Updating the Estes #1358 F-61 Starfighter

By John Brohm, NAR #78048

Introduction

Patrolling the lower left corner of the Estes 1981 catalog centerfold is the F-61 Starfighter, one of several new kits Estes released that year. Confronting prospective invaders with an array of laser cannons and photon torpedoes, this futuristically inspired starfighter presented an imposing attitude in the catalog illustration.

Figure 1: Estes F-61 Starfighter, Lower Left

Estes 1981 Catalog

The F-61's fighter jet look was an acquired appearance; the kit borrowed the clear plastic canopy and missile parts from the models in the Centuri Fighter Fleet. But apart from the various Centuri accoutrements, the balance of the kit was all classic Estes components. The model incorporated the unique Estes PNC-50CA nose cone, a part distinguished by a pair of cheek bulges located on opposite sides of the cone. This nose

cone saw sparing use in the Estes line up, appearing in just three other kits (#1281 Alien Invader, #1343 Torellian Invader, and #1383 Hyperion), until a re-released version of the Alien Invader (#3003) was introduced in 2010. The F-61 sported a two-tone, gray and blue, paint scheme, and made use of a two-color decal and marking set, complimenting the two-tone livery.

Listed as a Skill Level 2 kit, the Starfighter presented a building experience that pushed the modeler, with two disparate sets of fins (prime and sub) to be properly applied and radially aligned, a challenging spray-paint scheme, and some large decals to lay without mishap. Ultimately the kit was a one-year wonder, its production trajectory entirely captured by the 1981 product year.

A Rare but Awkward Bird

The F-61 Starfighter is a model not often seen at the flying field, and one can imagine this is due in part to its relative rarity (in production for just one year), and the fact that one needs those clear plastic parts to execute an accurate build. A barrier indeed to the prospective Cloner.

That said, even if the special parts were readily available, one still might not make the F-61 one's leading cloning subject. One can fairly say the Starfighter is not the most graceful model, displaying none of the sleek lines or scale-like appearance its cousins from the Centuri Fighter Fleet possessed. Yet despite its somewhat gangly and angular appearance, the Starfighter does offer some interesting opportunities for enhancement. In this article, I'd like to share with you the modifications I chose to make to this old Classic Kit.

Build Objectives

While not intending to be overly sacrilegious, we'll nevertheless diverge from Classic Kit orthodoxy, and customize a few of the model's features. For starters, we'll do away with that two-tone livery and render the model in a single overall gray, as one would find on any modern fighter jet (e.g.: F-22, F-35, etc.). We'll add to the two-color marking scheme by introducing a third color (black) for the textual markings (and for few other detail markings), relegating the original red and blue to accent duty. We'll add some real engine louvers on the aft end of the model, and add a set of navigation lights to the aerodynamic surfaces. Finally, we'll perform some subtle surgery on that nose cone - its clear canopy begs for an actual cockpit, so with some careful rocket rhinoplasty we'll attempt to give the nose a modest facelift.

Build objectives set – let's get started!

Airframe

We begin by marking the motor mount tube for the location of the various surface appliances. I chose to work up my own marking template in TurboCad.

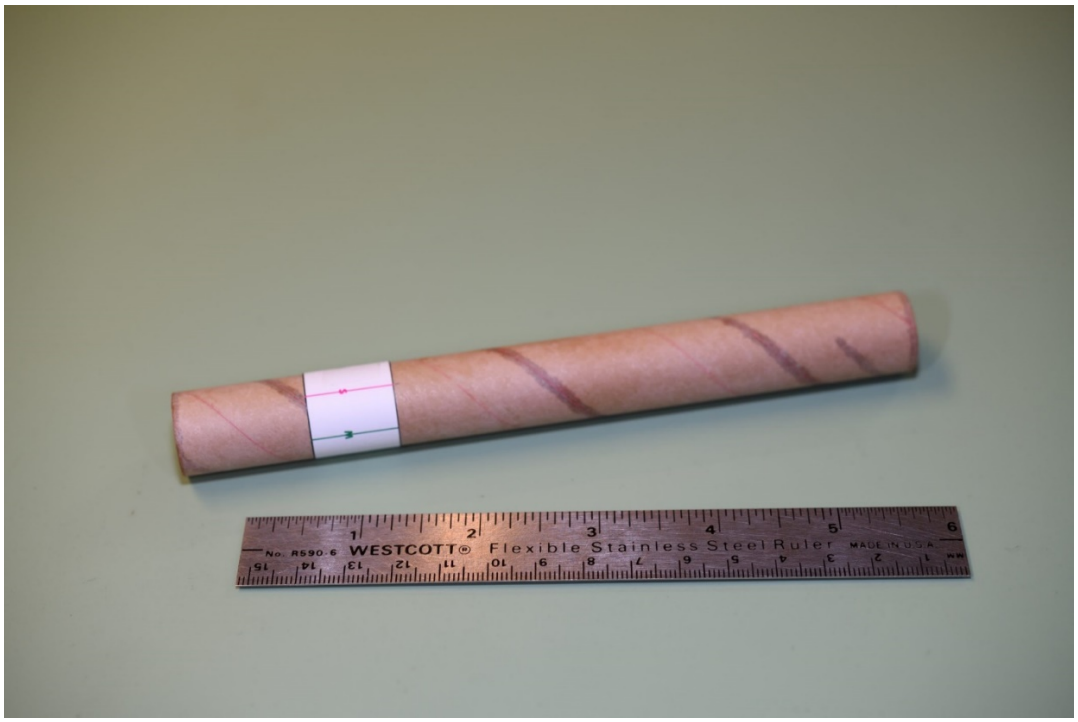

Photo 1: MMT Marking Guide

As is our practice, the balsa fins were filled with a covering of Silkspan and three coats of Nitrate dope. Each pre-finished fin was then supported with a scrap of sheet Styrene of the appropriate thickness to ensure each fin pod (1/8″ diameter wood dowel) was centered on its associated fin edge while the glue set.

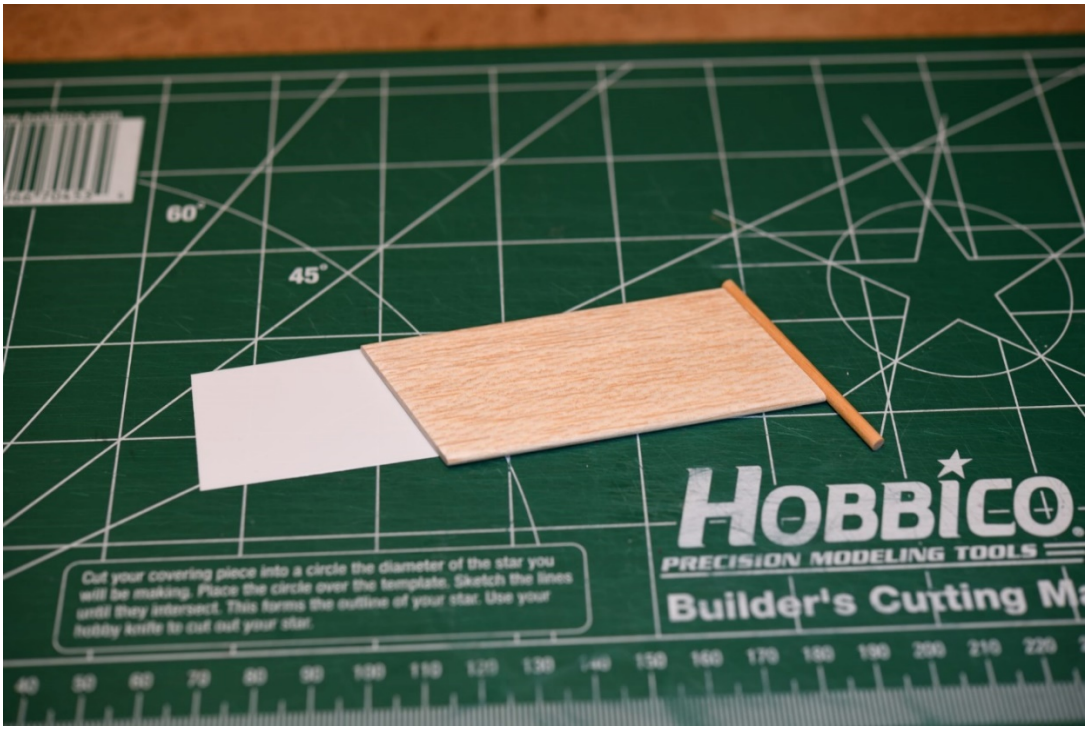

Photo 2: Gluing a Fin Pod

The balance of the airframe's construction was as per the kit instructions, except for three details:

- I chose not to install the engine hook, as I felt its absence would yield a cleaner look to the aft end.

- I did away with the tri-fold shock cord mount, substituting instead a Kevlar anchor fastened to the forward ring that centers the motor tube in the main airframe. The anchor's working end was tidied up with a #7 split ring and a short length of heat shrink tubing. The actual 1/8" braided elastic shock cord will be fastened to the split ring.

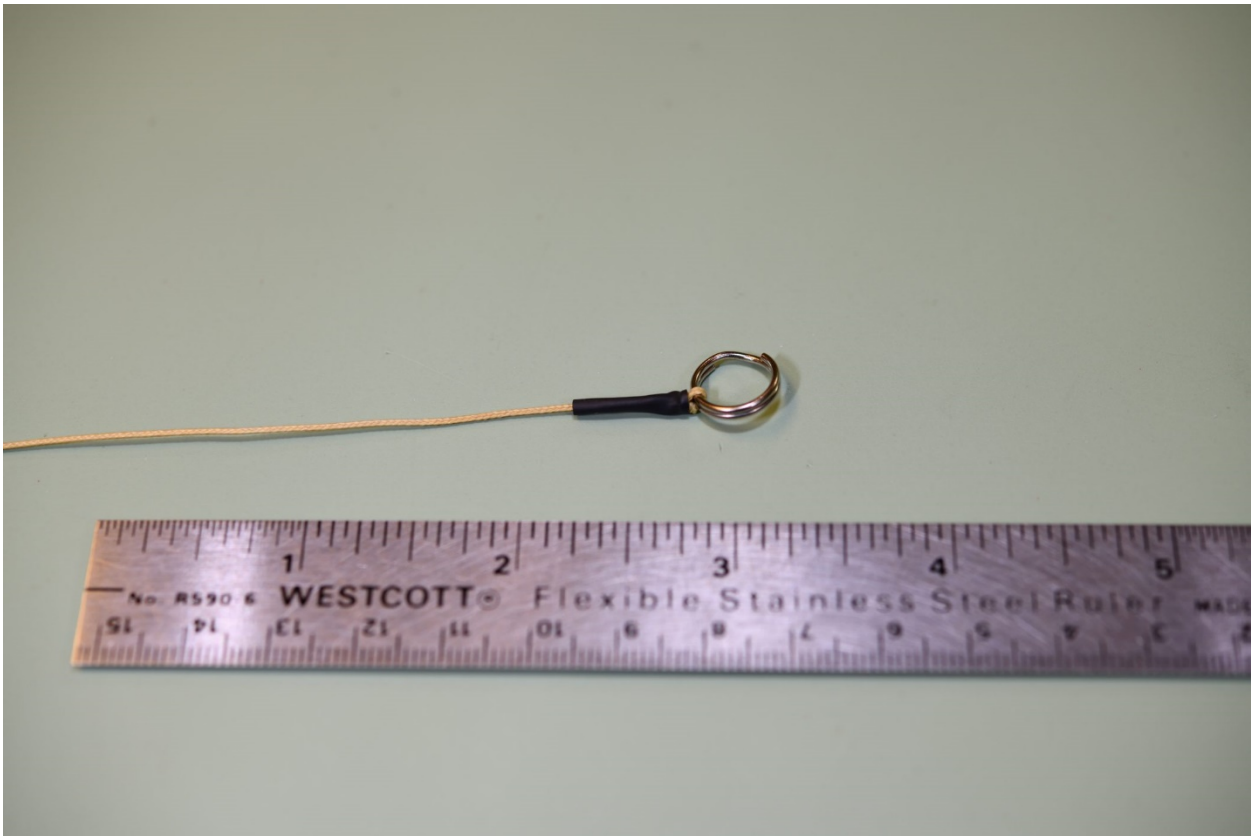

Photo 3: Shock Cord Anchor

- I also felt the Infra-Red Photon Torpedoes would look more realistic if they were offset from the airframe. So, I cut a pair of balsa strips 1/16" thick x 3/32" wide, and glued these in place at the appropriate locations.

