

## Modelling the NA-44 'Jeep'

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(with colour artwork by Dave Fletcher, C#390)

After seeing **Derek Pennington's** 1/48 scale NA-44 conversion of the T-6 Texan I became interested in building the NA-44 "Jeep" in 1/72 scale. The conversion is based on the Revell offering of the old **Heller** kit. I started by reading and studying the excellent drawings of the NA-44 "Jeep" section of **David C. Fletcher's & Doug MacPhail's** book **Harvard! The N.A. Trainers in Canada.** (To obtain a copy of this book, please visit [mypage.uniserve.com/~dcf/harvard2.html](http://mypage.uniserve.com/~dcf/harvard2.html)) I also phoned David and we had a lengthy discussion about the aircraft and David listed a large number of changes that had to be made and I carefully wrote them down. This sheet became my check-off list.

As I had no Wright R-1820 Cyclone engine I ordered one from **Engine & Things**. A B-17 engine cowling came from David Piedra and a small three bladed propeller was received from Jim Mores, both Aero Buff members. John Wong created and printed the fuselage numbers on his Alps Printer and John McEachern drew the "Jeep" sign in the Vector program and printed it, size 1/8" diameter.

I would like to thank all of the six above-listed modellers who encouraged and helped me in the building of this model .

The Model is a replica of the one and only NA-44 "Jeep" in the Royal Canadian Air Force and the fastest of the North American Harvard and Texan family.

### Fuselage and Tail changes

I cut off the rudder, and cut the fin below the horizontal stabilizer and moved it forward by 3/32". Shorten lower fuselage by 1/8" in front of rudder hinge line and moved the tail planes forward by 1/8". The outline of tail planes was also changed at this time.

The fuselage in front of the canopy should be shortened by 1/8" and I did this by cutting off the engine mount.

All of these changes were checked off the list, before and after each cut I checked page 34 with the NA-44 and page 109 with the T-6D Texan drawings. By assembling the cut sections of the fuselage onto the 1/72 scale drawings I could see in my mind the fuselage taking shape (**Photo 1**). The fin was glued together and the fin section was set aside to be installed after the fuselage was closed. The new rudder was made from a section of thick plastic card cut to shape. This was then sanded to thin the trailing edge and top and the leading edge was rounded to fit the fin. To give the rudder the rippled effect I first tried to install thin sections of pulled sprue. This did not work out to my satisfaction so I used thinly cut **Tamiya** tape sections to replicate the ribbed effect (see final appearance in **Photo 22**).

As I had some early **Eduard** Photo Etched frets of the AT-6 fuselage framings I wanted to use one for this model. The etched parts are not bad but the instruction sheet was poorly drawn and not very helpful. Fortunately I had some photos of a Harvard Mk.II (**Photo 2**) being restored at Geneseo, this helped me to install it to my satisfaction into the fuselage with the help of two sections of plastic struts (**Photo 3**).

With the fuselage closed and the fin section added I cut a round plastic disk to later mount the larger engine and larger (B-17) cowling. This disk was glued to the front fuselage, being the same size as the inside of the B-17 cowling. The fuselage in front of where the gun bulges would be was faired in with **A+B** putty using the plastic disk on the front and **Tamiya tape** at the rear as a guide (**Photo 4**). Two evenings of careful sanding and re-applying of small quantities of more putty resulted eventually in an even flare on both fuselage sides. I found this to be, for me, the most difficult part of the build.

I filled all the areas where the fuselage was changed with thin slices of plastic card, super glue and **Mr. Surfacer 500**. Next day the fuselage was sanded smooth to create the metal fuselage of this aircraft. All panel lines were either scribed

new or re-scribed when lost through the sanding. The radio door on the port side is not rectangular as shown in the drawing on page 34, but as on the T-6, five-cornered. (as per David Fletcher)

As I wanted to paint the NA-44 in the colourful yellow-blue-red scheme, I had to install gun bulges and created gun troughs. The gun troughs were filed with a **Historex** mouse file into the top front fuselage. I added the gun bulges made from angled cut sections of small bombs (**Photo 5**). Even though the gun bulges were filed with a round file to fit them to the fuselage they needed a little **Mr. Surfacer 500** to fill small cracks and when dry were wet sanded. This was repeated a few times to blend them in, to my satisfaction. Then a hole was drilled into each gun bulge where guns could have been installed, which never happened to the aircraft in Canadian service. For the exhaust a groove was filed on the lower starboard front fuselage (**Photo 6**).

To remove the open cooling gills on the B-17 cowling I glued a 3/16" strip of very thin plastic card on the inside of the cowling. On the outside, **Tamiya** tape closed the openings of the gills and superglue was used to fill the gap. This was done a few times until they were completely filled. The cowling sides were now sanded smooth and panel lines scribed using **Dymo tape**. **Photo 7** shows the cowling filled and sanded on the outside but the inside still has to be filed and sanded to produce a sharp trailing edge (**Photo 8**).

The painted engine was installed to the front of the fuselage. The next day I installed the cowling, painted **Interior Green** on the inside, to the engine and fuselage. The scoop added to the top of the cowling was scratch built (**Photo 9**).

(**Photo 10**) The scoop on the lower fuselage was the modified scoop from the kit and it was added to the lower fuselage and cowling. This view also shows the fuel tank selector fairing, which was made from a section of a wheel from the spares box.

## Cockpit and Canopy

I was lucky to have the **Falcon Clear-Vax Canopies Set No. 30 US Aircraft in Foreign Service**, as it had the correct canopy. This was very carefully removed, as only one is in the set. It requires the removal of a small section of the top fuselage behind the existing canopy opening. Trial fitting, sanding and trimming was needed until it fit properly. When I fit vacuformed canopies I always like to glue them against small supports. In this case two thin plastic strut strips were glued to the canopy coaming (**Photo 11**). They were painted **Interior Green** and the canopy glued to the fuselage with small amounts of white glue. When dry a tiny bead of super glue was applied to the canopy fuselage seam and when this was dry, was blended in with **Mr. Surfacer 500**. This was sanded very carefully to a smooth finish (**Photo 12**).

The **Eduard** canopy mask for the T-6 was used to mask the canopy by removing a thin strip from the centre of each of the side and top sections. This involved a little work but it was less than doing it all with **Tamiya** tape (**Photo 13**).

## Wing changes

Changing the wing is a lot easier than the fuselage. To straighten the trailing edge thin wedges were cut from all four outer wing sections (**Photo 14**). Plastic card strips were used on the inside of the wing section to strengthen the joint when gluing the wings together. Care was taken to keep the correct dihedral, and these card strips helped.

