

FOCKE-WULF FW 190 D-9

No. 873

TESTORS



HISTORY

The Focke-Wulf 190 D-9, or Dora-9 as it was nicknamed, was the final production refinement of the original Focke-Wulf 190 A-1, one of the most successful piston engine fighter designs to come out of WWII. The D-9 proved an immediate success when it joined the Luftwaffe's "Jagdfliieger" in the late summer of 1944. One of the Dora 9's first and most interesting missions was to protect the revolutionary ME 262 Jet Fighter during take-off and landing maneuvers when the jets were most susceptible to the allied air attacks. The Focke-Wulf D-9 also participated in "Operation Herrmann," the last major attack on the allied airfields by the Luftwaffe's piston engine fighter groups, as German fuel supplies rapidly diminished toward the close of the war.

The Focke-Wulf 190 D-9 was derived from the BMW radial engine FW 190 DA1 after several major alterations. The engine of the Dora-9 was a Junkers Jumo 213 A-1 inverted position vee-twelve, with liquid cooling via a circular radiator. Take-off horsepower could be increased from 1,776 HP to 2,240 HP by using a water-methanol injection system. The fuselage also was stretched to compensate for the increased nose length which accommodated the inline engine. Although about 700 D-9's were made, many of these fast and agile planes never left the ground due to lack of pilots and fuel.

Reference Sources

Warplanes of the Third Reich, W. Green (Doubleday)—3 views, cutaway, history, photos

Aircraft in Profile #94 or Vol. 4 (Profile Publications)—FW 190 D-9/TA 152 series: 3-view, 5 color plates, photos, data, history

Focke-Wulf, An Aircraft Album (Arco)—photo, history, specifications

German Aircraft of the Second World War, Smith, Kay, and Creek (Putnam)—detailed history, photos, specifications

SPECIFICATIONS

Length	33' 5"
Wingspan	34' 1/2"
Weight empty	7,700 lbs.
Weight loaded	10,700 lbs.
Crew	1
Armament	Two 13mm MG 131 machine guns Two 20mm MG 151/20 cannons
Maximum Speed	One 1,100 lb. bomb 357 mph at sea level 420 mph at 22,000'
Range (Internal fuel)	520 miles
Power	Junkers Jumo 213 V-12 cylinder liquid-cooled engine with take-off hp of 1,776; 2,240 with water-methanol injection. Both ratings at 3,250 rpm.

BEFORE STARTING

1. Study the illustrations and sequence of assembly before beginning.
2. Decide how much detail you wish to add to your model and whether or not you intend to modify or "convert" the basic model in any way. Study carefully all available reference material before beginning to ensure an authentic model.
3. Due to the amount of parts in this kit, do not detach the parts from the runners (sprue) until you need them. This helps avoid confusion and lost parts.
4. When cementing the parts together, check the way in which one part fits together with another. This ensures a neat job.
5. Always remember, when working with plastic model cement and paint, make sure your work is well-ventilated. The fumes from plastic modeling products can be harmful if inhaled.

PREPARATION OF PARTS

1. Never tear parts off the runners (sprue). Use a Testor Hobby Knife, nail clippers, or small wire cutters.
2. It is possible some parts may require a little attention with a file or sandpaper to ensure a proper fit and neat appearance. Hobby files and Testor Hobby Sandpaper appropriate for model-building are available in most good hobby shops.

3. If you desire, you may fill any seams (where parts go together) or imperfections with Testor Contour Putty for Plastic Models which is also available at good hobby shops.

PAINTING

You can obtain an excellent finish on your model using Testor PLA Flat Enamels and overspraying according to the instructions in the **APPLYING DECALS** section.

First of all, be sure your brushes are soft, clean and flexible. (Keep them that way by cleaning them thoroughly with Testor Paint Thinner.) Never use inexpensive brushes! A selection of Testor Shed-Proof Brushes will serve you well.

Wash plastic parts before detaching them from the sprue. Use warm water and liquid detergent. Let the parts air dry and avoid excessive handling.

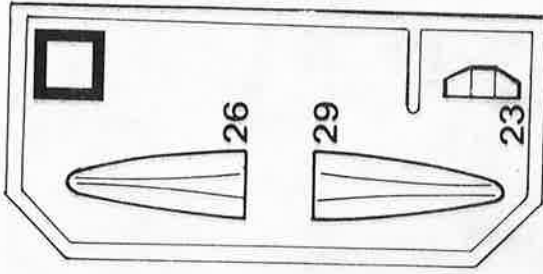
Most parts should be painted while still attached to the sprue. Paint in one direction only. If your paint is the correct consistency, brush strokes will disappear as the color dries. If the paint seems too thick, thin it with Testor Paint Thinner. Let the paint dry completely before handling. When the parts are dry, assemble the model, following the directions closely. Remember, cement will not stick to painted surfaces. Using your Testor Hobby Knife, carefully remove paint from all surfaces to be cemented. After you have assembled your model you may touch up areas where cement has marred the finish.

DETAIL PAINTING

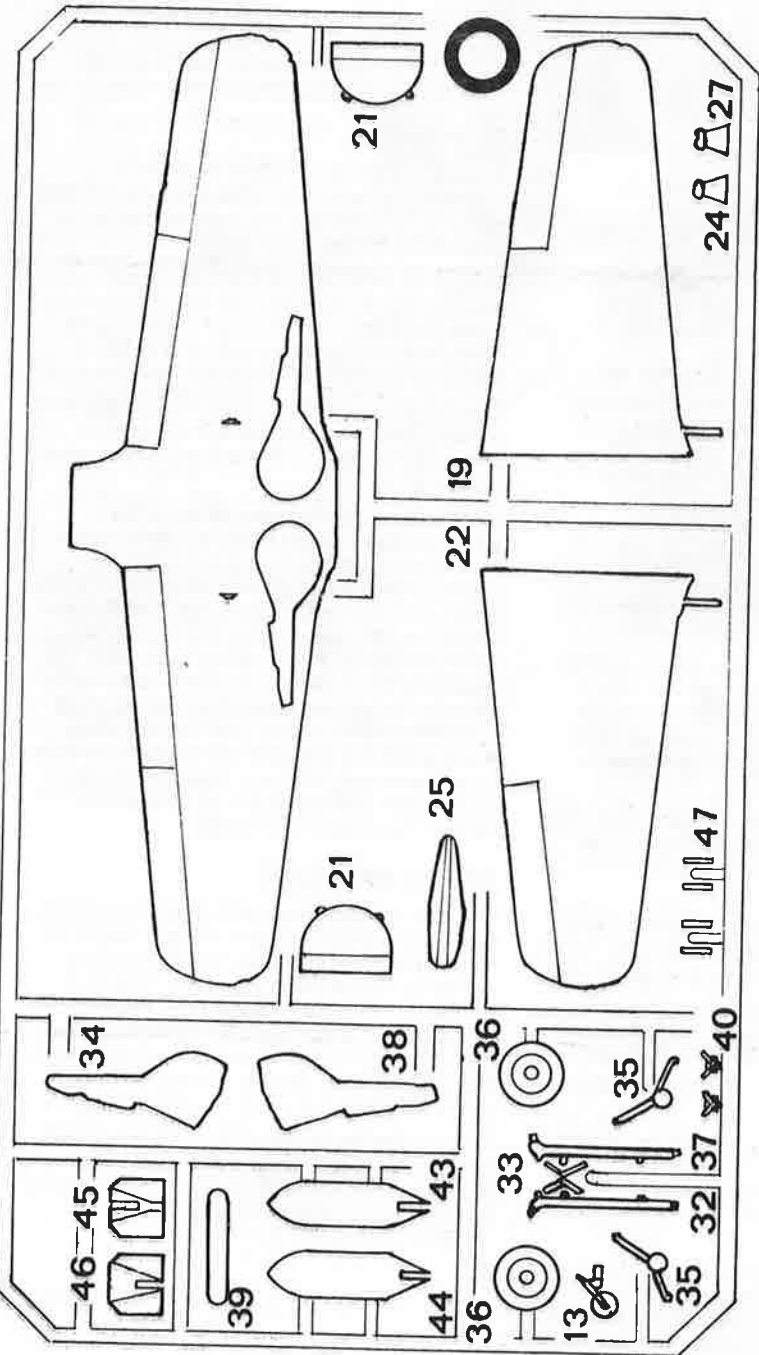
It is best to paint small parts before assembly if you are to produce a neat model. They may be painted while still attached to the sprue or may be detached and held with tweezers or "magic" type transparent tape. Remember to allow the painted parts to dry thoroughly before handling, and always scrape paint away from the surfaces that are to be cemented, as the paint will not allow the part to stick.