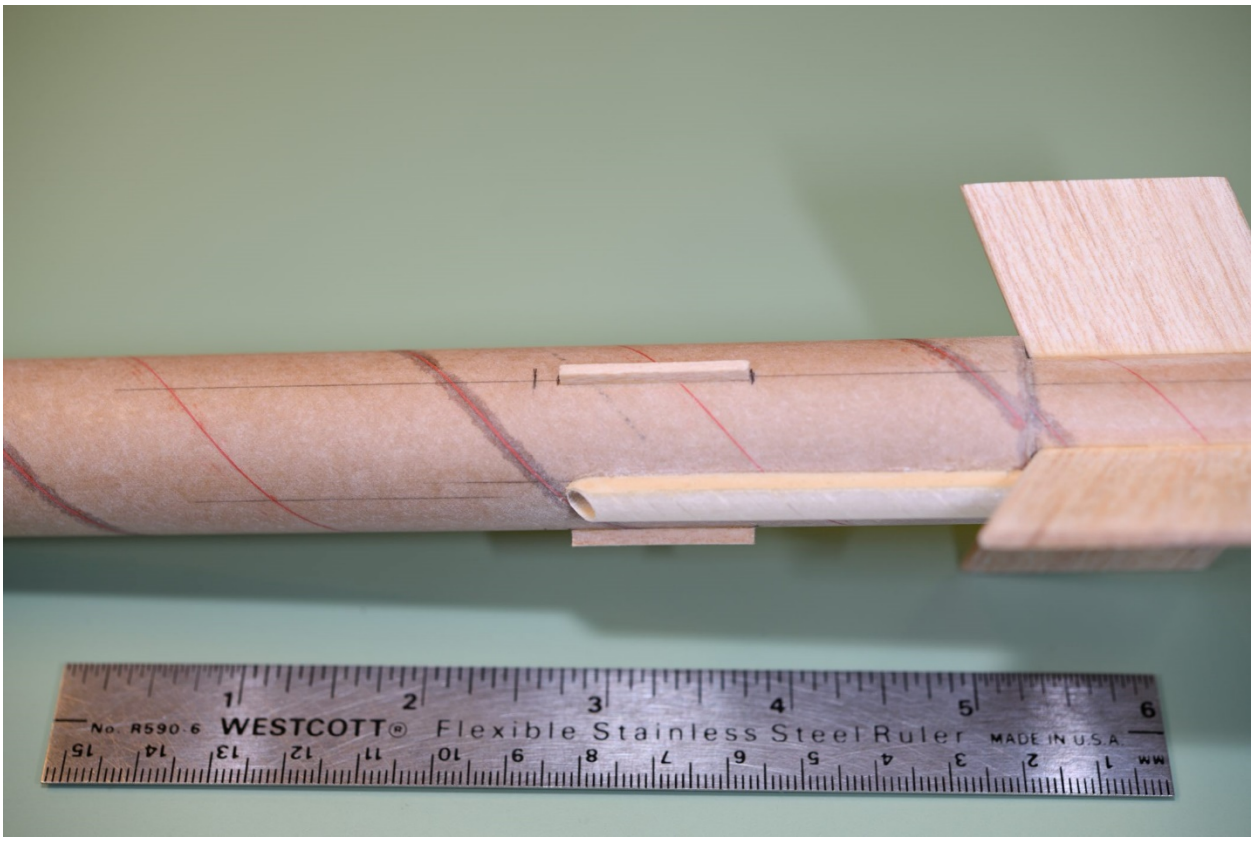

Photo 4: Photon Torpedo Standoffs

With the glue dry and the model sanded, off to the Paint Shop for some Rustoleum Automotive Primer. Once satisfied with the primer's finish, it was time to install those aft end engine louvers. But before we can do that, we first have to make them.

Engine Louvers

The louvers were crafted from pieces of 0.010" thick Styrene, 5/16" long x 3/32" wide, similar in size to the louver markings found on the kit's decal sheet.

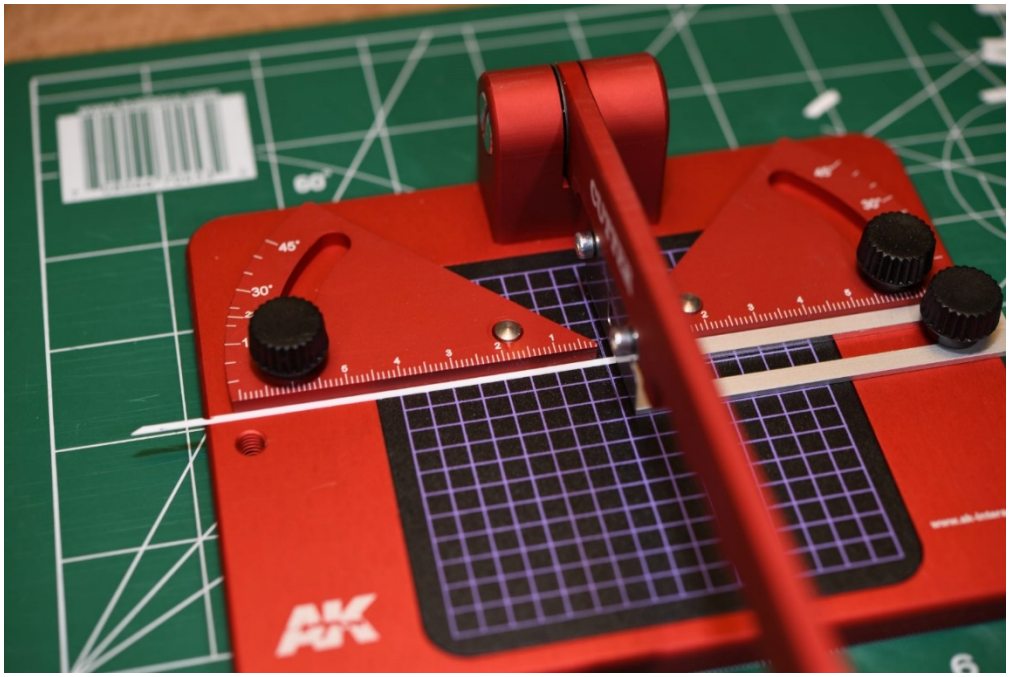

Photo 5: Cutting Louver Strips

A triangle support piece was fixed to each end with the aid of Tamiya Extra Thin Cement.

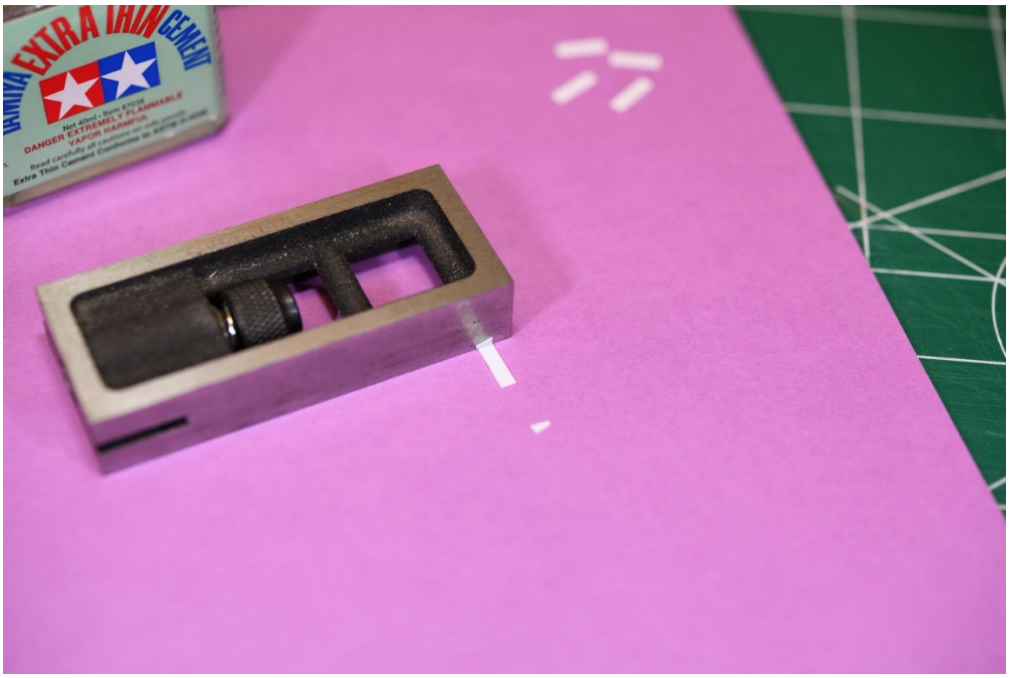

Photo 6: Building a Louver

Lather, Rinse, Repeat, and we have a set of louvers installed on the airframe. We'll do the same for the other side of the airframe as well.

