, **Men in Black (1997)**, and **Planet of the Apes (2001)**.

Since bringing 3D printing, Rick Baker has been able to effectively create parts, prototypes and scaled copies by printing directly 3D models and eliminating unnecessary steps such as sculpting and molding by hand. Also, by decreasing overall the time for his creations with the help of digital design and 3D printing.



One of his first inspirations was makeup artist Jack Pierce, who was head of the makeup department at Universal Studios and the creator of iconic looks such as Frankenstein(1931), The Mummy (1932), and The Wolf Man (1941).

“I mean Frankenstein saved Universal. And his work, they still make money on his designs today.” says Baker, “But I took note of that. I’m going to make sure I know what’s new and current and stay up, cause I don’t want to be obsolete.”

While iconic, Pierce didn’t stay current with the times, he continued to do his makeups in the same style, while other tools and processes were being adopted. During the 40’s, many of the studios were using foam rubber, being this invented a decade earlier. The lack of change prompted the studios to favor somebody new.

When first hearing about 3D printing, Baker immediately started trying to figure out new ways that this could be applied to the film industry. At that time, many people were saying that this technology can be only used for 3D print appliances (appliances are little rubber pieces you put on faces), the acceptances weren’t quite there. Regardless, Rick could still definitely see a use for it.

“A number of years ago I got a cheaper 3d printer and started doing things with it. I saw how word processing was so much easier than typing. And I thought, I wish there was a way that you could draw on that, and I had somebody look into it and I got photoshop when it was 1.0”

He fell in love with the digital technology and with having the features that allowed him to have the ability to go back to, cutting and pasting among others than later could be translated into 3D modeling pieces. With hundreds of designs that he already had designed on his computer screen, Rick was able to physically create these works with ease by using 3D printing.

“The reality is there’s so much process involved in what I do. It’s very precise work and very artistic work as well,” Baker Says.

Due to the nature of this art creation, each piece is unique and requires its own set of processes and challenges. The basic process of creating a prop or application piece involves first modeling the desired piece out of clay, creating a mold of the sculpt, and finally casting a piece from the negative of the mold. One of Rick’s more recent makeup looks involved creating parts and props for a Halloween event with his family. Utilizing design software Z-Brush, he digitally designed and sculpted the variety of parts to be printed which included some sword-based props and finger extensions. The finger extensions for his daughter were created by modeling one finger, then scaling the size up and down to print a copy for each finger. This process was able to print the final product and avoided the molding and casting phases.

“I basically modeled 1 finger in Z-Brush and scaled it up and scaled it down and printed out copies of them and basically just popped them onto my daughter’s finger.”

With traditional modeling methods, over a week of time would be needed to create something like this. The modeling of the one initial finger took about 20 minutes and was re scaled to various sizes. Within the same day, the first version was printed and wearable.

An additional effect that was created for the makeup look included the design of a tongue. The theme was vampires from the TV series “The Strain”. For Rick, he began by creating a traditional clay sculptor, molding, and casting the final piece as a proof of concept. Once the concept proved possible, he digitally created a model for his daughter and printed the negative of the mold and was able to cast within it.

For both the fingers and the tongue piece, sizing was an issue that would have been more prominent if done traditionally. Resizing involves sculpting the model in clay again and again until the model is correct. Each time molding takes place, this clay model is destroyed and would be created anew for each change in version.

When creating the tongue effect, Rick decided to model digitally. If the sizing was incorrect, he could just go ahead and re scale it until the size was right. Fortunately for Rick, the sizing for the first print of the tongue piece was perfect. Regardless, Rick mentions how sculpting digitally has the added benefit of creating pieces in a quicker way due to the fact that you're not pushing clay around.

With a 3D model, all these changes can be made easily and efficiently, but in the case of the tongue that needed to be made in a non-rigid material; he further utilized the 3D printing process to eliminate the mold making step. Instead of printing the tongue itself, he printed the shell of the mold to use directly.

“That whole process I just saved so much time on those items. Same thing with the sword handles and things that I did. To actually model it, mold it, cast it, I'd still be working on it.”

For finger extensions, you would first have to cast the hand and create a base to sculpt on. Just to get this part ready, that would be 3-4 days of prep. If making quick work out of the sculpt, it would be another 3 days to create the clay model. Another 2-3 days goes into molding.

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