

## **3D Printed Stop Motion Film**



Watch a very interesting, funny and creative video made by the use of combining 3D print technology with stop motion. Created by <u>GoEngineer</u> in collaboration with <u>Tandem</u> <u>Motion Picture Studios</u>.

To make a clever and cute film such as "SHeLvEd" is no easy endeavor. Before actually filming, the CEO of GoEngineer, Brad Hansen, along with Tandem Studios President Nathan Smith and GoEngineer engineers Tyler Reid and Kevin Lynk had to answer such questions as what the storyline of the film would be, who would star in it, and what sort

of tone it would have. Next, Reid and Lynk had to design and print their characters, in a way that would suit the needs of a stop-motion video.



During the design process, some parts underwent up to 6 design iterations. For instance, Gary's thigh required four design revisions in order to ensure that the hip and ball joint could hold support Gary's weight.



The entire film was completed with an arsenal of 3D design and <u>printing equipment</u>. To craft such objects as Gary's bazooka, the team used SOLIDWORKS Flex feature in order

to create two copies of the gun: one that remained intact and another that we destroyed after being fired by Gary in the film. Interestingly, the team paid extremely close attention to detail, even giving the 2" grappling hook fired from the bazooka working gears, which had a clearance as low as 0.007".



In fact, Gary stands at 16" tall. Orienting the parts for printing, however, had certain limitations.<u>Reid explains in a blogpost</u>, *"When it came time to print the parts, careful consideration of the print orientation was needed. With FDM printing, vertical walls look the best and parts are strongest parallel to the layers. For some parts we had to balance aesthetics and strength – the parts had to look good for the camera and withstand the rigors of filming. With the palms for example, our original prints (oriented for best aesthetics) had to be reprinted (oriented for highest strength) after the snap-fit caused the plastic to crack."* 



Filming the short was left to the Tandem Studios team, who photographed the GoEngineer Salt Lake City print lab from all angles, before filming the actual animation in front of a green screen. Then, in post production, the stills from the print lab were super-imposed to bring the setting to life. Over the next couple of months, 3200 stills and 700 hours of filming and editing were transformed into the 5-minute-long film you see above.

## http://xyzprinting.co.nz/3d-printed-stop-motion-film/





Tao khuôn mẫu

Mô hình kiến trúc





Dụng cụ y tế

