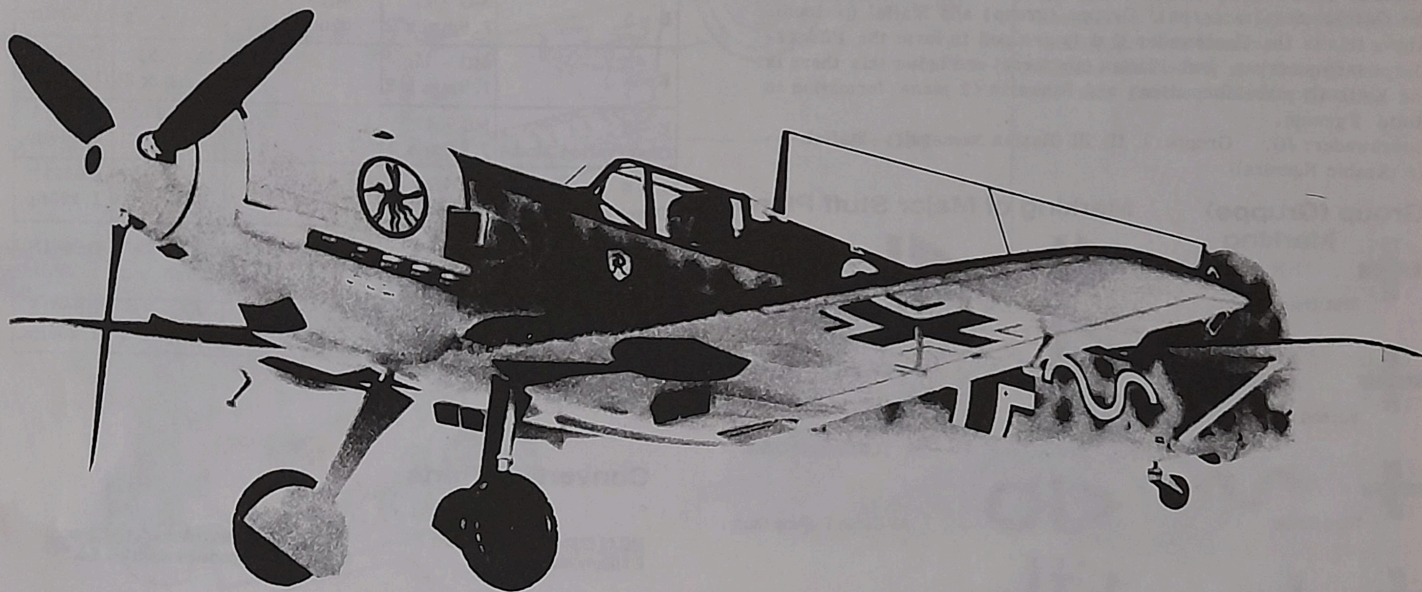


MESSERSCHMITT Me-109E



1/32 Scale Series KIt No. JS-073



History

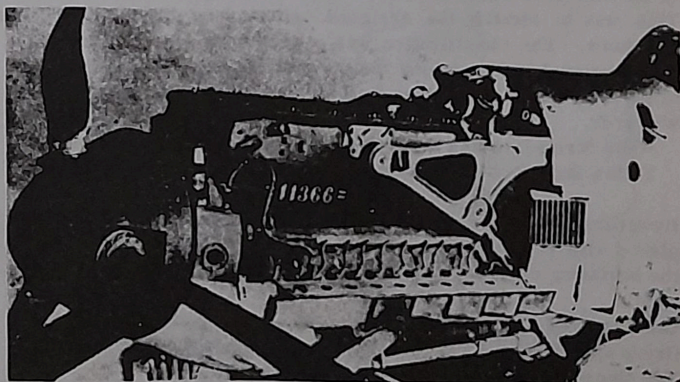
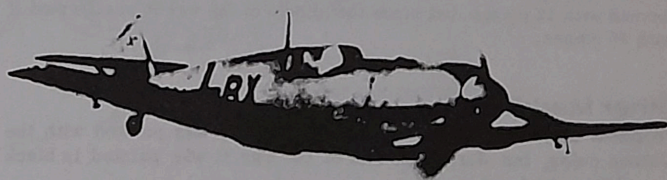
In 1933, before the advent of Me109, Willy Messerschmitt, the technical designer for BFW Co. (Bayerische-Flugzeuge-Werke) completed the design on one airplane. It was the 4 crew Bf108, which became the basis for the Me109 series. In the summer of 1934 the Messerschmitt designer team, employing the special features of Bf109, commenced the production of Me109 new fighter plane. Me109V-1, the first trial plane, made her maiden flight in September of 1935, and with the exception of her faulty landing gear her performance was very superior; for this trial plane was outfitted with the British Rolls Royce (Kestrel) V engine (695 Hp.). Subsequent models was changed to Junkers Jumo 210A engine (610 Hp.). On Model V-4, besides the two 7.9 mm machine guns, she was also armed with 20mm automatic cannon in the propeller shaft. The first mass produced planes was the Me109B which was assigned to the Spanish Civil War in 1937. In August of 1938 Me109C arrived in Spain and was tested under actual war condition. Me109D was born through the many combinations of Me109B and Me109V series and various types of engine. With the advent of E series the new Daimler-Benz DB601A engine was developed. This new engine is equipped with direct fuel injection system and supercharger, enabling to produce 1,150 Hp.. The E series was thus perfected with the combination of 3 blade constant speed propeller. The original model Me109V-14 conducted it maiden flight in the summer of 1938 and the first mass production of Me109E1 was outfitted with 7.9mm machine gun, replacing the 20mm automatic cannon. Subsequent to 1939 this Me109E-3 became the front line fighter, outfitted with 3 automatic cannon (whose barrel was passed through the propeller shaft) and 2 machine guns. In August 13, 1940 the Battle of Britain began and the E-3, the improved model of E-4, showed active service. The pilot seat protective armor plate was reinforced in E-4 and the range of visibility was improved. The automatic cannon on the nose was removed and 2 machine guns were armed onto the nose top and the wing armed with 2 automatic cannon. E-4N, the improved model of E-4, is outfitted with 1,200 Hp. DB601N engine and a great majority was assigned to the North Africa campaign. With special and filter on the intake, it was also outfitted with bomb mounting for ground support mission. The