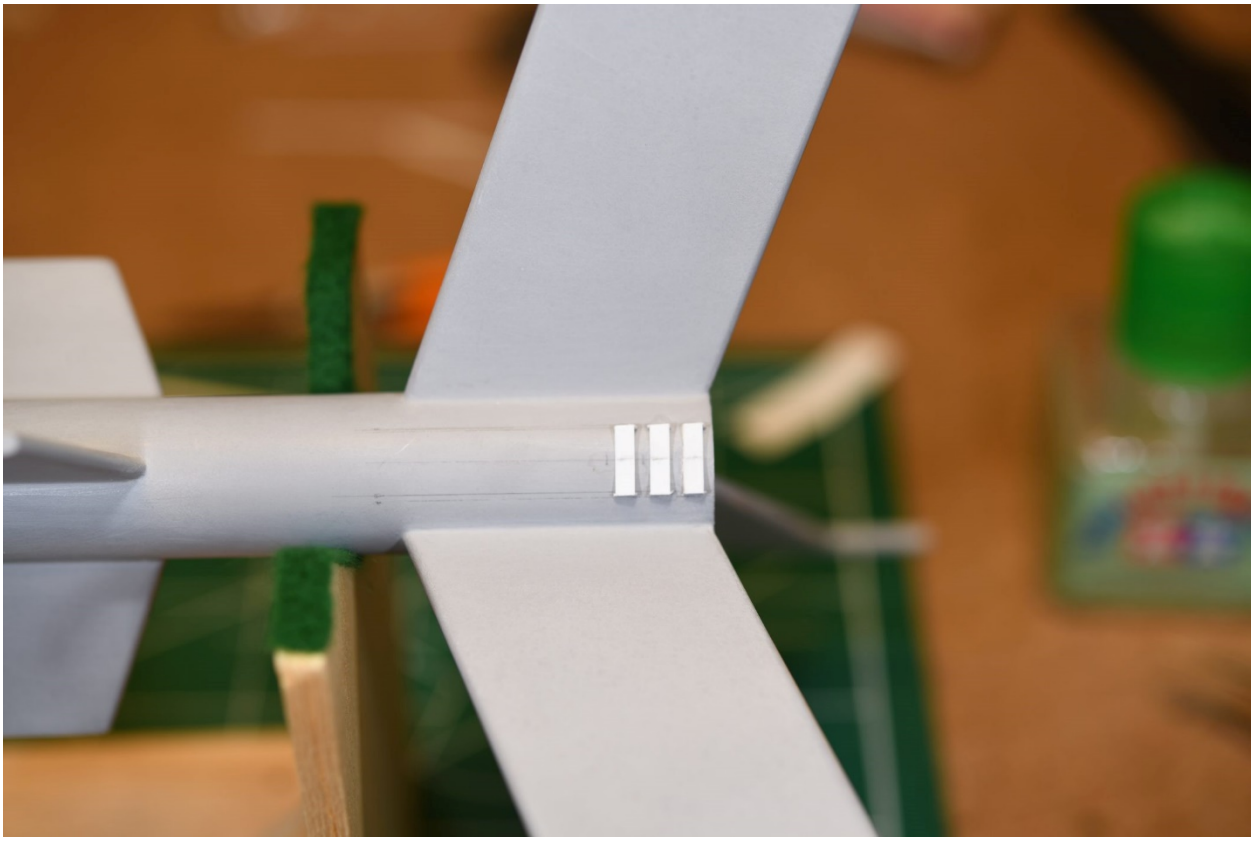

Photo 7: Louvers Installed

Some Squadron White Putty was applied to blend in the front and side edges of the louvers, and with some final primer we arrive at a nice, smooth finish. Time to revisit the Paint Shop.

Paint

As we're striving for an overall "gray" finish, one might think this to be a good place to stop, except that I didn't feel primer gray was the Whiter Shade of Pale I was looking for. Instead, my finish choice was going to be Testor's Model Master Camouflage Gray #1933, the same color I had used on my Space Transporter America. Testor's Camouflage Gray is actually an old Pactra color that entered Testor's line up when Testor's acquired Pactra in the 1980's. Technically a Federal Standard color, FS 36622, Camouflage Gray provides a nice neutral background for the decals - the marking set I planned to use would be worked up from scratch and printed on clear decal stock with an HP laser printer. There being no white underlay for the decals, the model's base color needed to be something that wouldn't discolor the markings from underneath.

To get there, we first need a nice white base. Two coats of Dupli-Color Perfect Match Arctic White nicely mask the automotive primer, providing the blank canvas we're seeking. Once cured, Camouflage Gray is applied. Once satisfied with the depth and finish of the Gray, an overcoat of Testor's Gloss #1961 prepares the surface to accept the markings.

Markings

Estes provided a two-color decal sheet with the kit, PN 37584. The decal sheet found in my kit was in good shape, and on sheet each marking appeared to be reasonably thin, with a generous clear film surround. Color depth was reasonably good, although there were a few markings (mainly the small textual markings) that were a bit mushed. No doubt this decal sheet could be used successfully were one intending to build a purely stock build.

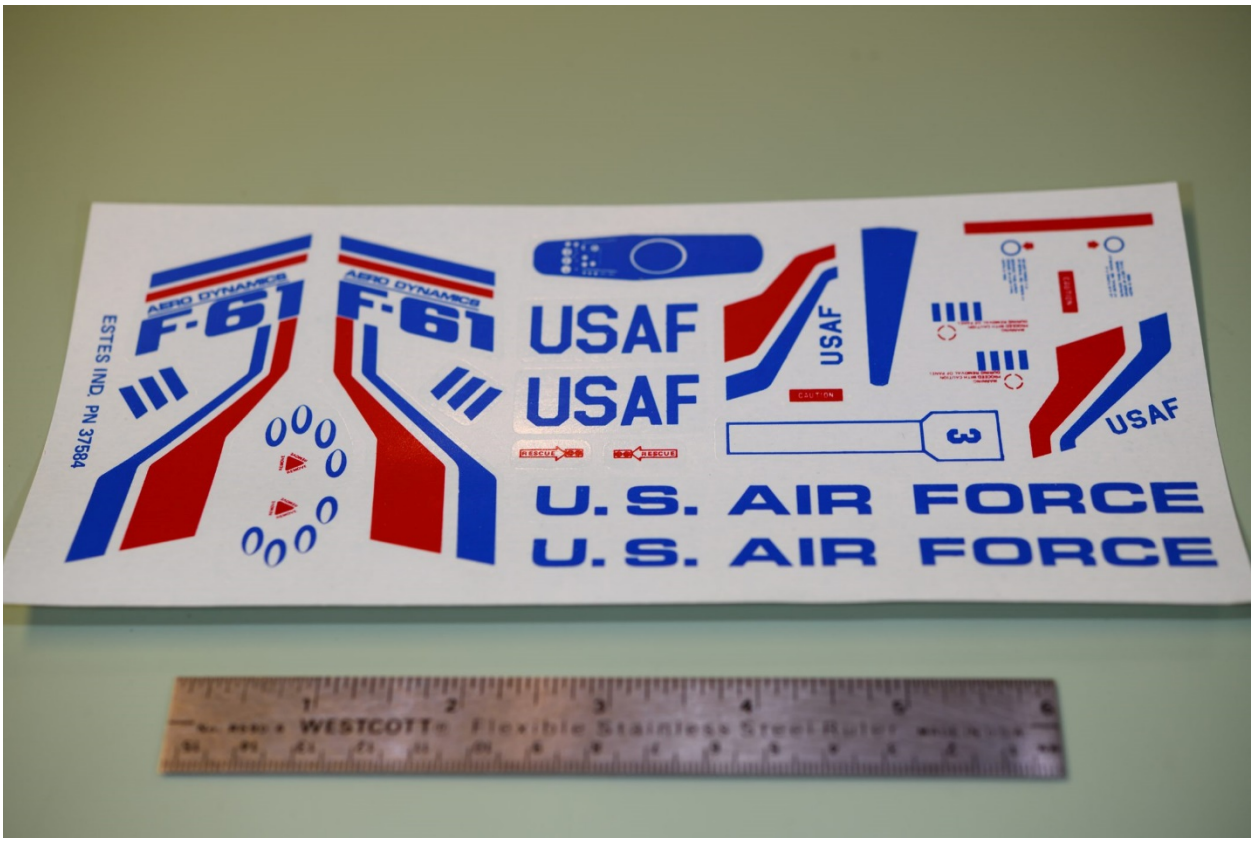

Photo 8: Kit Decal Sheet

For my build, I still wished to evoke the F-61 marking scheme, but had already decided to move away from the two-color livery. So, I redrew the kit markings in TurboCad, adjusting the markings and colors in a few places to be more consistent with my build objectives. One marking I didn't bother with was the cockpit decal, as I wouldn't be using that decal in my build. I also took the opportunity to make some slight adjustments to the small textual markings, as some of these appeared to be inconsistent with standard fighter jet nomenclature.

Imagining for a moment that the models' designation was derived simply by transposing the numerals in "F-16", I did a quick Google search, and came across a very helpful external cockpit photo, as seen in the following photo.

Photo 9: F-16A External Cockpit View

I took this photo into consideration as I prepared my markings, and adjusted the decal text accordingly.

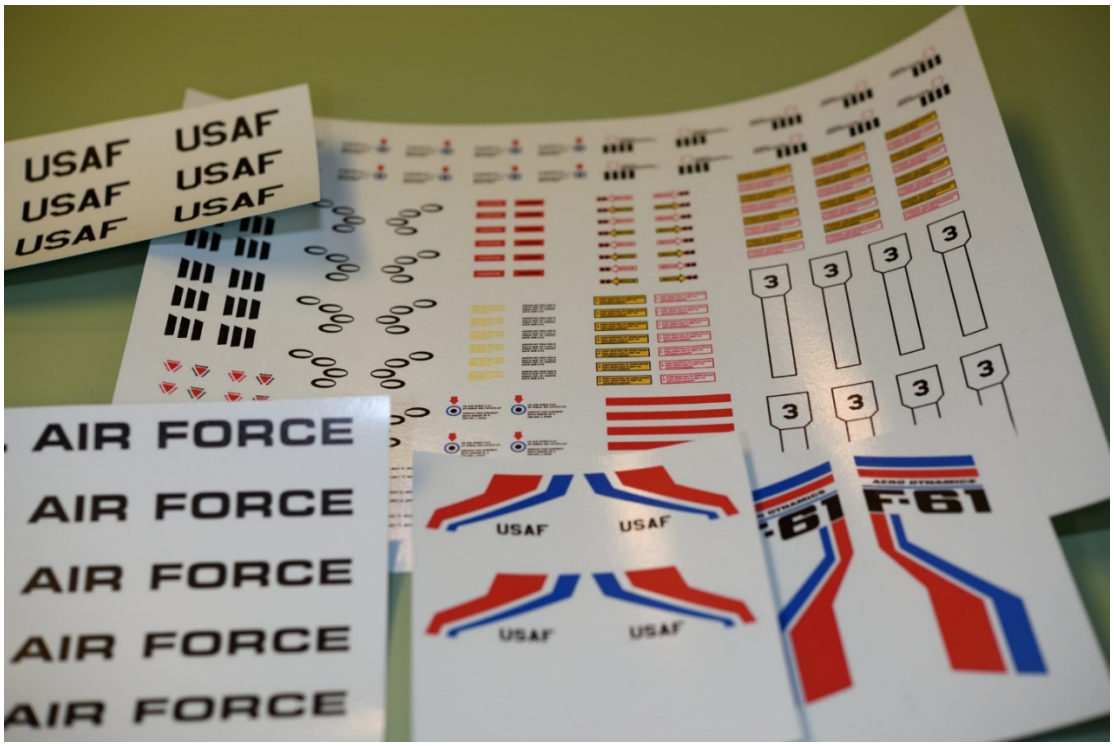

Photo 10: New Markings

Once the markings were dry, the airframe was overcoated with Testor's #1960 Lusterless Flat.

Photo 11: Airframe Markings

Up next, the ordnance.

Infra-Red Photon Torpedoes

Unfortunately, one of the ST-41 torpedo tubes supplied in my kit was crushed.