The existing wing tips were cut off and round ones from an old Hurricane wing were added. These were filled, sanded, filled and sanded again until everything looked right. The ailerons needed to be made shorter and slightly deeper both above and below the wing. The landing flaps have to be reshaped and a number of panel lines have to be filled and re-scribed (**Photo 15**). This required some repeat work to make it look right. The landing lights were installed, filled, sanded flush, polished and then masked.

The aileron linkage covers on top of the wing were made from **KP MiG-19** air scoops (**Photo 16**). Trim tab linkages below the wings and on the vertical and horizontal control surfaces were made from stretched sprue and added at the end of the build.

The wing and the fuselage were joined and after setting over night, the wheel well and fuselage area need careful trimming and filling and when dried, sanding. This is because the shortening of the front fuselage changed the fitting of these parts. The fuselage to wing joint also needed to be attended to.

The reshaped horizontal stabilizers are installed and the joints filled and sanded. Landing gear doors were made from thin plastic card.

## Painting

Painting started with spraying the canopy frames **Humbrol HD 5 Interior Green A.N.A. 611**. The engine was masked with a thin cardboard disk and **Humbrol Maskol**.

**Model Master Chrome Yellow FS 13 538** was used to spray the complete airframe and left to dry for 24 hours. The yellow trim line for the red cowling front and fuselage flash was masked first with very thinly cut **Tamiya** tape, but this had to be replaced with thicker strips of tape eventually because of my inability to cut circular strips of the correct thickness for the cowling. I had to cut three or four different circular strips of increasing thickness until both cut sides were smooth. The thickness of these circular tapes determined the thickness of the fuselage tapes (**Photos 13 and 17**). Once these strips were applied the parts to be kept yellow were masked, wings, rudder and tail planes and then the parts that were to receive the blue paint later. **Humbrol # 174 Red Satin** was sprayed (**Photo 18**). After 24 hours of drying the temporary masking around the red trim was removed and the red trim was masked and the blue was sprayed with **Revell # 50 Medium Blue**. I bought that little tin over 20 years ago in Germany. I think that **Humbrol 47** can be used with a few drops of a darker blue added (**Photo 19**). After again a day of drying the masking was removed from the fuselage and wings (**Photo 20**) and **Floquil Crystal Cote** was applied to prepare the model for decaling.

As I could not find the correct size of the yellow fuselage numbers a friend was kind enough to print them on his ALPS printer. As the ALPS printer's yellow is very 'lemony' he printed, from past experience, a red and a yellow decal. The red decals had to be applied first (**Photo 21**) and after they are thoroughly dry the yellow decals were added (**Photo 22**) giving a very good match to the yellow colour on the wings.

The roundels for the model came from two different decal sheets: **Modeldecal # 39** and **Microscale # 72-294 Hurricane Aces**. The last sheet also supplied the fin flash. The black numbers for the lower wing from **Microscale # 72-015 US. I.D. Letters and Numbers**.

After applying a satin coat, the canopy and the landing lights were unmasked. The last decals to be added were the wing walk ways which were later brush-coated with a matt clear finish.

## Other items

The exhaust was made from **Contrail** tubing and drilled and filed to produce the necessary thin walls.

It was painted a rusty metallic colour and when dry, glued into position with white glue.

The painted main landing gear, the main wheels, the landing gear doors and lastly, the tail wheel were added.

I installed a pitot tube made from a stretched plastic cotton Q tip handle, and pulled sprue, on the starboard wing and the same material was used for the two venturi tubes which are added to the starboard front fuselage using the drawing on page 34 as a guide.

The aerial mast was painted wood-brown with a short steel coloured tip, I added a small section of brass rod installed on the bottom, to give it some strength when adding the aerial wires, it was glued with super glue into a pre-drilled hole centred between the gun bulges. The three aerial wires, made from thin stretched sprue were installed (1) from the top of the fin to the rear of the canopy, (2) from the top of the rudder to the aerial mast and (3) from the aerial mast to the starboard side of the front canopy.

A short section of thin copper wire was installed behind the top cowling scoop and painted silver. The top part was slightly bent forward. What this pipe does, neither Dave Fletcher or myself could figure out, but it is there in the photos and the drawings, so on the model it went!

Using the drawing on page 34 of Dave's **HARVARD!** book as a guide I reshaped a small three-bladed propeller and thinned the blades. The propeller was sprayed black on the rear, and silver at the front. Steel colour was used to paint the pitch change mechanism and three small punched disks were glued as balance weights to the propeller hub.

Weathering was kept very light, mainly at hinge lines of rudders, ailerons and landing flaps. This aircraft was flown only by high-ranking officers and was kept very clean.

The 'Jeep' decal, made by John McEachern was installed last on the port front fuselage above the red fuselage flash and just behind the cowling (**Photo 23**).

## Final Thoughts...

With the same power-to-weight ratio as the Hurricanes which would bounce any Harvard, the 'Jeep' in the right hands, could give the Hurricane pilots a run for their money! They quickly learned to avoid this aircraft, so it was repainted in the standard trainer yellow, which fooled many newly-minted Hurricane pilot.



## Aggregat-4 V2 Rocket in 1:72 scale

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### A Very Brief History

The Aggregat-4 (A4) was a liquid propelled rocket that became the world's first long range ballistic missile. Development started in the 1930's with a team lead by the German rocket scientist Wernher von Braun. Following testing with smaller scale rockets the final A4 design was started circa 1938-1939. Testing and development continued through the early war years at Peenemünde, and it wasn't until late 1944 that the rocket became operational. The V2 (*Vergeltungswaffe 2* or Vengeance Weapon 2) designation was adopted for military operations. Over 3,000 rockets were launched before war's end, mostly at London, Antwerp and Liège.

Post-war both the Allies and Soviets scoured Europe for A4 rockets and the scientists that worked on them, with the Americans and the Russians rapidly developing their rocket and space programs from the knowledge gained from their former German foes.

