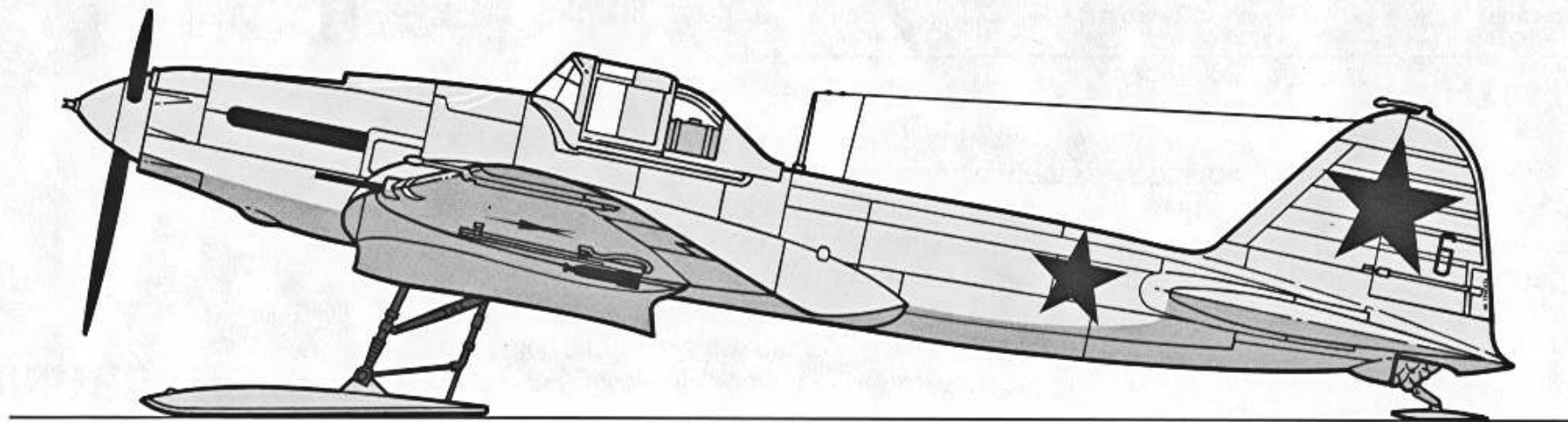


3409-0200

**ILYUSHIN**

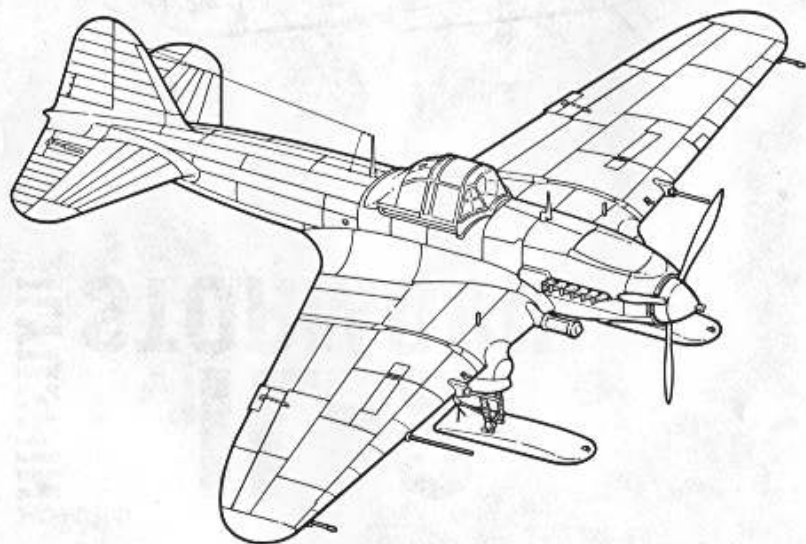
# **IL-2**

## **STORMOVIK**



# IL-2 INSTRUCTIONS

This variation of the Stormovik is an example of a small number of single-seat craft which had their landing gear and fairings altered to use retractable skis. This modification was intended to provide all-weather capability for a very important weapon in the Soviet arsenal. The addition of skis allowed the IL-2 Type 1 to operate from virtually any snow-covered surface with no noticeable decline in performance. It was found, however, that the addition of skis did little to improve the capabilities of the plane on snow, since the low-pressure tires normally fitted provided virtually identical performance on groomed snow surfaces. These "Flying Tanks" were used with devastating effect against German armor and ground targets. Originally designed to provide support to Soviet ground forces, the IL-2 series went on to become the most produced warplane in history. Almost 40,000 Stormoviks were produced in five years, and at one point 1,000 aircraft were being built each month. Today fewer than a half dozen are known to have survived.



## MODEL PAINT REFERENCE CHART\*

	FEDERAL STANDARD	MODEL MASTER	HUMBROL	GUNZE SANGYO AQUEOUS	GUNZE SANGYO MR. COLOR	AERO-MASTER	FLOQUIL CLASSIC MILITARY
ALUMINUM	17178	1781	11	8	218	-	303121
BURNT METAL	-	1415	-	76	61	-	-
DARK GREEN	34102	2122	117	64	17	9073	303135
DARK GREY	36081	1788	32	301	301	9071	303247
EARTH BROWN	30219	2124	119	72	55	9072	303139
FLAT BLACK	37038	1749	33	12	33	9001	303010
FLAT RED	31136	1705	153	13	-	9005	303055
FLAT WHITE	37875	1768	34	11	62	9002	303011
INTERIOR GREY-GREEN	34226	2071	92	70	60	9020	303359
UNDERSIDE BLUE	35414	2123	87	331	20	9074	303257
YELLOW	33538	2072	154	329	329	9003	303269

\*This chart is provided only as an aid to the modeler and is the closest match possible from each paint manufacturer at the time of printing.

