Rocket J Squirrel

Documentation

CC42 Historical Masquerade

Kevin Roche

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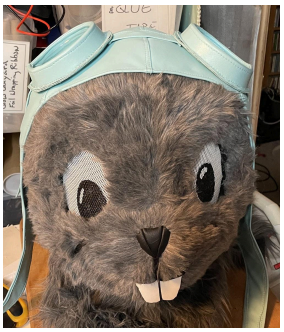

Kevin Roche
Costume-Con 42 Historical Masquerade

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Reference Material

Origins

***Rocket "Rocky" J. Squirrel**, also known as **Rocky the Flying Squirrel**, is a fictional character and one of the two male protagonists of the 1959–1964 animated series Rocky and His Friends and The Bullwinkle Show (both shows often referred to collectively as The Rocky and Bullwinkle Show), produced by Jay Ward. Rocky is the best friend and ally of the western moose, Bullwinkle. Both Rocky and Bullwinkle were given the middle initial "J" as a reference to Ward.*

Wikipedia, “Rocky the Flying Squirrel”
https://en.wikipedia.org/wiki/Rocky_the_Flying_Squirrel

Rocky first appeared on screen in 1959 (filmed in 1958) in *Rocky and His Friends.* He and his pal Bullwinkle shared a home in Frostbite Falls, Minnesota, and had many adventures, frequently foiling the plans of villains Boris Badenov and Natasha Fatale.

As Rocky and Bullwinkle were first created as 2D representations in 1958, I realized building Rocky could legitimately be considered a “historical recreation” and decided to have some fun.

Design Considerations

While Rocky is technically a flying squirrel, on screen he was almost always represented as a biped quadruped, without the patagia (gliding membranes) between the forelimbs and hind legs of a true flying squirrel. On occasion during active flight the patagia were shown. His flying in the series was usually accompanied by jet engine noises and sonic booms in the soundtrack.

Rocky is a uniform grey color, with the 3-fingers-and-thumb hands seen in many cartoon characters, two-toed feet and a bushy tail seen in many positions, often arching up behind his head.

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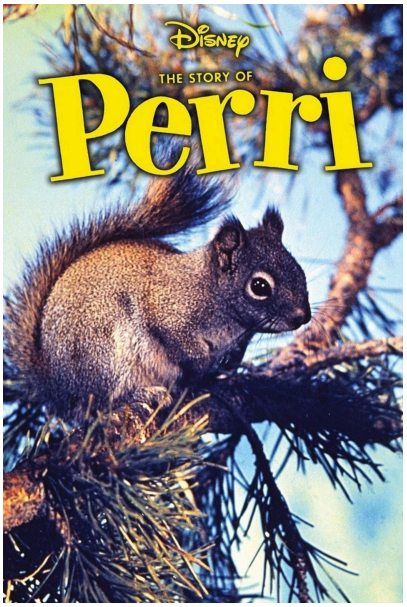
Rocky is *always* portrayed wearing a blue stylized flying cap with goggles, with the ends of the chinstrap hanging loose (even in flight). His goggles are almost always depicted on top of his head

The one exception I found was in one of the early title sequences, where he pauses mid-screen after swooping in to wave high to the viewing audience and lifts the goggles from his eyes to their usual top-of-head position

Other famous 50s squirrel stars

1950: *The Great Rupert*, a stop-motion creation of George Pal from film of the same name, about a neighborhood squirrel who saves the fortunes of a down-on-their luck vaudeville family.



1957: *The Story of Perri*
An adventure film from Walt Disney Productions, based on Felix Salten's 1938 *Perri: The Youth of a Squirrel*. It was the company's fifth feature entry in their *True-Life Adventures* series, and the only one to be labeled a *True-Life Fantasy*. In doing so, the Disney team combined the documentary aspects of earlier efforts with fictional scenarios and characters

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Construction

(I've maintained a detailed ongoing build diary at https://twistedimage.com/closet/build-diaries/costume-con-42-historical/)

Overview

Rocky is often portrayed on screen with a peanut- or pear-shaped body, with skinny (essentially tubular) arms and legs connecting his paws and feet to the body. In flight his limbs are often drawn more proportionally.
I opted to not attempt replicating that bulbous torso, but instead focused on his very recognizable head, tail and flying cap to make him instantly identifiable to an audience..

Patterns and Design Resources

- The form (skull) for Rocky's head is based on the MantaCraft 001 "Kiko" Kemono Base
- The body is based on the Andrea Schewe SImplicity 2853 Adult Costume animal suits pattern
- Paws are a 4-finger modification of a free 5-finger paw from matrices.net
- Rocky's tail, flight cap, and feet are all original designs by me, as is the rigging to properly support Rocky's tail
- I owe a big debt of gratitude for the free fursuit construction tutorials on matrices.net, especially with respect to hidden zipper insertion. (https://www.matrices.net/tutorials.htm)
- Invisible fur seaming technique from Sewing Julie (Julija Gobere) https://m.youtube.com/shorts/7vkGjJKRCP0?si=BMX7N6nIhTnwv3oN

Materials Considerations

Because Rocky is colored in the series as a uniform grey, only one color fur was used in his construction, a long-pile high-density slightly wavy faux fur called Punky Muppet. It is specifically manufactured to be shaveable, so while the same fur is used throughout the costume, the pile has been clipped to different lengths as appropriate to add texture and verisimilitude in the process of shifting Rocky from 2D to 3D

His flying cap is made of pale blue lambskin, with heavier cowhide inside the lens mounts for the goggles.