Wheels may be detached from the sprue and fitted onto toothpicks or matchsticks for painting. Then just hold the paintbrush against the edge of the wheel and rotate the wheel to obtain a neat, fast finish.

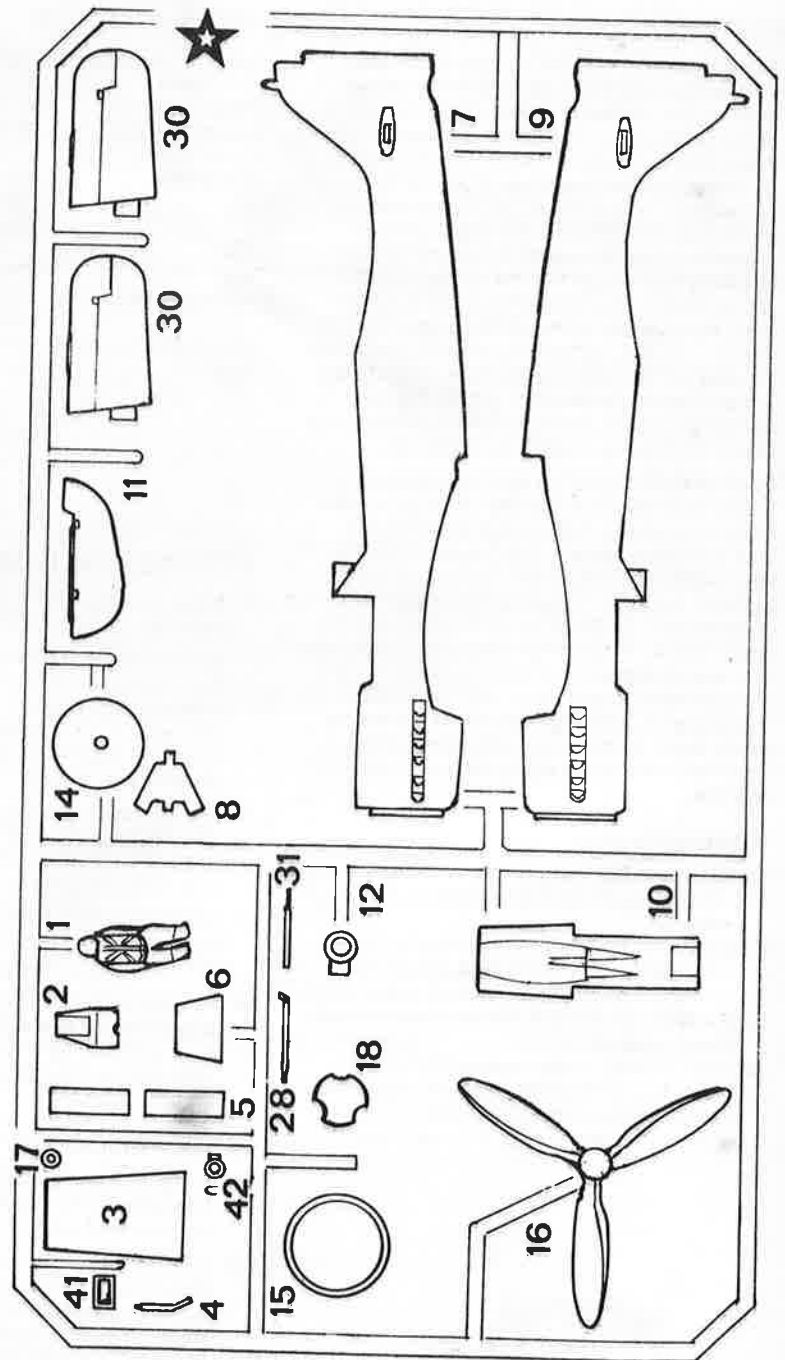
Remove this page from the instruction sheet by cutting along indicated line. Use the drawings of the complete sprue as a part-locating reference when building the model.



Parts from this section are identified with this symbol: □



Parts from this section are identified with this symbol: ○



Parts from this section are identified with this symbol: ☆

NOTE: Refer to the drawings on the **APPLYING DECALS** page to decide which version of the FW 190 D-9 you want your model to represent. All parts not singled out as **Preliminary Painting** in each assembly stage should be painted according to the paint scheme you have selected.

1 PARTS 1-13

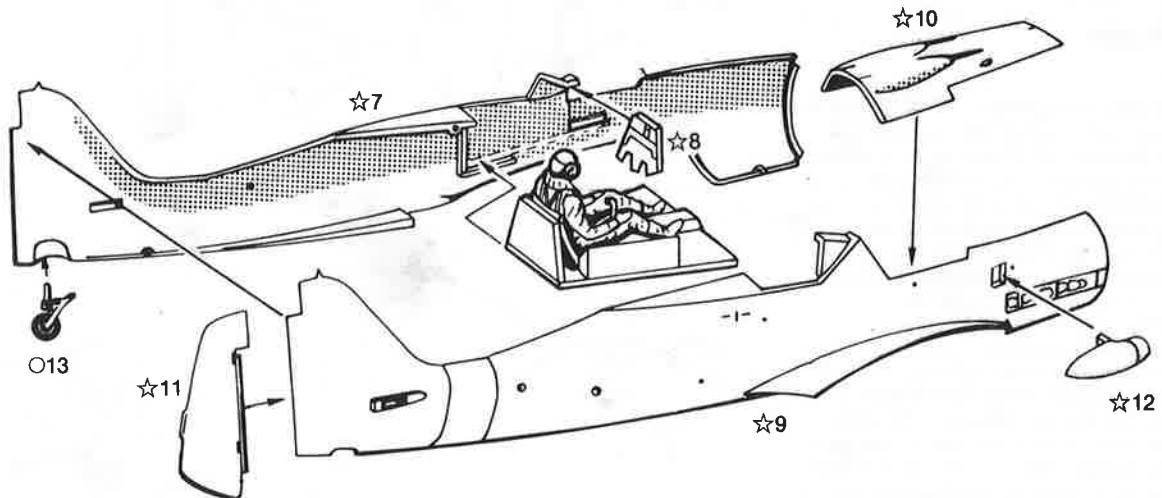
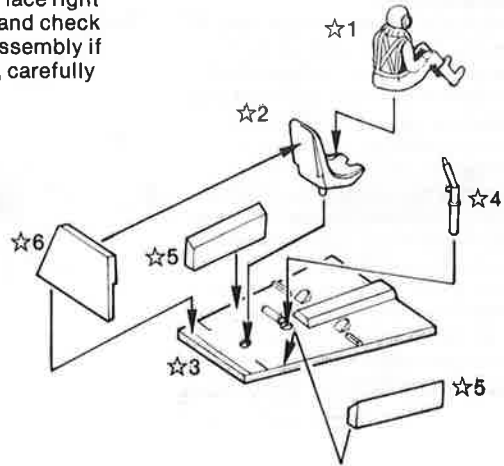
Preliminary Painting