## STEP 1 - COCKPIT FLOOR

### PAINT INSTRUCTIONS

83 - interior grey-green with tan boot and red firing buttons

13 - interior grey-green with black radiator

85 - interior grey-green

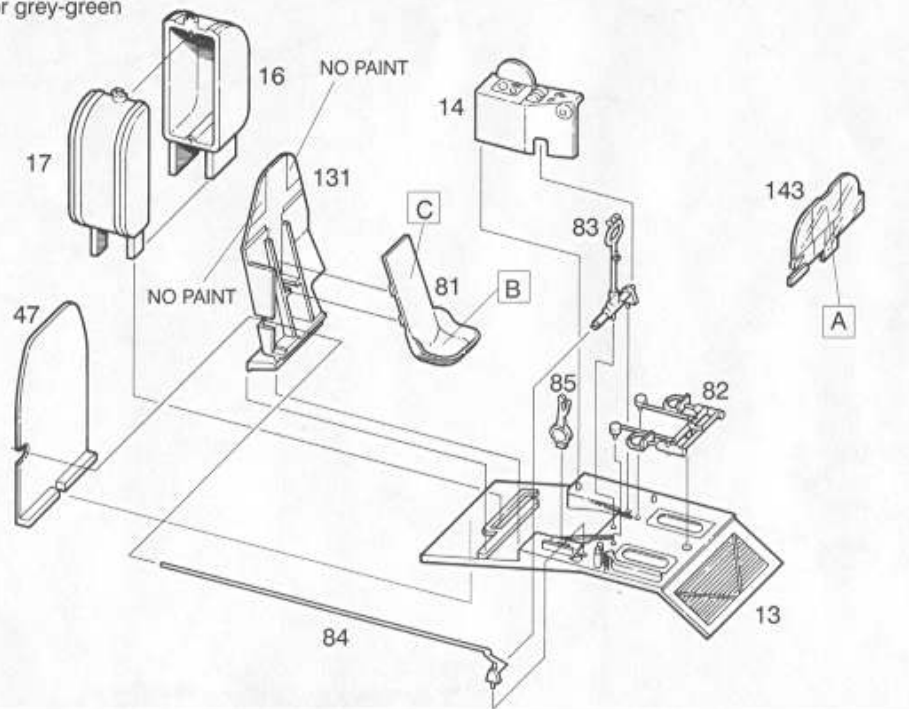
82 - interior grey-green with tan rudder pedal straps

14 - interior grey-green with medium green elevator trim wheel and black instrument dials

81, 131 - interior grey-green

16, 17 - flat black with light grey or silver straps

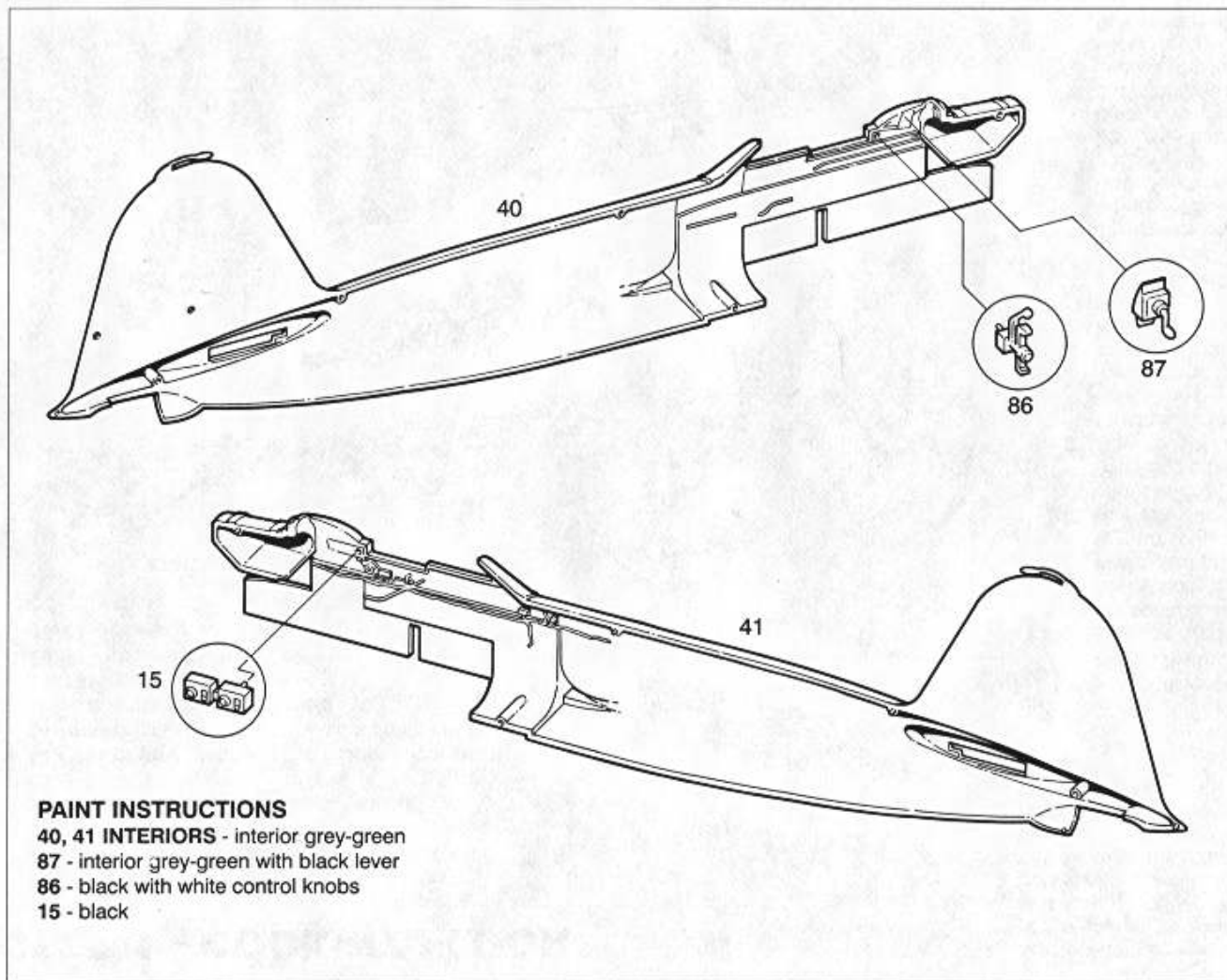
47, 84 - interior grey-green



Start construction with the painting and assembly of the fuselage interior. At first glance, the Ilyushin interior appears to be very plain, almost as if pieces were omitted. This is not the case. The interior was a reflection of the exterior. It was composed of the backside of the pieces of armor plating that made up the outer panels. There simply was no need for any traditional reinforcing formers or structures on the interior. This kit represents a Stormovik constructed with metal wings and a full metal rear fuselage. Consider these materials when and if you elect to weather your model.

- Beginning in the pilot's cockpit, glue the control stick (83) to the cockpit floor (13). Glue the bomb door control (85) into the locator slot on the right side of the cockpit floor.
- Glue the rudder pedal assembly (82) to the cockpit floor. Cement the control console (14) to the left side of the cockpit floor.
- The Sutton type seat belt decals ( B & C ) may be applied to the pilot's seat (81), or the builder may elect to use a favorite method to represent the belts.
- After painting (with the exception of the windows at the top) the pilot's armor (131), locate and glue this piece to the cockpit floor. Align and glue the pilot's seat to the tabs on the pilot's armor.
- Glue the left fuel tank half (16) and the right fuel tank half (17) together. Glue the fuel tank assembly to the rear of the cockpit floor. Glue the fuel tank armor (47) to the cockpit floor and behind the fuel tank. This piece should stand vertically and not lean against the tank.
- Now glue the elevator push-pull rod (84) to the right end of the control stick and into the locator hole on the right side of the cockpit floor. This rod should pass through the openings in the pilot's armor. Set the assembly aside for later installation in Step 4.
- The instrument panel (143) may be made up into a very realistic representation of the actual piece by painting the front flat black (with the exception of the instrument faces). These faces have been deliberately molded thin and recessed to make painting easier. The instrument panel decal (A) is placed on the rear of the instrument panel and aligned with the clear dials. Before applying this decal to the panel, carefully turn it over and transfer glue from the decal sheet to the face of the decal for better adhesion. This method allows for much better registration when printing the decals. Set this panel aside for later installation in Step 3.