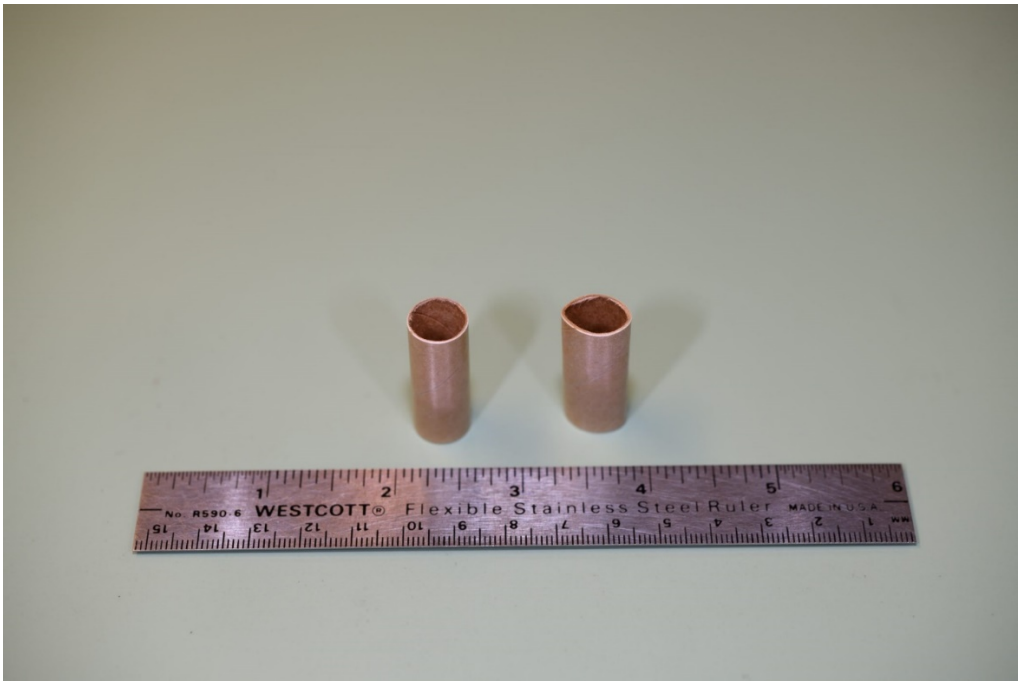

Photo 12: Crushed Torpedo Tube

A very close, but not quite perfect, replacement is eRockets BT-4 tubing. I found it to be just a slight hair oversize in OD, but very, very close. With a bit of prep work, we have a pair of torpedoes ready for finishing.

Photo 13: Torpedoes, Ready for Finishing

One will note the strip of masking tape on each torpedo. That tape will be pulled after final paint to reveal a bare strip that we'll use as our gluing surface.

Some putty work was needed on the various seams to fill and blend things in.

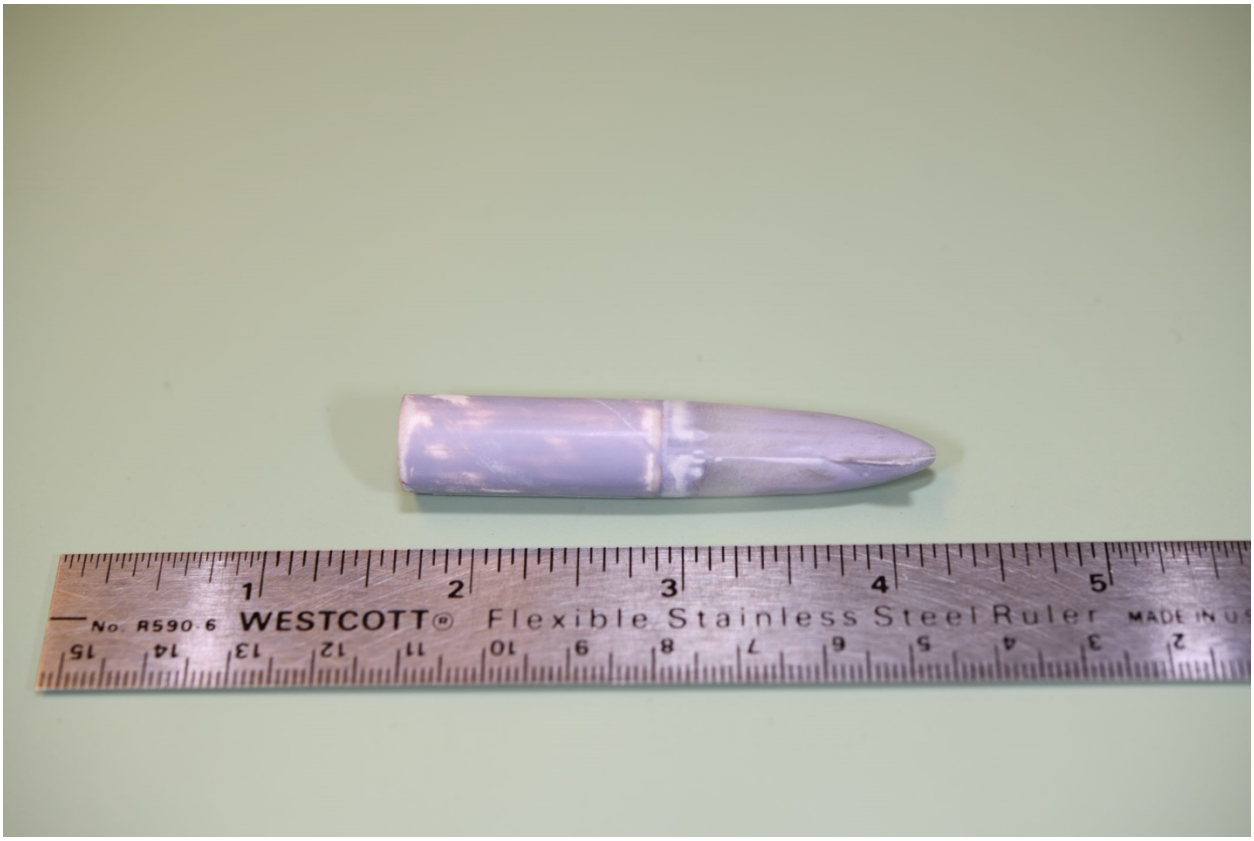

Photo 14: Ready for Final Primer

Each torpedo was then re-primed and then sprayed with Testors Olive Drab #1911. Once the color coat had cured, the torpedoes were sprayed with Testors Gloss Coat to prepare them for their markings.

Recalling that the Classic Kit paint scheme rendered the torpedoes in just plain Olive Drab, I thought I might make them pop a bit if I could work in a couple of yellow stripes; I added some service text for effect.

Photo 15: Finished Starfighter Photon Torpedoes

The yellow stripes were taken from MicroScale's #91106 HO Scale 3" striping sheet; the service text was copied from an online photo, then prepared in MicroSoft Word. Once the markings were applied and had dried, each torpedo was overcoated with Testors #1960 Lusterless Flat, and set aside for final assembly. On to the Air-to-Air Missiles.

Air-to-Air Missiles

Each missile tube was fitted with a length of masking tape to protect the gluing surface from paint, and then primed. Spirals were filled with Squadron White Putty, sanded, then re-primed. Once cured, the missiles were sprayed with Dupli-Color Perfect Match Arctic White. Each fin unit was sprayed with Dupli-Color Perfect Match Cardinal Red, each missile nose cone sprayed with Testor's #2966 Bright Light Blue. Once the paint had cured, a couple of yellow stripes and some service text was applied for effect. Each missile was then overcoated with Testors #1960 Lusterless Flat, and set aside for final assembly.

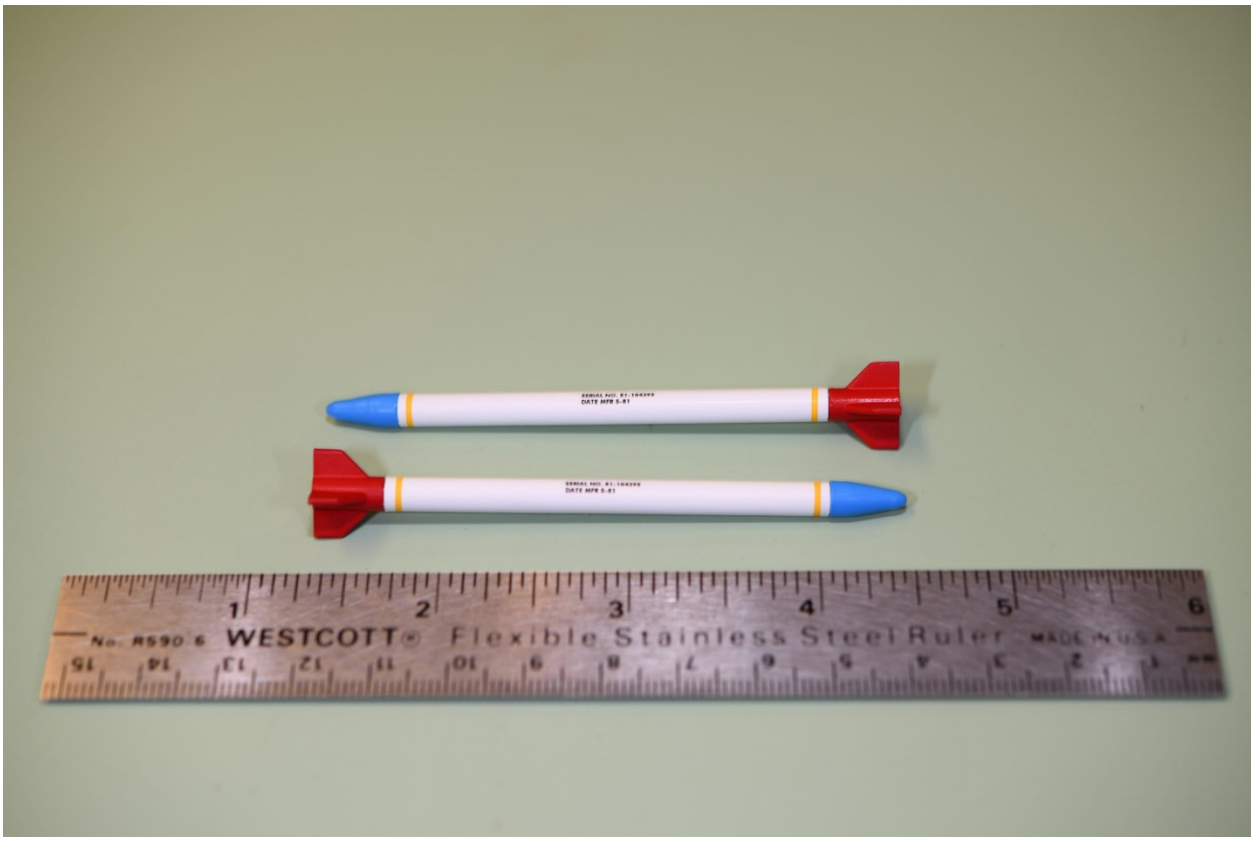

Photo 16: Finished ATA Missiles

Navigation Lights and Airframe Final Assembly

Thinking that the 1/8" diameter dowel fin pods looked somewhat barren, I thought I'd spruce them up a bit with some navigation lights.