famous Germany ace pilots on the E model were Werner Mölders, Helmut Wick and Adolf Galland. On the short range observation planes... E-5, E-6 ... the armament was limited to 2 machine guns on the nose. To increase the cruising range on E-7, one 250 litre auxiliary fuel tank was mounted under the fuselage. With the various improvements and remodeling, E-8 was outfitted with DB601E engine (1,200 Hp.). E-9... fighter observation plane ... was armed with 2 machine guns and outfitted with camera equipments.

In 1940 the Me109F series made her appearance with improved DB601N engine with complete remodeling. In the latter part of 1942, with the aim to further improve its performance and armament, Me109G was produced with DB605A engine (1,475 Hp.) and heavily armed with 20mm automatic cannon in the both wings, two 13mm machine guns on the nose and one 20mm automatic cannon in the propeller shaft. The G series production amounted to 70% of the

total production of Me109's ... about 2,300 planes. Me109H was developed for stratospheric purpose but only a few showed action. Me109J was the model licensed to Hispano of Spain for production. The last model produced was Model K, with many improvements, but hardly showed any action by the time the war ended. Until the end of World War II 30,000 planes in the Me109 series was produced, amounting to more than 60% of Germany's single engine fighter planes and it was credited as the front line fighter. BFW was the name of the firm when the 109 was first perfected, and in 1938 it was renamed to Messerschmitt; therefore this model can be called in either Me109.

Characteristics

Overall Length	:	8.47m
Overall Width	:	9.71m
Engine	:	Daimler Benz DB601A (1,100 Hp.)
Armament	:	7.9mm Machine Gun x 2 20mm Automatic Cannon x 3
Maximum Speed	:	570 km/hr. (at 3,690m ceiling)
Ceiling Range	:	11,250m
Cruising Range	:	663km
Dead Weight	:	2,003kg.
Weight, Fully Armed	:	2,520kg.



Markings on German Fighter Planes

In March 1935, Germany officially announced her nationality marking. The nationality marking was the Iron Cross (Balken-Krouz) and the Swastica (Haken-Krouz), the Nazi symbol. This marking was principally used until the end of World War II.

Plane Emblem: The formation of German airforce unit is based on the Geschwader (aircorps), Gruppe (group) and Staffel (platoon). Above this is the Geschwader that is grouped to form the Flieger-Corps (army corps), Luft-Flotten (air force) and below this there is the Kette (3 plane formation) and Schwarm (2 plane formation in Rotte 2 group).