## STEP 2 - FUSELAGE HALVES



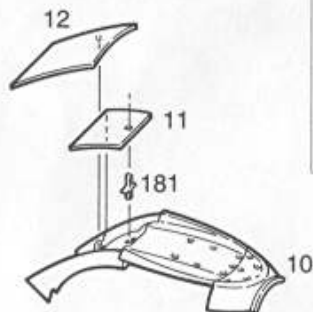
- After painting the interior fuselage halves, glue the flap / gear lever (87) into the indentation on the left fuselage half (40). Glue the throttle control (86) into the locator hole directly behind the flap / gear lever.
- Now glue the bomb release control (15) into the recess on the right fuselage half (41).
- Test the fit of the right fuselage (41) and left fuselage (40) halves. When you are satisfied that everything lines up, carefully cement the fuselage halves together.

### PAINT INSTRUCTIONS

- 40, 41 INTERIORS - interior grey-green
- 87 - interior grey-green with black lever
- 86 - black with white control knobs
- 15 - black

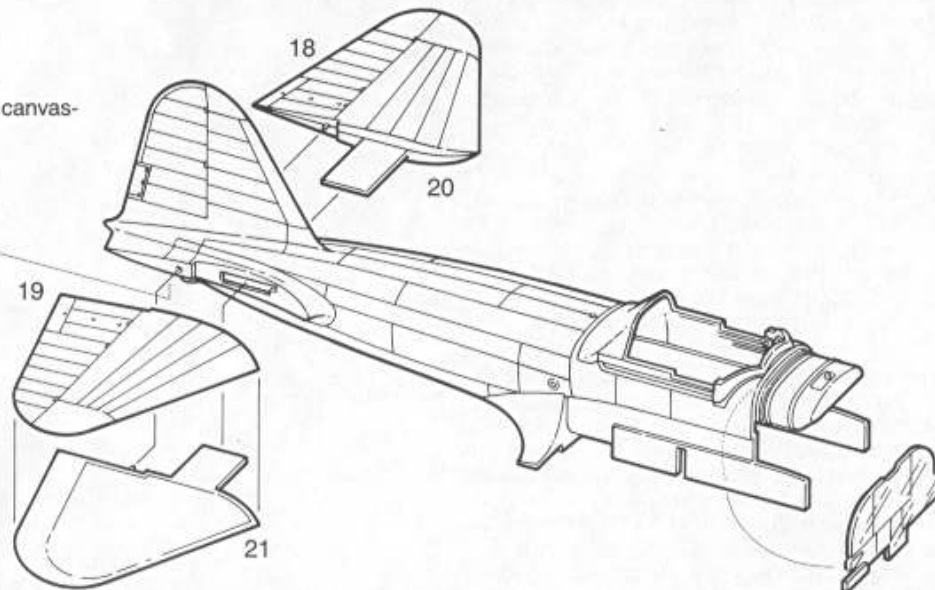
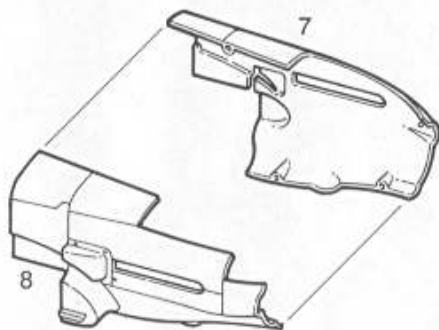
## STEP 3 - FUSELAGE / TAIL / COWL / INTAKE

- Carefully glue the left cowling half (7) to the right cowling half (8). Glue the radiator air splitter brace (181) through the hole in the air splitter (11). The longest part of the splitter brace should point upwards and protrude completely through the hole. Glue these two parts to the locators on the top of the cowling top (10). Finally, glue the duct top (12) to the top of this assembly. After all of these parts have been allowed to dry thoroughly, glue the intake assembly into the cowling halves. Set this assembly aside for later assembly in Step 5.
- Glue the upper left stabilizer (18) and the lower left stabilizer (20) together. Repeat for the upper right stabilizer (19) and the lower right stabilizer (21). After cleaning up the glue seams, glue these assemblies to the left and right fuselage halves. The long tab of the left stabilizer slides into the slot on the fuselage and fits above the tab on the right stabilizer. Be sure to check the alignment of the horizontal tail surfaces to insure they will be parallel to the ground. Glue the tail ski (57) into the opening at the rear of the fuselage.
- Carefully glue the completed instrument panel from Step 1 to the front of the cockpit. This piece should be glued in place with common white glue so as to not damage the decal. The area immediately above the instrument panel should be painted flat black with the exception of the small indentation where the gun sight will mount later in Step 9.