- ☆1 face:
"Flesh" (Mix two parts #1170 Flat Light Tan and one part #1168 Flat White.)
- ☆1 helmet, jacket, boots:
"Brown" (Mix two parts #1166 Flat Military Brown and one part #1183 Rubber.)
- ☆1 pants:
#1172 Flat Sea Blue
- ☆1 collar:
"Dirtied White" (Mix #1168 Flat White with a touch of #1183 Rubber.)
- ☆3 cockpit floor, ☆5 side consoles, ☆6 rear bulkhead, ☆8 instrument panel:
"Gray Green" (Mix four parts #1168 Flat White, two parts #1164 Flat Olive Drab Green and one part #1149 Flat Black.)
- ☆4 control stick:
#1180 Steel
- ☆2 seat:
#1171 Flat Beret Green
- 13 tailwheel:
#1183 Rubber

Assembly

- 1. If you wish to use the pilot figure ☆1, paint per the **Preliminary Painting** notes and let dry.
- 2. Assemble the cockpit by cementing the rear bulkhead ☆6 to the floor ☆3, and then the two side consoles ☆5 to the floor ☆3 as shown. The cockpit may be painted as a unit, allowing the cement to dry first.
- 3. Cement the seat ☆2 to the cockpit floor. (Note offset locating pin.) Then cement the control stick ☆4 into locating hole in the cockpit floor. If you are using the pilot, cement him into the seat at this time. Locate figure by dropping him straight down over seat and control stick.
- 4. Remove round "K.O. Pad"* from top of instrument panel ☆8. Then cement to left fuselage half ☆7 at the top edge as shown. Test-fit right fuselage half ☆9 to be sure instrument panel is centered. Remove left fuselage half and place cockpit, assembled above, inside left fuselage half ☆7 as shown. Place right fuselage half ☆9 in position and check fit of all parts. Trim cockpit assembly if necessary. When all parts fit, carefully cement together.

- 5. Remove two round "K.O. Pads"* from the supercharge intake ☆12 and cement it to the slot in the right side of the fuselage ☆9. Cement the cowl ☆10 to the top of the fuselage.
- 6. Cement the rudder ☆11 to the vertical stabilizer, and the tailwheel ○13 to the bottom rear of the fuselage as shown, being sure to remove the round "K.O. Pad"* first.



Liquid cement, Testor #3502, is recommended for construction since it can produce the neatest, quickest, and strongest glue joints. Apply small amounts of cement, using the tip of a 00 brush, to the surfaces to be joined while holding the parts in place. Do not use large amounts of cement.

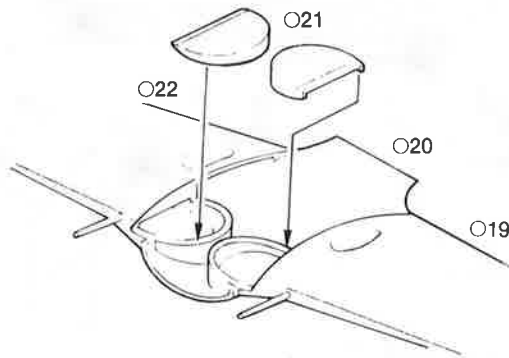
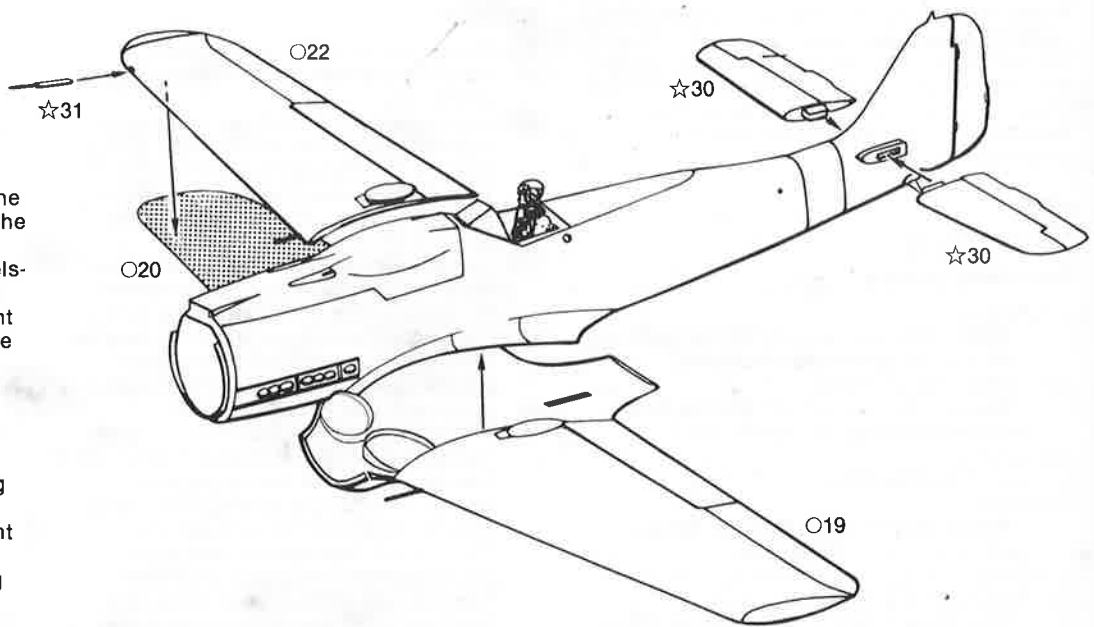
Tweezers will be useful in assembling the many small parts in this kit. The type used by postage stamp collectors is recommended.

*"Knock-off pads" are an extra piece of plastic created in the molding process.