To create these, I used the dome ends from a set of 3 mm clear LEDs. Just about the perfect diameter. I chose clear LEDs, as while two of the domes would be tinted red and green, the third dome, the one to be located on the dorsal fin, would be clear, to represent one of the landing lights. Tamiya's X-25 Clear Green and X-27 Clear Red acrylic were the perfect tinting agents.

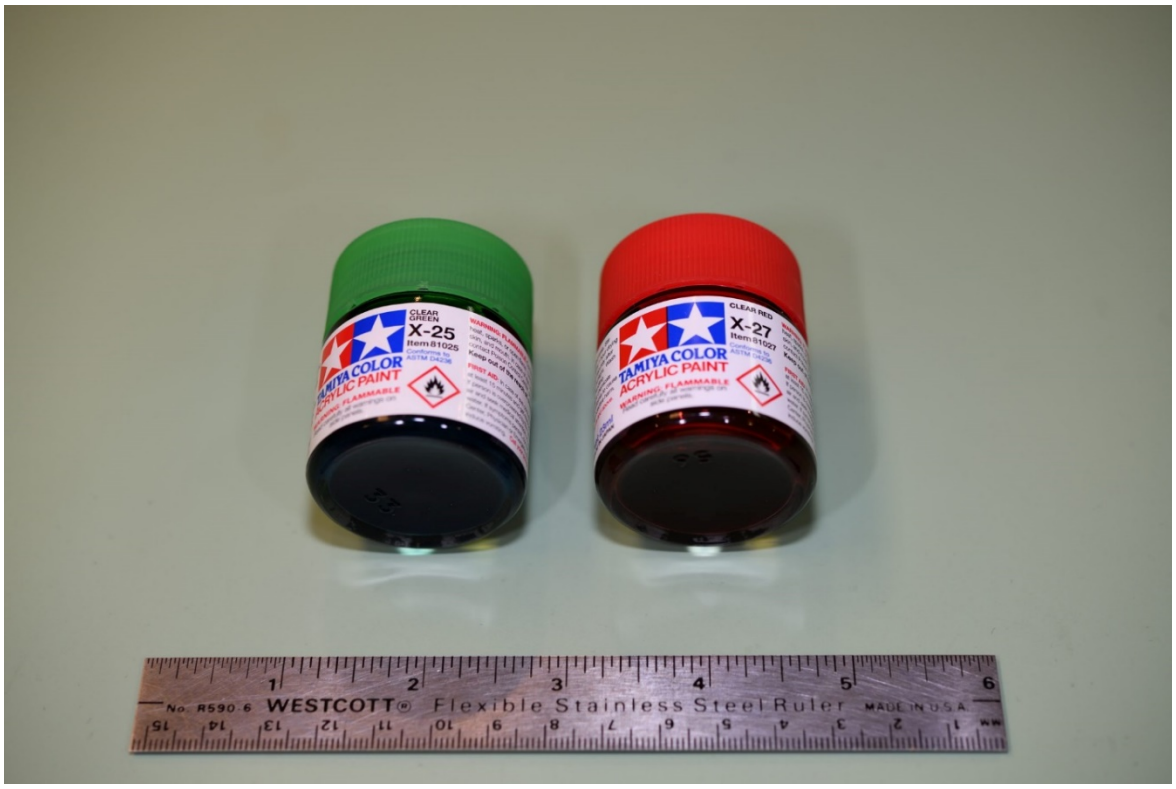

Photo 17: Tamiya Clear Acrylics

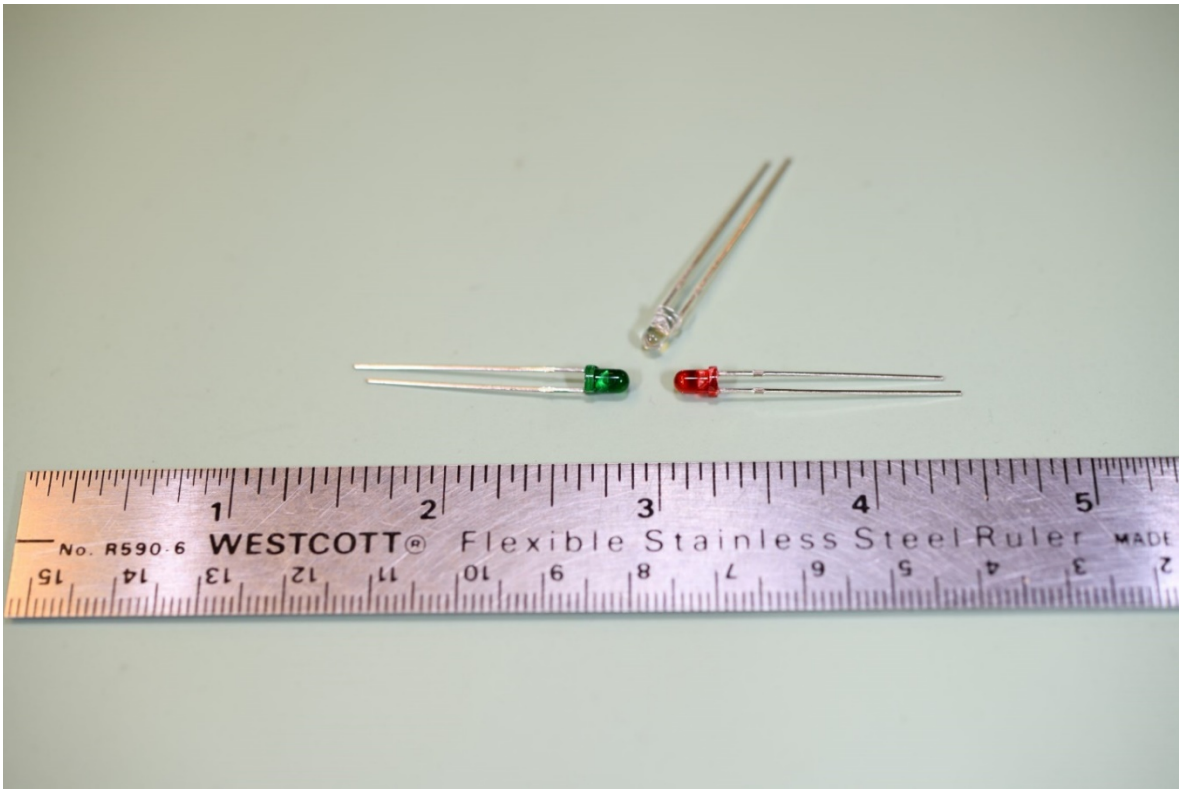

Photo 18: Tinted LEDs

Once the acrylic had dried, some careful sawing with a thin, fine toothed razor saw removed the domes from the LEDs. I placed the cut just in front of the semiconductor die.

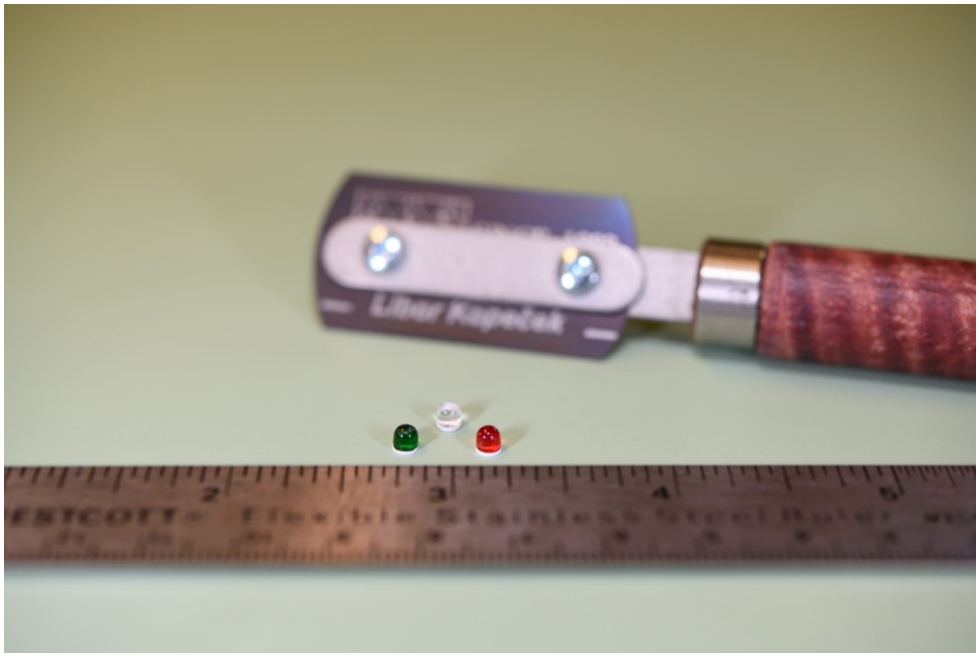

Photo 19: Navigation Lights

Each dome was then backed by a white disc punched from a sheet of Styrene; each disc was glued in place with the aid of Tamiya Extra Thin Cement. The white disc helps with light reflection within the dome, and its back side provides the gluing surface to the airframe. With carefully placed dots of Weldwood Contact Cement, each landing and navigation light was installed.

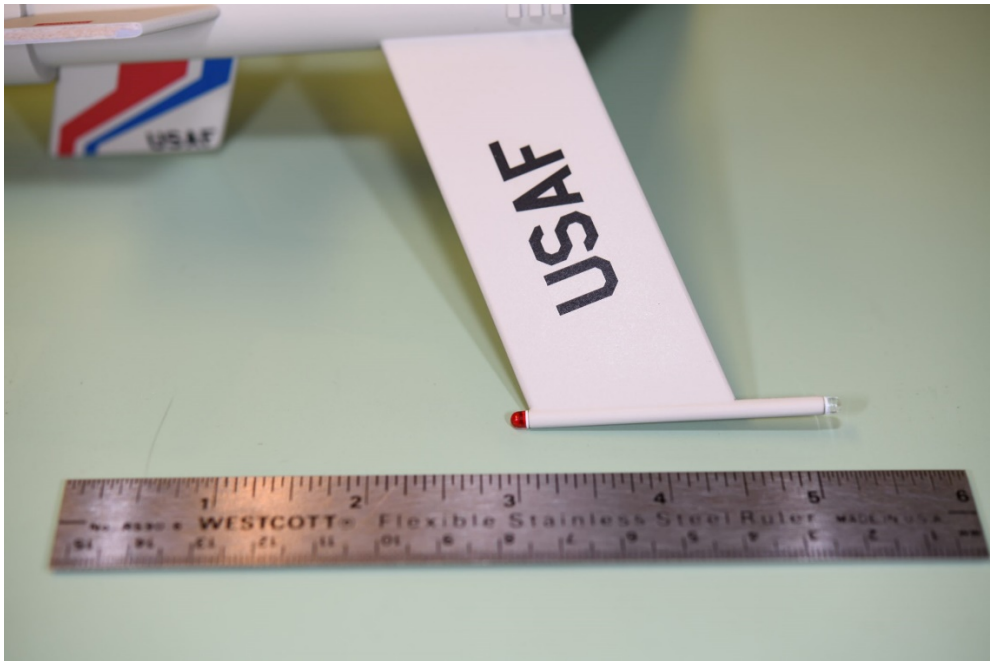

Photo 20: Port Side Nav Light

Photo 21: Landing Lights Installed

With the nav lights now firmly attached, we can turn our attention to the mounting of the ordnance. Weldwood Contact Cement is used for this task, taking care to avoid any contact with the painted surfaces. The advantage of contact cement in this application is the absence of any glue squeezing out the edges as the various appliances are pressed in place. It makes for a nice, clean installation.

