

The Anatomy of the First Arabesque

Building a Ballerina Skeleton Using Dancer's Knowledge and the Airfix 1:6 Kit

By Lauren Lassila and Ora Lassila

THE AIRFIX KIT OF the human skeleton in 1:6 scale was originally introduced in 1965. It features fully articulated ankle, knee, hip, wrist, elbow and shoulder joints. In addition, its head can be turned and the jawbone is articulated. The kit consists of a total of 48 parts molded in hard bone-colored polystyrene. The kit also comes with a stand that allows the skeleton to be hung in a standing position.

With a steel pin between the foot and the base, this ballerina can hold first arabesque indefinitely! The old Airfix kit served as the basis for this exploration of this common ballet position.

We bought the kit in 2008 on eBay for \$17.30, and based on the Scalemates database, we figure our copy dates from about 1967. The box still had its original price tag from Harrods, £0.68.

Unfortunately, some parts were missing. Our idea for this project was to convert the model into an authentically posed ballet dancer. To do this, we naturally would have to forego

the articulated joints. The exact position we chose for the model was first arabesque.

First arabesque is by far the most recognizable classical ballet position outside of the dance world. The iconic shape is featured consistently in art and media to illustrate the ballerina. In my mind, there was no other position better suited for a project like this one.

A solid first arabesque is something



all professional dancers have in their back pocket. Yet it is still something dancers spend their entire careers refining and adjusting. It serves as a technical benchmark. For a dancer, first arabesque is quite unforgiving. People in the business can already tell so much about your technique from just a still photo, and non-dancers can easily see when you've missed the mark.

Creating this model was an interesting exercise for me as a dancer. I had to rethink a position I practice every day, from the ground up. When I dance, I'm almost exclusively thinking about my musculature. Having to place just a skeleton in proper position took more consideration than I anticipated. Breaking down the placement of the pelvis and lower back in particular clarified and emphasized proper placement and has helped me in the studio.

BASIC CONSTRUCTION

The kit, despite problems with the fit of some parts, goes together well, but by no means is it an easy build. Particularly, the rib cage, which comes in two parts, requires troublesome work with the individual ribs, front and rear, to be pairwise connected on each side. We used liquid glue, one pair at a time, and afterwards carefully sanded the seams with coarse wet sanding paper – this was so as not to have to apply too much pressure on the fragile parts.

The kit comes with various rods that are to be used as hinges for the joints in the limbs. These were obviously not needed, and the corresponding holes were filled and sanded. Some of the limb bones that came in two halves, as well as the skull, required some seams to be filled.

Our old kit was missing some parts that had to be scratch-built from sheet

In order to achieve the proper pose, the spine needed to be broken in two places and other bones needed to be modified by being dipped in hot water and carefully bent with pliers.

styrene: one part of the scapula (i.e., the shoulder blade) and a small part of the wrist. This was not particularly difficult since the human skeleton is roughly symmetric, and we thus had mirror-image parts to use as templates. The results – in our opinion – are indistinguishable from the original parts.

POSING THE BALLERINA

Ballet, as a physical activity, often requires dancers to get their bodies in positions that ordinary people would consider “unnatural” by extending their joints beyond their normal range. The joint articulation of the kit was woefully inadequate to accommodate our chosen dance position, and we had to break several bones to

REFERENCES

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Jack Anderson, *Ballet & Modern Dance: A Concise History*, Princeton Book Company, 1992.

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get them to their desired positions.

The spine had to be broken in two locations to allow it to be positioned in a backward-arching way. A metal rod placed inside the spine made the structure stronger. The hip was placed in a slightly slanted position but in general did not require any other modifications

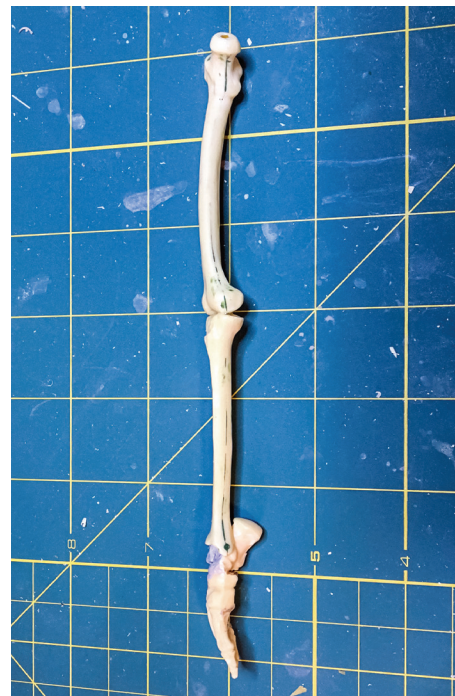


The kit feet are in the shape of someone standing on the floor. For our arabesque position, the ballerina is standing on her toes, and the raised foot also has the toes pointed. This required the skeleton's feet to be bent; we did this by submerging each foot in boiling water to make the plastic slightly malleable. In order to

