The Nightmare Before Christmas: Puppet Fabrication— Part 1

By David Bossert

(Tim Burton, left, and director Henry Selick, right, on one of the sets during *The Nightmare Before Christmas production*.)

As a movie fan, I am often fascinated as much by how something is made or how an effect is achieved on screen as I am about the finished film itself. Those gee-whiz moments that we all experience when we go to the movies and see something that makes us smile or wonder how the filmmakers created a particular look or effect. Because of those moments, many of us will go back and see a movie a second, third, or more times in the theater. I felt that way when I first saw the early dailies for *Tim Burton's The Nightmare Before Christmas* (1993) while working on the project.

I was curious about how they made the film's puppets and wondered what the filmmaker's thinking was behind their design choices. Just look at the main character Jack Skellington with his slender legs and tiny feet. How could that puppet be animated or even stand on a set without falling over? Yet, I watched the film and marveled at how fluidly the characters moved across the screen. Regardless of how many times I've viewed the movie, the craftsmanship of puppet design and construction helped enable the animation, which collectively continues to pull me into the story.

(Jack, Sally, the Mayor, Dr. Finkelstein, and other characters in The Nightmare Before Christmas.)

During the production of *The Nightmare Before Christmas*, more than 227 characters with elaborate articulating metal armature wireframes were custom designed, machined, and assembled at the Skellington Productions facility. The armatures included seventy-four individual characters and duplicates of the main characters. At least a dozen Jack puppets, six of Sally, eight Oogie Boogies, and numerous others were created because of the wear and tear they go through during the animation process. The team also

needed duplicates so the same character could be animated simultaneously by different animators on different sets to meet the production schedule.

(Rick Heinrichs' original sculpture of Jack Skellington. Note how thin the legs and ankles are with the tiny feet. That thinness was an issue for the puppet fabricators, and a new sculpture was created so that ball and socket joints for the lower extremities could be machined.)

The creation of dimensional, articulating puppet characters for any stop-motion film begins with sculpting the characters. Visual consultant Rick Heinrichs, whose sensibility towards adapting Burton's original designs was established early in their friendship, made full-size clay models of Jack, Zero, Sally, Santa Claus, and Oogie

Boogie. Heinrichs, who had an original Jack sculpture from his days with Burton at Disney, created Jack's new sculpture based on discussions with the puppet fabricators.

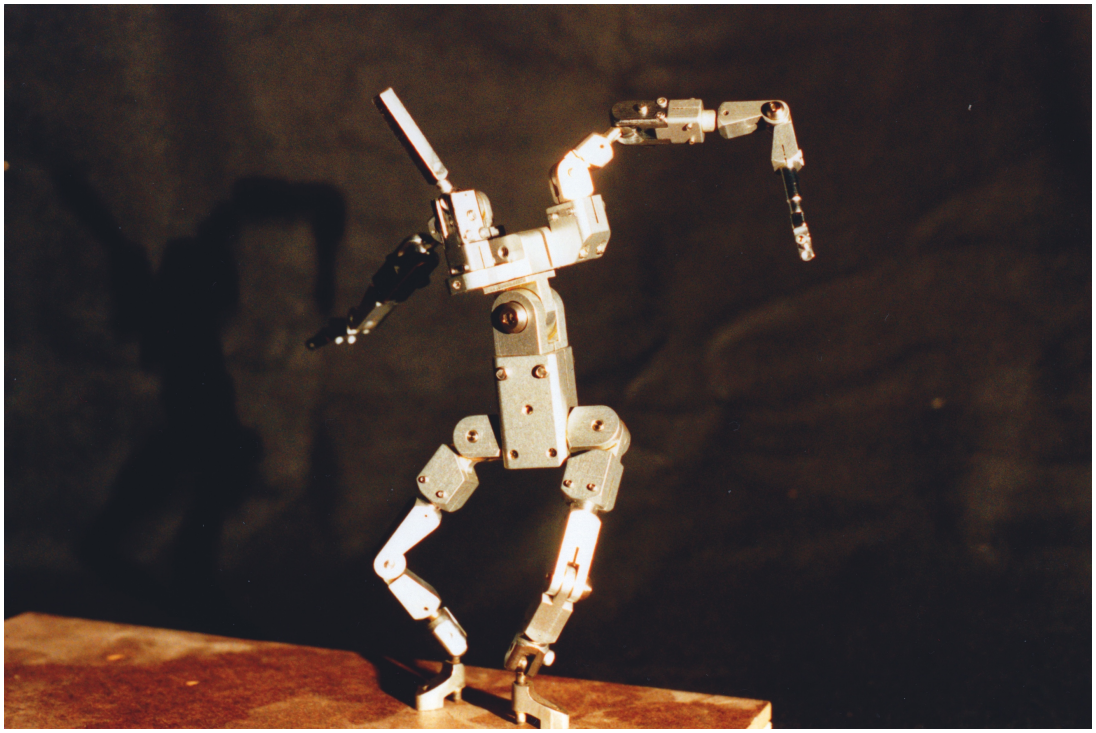
(Rick Heinrichs' original sculpture of "Sandy Claws.")