Rocky's head is built on a headbase ("skull") constructed of 10mm thick EVA foam, which is also used as a stabilizer in his tail.

Padding in the tail, feet and paws is done with Nu-Foam stabilized polyfill for lighter weight and increased breathability (and huggability)

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Working with Fur

Cutting

To avoid clipping the long fur pile (and reduce, though not eliminate, the amount of shedding during cutting), the faux fur is cut by marking out pattern pieces on the reverse side on the knit backing, then carefully (with a sharp X-Acto or utility knife) cutting only the backing.

Invisible seaming

Julija Gobere's video teaches a simple technique for piecing and seaming high-quality faux fur resulting in nearly invisible seams. Instead of seaming and trimming, one cuts the fur from the back right at the seamline. You then zigzag stitch the edges together, allowing one side of the edge to wrap over the raw edges of the cut fabric. (You can also stitch by hand using a blanket stitch or whipstitch.)

Once the seam is complete, you turn the garment right side out and comb, tease, and brush the pile out of the seam to the right side. The seam will be all but invisible.

(This is actually quite similar to the technique used by furriers to assemble multiple pelts into a larger garment; a commercial pelt stitching machine joins them at the edges with a chained blanket stitch)

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Shaving and Grading Fur

High quality faux fur can be shaved and clipped with pet clippers, allowing you to grade the pile length as appropriate for different parts of the fursuit. Rocky's fur is trimmed as short as ¼" plush on the inside (palms) of his forepaws/hands, and several different lengths on his face, head, limbs and feet.

I used a rechargeable pet grooming kit with multiple blade guards to achieve uniformity in the areas of fur I was clipping.

The metal comb included with the clippers was quite useful for teasing pile back out of seams after stitching, as well as a regular "detangling" hairbrush

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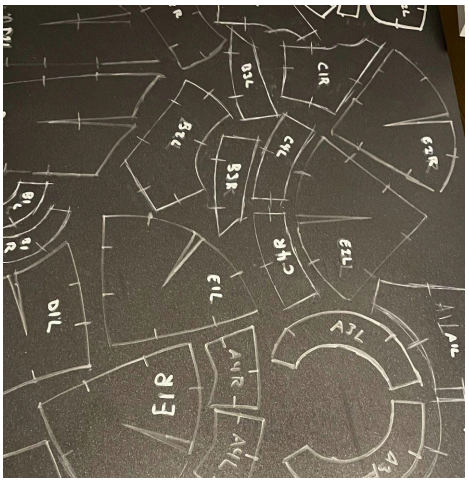
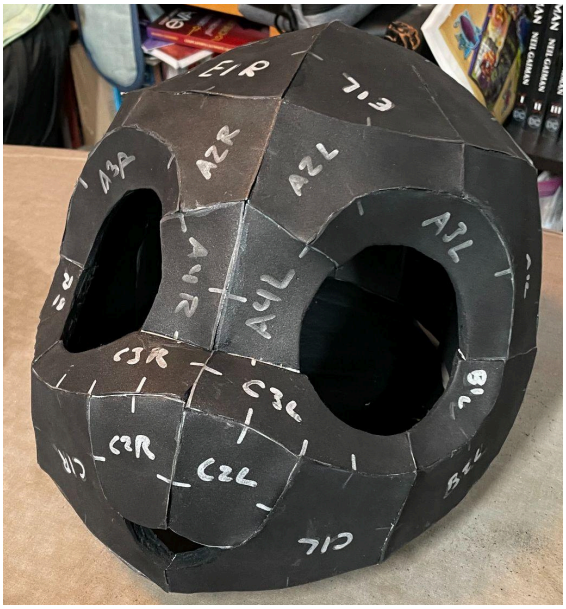
Head

Skull/Head Base

The head base or skull is a hollow shell, constructed by cutting 10mm EVA foam and using contact cement to join it on the edges.