2 PARTS 19-22, 30, 31, 34, 38

Assembly

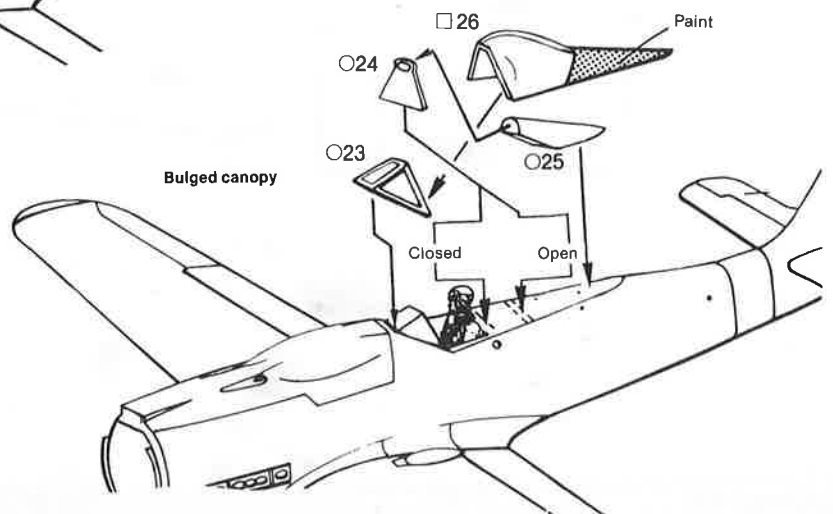
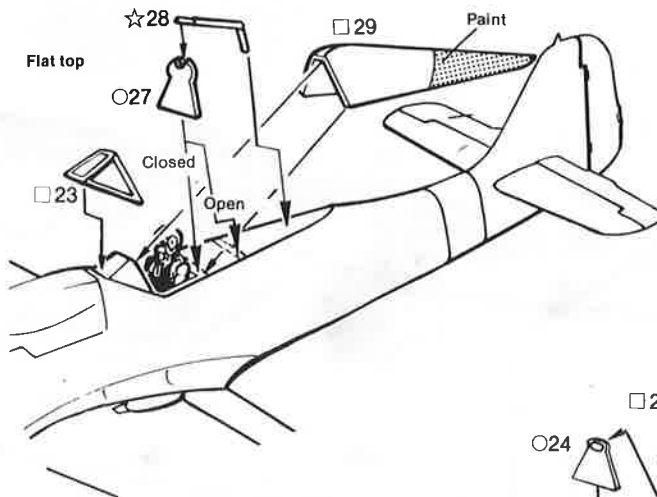
- 1. Cement the upper wing halves ○19 and ○22 to the lower wing half ○20, ○19 on left side and ○22 on right side. Then cement the inner wheel wells ○21 into the lower wing half ○20 as shown. Cement the pitot tube ☆31 to the right wing end.
- 2. This model may be assembled in a wheels-up or wheels-down configuration. If you decide to do a wheels-up version, cement landing gear covers ○34 and ○38 into the lower wing, ○34 on right side and ○38 on left side. Refer to Stage 6 drawing. Omit Stage 5 of assembly and discard ○32, ○33, ○35-○37.
- 3. Now test-fit the wing assembly to the fuselage, trimming the fuselage opening if necessary. When the fit is correct, carefully cement into place. Then cement the rear horizontal stabilizers ☆30 to the fuselage. Be sure to not let them sag while the cement dries.
- 4. At this point in construction the model may be painted. You may wish to fill in some of the joints (Testor Contour Putty #3511 is recommended) and sand the glue joints and seams smooth before painting. *Be careful not to remove the detail engraving.* Cover the pilot figure and tail-wheel with paper or masking tape before spray painting. Choose the color scheme to match the version that you are doing. Use the illustrations in the **APPLYING DECALS** section for the specific version of the **FW190-D** you wish your model to represent. **NOTE:** the radiator shroud ☆15 may be temporarily attached to the fuselage for painting and removed when dry.



3 PARTS 23-29

Assembly

- 1. Cement the windshield □23 to the plane as shown. Although it isn't as strong as Testor Cement for Plastic Models, some modelers prefer to use "white glue" thinned half and half with water to install this kind of window. Be sure to use as little cement as possible on clear parts. The frame work on the windshield and canopy may be carefully painted to match the upper fuselage for more realism.
- 2. Choose the appropriate canopy assembly for the version you are building. The first production batch of the Focke-Wulf D-9's had the flat-topped canopy □29, while all later production D-9's had the bulged Galland Hood □26. You may build either canopy in the open or the closed position. Refer to the illustration for location. Note that the headrest ○27 or ○24 moves with the canopy and should be assembled to the plane in the appropriate position. For the flat-topped canopy use headrest ○27, brace ☆28, and canopy □29. For the bulged canopy use headrest ○24, brace ○25, and canopy □26. **Note:** The rear portion of the canopy should be painted to match the plane before assembly.



4 PARTS 14-18

Preliminary Painting

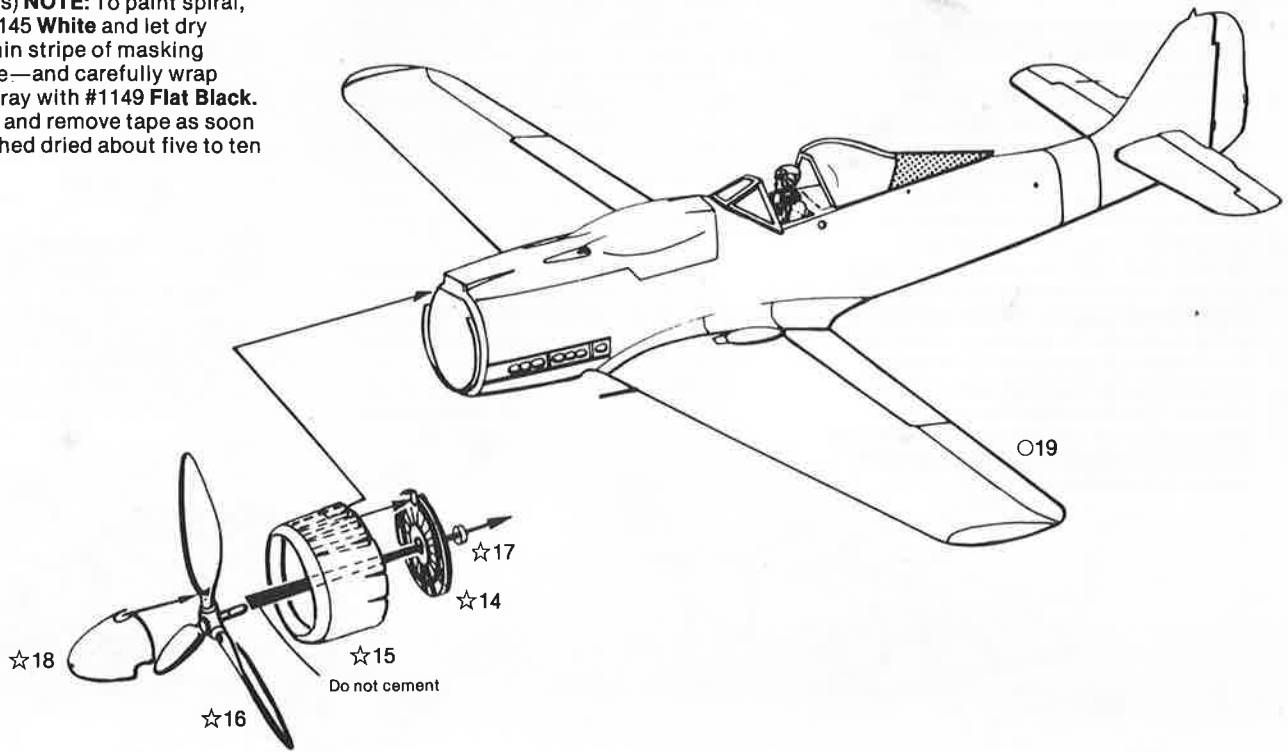
☆14 radiator, ☆15 radiator shroud inner edge: "Gunmetal" (Mix three parts #1149 Flat Black and one part #1146 Silver.)

