

**Focke-Wulf FW190D-9 Tweak List**  
**TYPE: Focke-Wulf FW190D-9 Dora**  
**SCALE: 1/32**  
**COMPANY: Hasegawa**  
**KIT NUMBER: ST19 (original release)**  
**MOLD CREATION DATE: 2003**  
**TWEAK LIST VERSION 1.0 (publication date: January 2008)**  
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The following list is intended to help modelers in improving scale accuracy of an airplane model replica. In no way is it intended to support or be offensive towards a scale model company.

As such, it is only the result of a progressive process and is in no way intended to be absolute or even comprehensive. Hence, it is intended to focus on commonly admitted discrepancies and will probably not cover some errors. It is up to the modeler to decide whether correcting the listed issues is worth the time and money he will have to invest in the quest for accuracy process.

No aftermarket correction or detail set is mentioned in this document as the availability of such items may be very variable. Hence, refer to other LSP sections to find relevant information. Moreover, aftermarket sets do not necessarily correct all listed issues. Please refer accordingly to relevant documentation.

1. NOTICEABLE FUSELAGE ISSUES (from front to rear)

- Even if this is not very noticeable, the airfoil shape of the radiator cowling is not accurately depicted. It is a little bit too flat. Moreover, the inside area of the circular front edge lip is not correct: it is too thick. Engrave two circles to simulate the two pins holding the cowling together and improve the cover plate at the rear of the cowling halves.
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- Exhausts stacks are not hollowed. Drill them or replace them with aftermarket ones. Similarly, hollow out the cowl MG muzzles and the small fresh air intake on top cowl (K10).
- The gun cowling has the early 5 piece style rear gun cowl. As the Dora used two different families of cowlings (early 5 pieces or late 3 pieces with various bump combinations), check which one is correct according to the airframe. Moreover, the A7 part has too much "cleavage" between the gun bulges: it should be more flat and subdued rather than funnel-shaped. External side of the bulges is also too bulbous. Rebuild the area with plasticard and superglue or epoxy putty or replace the part with an aftermarket correct one. Drill the starter hole between the bulges and last but not least, enlarge the panel line break between the two cowlings.
- Improve the side fasteners locking the rear gun cowling on the fuselage sides.
- Fill the seam separating the supercharger air intake and its support on the starboard fuselage part.
- The seam between the upper cowl and the engine side ones is not correctly reproduced. Add a length of fine rod on the seam to simulate the missing hinge.
- Improve the sharpness of the engraving of the three slot intakes on the nose port side.
- The rear portion of the Dora engine is visible through the open wheel wells. Hasegawa

included a partial engine with pipes that looks very convincing. However, some missing tubing should be added to simulate additional hydraulic lines.

- Drill the ammunition chutes end in the wheel well centre section (part C1) and the A8 part and add some extra length to the chutes to mate them up to belly part.
- Do not forget opening the holes for the drop tank fuel lines in the lower wing as there is no indication of them in the instruction sheet.
- Drill the footstep opening and reduce a little bit the height of this part.
- Replace the DF loop under the fuselage as it should have a flat section (a rolled Tamiya sprue bag staple is perfect!).
- Add a double-panel line on top of the fuselage extension.
- Tail wheel is unfortunately molded with the yoke. Moreover, its leg is too tall, its support leg should be hollow and some small details are missing (such as small wire). Mount the tail wheel assembly deeper inside the fuselage to solve the height issue. Note that on Fw190s, elevators had to be deflected upwards to lock the tail wheel in place. When the elevators were dropped, the tail wheel could move freely. Hence, keep this in mind if you want to change the tail wheel position.
- Drill a small hole in the upper edge of the tail antenna mast.