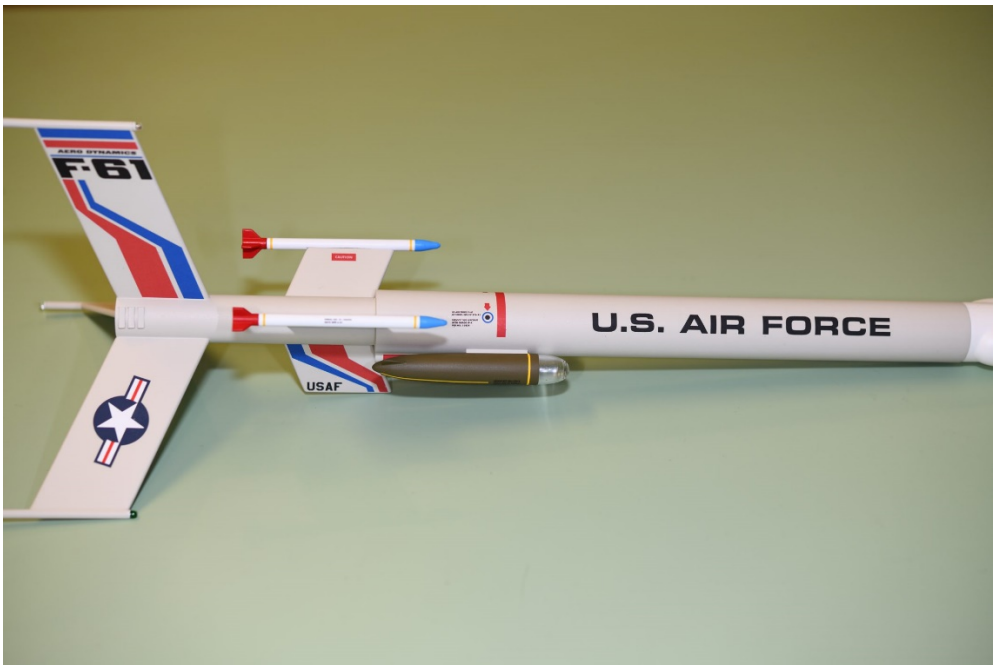

Photo 22: Completed Airframe

With this our airframe is now complete; time to confront that cockpit.

The Cockpit

Some searching in the plastic model aftermarket turned up a broad selection of cockpit detailing sets in a variety of scales, both single and two-seat versions. The Starfighter's nose and canopy arrangement can only accommodate a single seat tub, and I found that 1/72nd scale is about the right size.

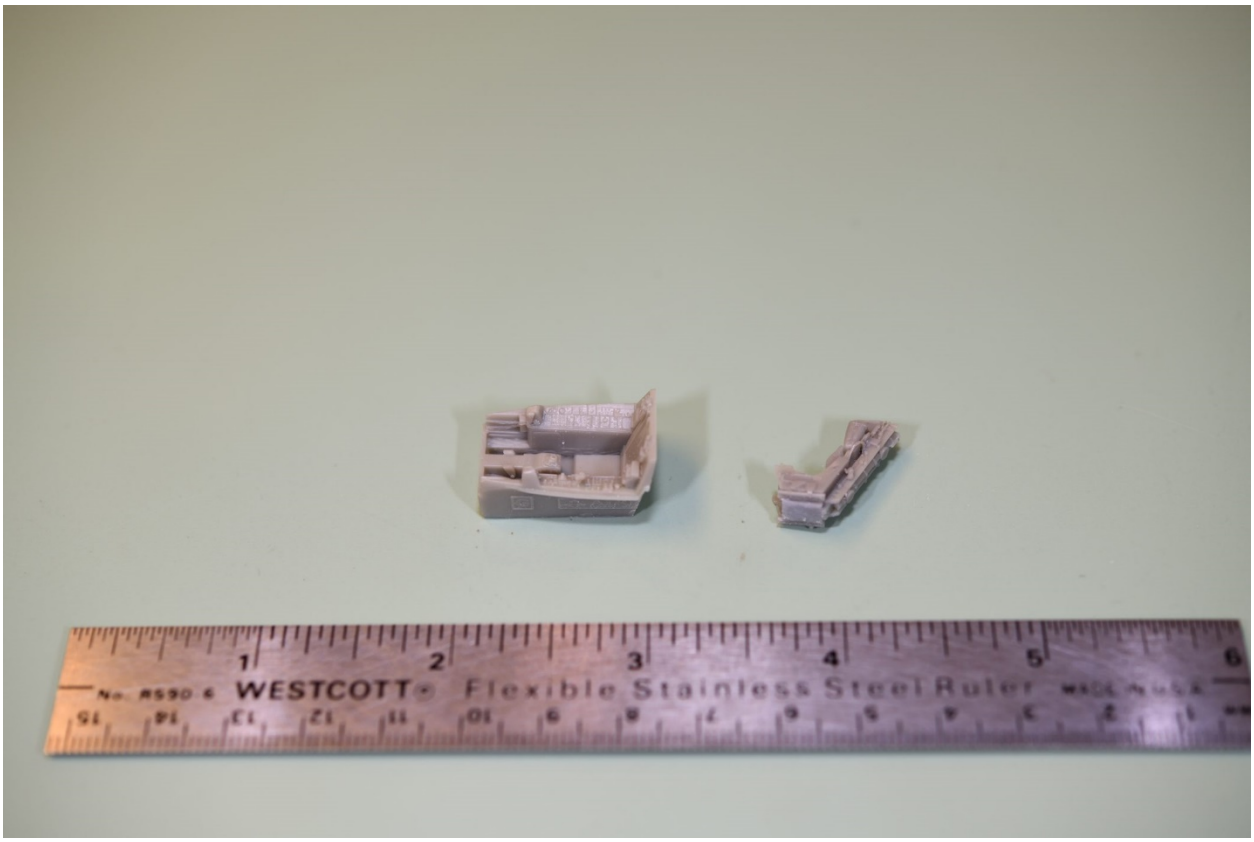

Photo 23: Cockpit Tub and Seat

Many of these aftermarket cockpit sets are provided with all sorts of detailing parts, both resin and photo-etch. Given the size we're working with here, I chose to use just those additional parts that might be seen through the canopy.

To begin, we use the tub and the F-61's canopy to lay out the area that will become the cockpit well. In the following photo, one can see I've also begun the opening of the well.

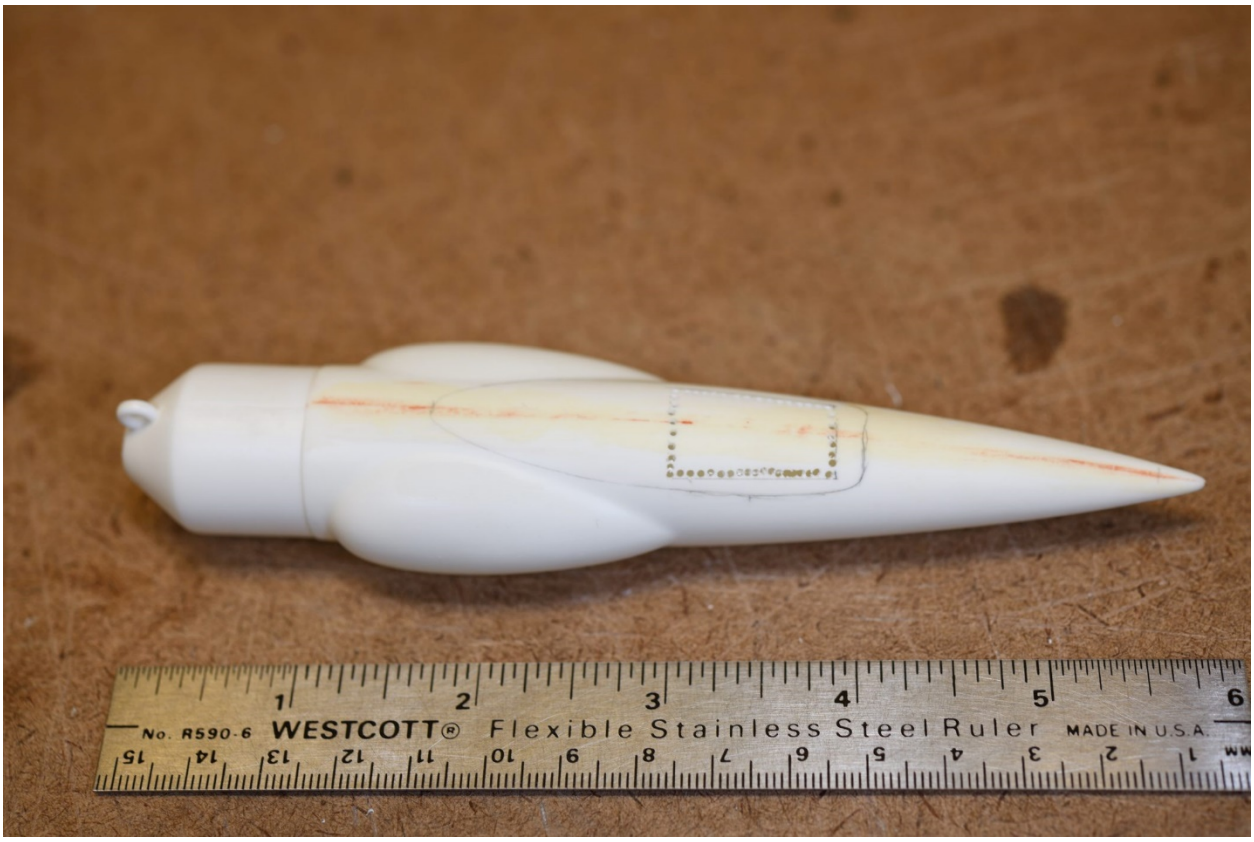

Photo 24: Cockpit Well Layout

The tub has to be placed far enough forward, and at an appropriate depth, so that the top of the seat clears the inside of the highest point of the canopy. For this particular cockpit tub, I found I had to prepare a base for it so that the tub would sit at the correct depth. I also had to fit it with a fore and aft bulkhead to situate the tub correctly within the well. These Styrene parts were glued to the resin tub with Loctite Super Glue UltraGel. The Gel formulation provides a few extra needed seconds for positional adjustment before the CA freezes.