Geschwader: JG, Gruppe: I, II, III (Roman Numeral) Staffel: 1 - 12 (Arabic Numeral)

Group (Gruppe) Marking



First Group



Second Group



Third Group



Third Group



Fourth Group



Fourth Group

Marking of Major Staff Planes



Air Corps Commander



Air Corps Sub-Commander



Operational Officer



Air Corps Training Staff



Aide



Group Commander



Group Sub-Commander



Group Training Staff



Platoon Color

Air Corps (Geschwader)	Platoon Color		
	Group	Platoon	Color
Air Corps (Geschwader)	First Group (I Gruppe)	1st. Platoon	White
		2nd. Platoon	Red
		3rd. Platoon	Yellow
	Second Group (II Gruppe)	4th. Platoon	White
5th. Platoon		Red	
6th. Platoon		Yellow	
Third Group (III Gruppe)	7th. Platoon	White	
	8th. Platoon	Red	
	9th. Platoon	Yellow	
Fourth Group (IV Gruppe)	10th. Platoon	White	
	11th. Platoon	Red	
Fall: 1940	12th. Platoon	Yellow	

Within the platoon, each plane is identified with Arabic number (platoon color) in front of the Iron Cross. At first the platoon was formed with 12 planes, but since the middle of the war it was formed with 16 planes.

Other Markings

Propeller Spinner: During the early stage it was painted with the platoon color, but during the end of the war it was painted in black and white spiral.

Color Stripes: The German fighter which showed action in the Battle of Britain used various colors on the cowling and the wing tips. This was to identify the assigned unit on long distance high sea attackers. The identification was painted with water color, and it was repainted by the platoon for the specific day. Since the middle of the war the color stripes was painted on the tail to identify the war area.

White Stripe : North Africa, Mediterranean, Southern Russia

Yellow Stripe: Central Russia, Northern Russia, Scandinavia, English Channel, Home Defense Unit

However, in 1944 the yellow stripe for Home Defense Unit was replaced with red color or with red edge on the yellow stripe, and in the beginning of 1945 it was further changed to white stripe with blue edge.

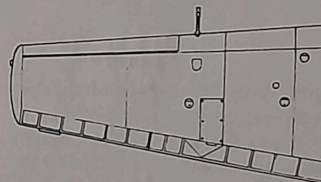
Unit Marking: The unit marking on the nose indicated the Air Corp, Group and Platoon. This was unofficial. Other than the unit marking, there are markings to identify the specific pilots.

Messerschmitt Me109 E Armament

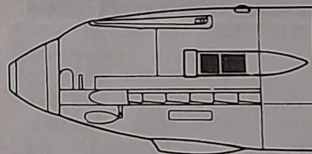
	Nose	Propeller Shaft	Main Wing	Engine
E - 1	MG - 17 7.9mm x 2		MG - FF 20mm x 2	DB601A 1,150Hp.
E - 3	MG - 17 7.9mm x 2	MG - FF 20mm x 1	MG - FF 20mm x 2	DB601A 1,150Hp.
E - 4	MG - 17 7.9mm x 2		MG - FF 20mm x 2	DB601A 1,150Hp.
E - 5 Observation Model	MG - 17 7.9mm x 2			DB601A 1,150Hp.
E - 6 Observation Model	MG - 17 7.9mm x 2			DB601N 1,200Hp.
E - 7 Long Distance Model	MG - 17 7.9mm x 2		MG - FF 20mm x 2	DB601N 1,200Hp.
E - 8	MG - 17 7.9mm x 2		MG - FF 20mm x 2	DB601E 1,200Hp.

Convertible Parts

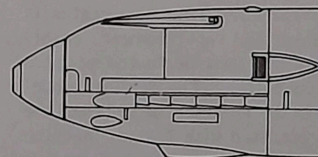
MG 17 (7.9mm Machine Gun)
E-1 (Early Model)



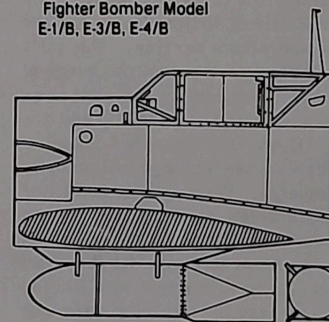
E-4/TROP Tropical Model



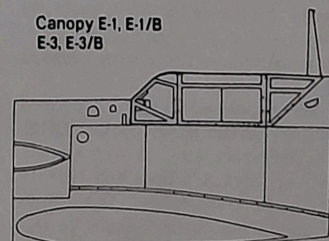
Spinner on Fighter Plane
Model E-1, E-3, E-4
(Including Bomber Model)