☆16 propeller: #1171 Flat Beret Green

☆18 spinner: #1149 Flat Black (with white spiral stripe on some versions) **NOTE:** To paint spiral, paint spinner #1145 White and let dry overnight. Cut thin stripe of masking tape—1/32" wide—and carefully wrap onto spinner. Spray with #1149 Flat Black. "Dust" paint on, and remove tape as soon as paint has flashed dried about five to ten minutes.

Assembly

- 1. Cement radiator ☆14 inside radiator shroud ☆15. Slip propeller ☆16 through hole in radiator and carefully place retainer ☆17 onto propeller shaft. Carefully place a small dab of cement onto the back of the retainer with a toothpick or small brush. Allow to dry. Cement the spinner ☆18 over the propeller.
- 2. Cement the propeller assembly to the fuselage.



5 PARTS 32-38

Preliminary Painting

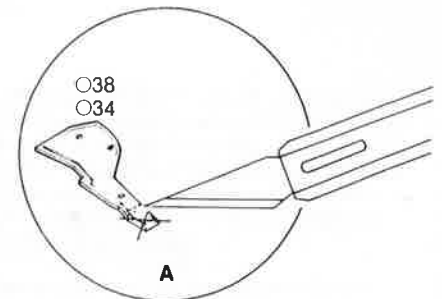
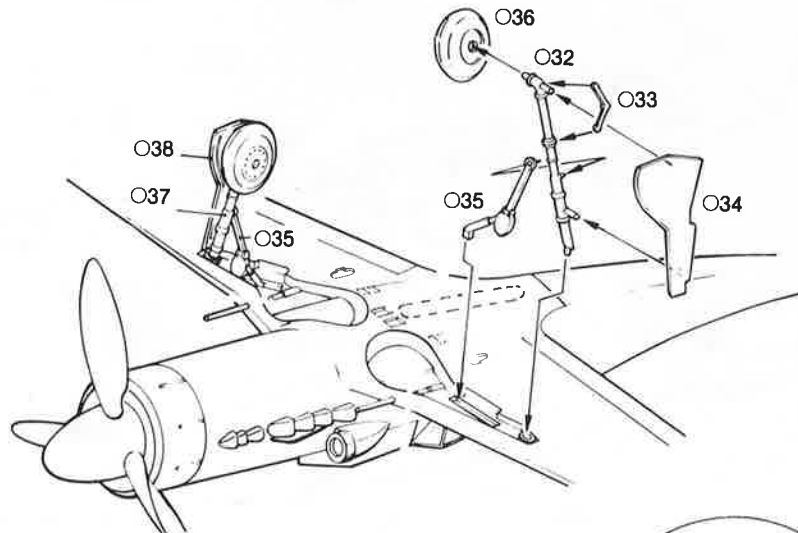
○32, ○33, ○35, ○37, wheel strut assembly, ○36 center wheel portion: #1180 Steel

○36 tires: #1183 Rubber

○34, ○38 landing gear covers inside, ☆3, ☆19, ○20, ○22 landing gear wheel wells in wings: #1163 Flat Battle Gray

Assembly (wheels-down configuration)

- 1. After removing "K.O. Pads,"* carefully cement a shockstrut ○33 to each wheel strut ○32 and ○37. Then cement a wheel ○36 to each wheel strut. Cement wheel strut assemblies into lower wing. The right wing uses strut ○32 and the left wheel uses strut ○37. Cement an actuating arm ○35 into lower wing and to each wheel strut.
- 2. Before painting landing gear covers ○34 and ○38, trim top portion off at engraved lines as shown in Drawing A. After trimming and painting, cement landing gear covers ○34 and ○38 to wheel struts on plane, ○34 on right, and ○38 on left. **NOTE:** Do not set plane on wheels until cement has set at least two hours.



*"Knock-off pads" are an extra piece of plastic created in the molding process.

6 PARTS 34, 38-47

Preliminary Painting

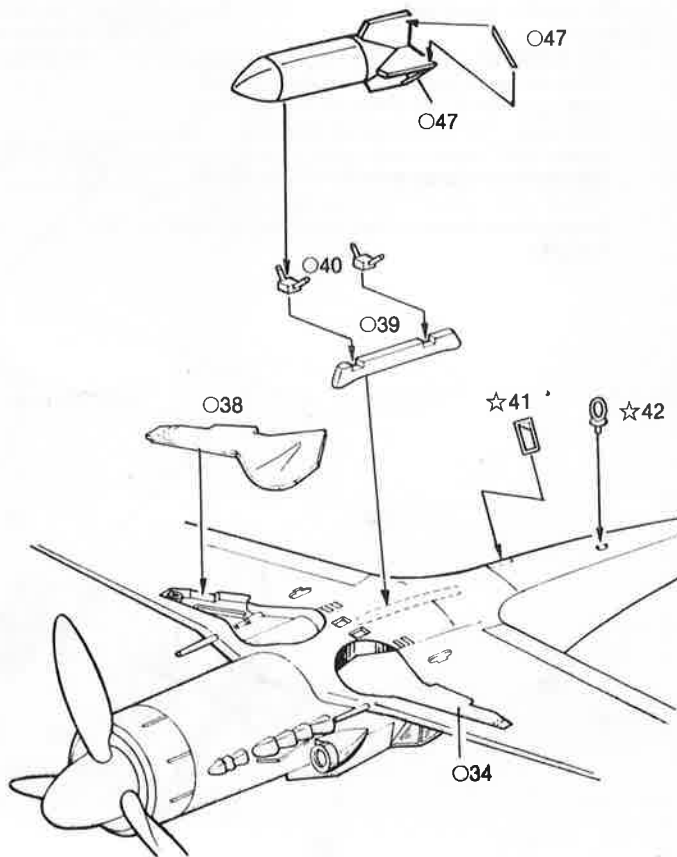
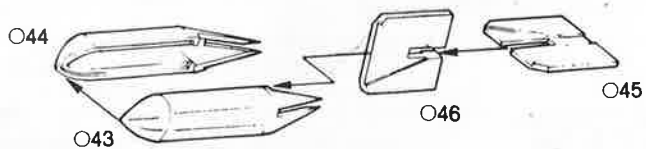
○43 ○44 bomb halves, ○45, ○46 fins, ○47 fin braces:

"Gray Green" (Mix four parts #1168 Flat White, two parts #1164 Flat Olive Drab Green and one part #1149 Flat Black.)

NOTE: Bomb may be painted as a unit.

Assembly

- 1. Cement the two bomb brackets ○40 to bomb rack ○39 and cement to lower fuselage.
- 2. Cement bomb halves ○43 and ○44 together. Assemble fins ○45 and ○46 and cement into slots on bomb as shown. Carefully cement the four fin braces ○47 to rear of fins as shown. Cement bomb to bomb rack on plane.
- 3. Cement D. F. loop ☆42 to fuselage. Cement step ☆41 to fuselage as shown.
- 4. To finish your model refer to the **APPLYING DECALS** page for proper application of the markings. To add more realism to your model, an antenna may be added between the vertical stabilizer and the cockpit. Very fine monofilament or a stretched sprue may be used. Refer to the illustrations in the **APPLYING DECALS** section for position.



