LONG-WINGED FOCKE WULF

This Ta 152 high-altitude fighter can be either scratchbuilt, or done as a kit from Jemco's .40-powered FW-190.

By Richard Bernier

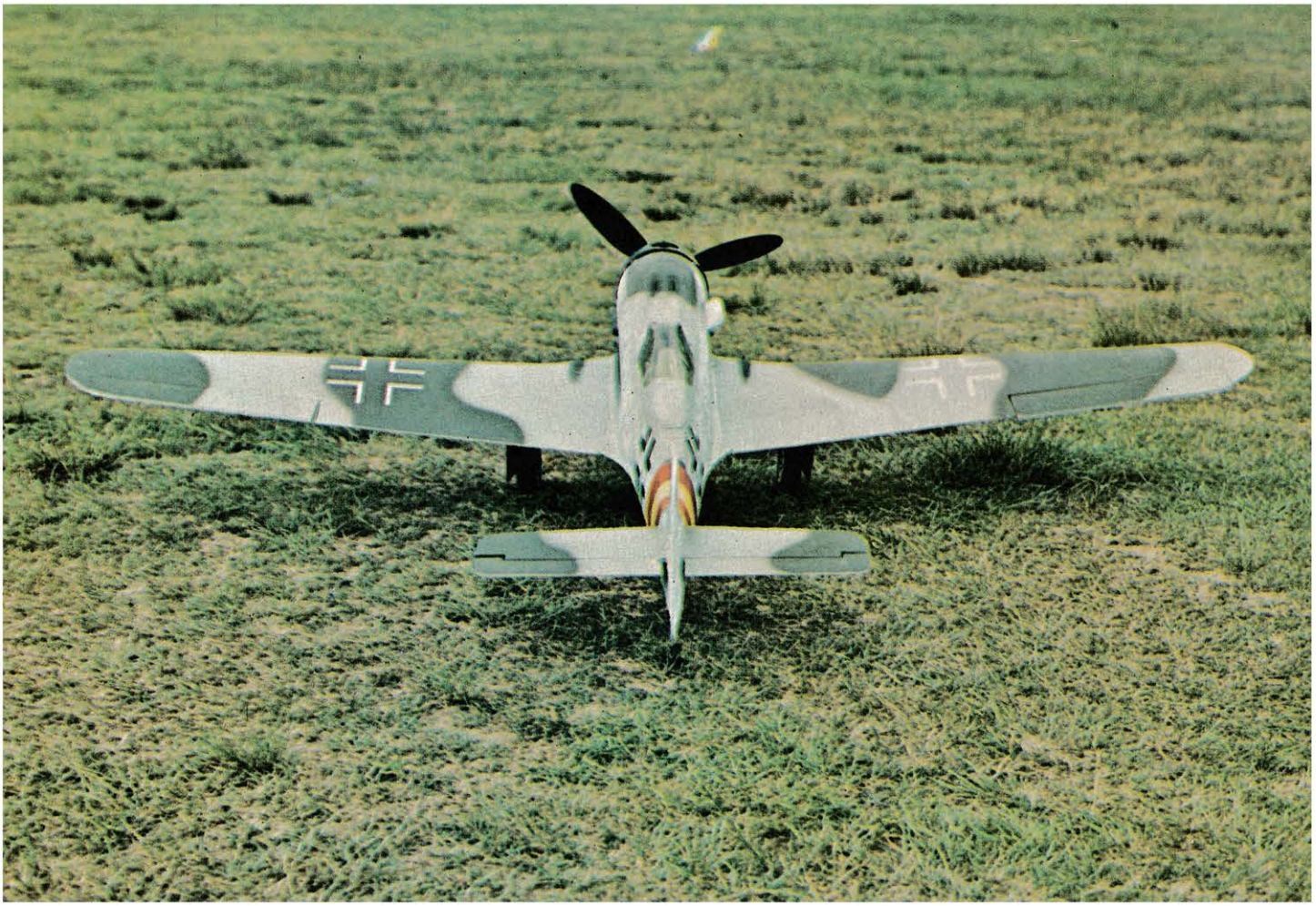
Photos by the author

The Luftwaffe's need for a high-altitude escort and interceptor fighter was felt as early as 1940, but *Reichsluftfahrministerium* officials couldn't conceive of the inevitable onslaught of B-17s and B-29s which would, five years later, deal a deathblow to the "Fatherland." So this development shilly-shallied along, with only Focke Wulf's chief designer, Kurt Tank, really showing any avidity for the concept. Nitrous-oxide and methanol-water injected engines were evolving, but primarily for high-altitude bombers (the Luftwaffe's thinking being offensive, not defensive). Turbo-superchargers were already well advanced, and further refinements were precipitated by this fighter's progress. Spencer Tracy and Clark Gable not withstanding, the German's developed the pressurized cockpit first, for projects like the Ta 152.

It wasn't until 1942 that Herr Tank finally began to see the fruition of his advanced aerodynamic theories on high-altitude flight. Naturally, high aspect ratio was the big prerequisite, and so the FW-190's wing was stretched to a tad over 47 feet. To accommodate either a Jumo 213E or Daimler-Benz DB603 engine with a blower, the nose was stretched. The cockpit was also shifted a bit aft, the tail was enlarged, and other almost imperceptible mods were incorporated—so that the plane could actually be considered a new design.

History devilishly records the pseudo-fact that Kurt Tank had such clout with the Fuhrer that Hitler personally rewarded the designer's efforts by designating this new plane as the "Ta" series. Actually, the "FW" designations were being phased out, since Tank's name had more meaning in Luftwaffe circles than Focke Wulf. Tank was so high in rank in the RLM that it was in acknowledgement of his own status that the technical group shuffled the letter designations.

By the time major production of the high-altitude escort and interceptor reached full capacity, Allied bombers were pummeling the very factories that made them . . . from well above 35,000



The Ta 152's stretched span, additional effective dihedral and increased washout make the model a very stable flyer.

feet. The Ta 152 was an excellent fighter, rock steady and yet lightly loaded (for maneuverability). Many pilots found its glider-like qualities a pleasant change after the over-gross machines they normally operated. The limited number of aircraft which were operational had been relegated to such futile duties as escorting the ineffectual Me 262 jet fighters, and as the top component in the abortive *Mistel* piggyback bomb fiasco.