### The Kit

Parts come on two sprues of tan-coloured, fairly hard styrene plastic. The parts are well cast and there is little for flash or seams, though I did find a few annoyingly placed ejector pin marks. Parts count is 46 - enough to build the rocket, its turntable and the table's transport trailer. The build sequence is quite logically presented and for the most part easy to follow. A small decal sheet is included, and an eight-page instruction sheet outlining the build over eight steps. Paint call-outs are for **Gunze Sangyo** only. A colouring guide is provided for these options:

1. A4, white 11/W4171, in late version of the ragged/splinter camouflage
2. A4, white 10/W4132, in early batiked/mottled camouflage
3. A4 in geflammt/wavy camouflage
4. A4, white 11/W4156, in early version of the ragged/splinter camouflage
5. A4 in late war standard overall olive green camouflage

The launch table/trailer combination can be in either **Panzer Grey** or **Panzer Yellow**.

### Construction

I built this kit out-of-the-box. Construction is for the most part quite effortless. Detail and parts fit is quite good and I found the plastic easy to work with.

The combustion chamber is nicely done with the injector positions moulded to the top of part 9, but the only way you're going to see these once the kit is built is if you modify the kit to show the interior. Closer inspection of the instructions identified three possible areas of concern: the long seam where the two body halves join, the joining of the fins to the body, and maintaining the alignment of said fins.

Everything started with the launch table, which makes up the majority of the kit parts. There are two options for its construction - ready for rocket launch (Step 3A) or set up for transport on the trailer (Step 3B).

For the launch configuration, the operator's platform (part 18) is attached to the blast plate/deflector (part 7) and the flaps for the wheels (part 24) are mounted in the down position. Part 18 had some short shot supports (**Photo 1**) which were repaired using some short sections of plastic rod and shaped as best as I could to match the other supports. For towing, the operator's platform is not attached and the wheel flaps are mounted in the open (vertical) position. Since the rocket was not mounted on the trailer during transport the modeller will need to buy **Special Armour's Meillerwagen trailer** (kit SA72012) to hold the rocket.

The legs (parts 16 & 17) don't attach well to both the blast plate and the lower ring of the turntable. This forced me to build most of the platform simultaneously, and adjust for alignment as it dried. The holes moulded to receive the angled support rods running from the legs to the underside of the turntable are too large and leave noticeable gaps that need filling. Getting the pads to stay square was difficult and I found a quick and dirty solution using some Popsicle sticks and clamps (**Photo 2**) as a quick alignment jig.

There is a nice diagram of the table in Steven J Zaloga's book (see **References**) that shows a cable mast located on the rotating ring (part 11) which I did not add, wishing to keep the build out-of-the-box.

With the launch platform finished I moved onto the rocket proper. I was anticipating trouble with the long seam between the two body halves but in the end it turned out to be easy to remove, especially if one takes a bit of extra care here while gluing to ensure the join is as flush as possible.

The rocket's tip looked rather odd (**Photo 3**). Some sanding shaped it into a proper point versus the knobby protrusion as shown in the picture.

The exhaust deflector vanes are moulded directly on the fins and I cut them off so I could shove a stick up the end of the rocket to make painting easier. Then I drilled a small hole in the base of each vane in which I inserted a toothpick as a handhold during painting.

Attaching the fins also proved to be easier than anticipated. There was some misalignment of the moulds leaving a seam, but it was easily dealt with. Otherwise the join was quite good, and only small adjustments of the mating surfaces with a little scraping and sanding was required to get a good fit with the body. This resulted in next to no filler being needed. Beware of the antenna that extend from the bottom of each fin - they are thin, fragile and easily bent or broken.

Aligning the fins proved somewhat problematic. The butt joint doesn't make for the best construction method for keeping the fins perpendicular to the body while they dry.

I found an easy solution by placing the rocket on top of the built launch platform and inserting the trailing edges of the fins into the slots in the fin supports moulded to the rotating ring of the turntable (part 11). Doing this keeps the fins in their proper position as they set without resorting to any custom made jigs and was the reason I started the build with the platform.

The small trailer used for carrying the turntable (I could find no Sd.Ah. designations in my references) was rife with ejector pin marks on the underside of the frame.

They were filled and sanded but it was not an easy task as the sanding tended to flatten the round shape of the frame members. Outside of the work to fill the pin marks, the trailer goes together quickly - it is only 7 pieces. No extra detailing was done to the trailer and I'm not sure any detailing would be needed as I could find no good pictures to see if there were any brake levers or cabling on it. I also vaguely remember somewhere in my references (just wish I could remember which one) that brakes were not required on small, light duty German military trailers, which I think this one would qualify as.

## Painting

I chose to paint my rocket in a late test pattern of white/black lower body and fins with olive green upper body, as seen at Peenemünde during operational testing by Lehr und Versuchsbatterie 444 (Training and Experimental Battery 444), late 1943.

As per my norm, the first coat of paint is **Testors light grey** used as a primer. Any flaws were fixed, re-primed, and then **Testors Flat Black (1749)** was sprayed along the panel lines of the rocket, in the recesses of the launch table and along the edges of the trailer, as a pre-shade. For the rocket's white tail I used **Tamiya Fine Surface Primer L White (87044)** decanted from the spray can allowing some of the underlying black to show through. Two fins were to be black, so the white was masked and **Testors Flat Black** used again on the two exposed fins.

The upper body is **Testors Panzer Olivegrun (2097)**, again spraying so the underlying black pre-shade partly showed through the green. The turntable and trailer were sprayed **Testors Panzer Dunkelgelb (2095)**, and then again with the Dunkelgelb lightened considerably with flat white. Once camouflage was finished everything was given a coat of **Testors Glosscote** sprayed straight from the can. After this dried I used **Tamiya Panel Line Accent Colour (Black)** as a pin wash on the rocket (midriff vents), turntable and trailer. The latter two were then weathered lightly with **Testors Afrika Dunkelgrau (2103)**. The rocket was not weathered as I figured its life exposed to the elements was limited.

Decaling was minimal. The kit's yellow stripe was added to the nose followed by vertical strips of black on the white tail section. The strips were sourced from a set of **Warbird Decals, sheet 72003** for the B-36. A few liberal dowsings of

**Microsol** snugged all the images to the paint. The final spray session was for a coat of my favourite flat finish - **Golden Hard MSA Varnish** with UVLS (Matte) mixed with lacquer thinner.

Exhaust deflectors were painted **Testors Panzer Schwarzgrau (2094)** and then given a dry brushing of **Testors Chrome Silver enamel (1790)** to give them a graphite like sheen.

They were re-attached to the fins just before the rocket was affixed to the launch table.

## Conclusion

This is a nice kit. Only some annoying ejector pin marks detract somewhat from what was otherwise an enjoyable build.

As far as I can tell this **Special Armour** release is manufactured by the same **MPM** group of companies, which also produced an A4/V2 under the **Condor** label circa 2001. When compared to the old **Condor** kit the progress in kit technology is apparent.