APPLYING DECALS

1. After carefully masking canopy and other clear areas, spray entire model with Testor Glosscote #1261. Decals adhere best to a smooth surface and the shinier the finish, the smoother it is. Allow the Glosscote to dry thoroughly before going further.
2. Select the decals you plan to use, and cut each of them out from the decal sheet with small scissors or Testor Hobby Knife.
3. Working with only one decal at a time, dip the decal in clear water for no more than five seconds, then remove it from the water and place on a dry paper towel for about one minute.
4. When the decal slides easily on the backing paper, slide it to the edge of the paper and onto the surface of the model with a soft paintbrush or tweezers. Remember: the decals are very thin and can be easily ripped if care is not taken. Work slowly and patiently.
5. Once the decal is in the desired position, apply a small amount of Testor Decal Set #8804. This will help the decal to conform to any irregularities in the surface of the model (rivets, curves, etc.). Allow the decal to dry undisturbed. Should you find the decal has moved or should you desire to purposely move it, apply a little Decal Set to a soft brush and push the decal slowly into the desired position.
6. When the decals are completely dry (usually overnight), apply a coat of Testor Dullcote #1260 to the entire model. This will give it an authentic, dull finish and protect the surface of the model. Then carefully remove masking from canopy and other clear areas.



"Dark Green" (Mix three parts #1183 Rubber and one part #1171 Flat Beret Green.)



"Bright Green" (Mix five parts #1164 Flat Olive Drab Green, one part #1171 Flat Beret Green, and one part #1169 Flat Yellow.)



"Dark Gray" (Mix eight parts #1163 Flat Battle Gray and one part #1162 Flat Sea Blue.)



"Gray" (Mix six parts #1163 Flat Battle Gray, two parts #1168 Flat White, and one part #1162 Flat Sea Blue.)



"Light Gray" (Mix four parts #1163 Flat Battle Gray, two parts #1168 Flat White, and one part #1162 Flat Sky Blue.)



#1163 Flat Battle Gray



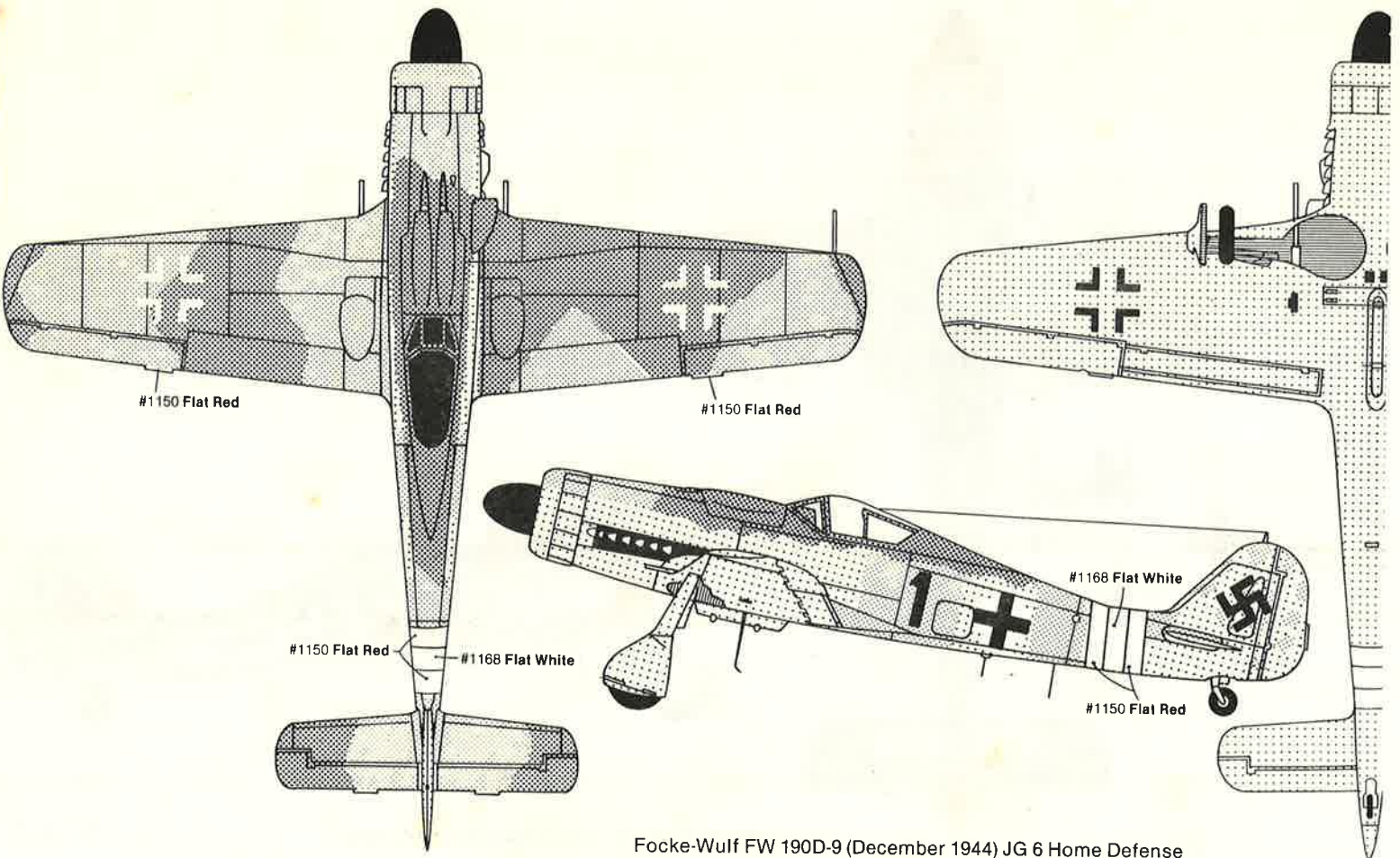
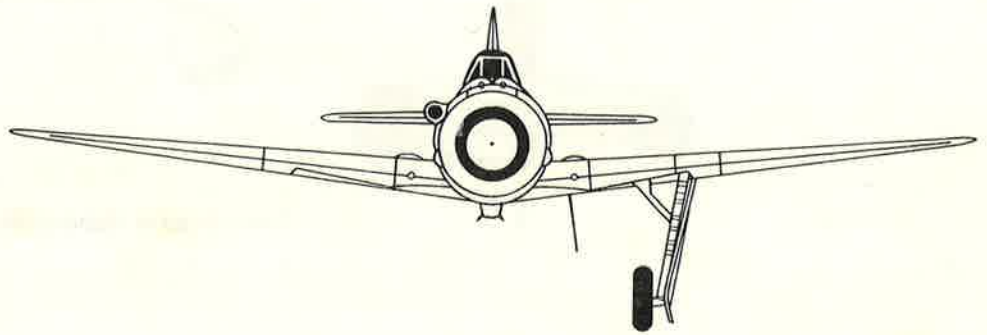
#1146 Silver