## 2. NOTICEABLE WING/WEAPONS ISSUES

- The fit of the fuselage wing root into the wing spar slot is very tight. Great care is necessary to get a joint requiring no putty. If fit is not perfect, progressively enlarge the recess at the rear of the each fuselage wing root where the step plate on each upper wing half fits and test fit until they mate correctly.
- Fill and sand the seam on the curved area of the wing gun bay doors.
- Do not forget to add the small strips simulating the landing gear indicators.
- Each 20 mm gun barrel that protrudes through the leading edge of the wing is just a slightly undersized plastic rod. Moreover, the part section is not round. Use brass/aluminum tubing or aftermarket parts to get a more convincing result. Note as well that the gun barrels in the wheel well were not protected by a leather boot but by a metal cylinder going across the well.
- Add the gun camera lens.
- Drill the pitot tube end or rebuild it with micro-tubes.
- Flaps are nicely detailed and may be opened. Unfortunately, the down position is far too extreme as the molded-on tabs are angled too severely (the maximum angle should be 60 degrees). Re-position or bend the locating tabs back to a more representative angle (for a parked aircraft, 13 degrees is more typical). Note that some late D9 used flaps made off various sections of wood paneling. To replicate them, either purchase aftermarket ones or fill the kit ones and engrave the slightly recessed seam lines between the sections. Add the flaps angle indicator on their upper side.
- Wheel wells are accurately detailed but some ejector pin marks have to be removed. Unfortunately, as the rear section of part C7 is not separate, this area has no surface detail (e.g. rivets, etc.). Moreover, some cables are missing on the well bottom and some holes should be drilled in the well strengtheners.
- On many kits, there are sink marks in the upper wings (where the spar supports are molded inside) and the flaps exterior side.

## 3. NOTICEABLE COCKPIT ISSUES

- The instrument shroud part is incorrect: the placement of the Revi 16 gun sight (K9) is not correct as it interrupts the padding extending across the front of the part. Reposition

the gun sight part further forward and fill the gap with a rod section (in the padding around the rim of the shroud).

- Detail the Revi 16 gunsight.
- Replace the rudder pedals, drill holes in them or at least add the foot straps.
- The throttle (K8) should be glued to the left console rather than to the fuselage (as shown in the instructions).
- Add the missing canopy jettison lever on the cockpit sidewall.
- A light and its cable must be added to the rear of the port side console.
- Add a map case and its closing strap on the lower side of the starboard console.
- Add the missing seatbelts.
- Some other small details have also to be improved on the cockpit floor and consoles (i.e. knobs).
- Seat rails should be replaced by U shaped ones with 6 drilled holes. Moreover, a false rear bulkhead is missing on each side of the pilot seat (on each aforementioned rail). An oxygen hose and regulator should also be added (on the right false bulkhead).
- Fill the two holes in the stowage hatch on the rear canopy deck as they were originally covered with fabric.
- Add the missing canopy rails.

#### 4. NOTICEABLE CANOPY ISSUES

- Add the missing windshield cleaning system with fine wire.
- Add the canopy front seam and sliding mechanism.
- Both the early (flat) and late (blown) canopies are provided. If the airframe you want to depict use the early canopy, correct the head armor brace (part F13) by lopping off the long brace part and replace it with a length of plastic with a slot cut into it along with a small flange cemented to each side of the new brace. Then add stretched sprue braces to each flange and the rear mount of the brace part. Finally, add aerial wire with its isolators.

#### 5. NOTICEABLE LANDING GEAR ISSUES

- Add the missing hydraulic brake line that runs the length of the leg. Note that the lower section (from the upper edge of the oleo to the wheel) was thicker. Drill holes in the K34 oleo scissors.
- The wheels are lacking the detail mold lines of the real tire but this is not really noticeable.
- Add a spring on the piston part of the motorized retraction leg (F3&4) as well as some missing surface details (such as micro switches, electrical cable, etc.).
- Do not forget to add the tail wheel retraction wire (running between the starboard MLG retraction leg and its well) and its pulley.

#### 6. OTHER NOTICEABLE ISSUES & MISCELLANEOUS REMARKS

- Kit is very accurately shaped. The fit is excellent and generally no putty is needed. Engineering is cleverly designed to ease construction and avoid pitfalls (i.e. integrated wing spar to ensure correct dihedral).
- The detail is excellent with surface details and crisply engraved panel lines abound. For instance, the rear fuselage top panel line is offset to the starboard as is the real airframe. However, even if they are very noticeable on many Dora pictures, surface details do not include airframe rivets. Indeed, only some dozens of early Doras were puttied and waxed.