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The Ta 152 model is an excellent flyer for the same reasons that the prototype was so well accepted. The stretched wing adds over 15% to the area, and the wingloading drops proportionately. Being a .40-sized ship, this extra area gives the builder a little more latitude for the inevitable extra glue and heavy finish that always seems almost unavoidable. The longer span also helps the lateral stability, so that it's not upset easily in gusty conditions. As a consequence, the Ta 152 is almost a hands-off airplane.

The extended nose solves the usual C.G. dilemma handily. You'll probably find that no lead will be required to get the balance point correct. For those who will be fitting retracts (a definite possibility with the larger wing and different center section) the added space in the fuselage will facilitate equipment installation.

To pin down some of the differences between the Jemco kit FW-190 and the Ta 152, the kit spans 50″, while the modification brings that up to 65″ (as big as a .60-sized ship, yet it flies on a .40). The area jumps from the kit's 450 sq. in. to a phenomenal 556 sq. in. You can expect the mods to add about 6-8 ounces, if done properly —the Ta 152 will still weigh under 6 lbs. (without retracts). If you scratch-build the Ta 152, who knows how lightly it can be done!

As you can see on the plans, there are two options available. The simplest method is to modify the Jemco FW-190D-9 kit, but the most rewarding approach would be to "roll your own." Jemco is offering components from the kit for the scratchbuilder. These are itemized on the plan sheet.

Let's talk about the kit mod, since that covers all the basics of the model. It is assumed that you have both the kit and a set of the modification plans (full-size plans available from Hal Osborne Plan Service, 1932 Conejo Lane, Fullerton, CA 92633. Price $10.00, plus $1.00 postage). The mods cannot be done without the plan sheet.

The wing tip extension is neatly cut from the core scraps in the kit. You can merely epoxy the rough cut foam block to the existing core, but be careful to not get too much epoxy on the foam, because it's a devil to sand off. Now carve and sand the new wing section to shape (use a long solid sanding block). Be sure to match the airfoil properly, especially the washout.