A mix of rotary cutters, X-Acto knives and snap-off utility knives were used to cut the pieces, depending on the radius of the curves and corners in each

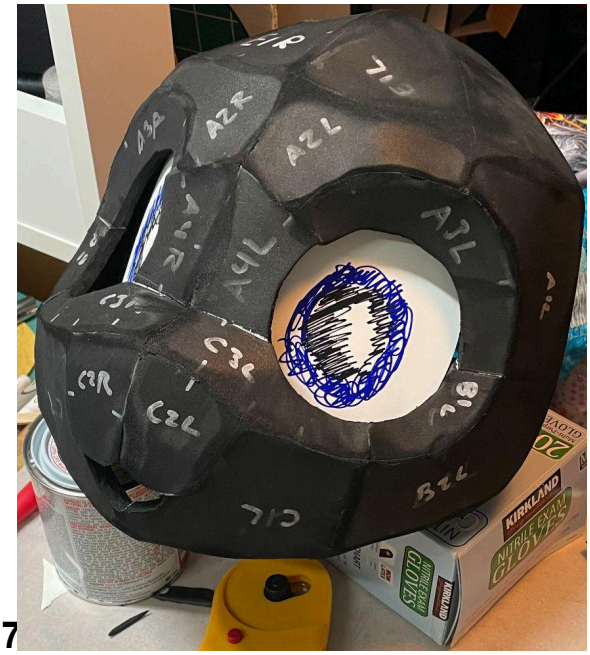




Edges are
cut beveled (mostly undercut, a few overcut) to help the 3D assembly form the spheroidal skull.
A heat gun is also used to encourage the foam to form softer, more organic curves.

After assembly, all the seam edges are sanded (I used an orbital sander and a sanding drum on a Dremel tool) to further soften the joins.

Here I have inserted a couple of hastily sketched eyes, and Rocky's personality is already emerging!



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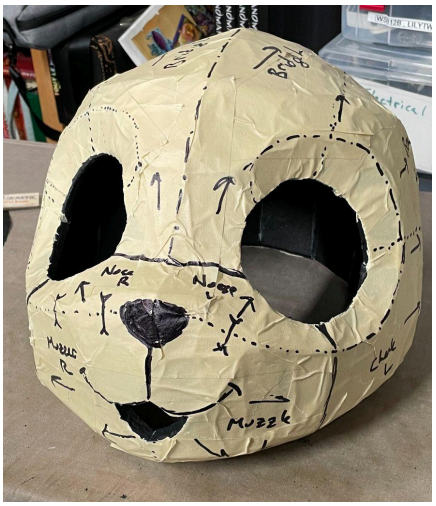
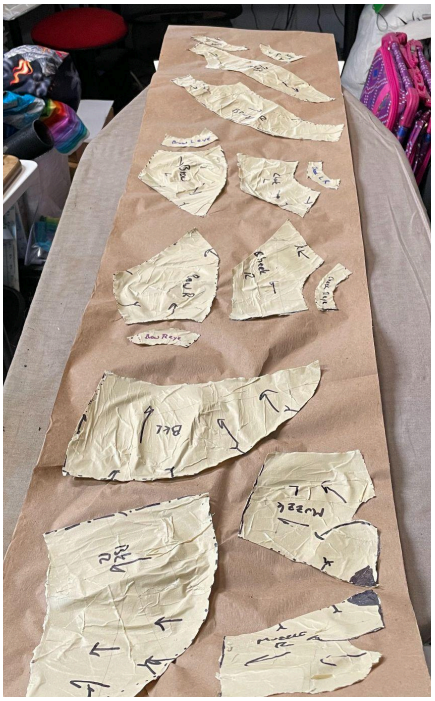
Furring

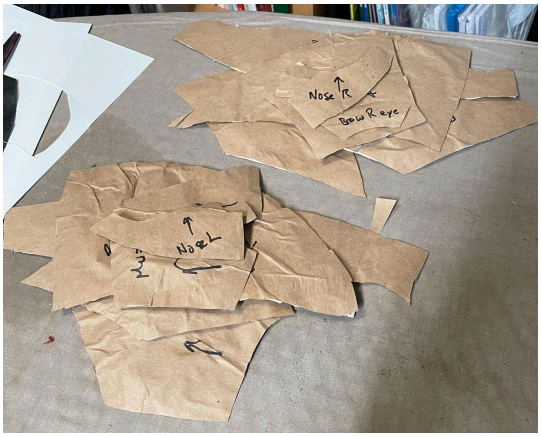
To create a pattern for piecing the fur for Rocky's head, I mummified the entire headbase in masking tape, and marked the direction the fur pile should "grow" in different areas. I then divided this up into regions small enough to cut flat, marked them out, and carefully cut the tape with an X-Acto knife and peeled the sections away.



Each was immediately transferred to brown craft paper and flattened as it was removed, and then those (the tape on brown paper) cut out to form my pattern pieces.



After comparing pieces from the left and right, I selected "master" pattern pieces for better symmetry in the resulting face.



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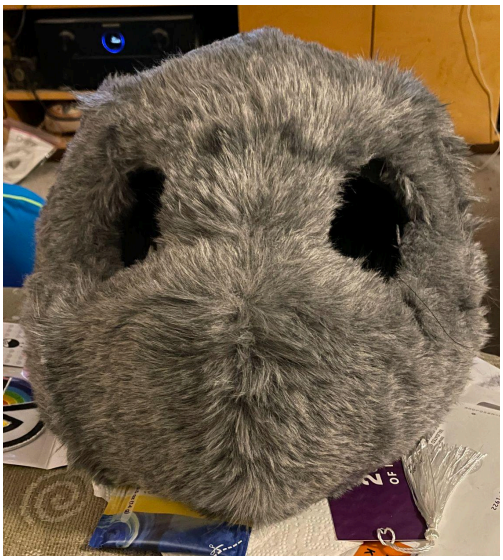
All the pieces qwew then cut from the fur. As many as possible were first machine-stitched together to form the head covering, it was then slipped over the head base and the remaining pieces hand-stitched into the assembly to complete the face.