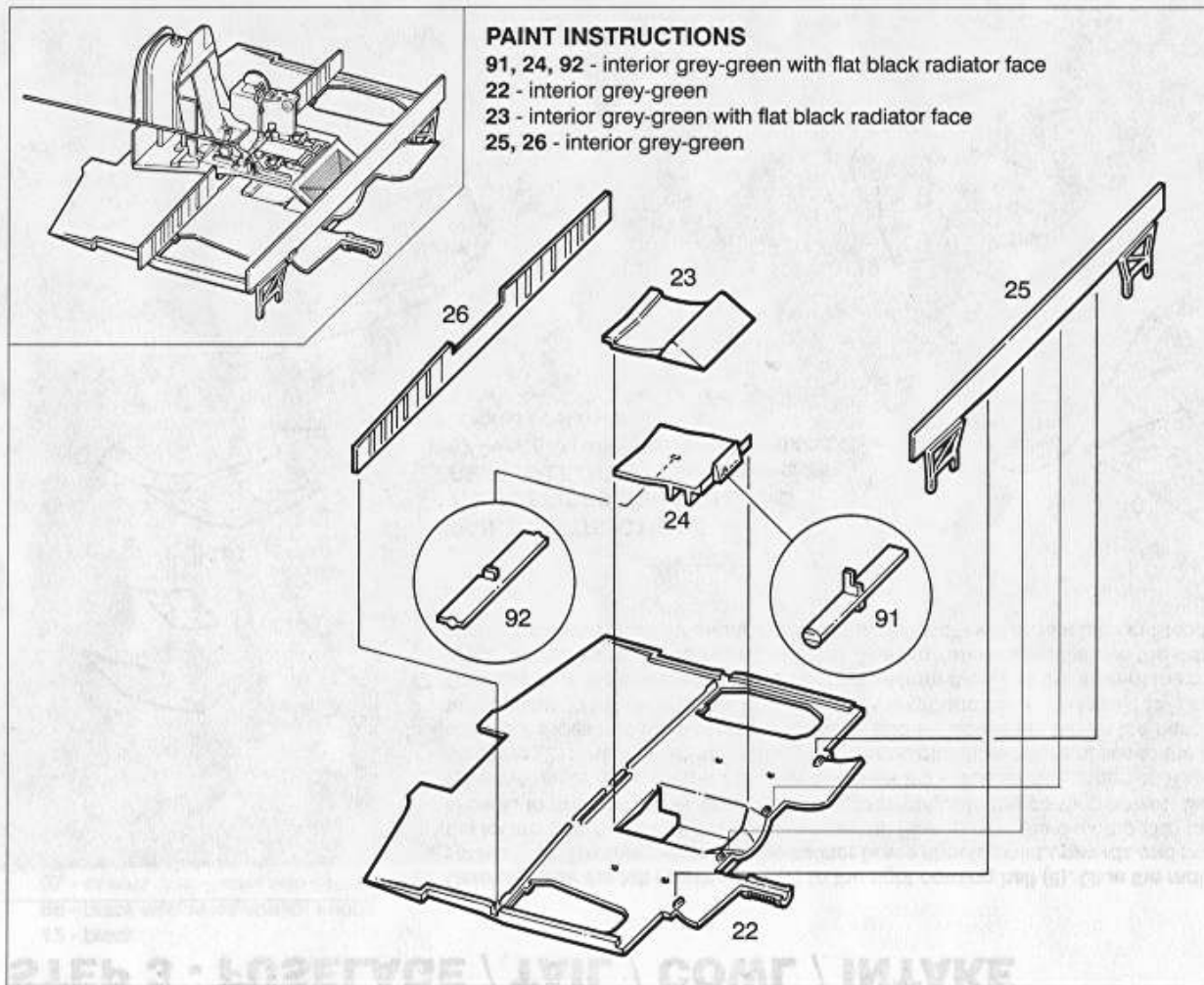


### PAINT INSTRUCTIONS

7, 8 INTERIORS, 181, 11, 12, AND  
REAR HALF OF 10 - interior grey-green  
57 - white ski with natural metal leg and canvas-  
colored boot material



## STEP 4 - LOWER WING CENTER SECTION



- Glue the oil cooler front shutter (91) to the front of the oil cooler duct top (24). The longer center leg goes on the top, oriented as shown with the notch on the leg facing forward. Now glue the rear oil cooler shutter (92) to the rear of the oil cooler. The smooth surface of the horizontal bar faces the top, with the notch to the rear as shown. There are small indentations in the oil cooler to help locate these parts. If you mix up the shutters during construction, the small shutter goes to the front of the radiator.
- Glue the completed oil cooler down into the opening in the lower wing center section (22). Align the shutters so that they appear straight in the front and rear openings. Glue the engine radiator outlet top (23) over the oil radiator housing, with the kick-up on the rear sitting against the rear edge of the opening in the wing center section.
- **NOTE:** The spar assembly procedure in this step is as follows: first glue each spar to the wing center section at the center of each spar, an area of 7/8" (2 cm) and allow these parts to dry thoroughly. Then glue both sides of each spar, starting at the center, towards the outer edges, pulling the wing up to meet the spars. Make sure the spars have a good contact and glue joint with the wing center section. Both spars set and hold the proper wing dihedral. With the foregoing in mind, now carefully locate and glue the front main spar (25) to the wing center section, positioning it forward of the two innermost locating tabs and behind the two outermost tabs. Locate and glue the rear spar (26) to the wing center section as shown.
- The cockpit floor assembly from Step 1 is now glued in place on top of the front and rear spars. Be certain to have all locators in their proper places and double check the floor alignment in relation to the wing center section. (The pin on the front center bottom of the assembly fits into the gap in the locating tab on the rear of the front main spar. The long tab across the bottom of the cockpit floor assembly sits against the forward center edge of the rear main spar.)