The ailerons, which are increased just slightly in length may be actuated with a torque tube, or with Ny-Rod routed through the foam core. Figure all this out, including the landing gear and optional flaps, prior to final sheeting. You'll notice that the new wing has no flaps. We didn't use them because the lightly loaded model flies fine without them (and besides, we were lazy!). Follow the kit instructions if flaps are desired.

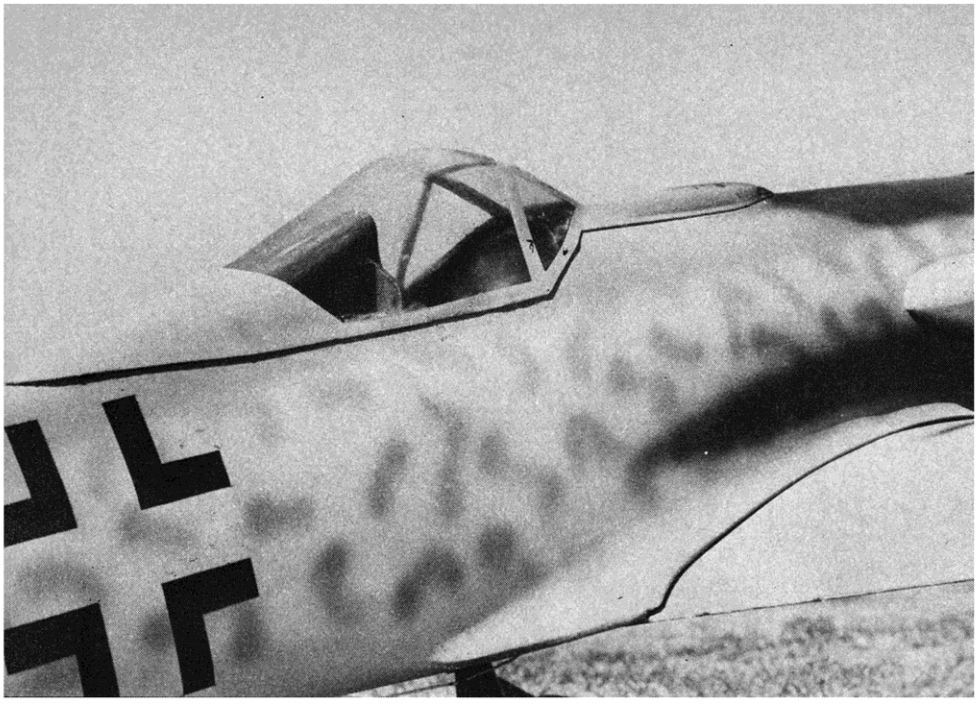
The L.E. fairing takes a bit of sculpturing. After the wing is fully sheeted, epoxy an oversized piece of foam (cut to the proper planform) to the leading edge. Sand and shape this to contour with the airfoil. When it looks right, carefully undercut the size by 3/32″ to allow for the thickness of the sheeting. Add the laminated leading edge and end cap, then sheet it. Fair everything in smoothly, using spackling compound or other filler to give a smooth transition area. The dihedral remains the same as the kit's, at 4″.

Now that the root chord is longer, the wing saddle in the fuse will need to be altered. The 1/8″ sheet doublers should be replaced with ones of the correct length. Note that the stretching in the fuse is done above the wing leading edge, with the insertion of a new area around former F4-A. Naturally, the fuse side sheeting will now be too short, so cut a *diagonal* splice and add a new piece to extend it. The fuse top will also require some spliced extensions. The fuse crutch is extended between F-3 and F-4 with a simple extension. Remember to cut new locating slots in the sheet sides for the Jem-loc alignment system.