## References

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## Ferrari's Small-bore Sports Racer

### A 1:24 Dino 206 Competition Prototype

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#### Introduction

It is a good time to be a fan of motor racing on television. If there is a particular area of racing which you enjoy viewing (NASCAR, drag racing, road racing, Formula 1, WRC, Indy, ad infinitum), your tastes are covered. If the information is not available live, you can always log into the internet, and find out the results, along with streamed video. In some respects, it is hard to remember that this level of information is a recent phenomenon.

When I was a boy, most of the information I knew about car racing came from the shelves of the school library. I can remember reading these books, some dating back to the 1950s, and thinking how great the cars looked back then. Black-and-white photographs of Jaguars with flowing lines, menacing Ford GT40s, grainy colour shots of Porsche 917s, with their massive 12-cylinder engines; all of these were amazing visuals for me. What I didn't know from reading these old books (some of which I picked up as discards) was how dangerous these cars could be. Many of the men I was reading about, in the safety of a school library in the early 1980s, had been dead for more than a decade. The cars, as well as the circuits, have changed, definitely for the better, but there is still something about the look of those vintage sports cars that the modern ones can't match.

After waxing poetic on the subject, I have to admit that the subject of this article is not a race car. In fact, while it has the title 'competition' in its name, it never competed in a race, let alone won. Introduced at the 1967 Frankfurt Auto Salon, the Dino 206 Competition Prototype was fabricated for the car show circuit. Based on styling cues from the Ferrari P330 and Dino 206 models, the 206 Competition Prototype was viewed as a preview of future Dino models from Ferrari (Dino was the title used for any Ferrari product not powered by a V-12 engine). While the show car was exceptionally stylish, it was lacking in several areas. The bubbled canopy and gull-wing doors were straight from the racetrack, but a lack of air conditioning or opening windows would have been uncomfortable. Mounting the cooling system in the nose precluded any space for luggage. The front and rear mounted airfoils looked great, but would be useless as bumpers in *any* impact. A more practical design would be placed into production (the Dino 206/246, produced from 1968-1974), and the Competition Prototype was retired from the show circuit. The car ended up in the Pininfarina Museum for over 30 years, until purchased by a wealthy collector. Now road-worthy, the car has been featured at a number of car shows during the past few years. Watching YouTube footage of this car at speed shows how beautiful the design is, regardless of its non-existent competition history.

I was unaware of the existence of the real vehicle, until I saw the model kit on the shelf at a friend's place. I was taken by the design of the car, and even though it is not my usual subject matter, decided to keep an eye out for this kit. I hadn't counted on my friend, who works in a hobby shop, telling me that an order had arrived, and that my kit was now in the 'Hold' bin (Thanks, Dave!). While it was nice to have the kit in my hands, I wanted to ensure that the model was as attractive as the illustration on the box art. The kit is part of Fujimi's Real Sports series, which means it was designed with very little attention to engine or chassis detail, and maximum effort on the exterior. While this design philosophy provides a builder with an easy-to-assemble shelf model, there are areas which need to be refined in order to look more prototypical. I decided to concentrate on modifications to the wheels and on the various grilles and vents on the body, as changes in these areas would provide the greatest boost to the overall presentation of the model.

One area of the model I would like to have changed, but didn't, are the clear parts. The windshield, windows, and lenses are moulded in a non-prototypical smoked finish. While it is possible to have sourced clear lenses from other models, and vacu-formed a new windshield and windows, I didn't want to embark on another never-ending project. Therefore, I decided to build it in the spirit of the original, as opposed to an exact replica, and left the tinted pieces on the model. A dip in a bowl of **Future Floor Finish** made a big difference in the overall appearance of the pieces. I will give encouragement



to all those builders who complain about dipping their aircraft canopies: if I can get a consistent, run-free coating on these clear pieces, you should never worry about dipping canopies again! (**Photo 1**)

## Wheels and Tires

The wheels and tires included in the kit resemble the prototype, but they are not exact representations. The included tires are Pirelli P7 radials, which have been in dozens of Fujimi kits since the mid-1980's. While I could have replaced them with more prototypical Firestone tires from the parts box, I liked how the Pirelli's helped to visually lower the model. The rim centres are deeper on the model, which doesn't detract from their appearance. What does detract from the appearance is the satin chrome plating, which makes the wheels look toy-like (**Photo 2**).

I use whitewall tire cleaner to remove the plating from the parts, as well as to clean off any oils left from touching the parts before painting. Using a # 80 pin drill, a small hole is drilled into each rim for the tire stem valves.

One of the tricks I use for painting wheels is to make my own paint stands. The idea is to make a holder which will hold the parts in place, and allow you to evenly paint both sides without handling the parts, but which will not damage the paint when you remove the pieces from the holder. I take a piece of card stock (the bottom of a model kit box works well), and use the outer face of the wheel as a template. Once you know the size of the wheel, you can then use a punch to create a smaller hole in the card. Use scissors and a hobby knife to adjust the size of the holes. It's not an exact science, but if you trim the holes properly, the wheels will stay in place while painting, but can be easily removed from the holder when the paint dries (**Photo 3**).

The wheels were painted with **Tamiya TS-76 Mica Silver** over grey primer, which replicates the rough silver finish of the originals. Separate chromed pieces are included for the knock-off spinners, but the raised areas where the spinners mount also need to be chrome-finished. I used my **Waldron punch set** to cut four circles from **Bare-Metal Foil**, which were then applied and burnished to the wheels. This kept me from doing something foolish, like trying to trim the foil in a tight, freshly painted, area with a X-Acto blade. Pieces of brass wire were painted black, and inserted through the pre-drilled holes. A drop of CA glue and some trimming, and the result is some presentable tire stem valves. An application of a black wash to the wheel centres finishes the job. The difference between the original parts and the modified parts can be seen in the photos (**Photo 4**).

## The Body

Fujimi did a fantastic job of replicating the curves of the Dino prototype. The lines of the car are beautiful, and it is one of those designs which looks fast even when at rest. There are a few areas in which the kit's appearance is let down by the design of the tooling. These areas are as follows:

- ◆ Vents and scoops
- ◆ Underneath the vents and scoops
- ◆ Spoilers

I commend the designers for incorporating as many open vents and scoops as possible from the actual design. The intakes for the engine and radiator fit where they should. However, they do leave a number of seams, which need to be filled and finished before painting (**Photo 5**).