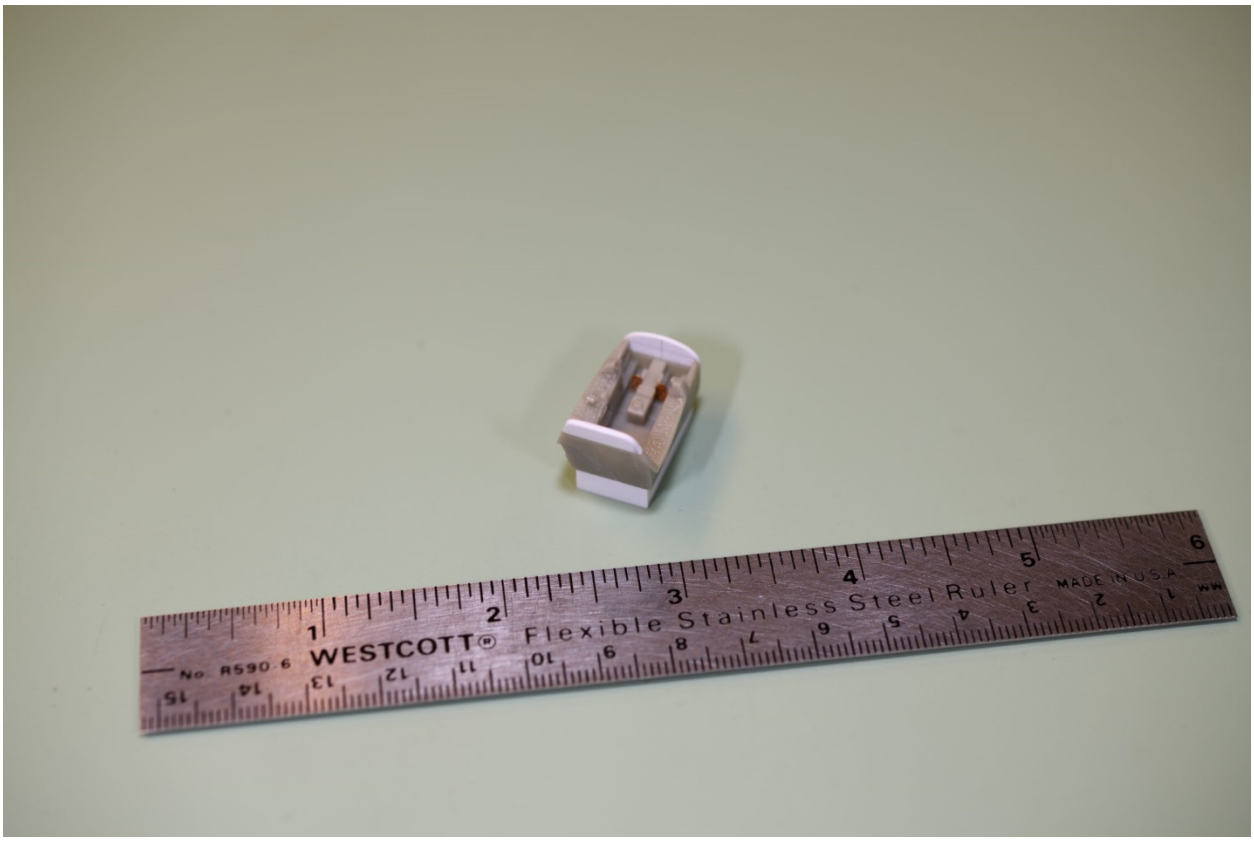

Photo 25: Adapting the Tub

The trial fit in the following photo shows we have just enough internal clearance. It also validates that the 1:72 cockpit is a good, proportional size for the nose.

Photo 26: Trial Fit

With the basic fit confirmed, we'll trim and paint the cockpit set, and then glue the tub in place. The following photo also provides a glimpse of what the ejection seat will look like once installed, but that's only a dry fit; the seat needs to be out of the way while the final fitting, filling, filing and painting surrounding the cockpit well is being done. The seat will be permanently glued in place before we mount the canopy.

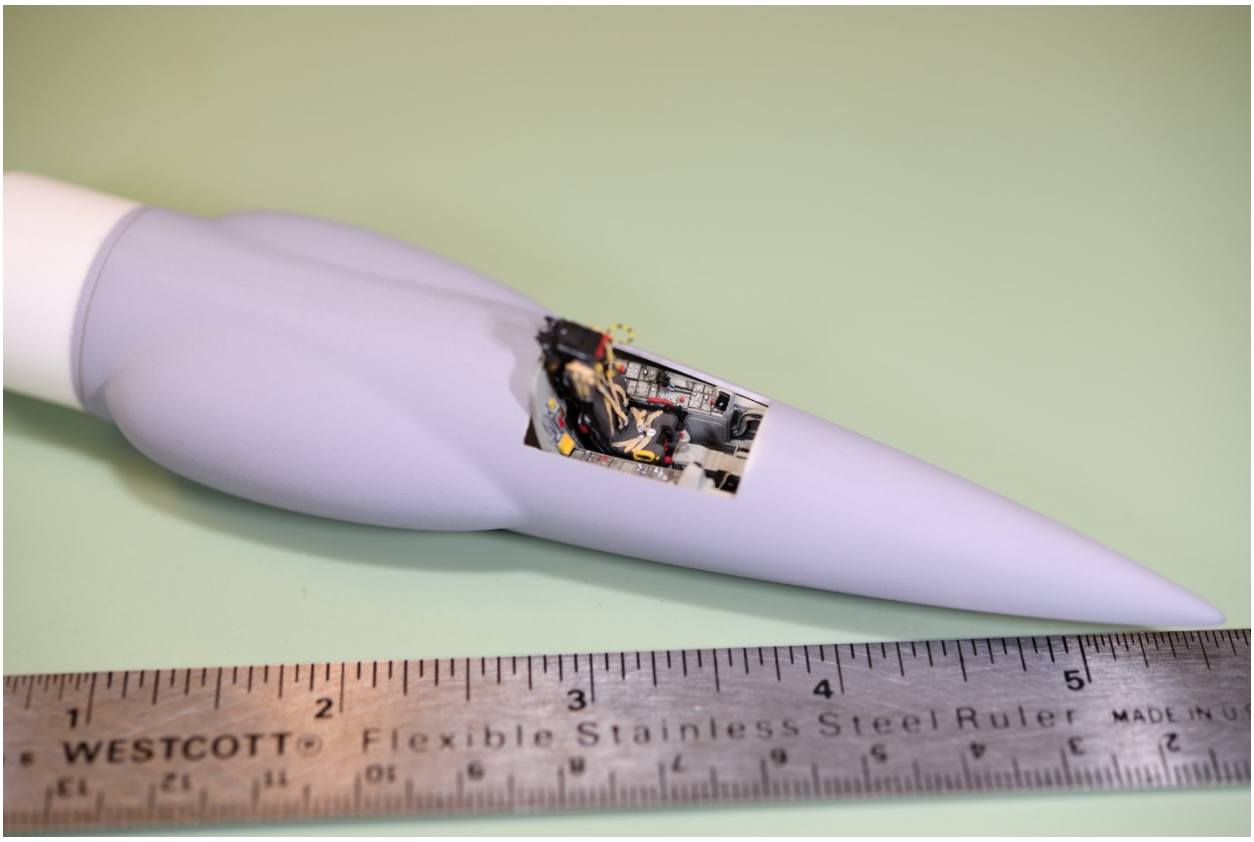

Photo 27: Cockpit Tub Installed

One may have noticed the pilot's instrument panel is missing; we'll rectify that shortcoming by making use of the brass photo-etched panel provided in the detailing set. The following photo shows the native brass panel, approximately 2x real size, ready to be removed from its PE fret.

Photo 28: PE Brass Instrument Panel

After some careful filing, painting, highlighting and assembly, we arrive at a finished panel ready for mounting.

Photo 29: Finished Panel, Ready for Mounting

As there's not enough space within the well to use the console part provided with the cockpit detailing set, we'll use some Styrene to scratch a custom mounting base for the instrument panel. A trial fit gives us the following view:

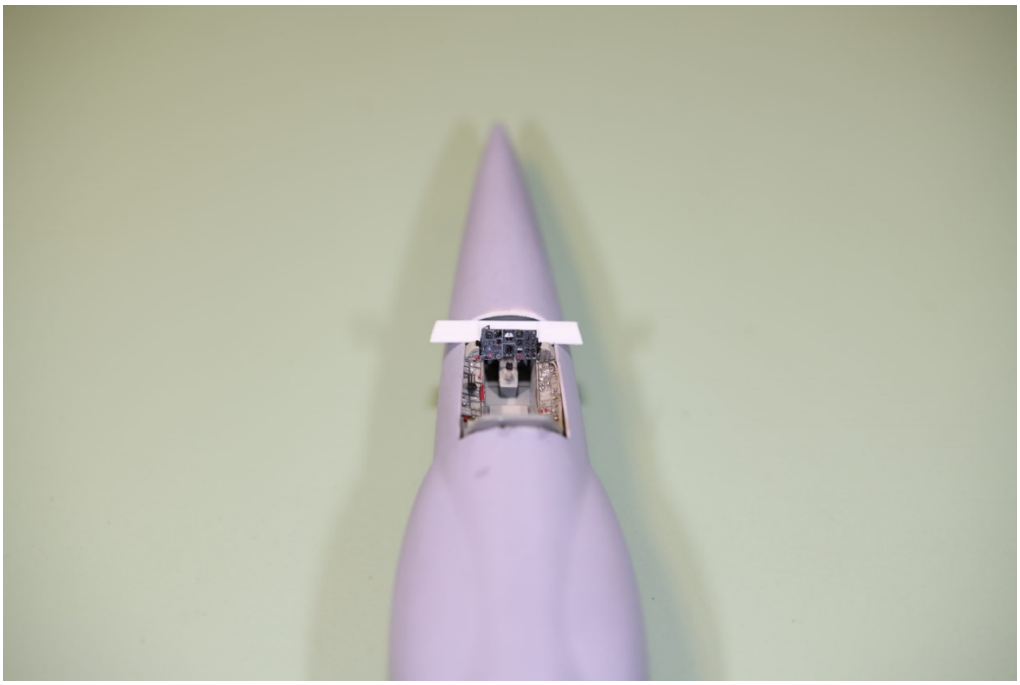

Photo 30: Setting the Instrument Panel

One can readily see the gap between the panel and the curved contour of the nosecone; we'll fill that space with several layers of Styrene, building up the formation till flush with the crest of the curve. Then, with some careful trimming and filing, and a bit of filler, we will arrive at a smoothly filled and fitted contour.