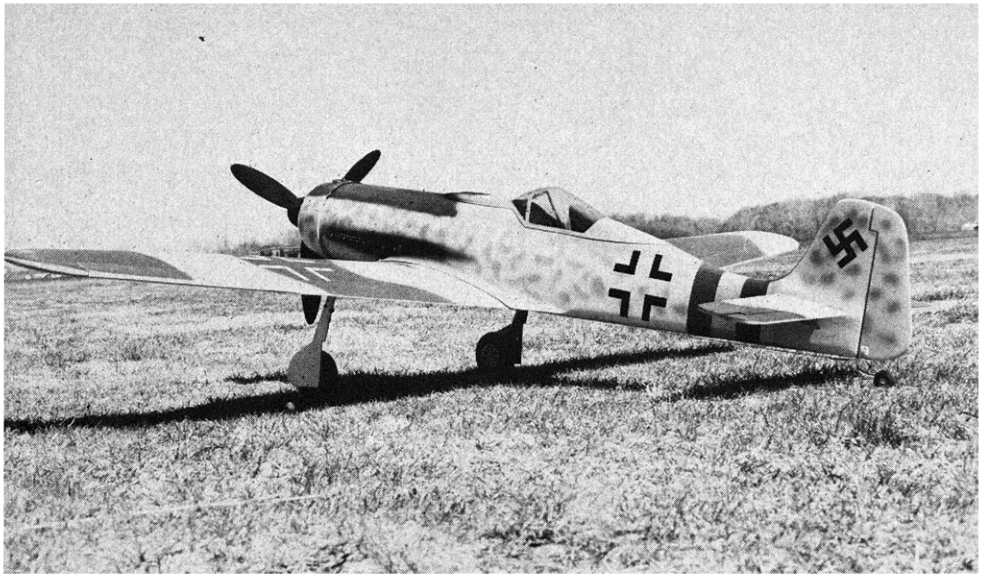
Note the new outline for the squared-off fin. The easiest thing to do here is to use new pieces of 1/4″ sheet stock.

The later marks of the FW-190 (D-9s) and the Ta 152s had a bulged

This angle shows the lengthened wing to good advantage. The kit's foam wing simplifies the modification. New span is 65"!



For the ultimate in scale outline, redo the canopy to have that distinctive bulge of the Ta 152's pressurized cockpit.



Either as a scratchbuilt project or as the Jemco kit mod, the Ta 152 is a sharp-looking machine. Weight is still under 6 lbs., so a .40 is ample power.

canopy because of the pressurization system. While our plans don't show this, the contest-oriented modeler will want to incorporate this change for maximum accuracy of outline. A mold must be fabricated, and the kit canopy is needed for this operation. Pour plaster of Paris or a suitable molding material into the canopy. Once released, the bulge can be freehand formed by building up the area with more plaster, or with a matrix of micro-balloons and resin. Be sure to feather the edges in neatly, so that no irregularities show. Seal the mold with resin, until a smooth surface is achieved.

If you have a vacuum-forming machine, simply mold another canopy from heavy butyrate. If you don't own one of these handy gadgets, secure the mold to a piece of dowel and lock it securely in a vise. Heat a piece of butyrate in the oven (250-300° for about a minute or so) and have a friend help you pull (wear heavy gloves) the hot plastic over the form. Use a heat gun to help the draping process.

After wrapping the wing center section with 6 oz. cloth, we used 3/4 oz. cloth and resin on both the wing and fuse. Our prototype used Perfect paints for the camouflage scheme, as follows: Hellblau-65 overall (Perfect #PC-34-8 light blue), top of wings and tail splinter pattern Dunkelgruin-71 (PC-40-8 dark green), and RLM Grau-02 (PC-39-8 grey). Home defense bands are red/yellow/red, and the spinner is black.