There are also a number of mould lines and small sink marks, which need to be attended to (**Photo 6**).

I was able to smooth out the seams for the inlets by using gap-filling CA and accelerator as filler, but it still took plenty of filling, priming, sanding, and re-priming, in order to achieve these results. **Tamiya Extra-Fine putty** and **Mr. Surfacer 1000** were also employed to create a smooth surface for painting. This is the project in which I started to rely on my dehydrator for paint curing (see **RT, Vol..33,#3**), and it definitely helped to reduce the waiting time for applying more primer (**Photo 7**).

Once the bodywork was completed, I primed the body with **Tamiya White primer**, and left the body to dry. I spent the waiting period on assembly of the interior and chassis. Various shades of black were used, because there wasn't much

detail to look at. The steering wheel was painted silver with a brown rim, using **Citadel** paints, and the carpet was created through the use of blue embossing powder, as per the prototype. You can barely see it through the windows, but at least I know it is there (**Photo 8**).

I was concerned about paint application on this body. Yellow is a difficult colour to apply evenly at the best of times, and the various scoops and inlets would require care to ensure that they received coverage, without incurring runs and sags on the rest of the body. I decided to employ both airbrushing and spray painting to ensure complete coverage. I decanted a partial can of **Tamiya TS-47 Chrome Yellow** into a container, and sprayed it through an Iwata HP-B airbrush at low pressure (about 12 psi). I concentrated the airbrushing on the scoops, inlets, and engine cover, where it would be difficult to achieve complete coverage. (Details about paint decanting can be found in **RT Vol.33 No.4**; back issues are still available). The rest of the body was painted with **Tamiya TS-47** from a spray can. Three thin coats, with drying time in the dehydrator, were required for complete coverage (**Photo 9**). A top coat of **Tamiya TS-13 Clear** was applied after the colour coats had completely dried.

The vents and grilles, as mentioned earlier, are moulded open wherever possible. This is a commendable feature, except for the fact that *they don't go anywhere!* This is noticeable on the engine cover and radiator inlet, where you can see straight through to the (highly un-prototypical) suspension pieces. The only covers supplied in the kit are for the engine intakes (parts C9/C10); unfortunately, these parts have a tooling mark right in the center, which makes them unusable. How could I fix this? I was walking through the aisles at my local hobby shop, when I came across a package of aluminum micro-mesh. This product, which is sold by **Scale Scenics**, is intended for use as fencing or grilles for train layouts, but I knew it would work for my needs. A piece of the mesh over top of black construction paper made for a convenient radiator. I was concerned about the engine inlets, because I didn't want to leave glue marks on the screen. I was lucky enough to notice that the diameter of the intake was slightly smaller than that of a disposable ball-point pen. A piece of mesh was cut larger than the inlet, placed over the opening, and the barrel of the pen was used to conform the mesh to the proper shape (**Photo 10**).

A bit of CA glue was used to complete the assembly. Small sections of U-shaped **Plastruct**, painted flat black, were used to box in the vents on the engine cover.

The front and rear spoilers were the last pieces to go on the car, and they were fiddly to work with. I can't blame the engineers for this, because the real spoilers were also fiddly, and detracted from the looks of the car (**Photo 11**).

Back in the 1960's, the art of vehicle aerodynamics was in its infancy, and wings were added to vehicles on the basis of "What looks right is right". There were times when wings were added because it looked modern, which is what happened with this particular car.

The original designer of this car, Paolo Martin, was a young designer who completed the design for Pininfarina, while moonlighting from his design job at a rival firm. In a 2007 interview, Martin described the reasoning behind the spoilers: "They were only added at the last minute since the Management thought the design had to be enriched. I was always against it, anyway this was the final decision." <sup>1</sup> If you look at pictures of the actual car, you will see that the front spoiler appears to have been used as a curb feeler at some point in the past (**Photo 12**).

The mounts for the front spoiler are so delicate, I was forced to mount the completed model to a display base to keep it intact. Even though it is a small issue, it is still annoying.

## Conclusion

Even though the design is almost 50 years old, the Dino 206 Competition Prototype is still a beautiful-looking vehicle. Building the kit allowed me to use a few new techniques, and brought back the memories of reading about those vehicles. I am tempted to pull the Fujimi Ferrari 330 P4 out of the kit stash, so the Dino can have a bigger brother. So many kits, so little time...

## Endnotes

The full text of the interview can be found at: [www.carbodydesign.com/archive/2007/09/21-ferrari-dino-berlinetta-competizione/](http://www.carbodydesign.com/archive/2007/09/21-ferrari-dino-berlinetta-competizione/)



## 1/72 Crusaders? Take 2 !

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I have done it before. Two model kits showing different versions of the same plane, with perhaps the idea of building one and then the other. Oftentimes you build one, and the other languishes on the shelf, never to be visited again, ultimately getting sold or donated to the club raffle.

### Crusader #1 - a NASA F-8C

In my case, it was first purchasing **Academy's** excellent 1/72 scale kit of the **F-8E Crusader**. With no idea of what scheme I would put on it and idly cruising around the Internet one day, I came upon a conversion kit by **Newman R&D** that was sold through the Edward's Air Force Base Gift Shop. It backdates the 1/72 scale **Academy F-8E** kit to an **F-8C** (also designated an **F8U-2**). Actually the scheme is what got me to 'bite' as it was for the **NASA "Digital Fly By Wire" F-8C**.

### Crusader #2 - an XF8U-3

Another Internet session put me at **Anigrand's** website and it was there that I found the all-resin 1/72 scale kit for the **XF8U-3 Crusader III** or '**Super Crusader**'. What to do? After some thought, I decided to build both at once, incorporating the different schemes and structural changes of both aircraft into one article. Even though the XF8U-3 airframes were originally built back in the 1950's as entirely new aircraft, and the fact that they were bigger and weighed more, they still incorporated many of the same features found in the production version Crusaders. Being in competition with the prototype **F-4 Phantom II**, it eventually lost out, due to the powers that be wanting a two-man crew in their next choice of fighter, rather than the one pilot the XF8U-3 offered. As a side note, one can't help but wonder if the Super Crusader's butt-ugly 'sugar scoop' intake was a strike against it, but then, depending on the viewer, the F-4 could be considered an ugly aircraft too! Strangely, the Super Crusader's overall performance was actually greater than that of the Navy's choice of the F-4 Phantom II, however, the F-4 went on to a stellar career, winding up in all three U.S. service branches as THE front-line fighter/bomber/interceptor, not to mention its use world-wide.