The fabricators had concerns about Jack and complained that it was impossible to make ball-and-socket joint pieces for the original sculpture design's tiny feet and ankles. Yes, Jack's feet were even smaller then what ultimately made it into the movie. It required some minor redesigns. New clay sculptures created for each character went through an approval process. Burton reviewed each sculpture, either in person or by

viewing Polaroids, and gave notes. There are several surviving Polaroids that Burton drew on, indicating for the artists where changes were needed.

It was not difficult for Heinrichs to create a new sculpture of Jack incorporating the notes he got from the team making the armatures. The armature is a simple metal superstructure, or skeleton, inside the puppet that allows the animators to pose the puppet frame to frame. It creates a stiff structure that holds its shape and adds stability to the puppets on the set. However, Jack had such thin legs and small feet that the animators had to fasten him to the ground plane on the stages to stand firm and not topple over. All puppets had to be tied down (through a hole drilled in the set's ground plane) for every footfall. The animation can be jerky, and the action will pop in and out of the frames without a well-designed and thought-out armature. The armature is the most critical part of a high-quality stop-motion puppet and adds to smooth animation achievement.

Tom St. Amand and his protégé, Blair Clark, created armatures that would define the main character designs in addition to designing and building the humongous armature that gave Oogie Boogie his range of motion. According to St. Amand, "Armatures have to be practical. They are useful things that have to work well and be able to withstand a great deal of abuse and wrenching around. When I design armatures, I act out the moves myself and actually put the thing into poses before I hand it over to the fabricators and sculptors."



(An typical armature for one of the puppets was machined out of metal and used ball-and-socket joints that were stiff to maintain a pose. Photo courtesy of Mike Belzer.)

"The main challenge with the puppets on this film was to make them animator friendly," St. Amand said. "Some of the designs had really small feet and spindly bodies, not typical at all for stop-motion, and we had to make them move with as few restrictions as possible." The tiny feet and ankles were always a point of discussion once everyone saw Burton's original designs. "Tom St. Amand came from ILM. He built his own copies of King Kong armatures. He was, you know, solid and strong, but he's brilliant," said Selick. "And he figured out a way to make the entire foot out of metal and came up with a new way to do an ankle that could support him. And because Jack was so thin, it wasn't as much mass up top. So, it was an engineering challenge, but Tom found a way."

The other issue that the filmmakers had to deal with was facial expressions. The original designs that Burton had done in 1982 were opposite the Disney house style of

wholesome, doe-eyed characters. It was an attempt to break out of the Disney mold, and do something different, go against the grain. In animation, one of the first things a viewer looks at is the character's eyes. So, when Burton designed Jack, he purposely gave him no eyeballs. "That's why I loved it. I used to torture Disney by saying, 'It's great, there's the first character with no eyeballs.' Then they'd get all paranoid," laughs Burton. The eyes are the facial feature that animators can pull a lot of expressions out, complementing the dialogue and the action. But Burton designed Jack without the eyes to challenge that notion and the animators. It worked: Jack is every bit as dynamic and expressive as he would have been if he had pupils and eyeballs.

(Replacement heads for the Jack Skellington puppet representing many of the expressions and mouth shapes needed for dialogue.)

To get Jack's range of mouth positions and expressions needed for his dialogue and acting scenes, Selick decided that a series of replacement heads would be the best way to go. Story artist/character designer Jorgen Klubein drew every conceivable mouth and facial expression that Jack might need in the film, used as a guide for fabrication.

Sculptors Shelley Daniels and Randy Dutra re-created those expressions in clay on full-size heads of Jack. Nearly four hundred different facial expressions were created, with each one drawn, sculpted in modeling clay, molded in rubber, and then cast in a polyurethane plastic resin. Each head was then individually airbrushed to give it the proper coloring and accents. Duplicate Jack sets brought the actual number of heads up to nearly eight hundred, with available moods ranging from neutral/happy to sad and mad. Special Jack heads were also made to accommodate his beard and hat for his Santa costume, while others showed him screaming, yawning, or sleeping. These are aspects of the process that are often taking for granted while watching the movie.

In Part 2, I will be exploring the process of casting the latex "skin" that covers the puppet armatures, including the necessity to fill the body of Oogie Boogie with stuffing due to his size. Also, I'll touch on how the *Nightmare* puppets were costumed and painted complete with interviews from the artisans.

Portions of this article have been extracted from the author's book, *Tim Burton's The Nightmare Before Christmas Visual Companion*. All footnotes attributions are noted in the book.