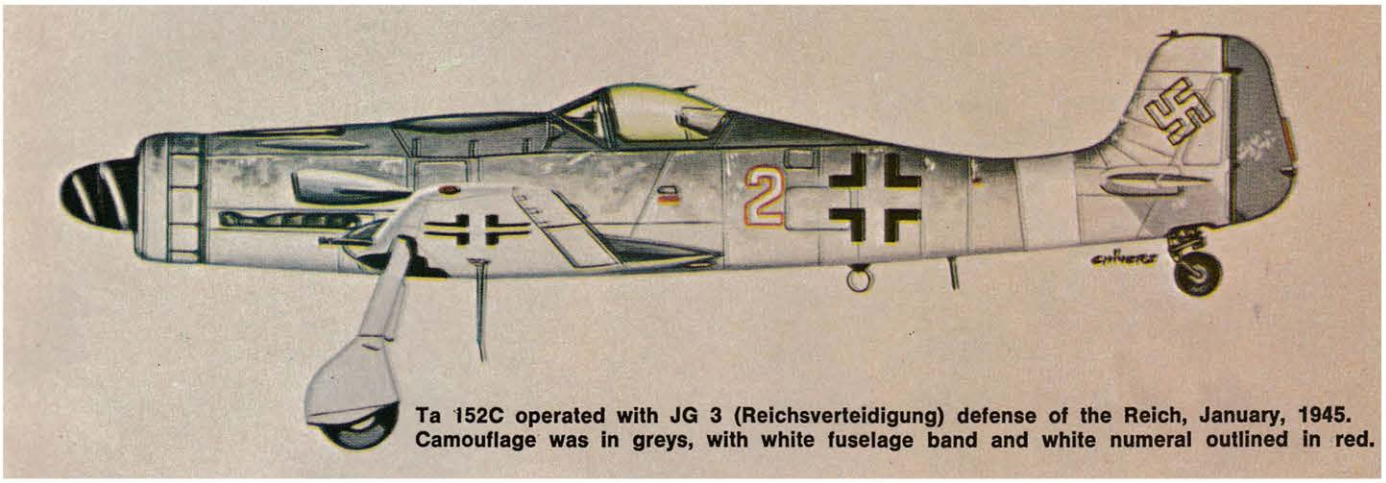
The radio installation was finalized with the battery slightly aft of the area provided, and the servos in front of F-4. The C.G. calculated out to be ½" *ahead* of that shown on the FW-190 kit plans. Do not deviate from the control throws shown in the kit . . . this is important.

We can only assume, if you are passing up this simple kit mod in order to scratchbuild the Ta 152, that you have enough "savvy" not to need any step-by-step guidance. The kit instructions are helpful if you're starting from scratch, so beg steal or borrow them. The plans shown here include all the parts and template drawings. Remember that Jemco will sell you those hard-to-fabricate components, like the cowl, canopy and foam cores, so check the plans for these items.

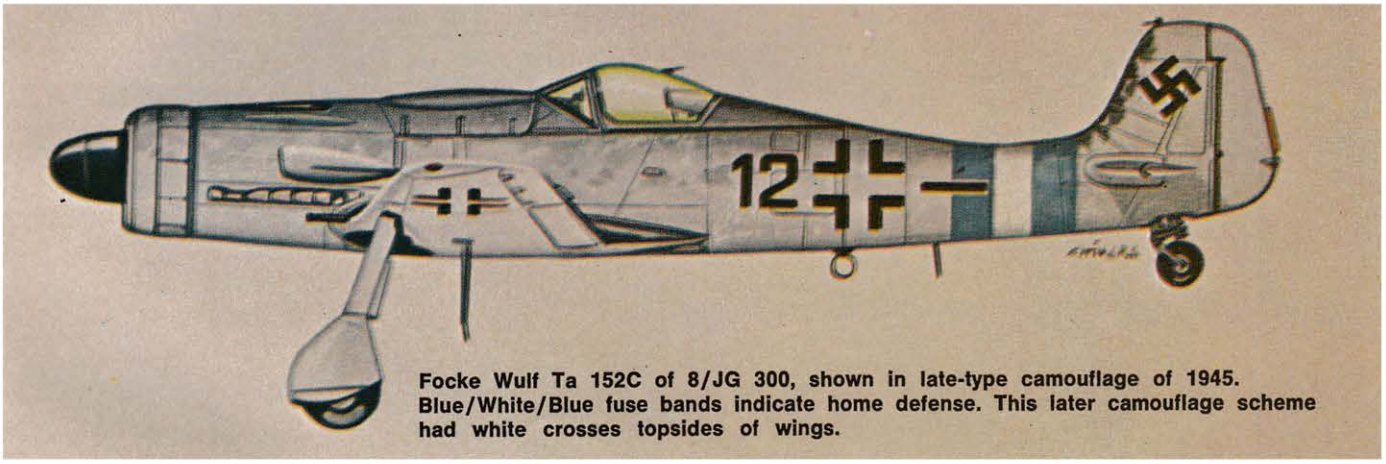
Whichever method you choose, the Ta 152 is one gorgeous airplane to build and fly. Because it's winter here on the East Coast as this is being written, all of our test flying was completed in horrendously windy weather. In spite of that, the model handled it very well. The longer wing dampened any bouncy tendencies in the turbulence. Even with the extended nose moment, the elevators have a fine touch, so don't set up the controls too sensitive. The rudder is more effective than the FW-190's, and maneuvers like Hammerheads are easily executed.