### The Project(s) Start...

On the modelling bench, the die was cast and the first order of business was removing the in-flight refuelling (IFR) probe housing from **Academy's** F-8E, **Photo 1**. I was careful, as I wanted to minimize sanding away the beautifully engraved panel lines on the kit. Not being a difficult operation, it just required some time and patience to get the IFR bulge off of the fuselage half.

The cream-coloured resin of the **Anigrand** kit presents itself in **Photo 2**. Reference photos revealed vertical rectangular engine intake-air 'spill doors' on both sides of the forward fuselage and I decided to show them opened. Drilling four 'starter' corner holes in the resin and by gently cutting and filing the left-over resin yielded two openings as the basis for additional construction. I blanked off the insides and added sheet plastic to represent the inward-opening doors, a novel feature indeed. Note the nice engraved panel lines and good detail contained within the main wheel wells. The skinny concave depressions appearing horizontally on the lower fuselage would later hold inert rockets on the test airplane.

**Academy** is no stranger to detailed sub assemblies and **Photo 3** shows the bulkheads and detailed panels for both the dive brake and wheel wells for the F-8C. Three white tiny plastic strips are shown in the aft landing gear door depressions on the Super Crusader. I added them as strengtheners to add detail to an otherwise plain vanilla door housing. At that time, I came upon **Obscureco's** resin F-8E Crusader wing with dropped slats and flaps. To my knowledge, the F-8 wings were the same for both the 'C' and 'E' models. To add further interest to the F-8C, I decided to add the aftermarket wing to the mix and in **Photo 4**, both wings are shown. I did have to cut off the slats and flaps from the **Anigrand** wing, which

proved to be an easy task. Removing them from their plinths just took time with a fine razor saw and I even remembered to wear a dust mask! Will wonders never cease? Note also that the leading edge slats have an inverted 'V'-shape to them as they hinged in the middle on the XF8U-3 when deployed.

In **Photo 5** I've made some progress with the addition of the intake ducting to **Academy's** kit, the nose piece has been cut off and ballast weight has been added to make sure the model wouldn't be a tail-sitter. Both kits' cockpit tubs have been painted and are in place as is the separate forward instrument panel coaming for the Super Crusader. Several details are visible in **Photo 6**. I emphasized detail with careful hand-painting on the **Academy** kit cockpit side walls. Also note the painted seat. I later found out that the XF8U-3 flew with a Vought seat versus the more common Martin-Baker F-8 seat, and as I used two identical seats for both models, a re-do of the seat to match that change would come later in the project.

When building this kit be careful with all of the 'fiddly bits' in the form of gear door actuators, etc. I did manage to crack off one of the little pieces, but luckily, I was able to find it, re-attach it, and be aware of it during the rest of the build. Just a word to the wise...from experience!

A similar scene appears in **Photo 7**. Note the finesse of the instrument panel coaming resin piece as well as the moulded-in detail on the back shelf of the cockpit. A coat of 'scale black' paint and some dry-brushing with an acrylic light grey brought everything back there to life. I used **Testors Model Master Dark Gull Gray** for the interior cockpit sections in both kits. The boxed-in areas for the bleed air doors show up as white sheet plastic, cut to fit. Whereas **Academy** made the fuselage halves to include the vertical tail as one piece, **Anigrand** chose to mould a separate vertical tail, and in **Photo 8** it is in place and has been puttied. Little differences like that occur when building dissimilar kits. In the photo, the landing gear legs are in place, with **Anigrand** having moulded the nose wheel and strut as one piece versus the **Academy** nose gear leg having a separate wheel.

Both kit's dorsal fuselage interior areas, located under the F-8's moveable wing, have good detail on them with perhaps **Academy's** being the better of the two. Most of that would not be seen with the addition of the wings, even though I would position them in the landing/takeoff 'raised' configuration.

It was at this stage, with both fuselages glued together, filled and sanded, that I realized that maybe, just maybe, I could perform additional work on each fuselage, independent of the wings, and also paint and decal them without having to attach the wings beforehand. That proved to be true. Sometimes things just work out smoothly and this was one of those times. Doing so would eliminate a lot of tight painting, applying panel lines to tight places, and the possibility of catching one of those sharp wingtips on something as the build progressed.

In **Photo 9** a coat of **Floquil Old Silver** and **Testors Gloss White** enamel has been sprayed on each fuselage and wing. I first had to insure that **Anigrand's** resin was smooth so I lightly wet-sanded both the wing and fuselage prior to spraying them with **Old Silver**. I sprayed the wing fuselage bay with **Alclad II Duralumin** to give a slightly darker metal look. **Floquil Caboose Red** was hand-brushed on the flat, leading edge of the wing forward bulkhead.

Taking things a step further, **Photo 10** shows the F-8C's slat track and flap travel areas having been masked and sprayed with a dark shade of natural metal. **Duralumin** again did the trick. Doing that broke up some of the white of the entire top wing. I also masked and sprayed a base coat of **Floquil Old Silver** over the afterburner can section.

In **Photo 11** the XF8U-3 wings, tailplanes and fuselage have also received base coats of **Old Silver**. Instead of using **Duralumin** on the flap travel areas, I went with a dark grey to further make those areas stand out. I would later add small black decal sections to both Crusader wings to detail them a bit more. I used **Floquil SP Lettering Gray** for the rear fuselage panel as a few colour photos show that area to be a different hue than the rest of the natural metal fuselage. It could perhaps have been **Titanium** back there however I went with what looked closest to the photos, hence the grey colour. A touch of **Day-Glo Orange** appears on the individual horizontal stabs. The two with just **Day-Glo Orange** outlines around the edges are the ventral stabilizers. These remained horizontal when the aircraft was on the ground but were lowered to the vertical when the aircraft was flying, adding to overall stability.

Visible in **Photo 12** I also began spraying what I wanted to add to the afterburner sections, adding **Alclad II's Polished Aluminum** to the very end of the tail pipe as well as some **Steel** which is the darker section on the afterburner cans. Using a combination of **Hawkeye's SNJ and Alclad II**, I began masking off and spraying on, additional hues.

I experienced no compatibility issues using one product over the other as I masked and sprayed. A little masking tape and a quick spray of **Floquil Engine Black** took care of the tail tip.