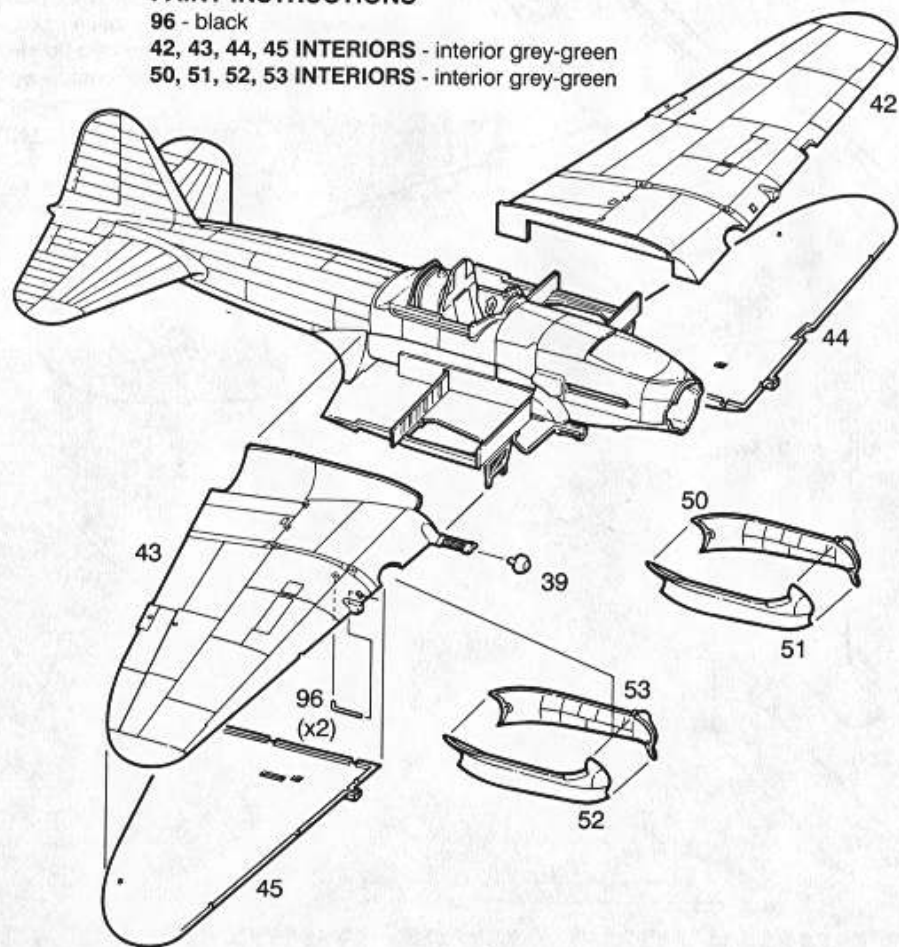
## STEP 5 - WINGS / FAIRINGS

### PAINT INSTRUCTIONS

96 - black

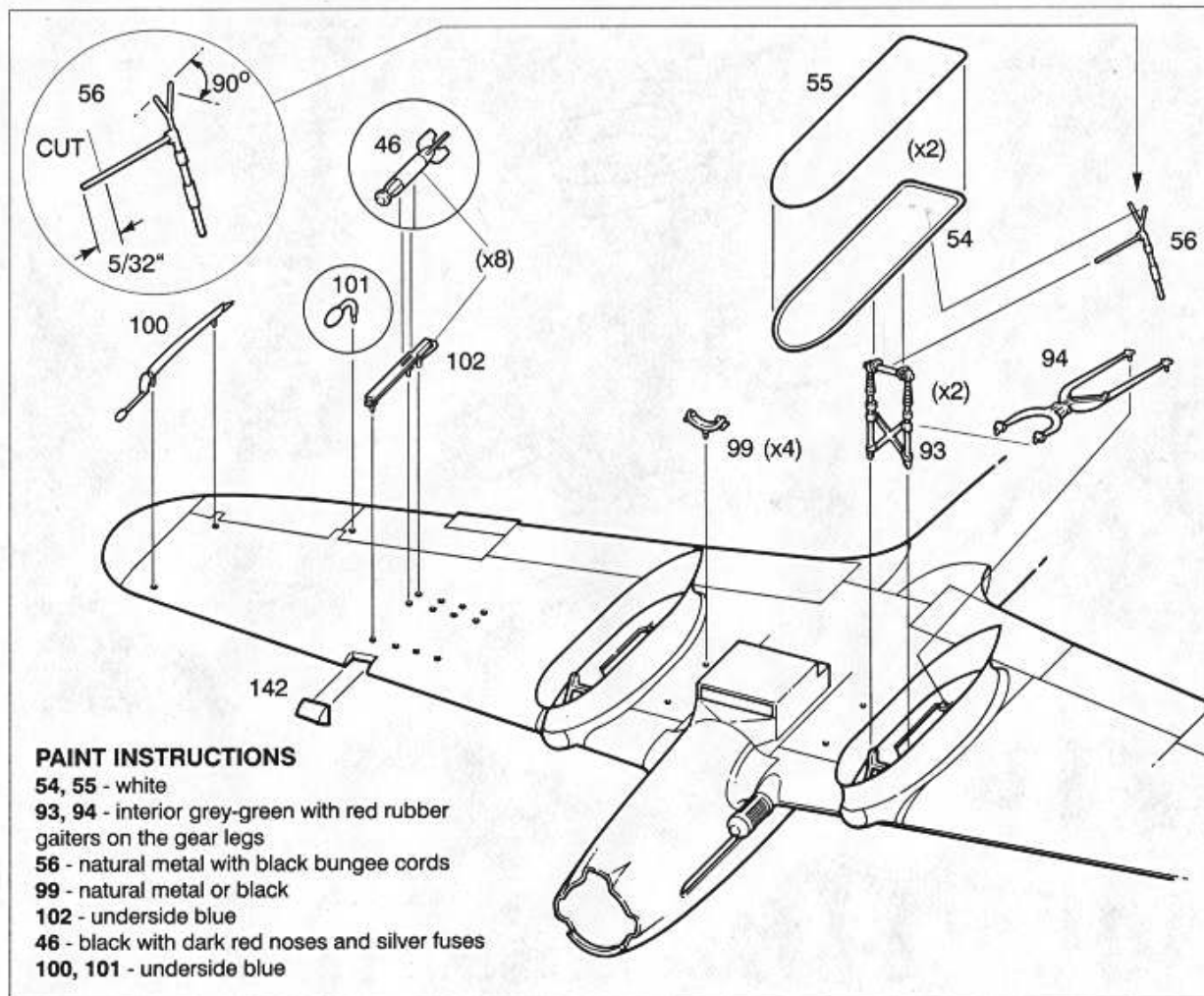
42, 43, 44, 45 INTERIORS - interior grey-green

50, 51, 52, 53 INTERIORS - interior grey-green



- ❑ After making sure that the wing center section from Step 4 is thoroughly dry, carefully test fit the completed assembly up into the fuselage assembly. This assembly will fit tightly into the cockpit area with the pilot's left hand console snap-fitting over the edge of the left interior wing structure. When you are satisfied that everything is correctly located, glue it in place.
- ❑ The nose assembly from Step 3 is now glued to the fuselage assembly. It is very important to locate this properly, as it will help position the wings to the fuselage correctly. When gluing the nose to the fuselage, be careful not to squeeze the nose together where it joins the fuselage. Also, pay attention to the top and bottom location of the nose. It should fair in smoothly to the fuselage. Allow to dry thoroughly before proceeding.
- ❑ Glue two ShKAS machine gun barrels (96) into the locators on the left wing top (42) and the right wing top (43).
- ❑ Now glue the left wing top (42) to the left wing bottom (44). Glue the right wing top (43) to the right wing bottom (45). When these are thoroughly dry, the wings may be glued to the fuselage and wing bottom center section.
- ❑ The air intake filter cap (39) is now glued to the air intake body. Position with the molded slot on the front face oriented vertically. Glue the left outer ski fairing (50) to the left inner ski fairing (51). Glue the right outer ski fairing (52) to the right inner ski fairing (53). When these assemblies are dry, glue them to the bottoms of their respective wings. Before installing the remaining pieces (armament, canopies, exhaust, propeller etc.), many modelers may wish to paint their model at this time. This choice is left to the individual modeler's discretion.