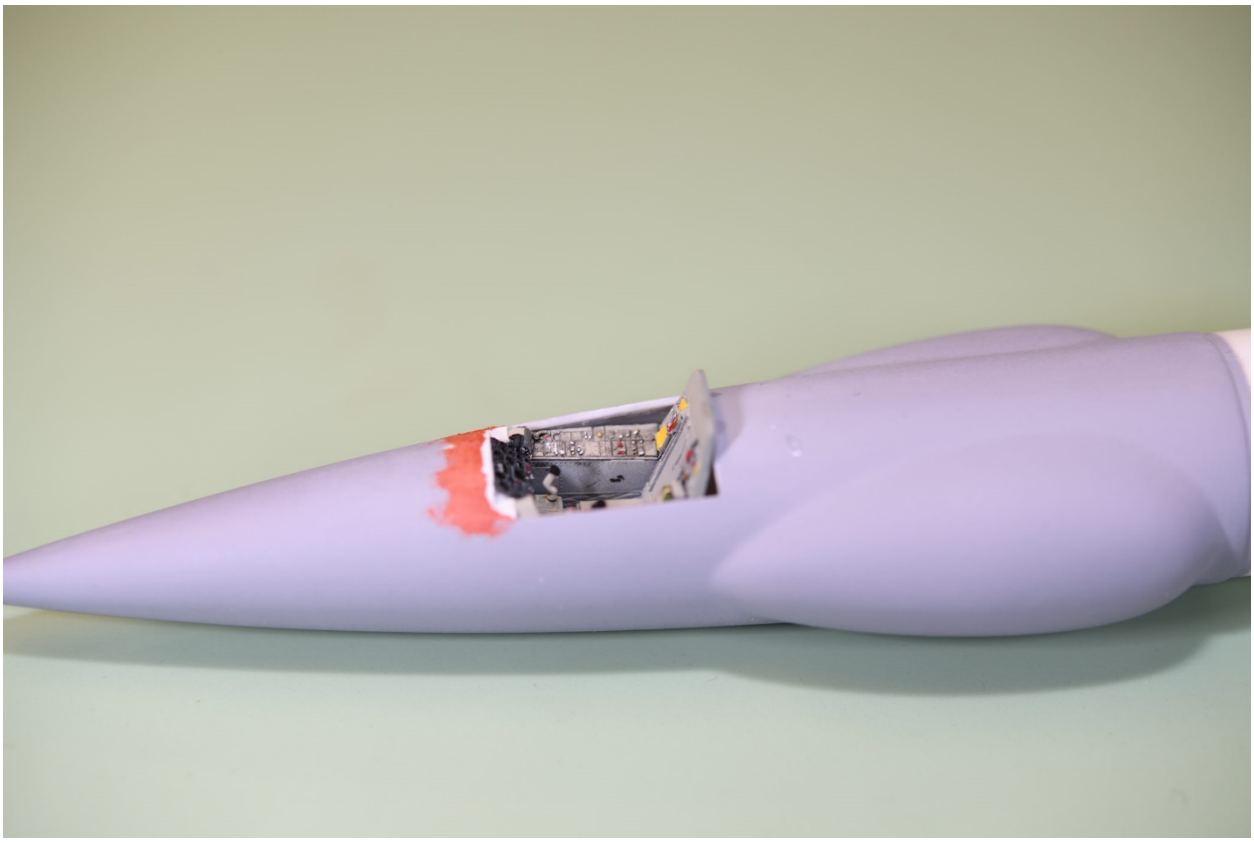

Photo 31: Minding the Gaps

Close examination reveals several remaining open spaces that should also be filled. There's the gap between the cockpit side consoles and the upper edge of the cockpit well, and then the spaces between the seat back and the cockpit well. We'll use some small pieces of Styrene to fill in these areas.

The sideboard pieces need to be painted before installation, as there really is no way to get at them once they're installed (at least not without messing up the paint on the cockpit tub). Once set, we can fill in the top cockpit edges with Squadron White Putty.

One might also be tempted to fill those seat back gaps just with putty, but the spaces are too large to do this effectively. With no support, there are too many opportunities for the filler to crack and come loose with vibration. So, some small pieces of Styrene are first glued in place to provide the main space filling, with any remaining divots and defects finished with some careful surface putty work.

Once the filler has cured and is sanded, the cockpit is carefully masked, and the nose re-primed. The nose is then sprayed with Testors White Primer, and once this has cured, the area surrounding the cockpit is sprayed with Testors Model Master Camouflage Gray. The cockpit is checked for any areas in need of touch up, and once satisfied, the ejection seat is permanently placed with a dot of Loctite Super Glue UltraGel. We're ready now to set the canopy.

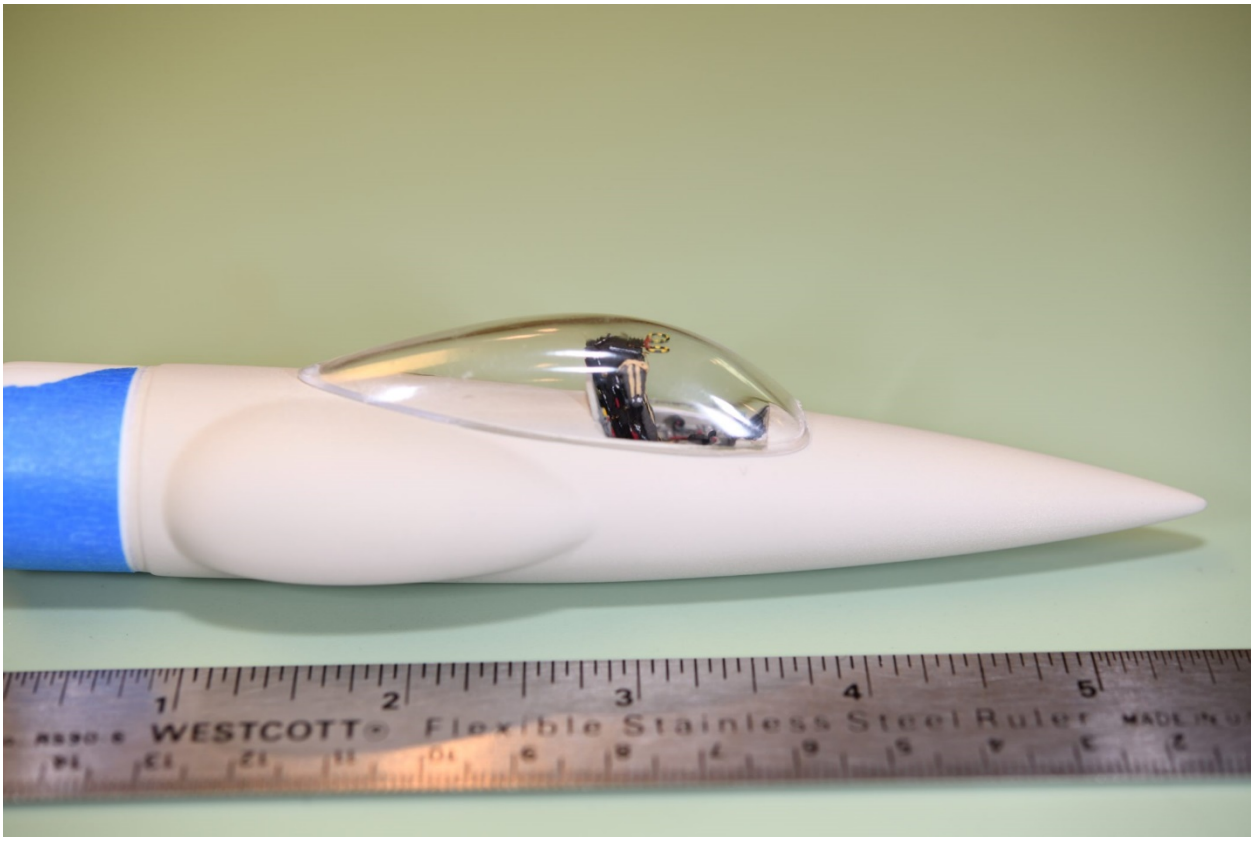

Photo 32: Setting the Canopy

The canopy is set in place with Formula 560 Canopy Glue. Having done all of this work, we'll not take the risk of potentially fogging the clear plastic canopy with the curing vapors arising from either a solvent-based or CA adhesive. Once the canopy glue has set, the canopy is carefully masked with Tamiya masking tape, and then the joint seam is filled and sanded till it's smoothly blended into a nice, tight fillet.

The fillet is sealed with a coat of Testors White Primer, and once cured, the entire nose is sprayed with Camouflage Gray. Once dry, the flat black anti-glare panel is masked and sprayed. A gloss coat, and we're ready to place the nose cone decals. Once those are dry, the nose is overcoated with Testors Lusterless Flat, and finally the nose is done.

Photo 33: Finished F-61 Nose

We can now mate the nose to the airframe and take a final assembly photo to complete the project.

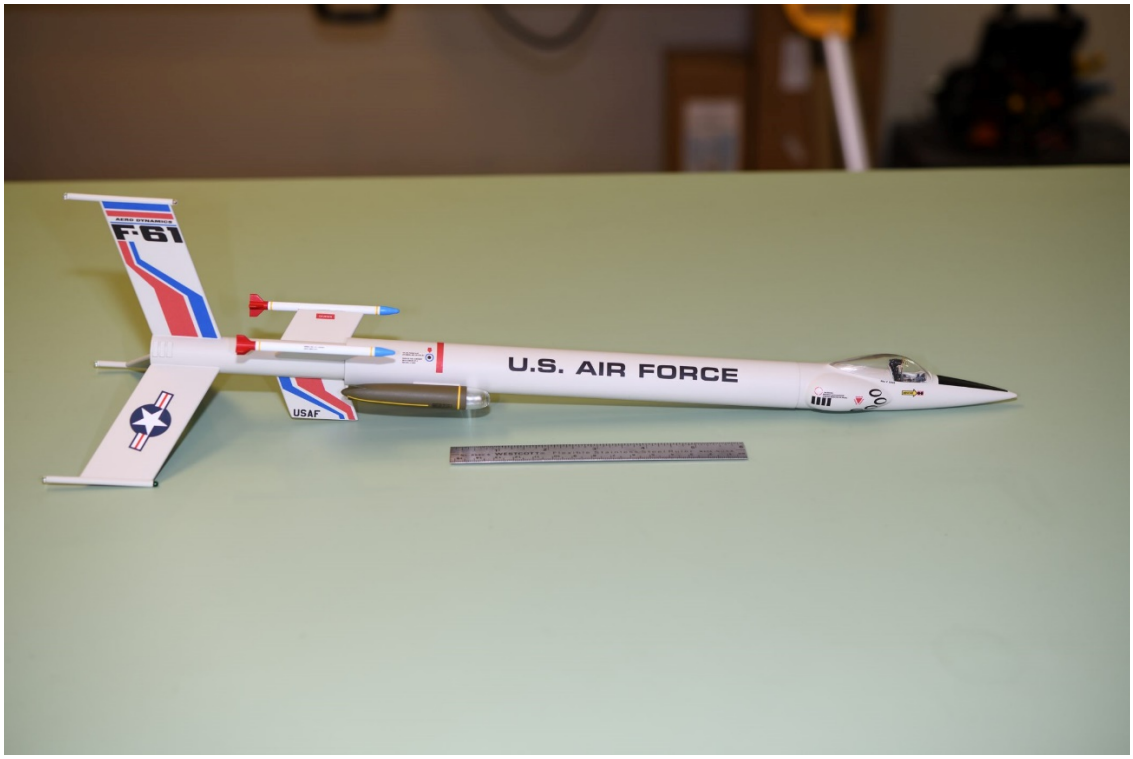

Photo 34: F-61 Starfighter, Complete

And there you have it, an updated F-61 Starfighter. Still an awkward and angular bird, but one presenting a fresh look with the aid of some modern makeup.