The high aspect ratio wing also gives more effective washout, so the stalls are very forgiving. You'll not need flaps for landings, but they're nice to have as a flight option in a contest. Our prototype weighed in at 5 lbs., 8 ozs., and a Schneurle .40 is plenty of power. If you find that the Ta 152 is too much of a floater for your tastes, add some ballast at the C.G. to increase the overall weight of the model. Do this in 2-3-ounce increments, until the ship handles best for your flying style. If you've opted for retracts and/or flaps, this additional ballast will already be built into the plane as the extra weight of the gear.

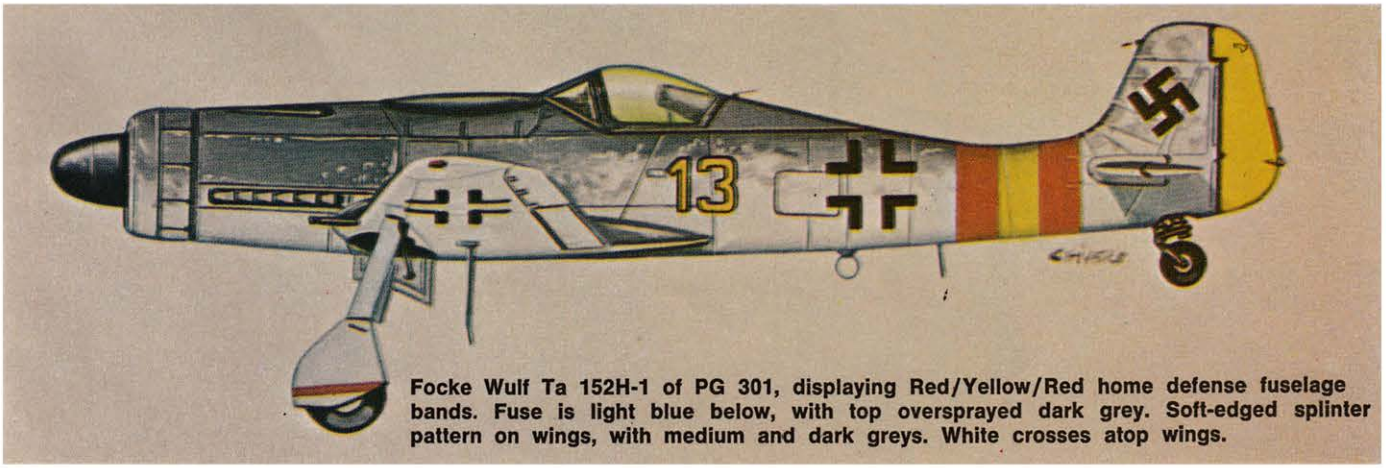
You'll find the Ta 152 a pleasant departure from the hordes of FW-190s at the flying fields. In many ways it's actually a better model than the original Jemco kit, since we feel that it handles so much more smoothly in the air (but, we're prejudiced). It's also bigger, and that seems to make the flight judges happy. If you get picked on at a contest because you fly .40-powered models, try the Ta 152 and fool them into thinking that it's a .60-powered machine. And when they ask you what it is, tell 'em it's a funny-looking Focke Wulf! □



Ta 152C operated with JG 3 (Reichsverteidigung) defense of the Reich, January, 1945. Camouflage was in greys, with white fuselage band and white numeral outlined in red.



Focke Wulf Ta 152C of 8/JG 300, shown in late-type camouflage of 1945. Blue/White/Blue fuse bands indicate home defense. This later camouflage scheme had white crosses topsides of wings.



Focke Wulf Ta 152H-1 of PG 301, displaying Red/Yellow/Red home defense fuselage bands. Fuse is light blue below, with top oversprayed dark grey. Soft-edged splinter pattern on wings, with medium and dark greys. White crosses atop wings.