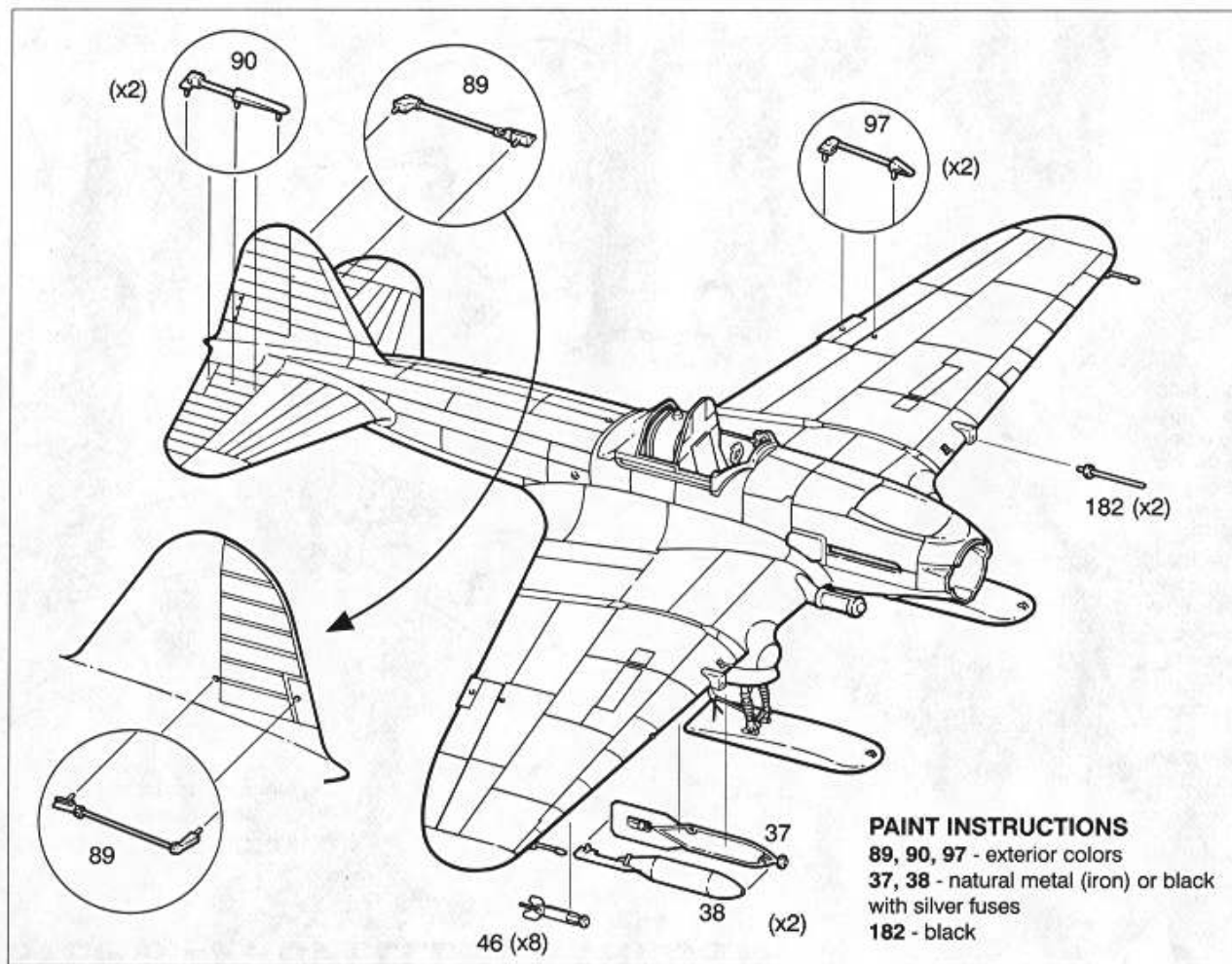
## STEP 6 - LANDING GEAR / UNDERWING DETAILS



- The skis in this kit are designed to be displayed in either the retracted or extended position. Regardless of the way you decide to build your aircraft, the first step is to glue the ski tops (54) to the ski bottoms (55). Make two sets.
- For a retracted ski version, just align and glue the skis onto the ski fairings.
- For the extended ski version, glue the landing gear struts (93) up into the ski fairings and onto the locating points on the bottom of the main spar. Before the glue is dry, locate and glue the landing gear braces (94) to the rear of the landing gear struts and to the locators at the rear of the wheel well opening. Check alignment and allow to dry thoroughly.
- Assembling the skis will be easier if the following process is accomplished while the glue is still drying. This will give you time to make fine adjustments to the alignment. Glue the assembled skis to the landing gear struts as shown. The ski braces (56) are to be added next, but they will require very careful handling due to their delicacy. The "Y" shaped devices on the bottom of the braces were actually bungee cords. These need to be carefully rotated 90° as shown. It will also be necessary to trim 5/32" (4 mm) off the overall length of the horizontal bar as shown. Now install the braces by gluing the bungee cord ends into the indentations on the tops of the skis and by gluing the horizontal bar into the locator hole on the rear of the crossbar on the bottom of the landing gear strut.
- If you are planning to use the 250 kg bombs, now is the time to glue four 250 kg bomb racks (99) to the bottom of the wing between the internal bomb bay doors. The RS-82 rocket rails (102) may be glued in place on the wing bottoms. We recommend that you add the RS-82 rockets (46) at the end of the kit assembly to avoid damage.
- Glue the wing tip aileron balances (100) to the bottom of the wing. Add two aileron mass balances (101) to the lower surfaces of the ailerons. Finally, detail the landing light by painting the wing surface behind the lens bright silver and installing the clear landing light cover (142) with white glue.