At this point the full length pile is far too long, so judicious application of the clippers is used to grade the fur to an appropriate texture.

The furred head now begins to approximate our target appearance.



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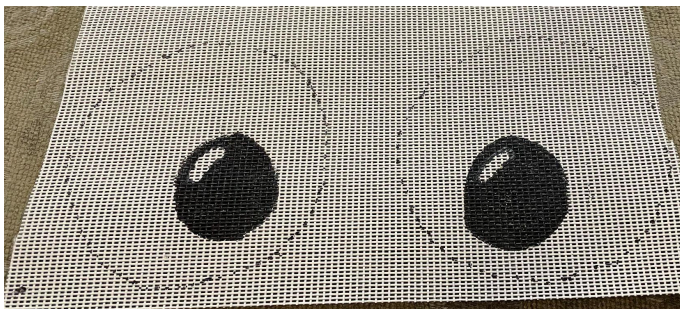
Eyes and Facial Features

Rocky's nose was crafted from a small scrap of lightweight garment leather with a pair of tiny darts sewn into it to give it both dimensionality and texture.

His lips are delineated with ¼" braid (the casing of black paracord with the core stripped out and a lengthwise line of straight stitching down the center), all hand-couched in place with invisible monofilament thread.

His teeth are crafted of laminated 2mm white craft foam, with a reinforcement strip of leather on the upper edge, machine stitched to the black braid before it was couched in place.



Rocky's eyes are made from black solar screen awning cloth which was spray painted white, and then the pupils hand painted onto the white screen.
Once everything was dry, they were simply cut out and fixed in place inside the head with hot glue.

Finally, a simple draped, split fur cowl was stitched into the inner edge of the head, to blend in with the fur of the body.

A ring of 6mm EVA foam was fitted to my head, then glued to the inside crown of the head base so Rocky's head doesn't wobble and will follow my head movements.

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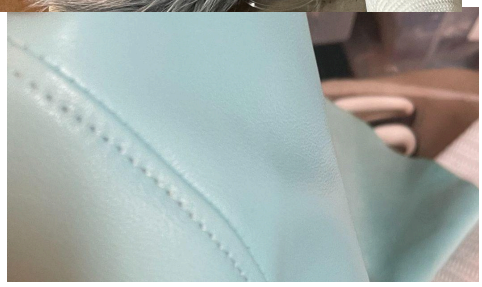
Rocky's Flying Helmet

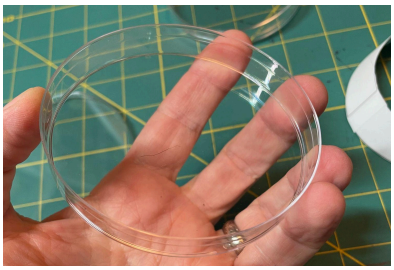
Rocky's helmet is inspired by those worn by "flying aces" of several wars. After attempting to grade several different vintage patterns to fit a head roughly the size and shape of a basketball, I abandoned that effort and patterned one from scratch. It is not unlike a medieval arming cap in basic design; it took four mockups to get a proper fit.

The cap



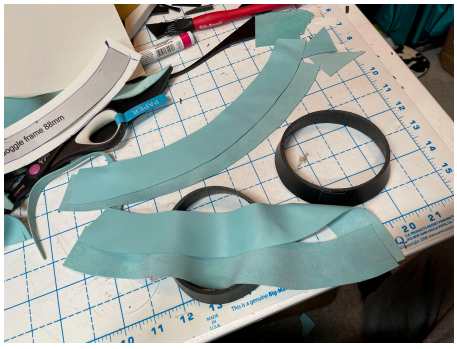
Rocky's cap is made from a soft blue lambskin, and once all the seams were in place, all the seam allowances were felled in place to make it as sleek as possible. The chinstrap ends were left without any buckles or any hardware because they are never indicated in the series.

Goggles



Rocky's goggles took longer to fashion than the main cap. For lenses, I settled on polycarbonate petri dishes, because their shape would make them easier to mount inside the frame, they would be very lightweight, and there would be no risk of glass shards should one get cracked. They also came 30 to a box, which was a bonus should one get scratched during wear.

The lambskin has insufficient stiffness to directly support the lens shape, so first I designed and stitched up heavier slightly conical leather support rings to be the frames. The lambskin was then patterned to cover those inside and out, and as a base to which the resulting assembly could be stitched and the goggle straps secured.