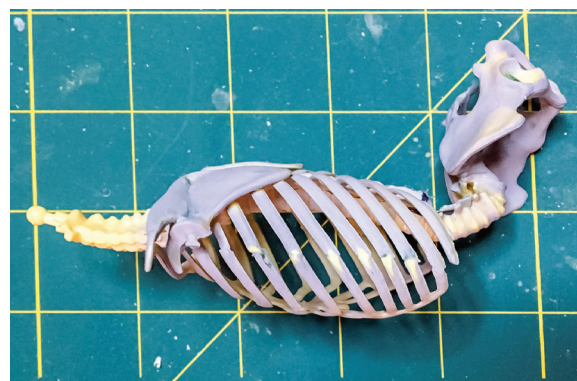
point the feet, some material from the bottom of the tibia bone had to be removed. Knees posed no problems; they were merely glued in the extended position. The top of the femur, in the hip joint, had to be turned beyond its normal range – apparently, this is normal for ballet dancers.

Similarly to the feet and legs, the arms and hands required some modification. The skeleton has her palms flat, fingers out, but in ballet this won't do. Instead, we broke or bent the fingers to get the proper hand gesture. In the lower arms, the radius and ulna had to be rotated, with respect to each other, since the extended

Lauren Lassila shows what first arabesque looks like when the skeleton is not showing! Some of the larger bones came in multiple pieces, forcing Ora to some work on seams.



The kit has the skeleton in a standing position, but having a background in dance helped Ora and Lauren modify it to match the pose, including the pointed toes shown at right.





The skeleton was painted with Tamiya flat white, then given a wash of AK light rusted enamels. The effect was toned down with a heavily-thinned Tamiya flat buff, and Tamiya flat earth was airbrushed into the eye sockets, rib cage and other areas to add depth.

arms have the hands positioned with palms downward. Since these bones have been molded as a single part, the easiest way to achieve the rotation was, again, a dip in boiling water after which both ends were held with pliers and twisted.

FINISHING

We airbrushed the model overall with Tamiya's flat white, after which we used an AK light rust enamel wash to highlight various grooves and crevices, particularly in the feet, hands and the skull. This was followed with Tamiya's flat buff color – one part paint, 10 parts thinner – airbrushed with low pressure. This made the light cream-colored tone slightly uneven, darker in some places, lighter in others, and gave the entire skeleton a realistic appearance of bone.

Finally, a similar mix of Tamiya's flat earth was airbrushed selectively to various parts of the skeleton – eye sockets, joints, inside of the ribcage, etc. – to make these areas darker, but with soft color edges. The result, in our

opinion, looks realistic, at least to the extent that can we imagine a ballet-dancing skeleton would look like.

The figure was mounted on a small wooden base that was treated with clear acrylic varnish. A small hole was drilled into the bottom of the foot the skeleton is standing on, roughly parallel with the toes, and a steel wire was attached; the wire also goes through the base. This is an unobtrusive way to get the dancer to stand on her toes.

CONCLUSIONS

This project was challenging but also highly educational, clearly illustrating how far beyond the normal ballet dancers have to go to achieve their graceful positions. Getting the skeleton posed correctly would have been next to impossible without the participation of a professional dancer; the Airfix skeleton kit, however, offers many opportunities to be posed in various ways, beyond the field of dance. The kit, while out of production by now, can still be found for sale in places like eBay. ■

LAUREN LASSILA

Lauren is currently a trainee with the Cincinnati Ballet, and was formerly a full-time pre-professional ballet student at the Central Pennsylvania Youth Ballet. She has studied dance since she was two years old. She has appeared in many ballet stage productions in both solo and corps roles, with the Cincinnati Ballet and earlier in Pennsylvania and New England.

ORA LASSILA

Ora is a lifelong model builder but normally builds 1:72 scale aircraft, not skeletons. He is the founder of So Many Aircraft (somanyaaircraft.com), a photo and reference material publisher for aircraft modelers and enthusiasts. He has also taken beginner ballet classes and appeared as an extra in some ballet stage productions. He holds a Ph.D in computer science.