In **Photo 13** additional tailpipe/burner can panels have received 'the treatment', with a very small **Day-Glo Orange** panel visible on the nose cone area of the Super Crusader, directly under the anti-glare panel. Also note the rather long prototypical sprue nose cone probe (inset on photo). I know I took my modelling life in my hands when I mounted it in place earlier, however I somehow willed myself to not break it off during the remainder of the build and as luck would have it, I took a page from Norman Vincent Peale's *"The Power Of Positive Thinking"* and it never did get broken or bent! Go figure.....Might there be a message in what I've written? **Polished Aluminum** again appears in a couple of panels on the F-8C tail pipe. Using positive thinking once again, and given that the Super Crusader vertical tail piece was a butt joint, I neglected to glue in reinforcing rods to give it a better hold. When I masked off the two rudder sections, I hoped that pulling the tape wouldn't cause the tail to break off.

Luck must have been with me throughout this build as it stayed in place and looked quite nice in its **Day-Glo Orange** coat, **Photo 14**. Note that a couple of small, rectangular panels on the afterburner can have been sprayed with a darker natural metal colour to provide yet more contrast to that area. The cavity caused by the opened side fuselage spill air doors shows up well in the photo.

I've provided a close up of the tail cone of the F-8C in **Photo 15**. It took a few sessions with masking tape and airbrushing different natural metal shades but the end result was worth it. Hey, it all adds up.

**Day-Glo** abounds on the Super Crusader in **Photo 16**. I first undercoated the **Day-Glo** areas with **flat white** and then applied the **Day-Glo** coat, using **Model Master Day-Glo Orange**. Two small rectangular natural metal panels adorn the nose cone, one per side. Again, colour reference photos, courtesy of Tommy Thomason (see bibliography) provided that little nugget and I masked and sprayed them with **Floquil SP Lettering Gray**. The four-digit tail serial number came from **Anigrand's** decal sheet that accompanies the kit. I was once again pleased to be able to handle the wing and fuselage separately when applying them. Wheel wells and landing gear struts on both models were sprayed using **Testors Gloss White** enamel.

Having been both a decal scrounger and hoarder all of my modelling life proved its worth with the project as **Photo 17** shows. One colour photo I had showed a couple of fuselage access panels also painted **Day-Glo Orange**, so I was able, using the brass template in the photo, to duplicate the exact measurements for those ovals and I applied the cut-out decals as shown. I would later add **Mike Grant's** black oval rivet patterns over the inspection panels. Thankfully, I had the matching colour of **Day-Glo** on hand in the stash, courtesy of **Tauro** decals. Another photo showed the fuselage spill air doors edged in red, so thin decal striping allowed me to duplicate that.

Evidently the XF8U-3 used a variety of inert missiles during its initial test flights, and in **Photo 18** they sit alongside the model components. In photos, I saw both colour configurations on one aircraft. One of the AIM-7 Sparrow missiles that I obtained from the **Hasegawa Weapon's set** had blue trim while the other two were accented with **Floquil's Caboose Red**. I adorned each missile with a few instructional stencils. Also note that the wheels and lower main gear doors have been painted and installed using two-part epoxy to ensure the wheels wouldn't splay out in time, given the weight of the resin parts. I was able to incorporate some A-7 Corsair stencils for the insides of the doors.

Switching back to the F-8C, I completed the striping and tail decaling along with the series of stripes on the top of the right wing. Perhaps, used for photographic purposes while in flight, I dutifully added the right upper wing stripes as per the **Newman R&D** decal sheet instructions. Using my trusty artist's "B" soft lead drawing pencil, accenting the indented panel lines on the model has been completed. **ScaleMaster** grey striping was used to show the rear fuselage walkways, just forward of the afterburner can.

The tail close-up in **Photo 20** shows where the horizontal stabilizers would eventually go. I drilled a mounting hole into the resin fuselage to accommodate the pin I made and glued into the stabilizer for added strength. A bit of decal silvering showed up around a couple of access panels and that would be eliminated later on. I was able to put a minute amount of lacquer thinner on a tiny brush and touched it to the silvered area, thus eliminating the unsightly silvering on the decal. I caution modellers with that 'trick' in that very little lacquer thinner need be applied. Too much will cause the decal to shrivel so this is not a procedure for the faint of heart. Note also the slight 'burn' marks on the afterburner can. Using thinned Tamiya Clear Blue in the air brush allowed me to spray a fine, narrow pattern to denote the burn marks. I am still

experimenting with this technique and most likely would do it differently the next time around. Suffice to say, I like the effect which, I hope, will get better with experience.

Miracle! The nose probe is still in place in **Photo 21!** It just was evidently not going to break off no matter how much I handled the model. The XF8U-3 had two hydraulic wing-raising pistons while the F-8C had only one on the right side of the opening. Both pistons can be seen in the photo along with the changed, Vought-style ejection seat, and with additional decals and rockets mounted in place. The Super Crusader's nose wheel was offset to the right, so as to be able to accommodate the second missile, which is the red-trimmed one just visible in the photo. I streaked the wing cavity interior with black "**The Detailer**" liquid to add some grime in there. Cockpit photos indicated the presence of two small handles of some sort which are shown in yellow along the fuselage canopy sill. I made them from thin solder. The vacu-formed canopy is in place and the yellow sealing tape was hand-painted, using a very small brush.

A similar view of the F-8C appears in **Photo 22.** I vacu-formed a new windscreen and it is in place in the photo. One of the sheer delights of the Academy kit is the yellow canopy glass sealing tape decal. Not a solid decal, but although one piece, each frame was designed to fit exactly on their clear plastic canopy. Vacu-forming a replacement made me wonder if I had just caused myself a problem, however, I was delighted, after a little positioning, to have the decal also fit my vacu-formed canopy like a glove. That decal is perhaps the best-fitting, best-engineered decal I have ever used, and that's saying something! Having it fit perfectly over and around my vacu-formed replacement part was a joy to behold. I used flat acrylic red to paint the edges of both the dive brake and gear doors, clearly shown on the CD of photos I had of the real aircraft. It's nice to have such good photographic references available when building a particular kit.

The wheels, lower landing gear doors, and ventral stabilizing fins were added and with the exception of mounting the remaining landing gear doors and gluing the wings in place, both kits were pretty much completed – the one exception being the lights. The F-8C had a rotating red beacon in two positions on the top and bottom of the fuselage, whereas the XF8U-3 did not, and both aircraft had navigation lights at the tip of each leading edge slat. Also, the Super Crusader had small clear nav lights located dead center on the lower rudder, one per side. Using small **MV Lenses**, I added them right after mounting the wings in place. Two-part epoxy was my glue of choice to mount the wings in place to insure a firm joint as they sit in the raised position. Imagine my chagrin the next day when I attempted to pick up the F-8C, only to have the wing wiggle in my hand! Clearly, the epoxy had not made good contact, however the wing stayed firmly attached to the hydraulic piston. Another application of glue did the trick. The remaining photos are of both completed models. Some were shot showing each model on its own while others were taken with both in the frame to show both the subtle and major differences in the models. Although a rather complex build project, I'm glad I took the time to build both Crusaders side by side - two unique aircraft from earlier times, and both no longer reside on my "shelf of doom."