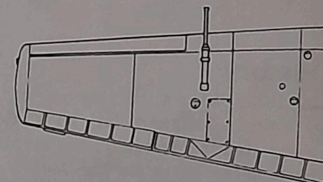
Fighter Bomber Model
E-1/B, E-3/B, E-4/B



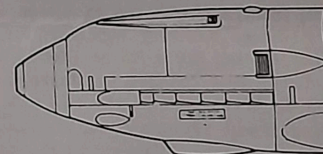
Canopy E-1, E-1/B
E-3, E-3/B



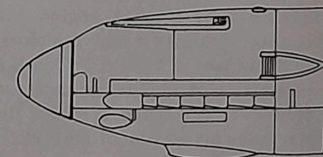
MGFF(20mm Automatic Cannon)
Other models except E-5, E-6.



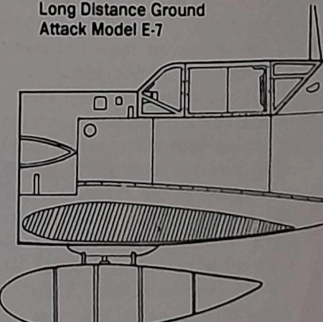
Other models except E-4/TROP.



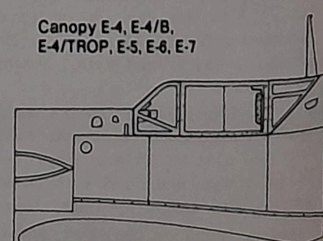
Spinner on Observation
Plane Model E-5, E-6, E-7



Long Distance Ground
Attack Model E-7

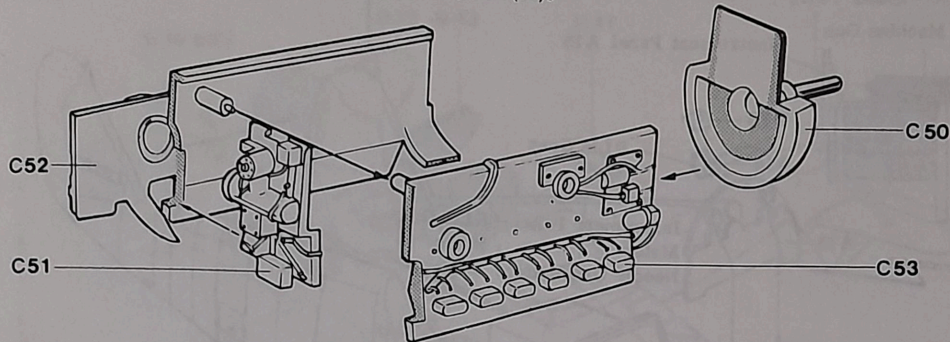


Canopy E-4, E-4/B,
E-4/TROP, E-5, E-6, E-7



1 Engine Assembly(1)

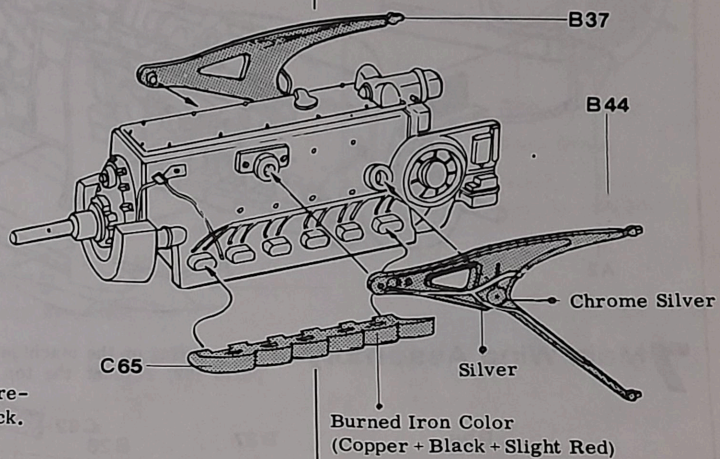
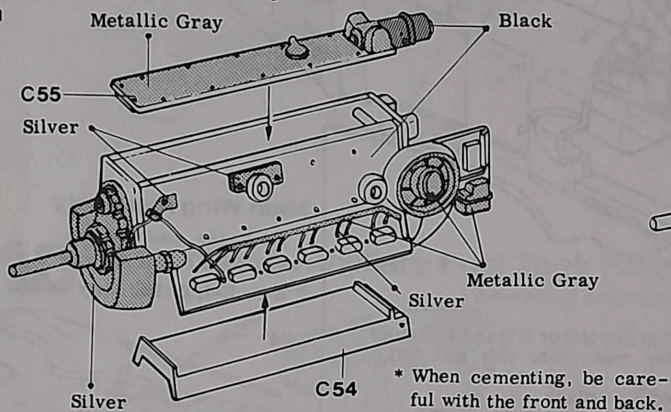
* After cementing (51) to (52), cement (53) and (50).