## STEP 7 - FLETTNER RODS / ORDNANCE / ARMAMENT

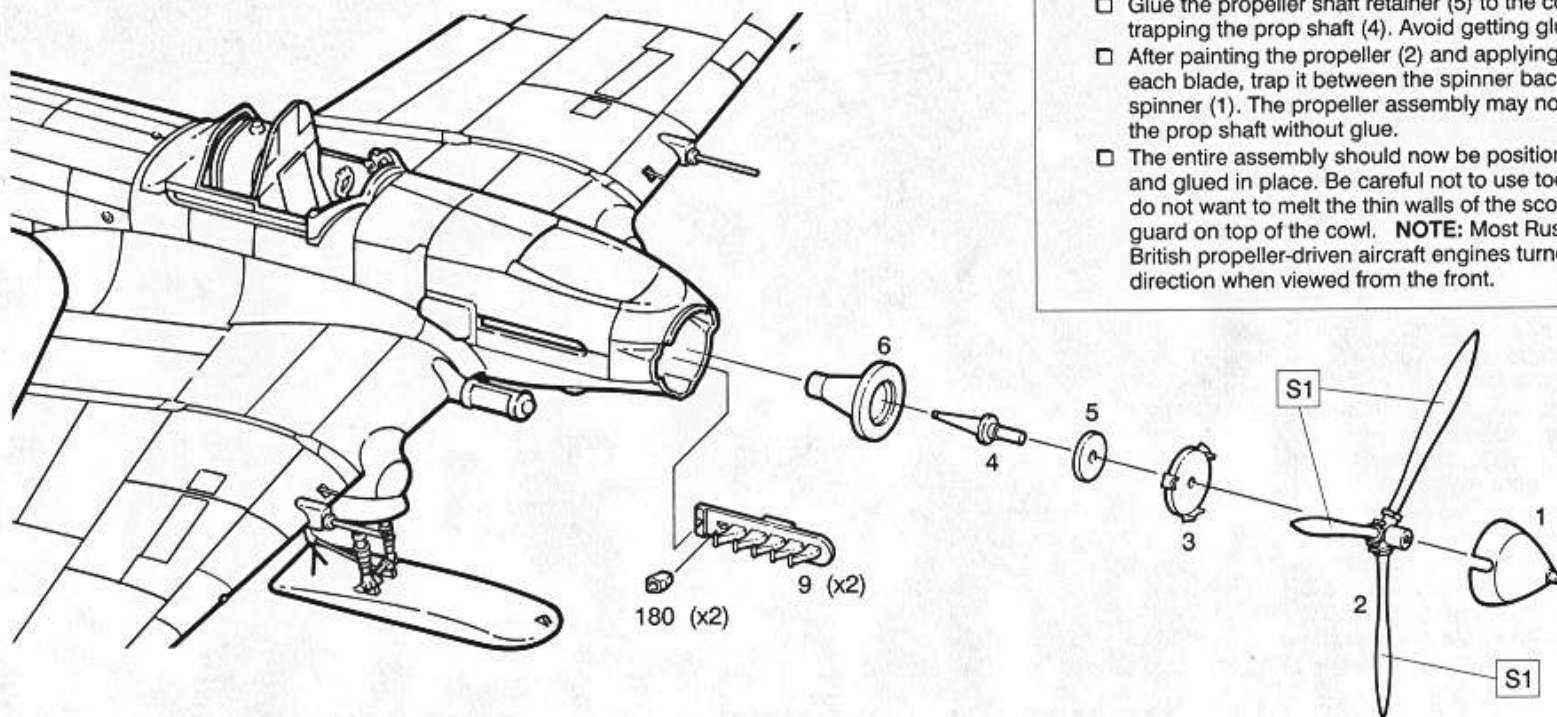


- The rudder Flettner rod (89) is glued to the vertical fin and the rudder trim tab as shown. The elevator trim / Flettner rods (90) are glued to the horizontal stabilizers and the elevator trim tabs.
- The aileron Flettner rods (97) are glued to the wing tops and the ailerons.
- If you are using the 250 kg bombs, glue the left 250 kg bomb half (37) and the right 250 kg bomb half (38) together. Make two sets. These pieces may be added to the racks now or later.
- The 23 mm VYa gun barrels (182) are now glued to the leading edge of the wings.
- The RS-82 rockets (46) may be glued to the rails now or later.

## STEP 8 - PROPELLER / EXHAUSTS

### PAINT INSTRUCTIONS

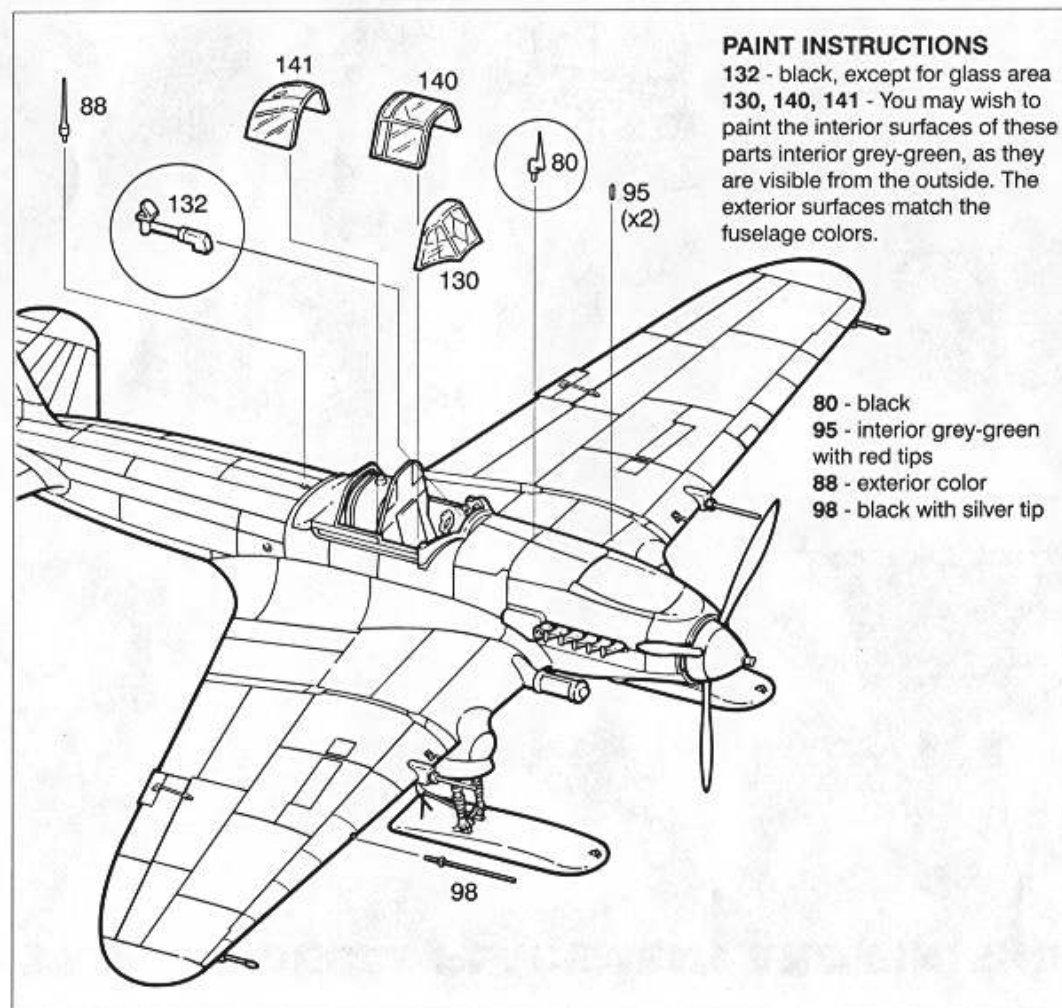
- 180, 9 - burnt metal
- 2 - black with aluminum hub
- 1, 3 - white



The propeller and exhausts have been designed to make assembly especially easy for the modeler. All of these components may be painted and assembled apart from the airplane and installed after the plane has been painted.