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## and now for something completely different...

### A 1/35 Bailey Bridge

By Barry Maddin

IPMS Canada C#6000

Truro NS

Donald Bailey, a civil servant in the British War Office, had a hobby of building model bridges. He presented a model of a portable bridge to his superiors and shortly afterwards a team of Royal Engineers was established to develop one for military use. The Bailey Bridge was taken into military service by the Royal Engineers and was first used in North Africa in 1942. The first instance of a Bailey Bridge being built under enemy fire took place at Leonforte, Sicily on July 23<sup>rd</sup>, 1943, by the 3<sup>rd</sup> Field Company, Royal Canadian Engineers (RCE).

In Scarborough, Ontario the Old Finch Avenue Bridge is a Bailey Bridge constructed by 2<sup>nd</sup> Field Regiment, RCE, in 1954 to replace the bridge destroyed by Hurricane Hazel. Bailey Bridges are still used today by military forces and civilian projects worldwide.

#### The Kit

The **Bronco** kit (CB-35012) (**Photo 1**) is in 1/35 scale and cast in olive-coloured plastic with a small etch fret and 12 brass rods for the troop walkway with a length of string for the railing rope. The castings are clear and crisp with no flash and very minor mould lines. However there are many ejector pin marks on the inside of the trusses and supports. Most are shallow but time consuming to clean up. The seven bridge sections have excellent wood grain embossed on the roadway. The kit allows you to build a triple-truss single-story, three-section Bailey Bridge with troop walkways.

#### The Build

The instructions are exploded view drawings and require very careful study. They are simple but the build is complex and information is missing or not clearly shown, particularly regarding the bridge end supports.

The side truss panels are marked as sprue 'I' and 'K'. You get three 'I' sprues to build 12 panels and two 'K' sprue used to build six panels. As per the instructions I started with the 'I' sprue (**Photo 2**) and with each 'I' sprue I cut out all the parts cleaned them up and assembled each panel.

When gluing the upper and lower chord or rails I clamped them to prevent any warping (**Photo 3**). You need to watch the placement of the vertical rails especially the short end rail. Each vertical rail has a slot for the placement of the transom clamp and the short end rail slot needs to be enlarged slightly so that the clamp fits correctly through the slot. I found that out the hard way on the first panel when the clamp wouldn't fit. I used a ceramic tile and the grid lines of my cutting mat to ensure the panels were squared up as the glue set (**Photo 4**). The transom seats and the clamps fit into place without problems (**Photo 5**). I glued the brace plates for the rackers into place (**Photo 6**) and then glued the rackers in place (**Photo 7**) and glued on the other set of brace plates (**Photo 8**). This process was then repeated 11 more times. The instructions have you gluing the bracing frame guides onto the top rail of the panel but with no clear indication of the exact position of the guides. So instead I glued them onto the bracing frames eliminating any location errors (**Photo 9**).

I then constructed the six panels from the 'K' sprue, again paying close attention to the placement of the components (**Photo #10**).

The stringers, chesses (wood road planks) and curbs are moulded as one unit with an excellent wood grain embossed on the roadway. These bridge sections are mounted on three transoms which fit into the panels which form the vertical sides to the roadway. However the instructions showing the placement of the transoms is vague and if they are not placed exactly then the panels will not fit onto the transoms. Therefore I dry-fitted a panel on each end of the transoms (**Photos 11 & 12**) which gave me the correct placement for the transoms and when glued them to the bridge sections. I glued each transom in place using clamps making sure they were aligned and tight to the roadway base (**Photo 13 & 14**).

Throughout the build it's critical to ensure the correct alignment of the components. It was easy to get turned around as the instructions repeatedly flip the line drawings 180 degrees which can create problems if not noticed, as I can attest to. With the transoms in place the roadways are ready for the panels to be glued in place; however the instructions have the builder mounting lifting lugs on the transom before the first panels are installed. This makes it impossible to slide the first panels into place on the transoms. I slid the panels onto the transoms and glued them in place (**Photo 15**) and then glued the lifting lugs in place (**Photo 16**).

With the lifting lugs in place the second panel was then installed and the bracing frame was glued in place. (**Photo 17**) The third panel was then installed and glued in place (**Photo 18**). A little surgery was required on the spacers **F17 & F18** used to construct the end post (**Photo 19**). The end posts are different for each end of the bridge so care is needed not to mix the posts up. Based on reference diagrams I scratch built four base plates that were used under the bridge footings and glued the base plates to the footings (**Photo 20**).

The walkways have a very nice embossed wood pattern on the surface and I enhanced their appearance by deepening the etched gaps between the boards with the back of a #11 blade (**Photo 21**) and then glued them onto the walkway supports (**Photo 22**). The three bridge sections were then glued together forming the bridge. I then glued the bridge ramps together and although the kit provides very nice brass rods with photo etch rope loops to make the guide rope supports I choose to use the plastic ones and glued them to the end of the walkway supports (**Photo 23**). I set the ramps in place and the bridge was completed except for the guide ropes along the walkway (**Photo 24**).

## Painting

I painted the entire bridge structure with **Krylon Primer Gray** (**Photo 25**) and then painted the bridge with **Tamiya XF-58 Olive Green** with the wooden deck **Tamiya XF-79 Linoleum Deck Brown**. I then dusted the lower parts of the bridge and deck surface with mix of **Mig Pigments Europe Dust and Light Dust** (**Photo 26**). The entire structure was then given a coat of **Testors Dullcote** (**Photo 27**). The ramps are left unattached as I plan to build a diorama setting for the bridge, but that's another story.

## Conclusion

Although the kit represents the US-made Bailey Bridge, the differences between it and the British made ones were slight and all the components were interchangeable. The kit was fun to build but close study of the instructions is needed to avoid some of the minor pitfalls inherent to the kit. At an overall length of 60.1 cm (24") it's a big addition to anyone's collection. The only things I might have added would have been panel pins and sway bracing wires but that's nit-picking.

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