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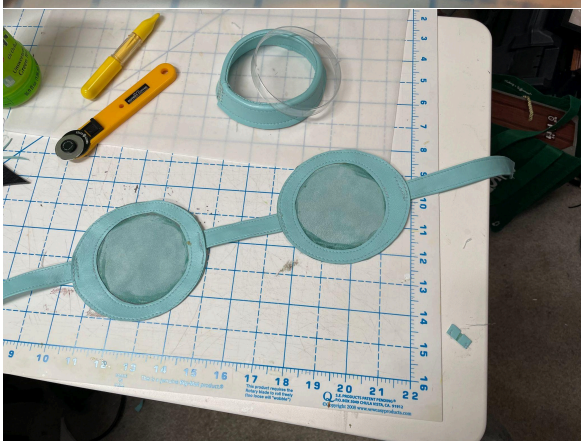
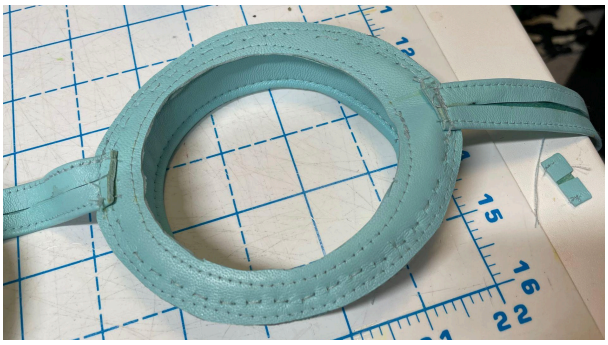
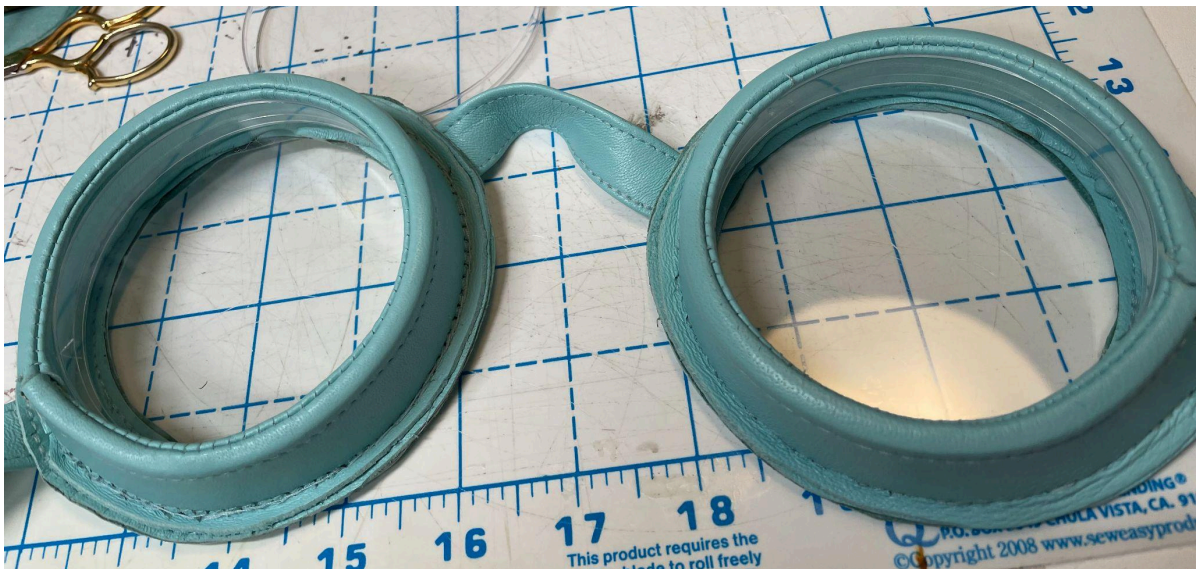


Almost all the final goggle assembly was done by hand stitching. Before assembly, I ran several of the components through my sewing machine with a leather stitching needle installed but no thread, to pre-punch the hole pattern.

In a few places requiring heavier stitching I used my leathercrafting tools to prepunch the stitching holes.





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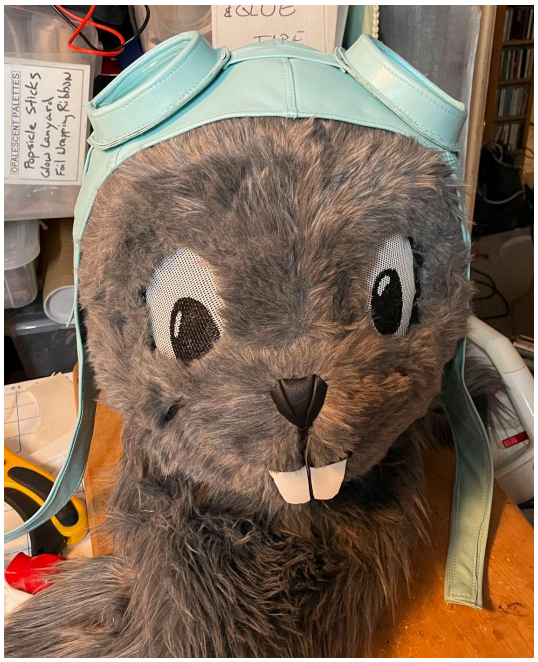
I took advantage of the fact that I owned some plastic snaps in my toolkit that were *exactly* the right shade of blue to go with the leather, and mounted the goggles to the flying cap so that Rocky can actually wear his goggles down, or in his customary top-of-head position.