- Kit has an ETC 504 rack and a nice light steel drop tank.
  - Note that the antenna wire sagged when the blown hood canopy was open (as there was no wire retractor mechanism on Fw190s with the late hood). Similarly, antenna sagged on most Doras with the early, flat one because manufacturing was simplified with the removal of the tensioning pulley mechanism.
  - Hasegawa decals are on the thick side. Decals in the Revell edition are flat and thinner.
  - Up to now, kit has already been released six times with different markings options:
    - ST19 (08069): two canopies (flat and blown) & standard tail parts (a photoetched fret was included in the first batch of US marketed kits).
    - 08140 "Late version" (Japanese release): blown canopy & large tail parts only provided, extensive decal sheet. Released in Europe with the two tails and different markings by Revell of Germany as 04725 kit "Late".
    - 08143 "Rudel": blown canopy, standard tail and Q sprue with small bombs (from Fw190F-8 limited edition kit).
    - 08155 "Barkhorn": two canopies (flat and blown) & standard tail parts.
    - 08167 "Sachsenberg Schwarm": two canopies (flat and blown) & standard tail parts.
    - 08176 "Yellow Tail": two canopies (flat and blown) & standard tail parts.
  - The accuracy of the decals will not be assessed here as many interpretations are possible and there are a lot of aftermarket options.
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The following sources were used to build this list.

- Modelling essentials:
  - Abe, Koichiro, Khazanov, Dmitriy, Yokoyama, Kow, Focke-Wulf Fw190D Dora, Modeler's Eye series N° 4, Dai Nippon Kaiga, 2003.
  - Brown Ryle, E., Laing Malcolm, FW-190D, Walkaround number 10, Squadron Signal Publications, 1997.
  - Nohara, Shigeru, Shiwaku, Masatsugu, Focke-Wulf Fw190D, Aero Detail 2, Dai Nippon Kaiga, 1990.
  - ---, Focke-Wulf Fw190D & Ta152, Model Art Special Issue series N°336, Model Art, 1997.
- Other used references:
  - Brown, David E., Wadman, David, History, Camouflage & Markings of JV44 & JG6 Focke-Wulf 190Ds, Experten decals N°1, Experten Historical Aviation Research Inc., 1993.
  - Brown, David E., Wadman, David, History, Camouflage & Markings of JV44, JG6 & JG1 Focke-Wulf 190Ds, Experten decals N°3, Experten Historical Aviation Research Inc., 1995.
  - Crandall, Jerry, The Focke-Wulf Fw190 Dora, Volume one Fw 190 D-9, Eagle Editions, 2007.
  - Crandall, Jerry, Doras of the Galland Circus, Eagle Files series N° 1, Eagle Editions, 1999.
  - Crandall, Jerry, Yellow 10 the story of the ultra-rare Fw 190 D-13, Eagle Files series N° 2; Eagle Editions, 2000.
  - Creek, Eddie J., Smith, J.Richard, FW-190D, Close-up 10, Monogram Aviation Publications, 1986.
  - Deboeck, Marc, Larger Eric, Poruba, Tomas, Focke-Wulf Fw 190D Camouflage &

- markings Part I, JaPO, 2005.
- Deboeck, Marc, Larger Eric, Poruba, Tomas, Focke-Wulf Fw 190D Camouflage & markings Part II, JaPO, 2007.
  - Janowicz, Krzysztof, Focke-Wulf Fw 190, Vol. IV, Kagero, 2004.
  - Janda, Alles, Poruba, Tomas, Focke-Wulf FW190D & Ta152, JaPO, 1992.
  - Hildebrandt, Karl, FW190D, Broken Eagles 1, Fighter pictorials, 1987.
  - Lorant, Jean-Yves, Frappé, Jean-Bernard, le Focke-Wulf 190, Collection Docavia Vol.15. Editions Larivière, 1981.
- Other references:
    - Some magazines articles (more particularly from Replic, Wingmasters & Tamiya magazines)
    - Some web pages (more particularly LSP & ARC)