- Begin by gluing the rear exhaust stubs (180) to the exhaust stacks (9). When dry, paint and finish the exhaust assembly and carefully insert the stacks into the nose and glue onto the locators inside the nose. A tab has been molded on the back of the exhaust stacks to aid in their placement.
- Glue the propeller shaft retainer (5) to the cowling front plate (6), trapping the prop shaft (4). Avoid getting glue on the prop shaft.
- After painting the propeller (2) and applying a stencil (S1) to each blade, trap it between the spinner back plate (3) and the spinner (1). The propeller assembly may now be pressed onto the prop shaft without glue.
- The entire assembly should now be positioned into the nose and glued in place. Be careful not to use too much glue, as you do not want to melt the thin walls of the scoops and the oil spray guard on top of the cowl. **NOTE:** Most Russian and many British propeller-driven aircraft engines turned in a clockwise direction when viewed from the front.

## STEP 9 - FINAL DETAILS



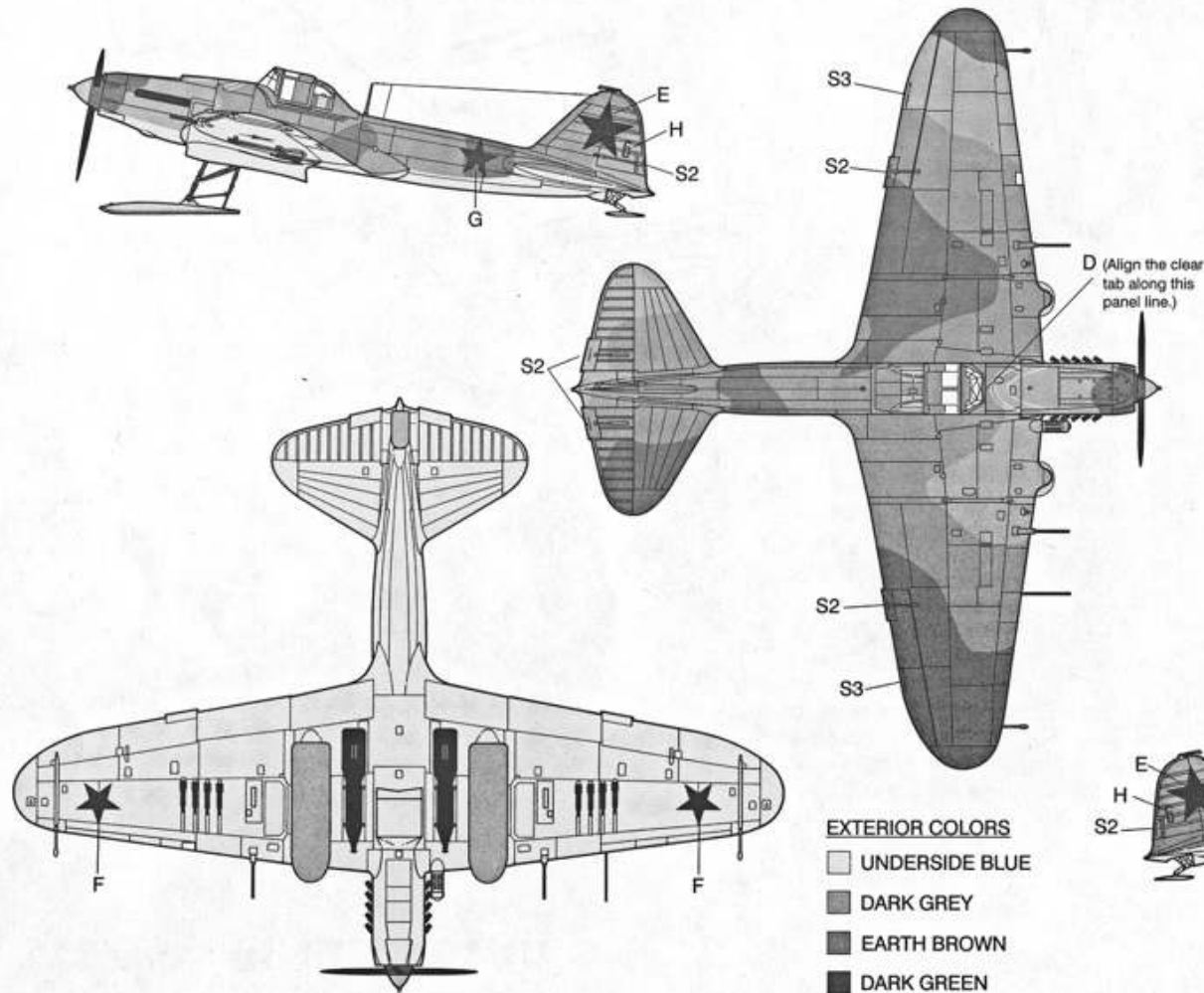
- Paint and install the pilot's gun sight (132) into the indentation above the center of the instrument panel.
- Glue the windshield (130) to the fuselage. The lines that are etched into the glass are representations of the alignment sight lines to aid the pilot in aiming the aircraft when diving on a target.
- Glue the fixed canopy (141) onto the fuselage. The pilot's canopy (140) may be positioned in the opened or the closed position. Glue in place.
- Glue the VV-1 gun sight post (80) to the locating hole in the top of the fuselage ahead of the windshield. The two landing gear indicators (95) are now glued into the locators on the tops of the wings.
- Glue the short antenna radio mast (88) to the rear of the fuselage. The pitot tube (98) is glued into the opening in the leading edge of the right wing. If you have not yet mounted the RS-82 rockets (46) or the 250 kg bomb assemblies, now is the time to do so. A radio antenna may be added as indicated on the box.

Your kit is now complete and ready for further detailing or for display. We hope the construction of this kit has been both enjoyable and informative. Your comments and suggestions are always welcome

Accurate Miniatures would like to thank the following persons and organizations for their help in the production of this kit:

Ilyushin Design Bureau	Jeff Cramer
Clark Macomber	Gary Pearson
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Vladislav Waclawik	Bob Haynes
Kbely Museum and staff - Prague, Czech Republic	

## STEP - 10 DECAL PLACEMENT AND FINISHING



The aircraft depicted in this kit represents a machine flown over the Leningrad Front in the winter of 1942. These planes were used effectively to harass the German forces laying siege to the city. The ski version of the IL-2 was painted at the factory in the standard summer colors of dark brown (near FS30219), dark green (near FS34102), and dark grey (near FS36081) over a bottom of underside blue (near FS35414). These colors are approximations due to wartime conditions and a lack of manageable standards. Over the top colors (only) was a washable coat of white (with a slight tint of light grey) distemper paint. This paint was applied neatly around the fuselage and tail stars. The bottom of the aircraft was left underside blue. Due to the harsh weather conditions on the Leningrad Front and the all-white nature of these aircraft, soot and the various stains associated with combat operations is more prominent. As the winter progressed, the few surviving aircraft began to lose this distemper finish, allowing the summer colors to show through. If you choose to weather your IL-2, remember that the rear fuselage from the cockpit back was constructed of metal. The rear vertical and horizontal stabilizers and the wings were also metal.