Body

Rocky's body is in some ways the simplest component of the costume. I first did a quick mockup of the jumpsuit from the SImplicity pattern to confirm my sizing adjustments (I have to remove 2" from the torso length of most commercial patterns) and then set to work with the actual yardage. The chief variations from the commercial pattern were:

- Cutting away the seam allowance and assembling the main seams with the invisible zigzag technique
- sewing a separating zipper in the center front edges *before* sewing the center front seam, using the technique from matrices.net tutorials, which results in an almost completely undetectable zipper
- Eliminating the elastic at wrists and ankles, and grading the pile there slightly, so the paws and feet can blend in better.

(Additional modifications would be made for the rigging the tail after the basic suit was assembled)

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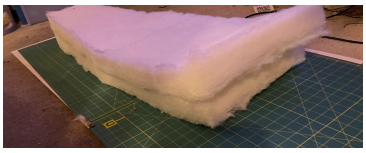
Tail

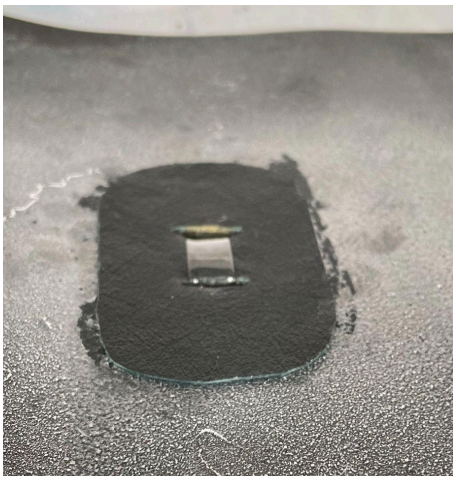
One of Rocky's signature traits is his expressive bushy tail, which sometimes is drawn as rising above his head. I knew that to support such a large object would require some significant engineering, and that I did not want the weight of the tail to drag on the body of the fursuit.
I also wanted the costume to be huggable, so the tail itself needed to be soft and not rigid.
I therefore set out to build a relatively lightweight stuffed tail that would be supported by rigging worn *under* the suit.

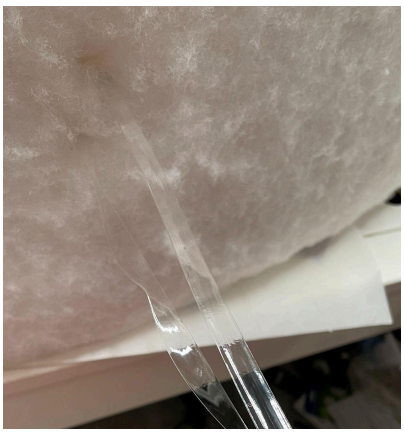
Tail fabrication

The stuffing inside the tail is 3 layers of 2" Nu-Foam exterior cushion batting. It is a stabilized polyfill that will actually let water pass through it and is commonly used for filling patio furniture cushions as opposed to close cell or spongy foams. The 2" thick batts were laminated together with 3M Super 77 adhesive.



In between the middle and lower layers of Nu-Foam, I inserted a curved brace of 2 heatformed pieces of 10mm EVA foam, laminated with contact cement to hold their curve. At the bottom of the EVA I attached a flap of garment leather which I could later use to connect the assembled tail to the body harness, and near the top I put a leather "washer" through which I could pass some ⅜" transparent silicone elastic. I pre-threaded the elastic through all the layers, then glued the final layer of Nu-Foam over everything.