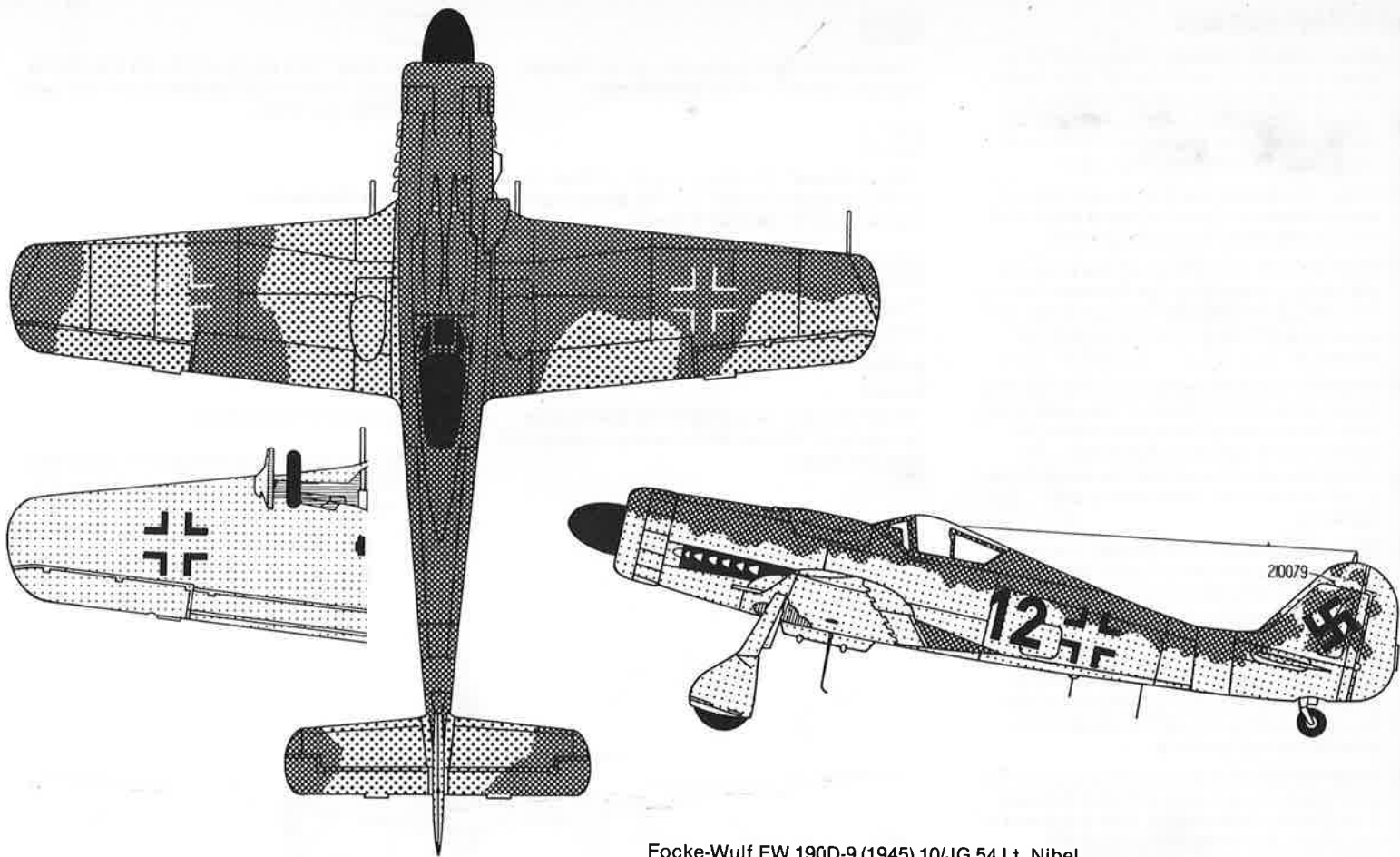
#1149 Flat Black

Paint all tires #1183 Rubber.

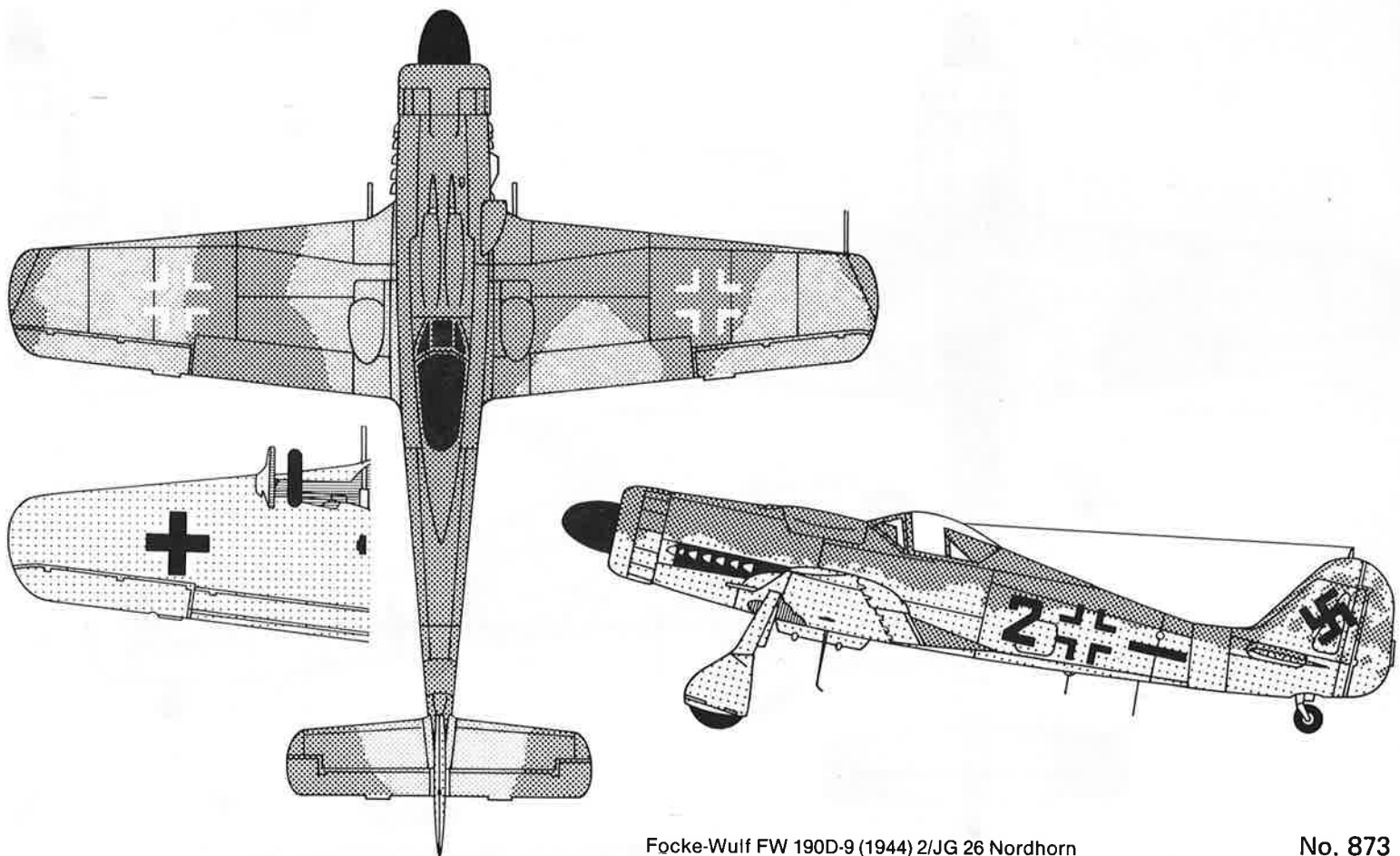
NOTE: To apply paint in irregular shapes, wipe most of it off your brush, then scrub the paint on in splotches.



Focke-Wulf FW 190D-9 (December 1944) JG 6 Home Defense



Focke-Wulf FW 190D-9 (1945) 10/JG 54 Lt. Nibel



Focke-Wulf FW 190D-9 (1944) 2/JG 26 Nordhorn

FIGURE PAINTING

Figures add dimension and life to your models. Painting figures is considered by many to be the most difficult aspect of modeling. However, if you are willing to take your time and practice, it can become the most rewarding.