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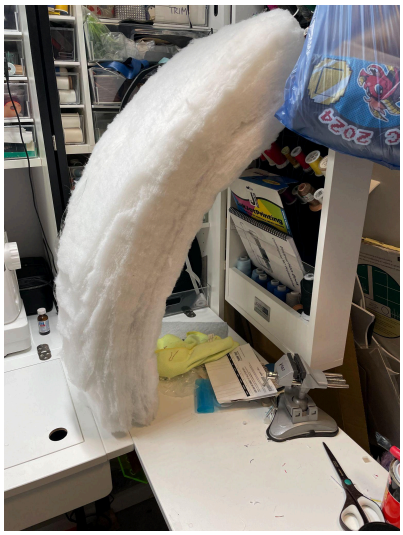
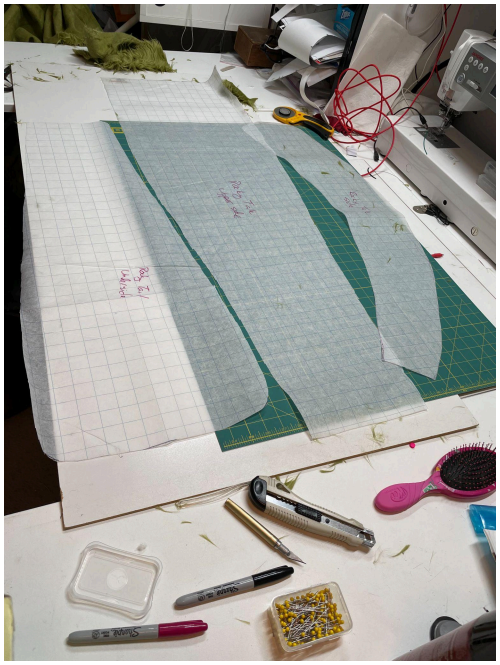
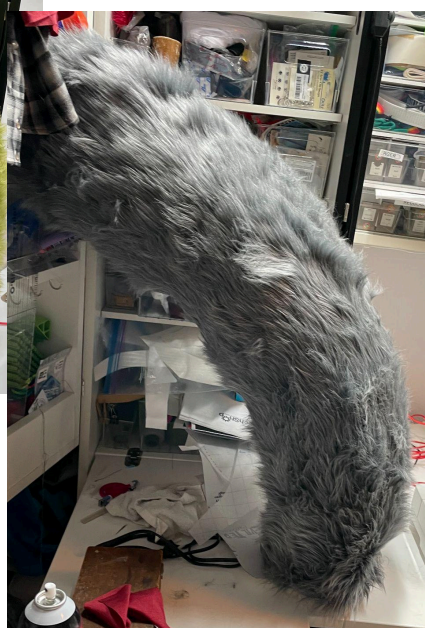
The foam was then shaped with scissors to eliminate all the square corners and achieve a more organic form.





I drafted pattern pieces from the carved foam, then transferred and assembled the tail from fur. I did a mockup in some random green fur from my stash, then adjusted and cut the final pieces from the good grey fur.



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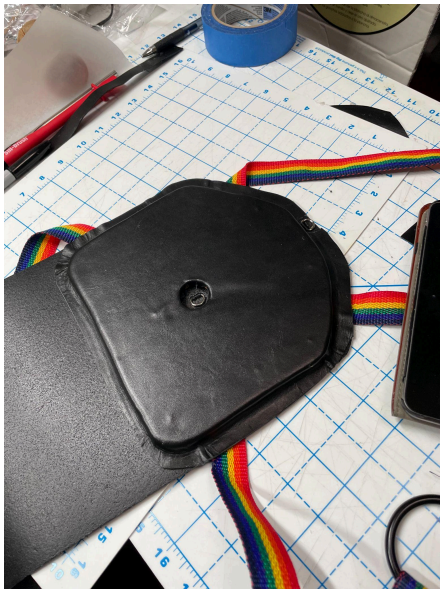
I worked the elastic through the front face of the tail, pinned the top and bottom to my first draft rigging harness, and tried it on to confirm the angle and proportions.

Tail Rigging Overview

Rocky's tail is supported from a harness worn under the fursuit body, with a heavy leather vertical panel held in place by shoulder straps and a waist band. The tail attaches to the bottom of the panel with a separating zipper and there is an anchor between the shoulder blades for a transparent elastic tether to the tail.

Body Harness Details

The harness itself is of fairly simple construction, but the weight of the tail on the upper tether was deforming the leather panel between the shoulders. A ¼" plywood reinforcement panel was screwed onto the leather and then covered with lightweight garment leather to prevent snagging the faux fur or giving the wearer splinters.



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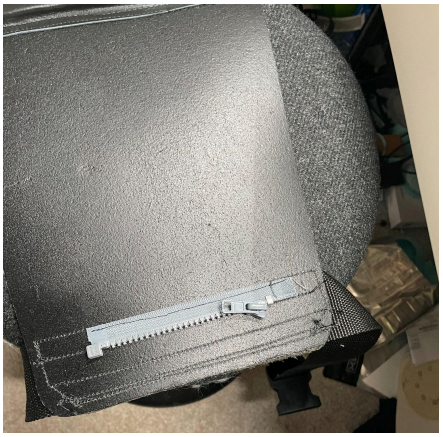

At the bottom of the harness was attached one side of a short separating zipper (with the slider).

The matching half was sewn to the piece of leather connected to the interior structure of the tail itself.

Attachment through the suit body

The suit body then had two modifications made: after careful measurement, an 8” long zipper was inserted perpendicular to the center back seam to create an opening to pass the attachment flap through the fur to the harness. (The zipper photo on the left is from testing the design on a green fur mockup, which did not feature the invisible seam construction of the “hero” suit)

A second, small gap was worked and reinforced through the center seam and neckline facing to pass the upper tether through for the elastic.

Everything was stitched so the attachments blend into the pile of the fursuit, and the tail appears to be an integral part of the suit body

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Paws and Feet

Paws

Rocky's 3-fingered paws are fairly simple. The pattern is a modification of the 5-fingered pattern available from the *matrices.net* tutorials, but the center two fingers are merged into a wider single digit to get Rocky's thumb-and-three-fingers paws.

The fur itself was clipped to 4 lengths before assembly: the palm of the hand to a very short ¼" plush, the back of the hand to ⅜-½", the wrist area to ¾" and the upper arm pile left untrimmed. The short fur on the palm is to make gripping objects easier.

A thin layer of Nu-Foam (the stabilized polyfill can be peeled

away in layers from the 2" batting) and a black spandex lining were basted to the back of the paw, then that was hand basted to the front (palm side) piece, and finally the seams were machine stitched using the invisible seaming method

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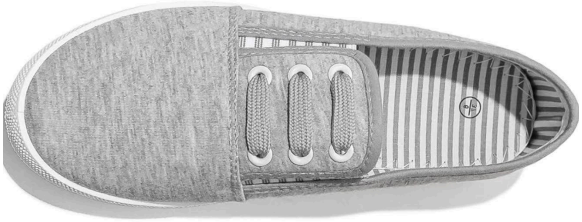
Feet

Rocky's feet were built on a pair of grey canvas deck shoes with elastic rather than laces.
I carved a NuFoam pad to extend the toe and hot-glued them to the toes.
A pair of web straps were also added to the heel and underside of the upper to assist with putting them on once the feet were complete.



I clipped a swath of fur down to ½", then patterned and stitched fur covers for the extended toes, put them in place and hand stitched them to secure them to the shoes.

I also prepped more ¼" braid from paracord sheathing to delineate Rocky's toes

Documentation: Rocket J Squirrel

The heel, ankle and shaft of the feet were patterned from more ½” clipped fur. To make the ankles tight enough, I stitched zippers onto the rear centerline before stitching the front seam and slashed the fur backing.

I then stitched the front seam on the machine, hand-stitched the lower edge to the bottom edge of the shoe canvas while inside out, then turned the shaft right side out and hand-stitched the shaft edges to the welt.

Finally, after confirming fit, I hand couched the ¼” braid to mark the toes with invisible nylon monofilament.

Documentation: Rocket J Squirrel

The resulting feet are comfy to wear, fit nicely to my lower legs, and because of the Nu-Foam padding, do not flop much during walking, which will make them much less hazardous to gad about in.

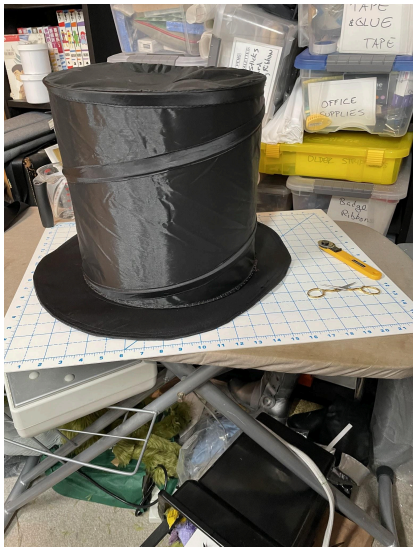
Documentation: Rocket J Squirrel

Props

Magician's Top Hat

We needed a moose-sized hat for Bullwinkles signature trick, and I needed it to fit in my luggage. I purchased a black pop-up cylindrical wastebasket and took a tuck around it by hand to shorten it

I then fashioned a wired-edge brim for it from taffeta and fusible buckram. Several hours of hand-stitching later, I had a giant 12x16" facsimile of an opera hat.



Documentation: Rocket J Squirrel

Satin blanket binding was used for the sweatband, hatband and bow.

PRESENTATION SPOILER ON NEXT PAGE

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Pulling The Rabbit Out of The Hat

One of the running gags in the interstitials between story segments in the Rocky and Bullwinkle shows was Rocky greeting the audience from stage, only to be interrupted by Bullwinkle promising to “pull a rabbit out of a hat”

He never succeeded; there were five variations in which instead the head of a bear, tiger, lion, rhinoceros and Rocky himself emerged from the hat. The variations rotated from episode to episode of the show.

A signature of the animal heads that emerged was that they were always larger than the diameter of Bullwinkle’s top hat.

I have accomplished this illusion by disassembling a pair of 12” radius fabric dance fans and combining them into a single large fan which if lifted by the center stick will fall open into a two-foot circle.

I printed the lion’s head onto printable silk as a tiled illustration, trimmed and fused the nine tiles onto a black silky woven (from my stash, fiber content unknown, but probably not silk), then stitched that to the circular fan edges and next to each stick.

Once it was secure, I slashed the lion illustration where the two end sticks of the fan met and secured the edges to the sticks with Sealah adhesive tape.

Gravity works its magic on our behalf to make the head appear

Documentation: Rocket J Squirrel

Hokey Smokes! Thanks for perusing my documentation all the way to its conclusion!

Kevin Roche