After you have assembled your figure, it should be primed with a coat of #1168 Flat White. Use Testor spray paint or an airbrush if you have one. It is nearly impossible to get proper coverage with a brush. Accessories may be glued on at this point, but this sometimes makes certain areas of the figure difficult to reach with a brush. In these cases it is more convenient to paint these pieces separately and attached them to the finished figure.

Always use flat paints. Testor Flat Paints are manufactured for use on military vehicles and airplanes. However, when using Flat Paint for clothing on the figures, it is necessary to add talcum powder to the paint in order to make the painted surface appear really flat. Add powder to the paint gradually, testing it until the paint has no gloss. A #0 brush with a fine point is best for painting figures. Smaller brushes do not hold enough paint. Put some #1170 Flat Light Tan on a palette and mix in a little thinner so the paint flows smoothly off your brush. Apply an even coat over all the flesh areas. A second coat may be required for proper coverage. Now paint the eyes with #1149 Flat Black. These can be indicated by black slits. If they need shaping up, you can do this by painting around them with #1170 Flat Light Tan.

Begin shading by adding a very small amount of #1185 Rust with Flat Light Tan. Fill in under cheek bones. Proceed mixing progressively darker tones using Flat Light Tan and Rust until you finally use pure Rust. Use this color to outline all areas where the flesh meets the clothing (collar, cuffs, gloves, etc.). Finally, mix a small amount of #1183 Rubber with the Rust and paint fine lines in the mouth, nostrils, under eyebrows, inside ears and between fingers. Add highlights by mixing #1168 Flat White with Flat Light Tan.

Now begin shading the clothing. After the uniform is painted the proper color, hold it directly underneath a strong light. Notice where all the shadows fall. Mix #1149 Flat Black with your uniform color and fill in these areas, carefully following the sculpted wrinkles on the figure. You can blend the color on the uniform to this shadow color by lightly moistening your clean brush with thinner and carefully going over where these colors meet.

After you are satisfied with the shadows, hold the figure under the light again. Notice the areas where the light hits the strongest. Mix a little #1168 Flat White with the base color and

carefully apply the highlights to these areas. Remember, the shadows go *under* the folds and the highlights go *on top* of the folds. Finally, you can outline all straps, belts, pockets, collars, and edges of clothing with a thin wash of #1149 Flat Black.

Observe real faces and clothing and notice how the light falls on them. Adapt these ideas to your figures, trying to make them as realistic as possible. You can also learn a lot from studying other people's figures. Don't be too subtle in your shading — contrast is what gives figures life.

Practice and experience are the best teachers, so do not be discouraged if you aren't pleased with your first few attempts. Always take your time and strive for a neat, crisp appearance. Have patience. It takes time to learn a new skill and it's worth it.

WEATHERING HINTS

Nearly all military aircraft show some signs of wear. The process by which the modeler imparts this look to the model is referred to as weathering. Many times the weathering, that is, the representing on the model of soot, oil stains, or chipped paint, etc., can really make a model stand out and give it amazing authenticity.

After you have painted your model the proper colors, you can add the decals. If you first paint your model with Testor Glosscote, the decal carrier film will seem to disappear. Apply one or two coats of Glosscote for a smooth, glossy finish. Then, after the paint dries, apply the decals. This gives them a "painted on" look. If you want your model to have a matte finish, wait 24 hours for the decals to dry. Then spray on one or two coats of Testor Dulcote. After this dries, you can begin weathering.

Always try to be logical in applying weathering techniques. For instance, you wouldn't want to put exhaust stains on a model and then apply a bright clean decal to the sooty area. Airplanes are normally well cared for, so they don't usually appear very battered. However, soot stains do tend to collect behind exhaust stacks and sometimes oil leaks onto the outside of the plane. Paint chips sometimes appear on leading edges or where crew members or maintenance men walk across the plane. However, try to remember that any well kept plane would only show minimum amounts of wear.

There are two methods of showing exhaust stains. The first is with an airbrush. This is a rather expensive item and requires practice to get the right effect. The second method is by using soft artist pastels or charcoal in shades of gray or black. Begin by grinding this material into a fine powder. Apply the powder to the model by rubbing it on with an old paint brush. Apply the color thicker and blacker near the exhaust outlet, and feather it out as it gets further away from the outlet. You should practice this on an old model or on a scrap of paper before trying it on your model. This technique is not very permanent, so it is a good idea to give your model a coat or two of Testor Dulcote to avoid rubbing off the stains.

Oil stains should be done very subtly. Oil really has very little color, so it only leaves light stains. Tint a small amount of thinner lightly with black paint. Add a small drop to the area you want to appear oily. Now with a strong breath, blow the "oil" back along the plane. Keep in mind the direction in which the plane flies, making sure you are blowing the "oil" from front to back. It is very easy to overdo this, so remember, one or two places are usually enough.

Paint chips are the simplest technique, but like the others, are easily overdone. An average military plane wouldn't have very many chips. They usually appear on the cutting edges of the propeller blades, the leading edges of wings and flying surfaces, and any areas where crew members or mechanics walk across the plane (i.e., wing roots). Use #1181 Testor Aluminum for paint chips, applying with a fine pointed brush. With a very little amount of paint on the brush, apply the chips in small dots, the smaller the better. Large amoeba shaped chips look too obtrusive. Be wary of fabric covered control surfaces though; they don't chip.

Experienced modelers do several things to aid them in their hobby. One of the most helpful is attending meetings of their local International Plastic Modeling Society chapter. Here they see and discuss modeling techniques. Your local hobby shop will help you locate your local I.P.M.S. group. Serious modelers also collect books and photographs to use as reference when they finish their models. Again, your local hobby shop can help. Last, but certainly not least, your own observation will prove helpful. Visit museums. Look at buildings and vehicles around you. Notice how rust streaks a metal roof. See the oil and dirt on a piece of road grading equipment. Study railroad boxcars and locomotives to see what the weather has done to them. Your own observation can be the best aid of all.

Remember: try not to overdo weathering — and *keep practicing*. Be patient, it takes time to discover and master all the tricks of this fascinating hobby.

Brush 'em & Spray 'em

Available in over 60 colors, Testor enamel paints come open-stock and carded, with color fidelity matched batch-to-batch, bottle-to-bottle and bottle-to-spray can... Testor paints go on other surfaces too, like styrofoam, glass, paper and even some waxes.

Get It Together!

The Testor line of Plastic Model Cements, available in both tube and liquid form, include non-sniffable and non-toxic plastic cement that can be used by the smallest child. Contour Putty for Plastic Models is great for custom molding and filling unwanted cracks.



Tools of the Trade

To complement our line of finishing materials, Testor offers a complete line of hobby accessories especially designed to help you work more precisely and build professional looking models. The Testor Hobby Drop Cloth not only protects all work surfaces from accidental spills, but is an invaluable storehouse of modeling information. Other accessories available, both carded and in attractive kits include: Hobby Sandpaper, Hobby Knife and Precision Gluing Tips.

Shed-Proof Brushes

Testor offers the hobbyist a line of inexpensive brushes, which have a unique design that prevents bristle shedding. Available in various tip designs, Testor brushes can be used for practically every finishing task.

The Testor Corporation
620 Buckbee Street
Rockford, Illinois 61101

**"The Total Hobby Company
from Start to Finishing!"**