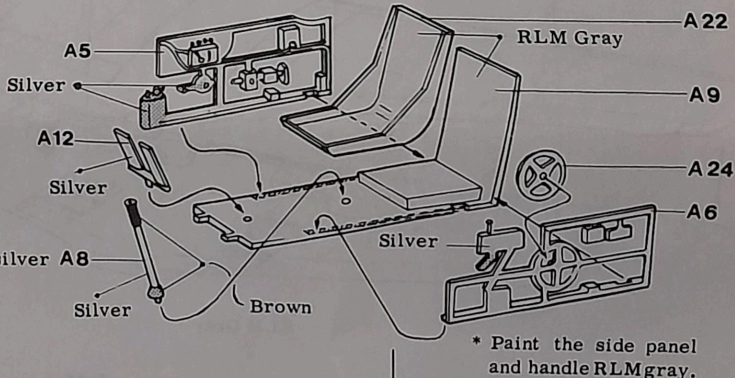
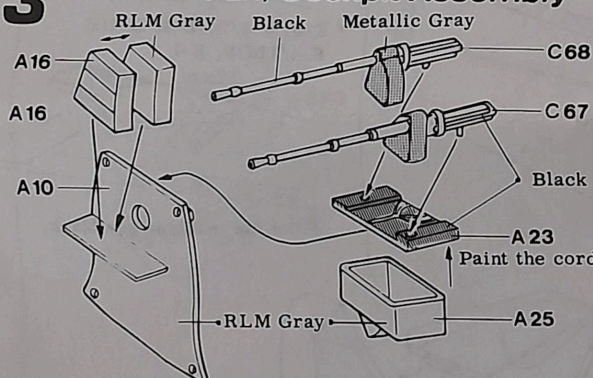
Before Assembling

- * Read full instructions first and assemble your kit following them.
- * Decide your model among the kit variations of E-1, E-1/B, E-3 E-3/B, E-4, E-4/B, E-5, E-6 and E-7.
- * Do not tear off parts from the stem, but cut them off carefully with nippers or tinsnips.
- * Unless instructed, use semi-gloss or mat finish paint for plastic.

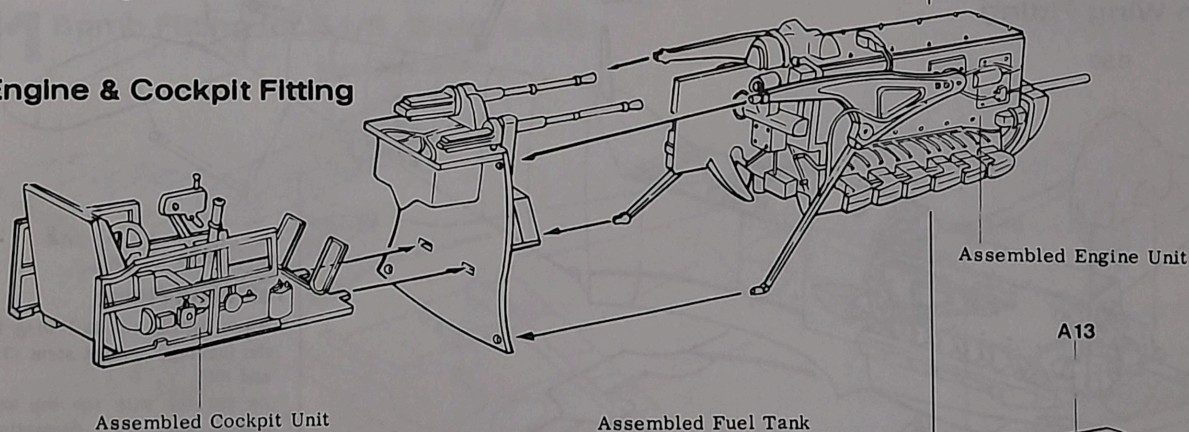
2 Engine Assembly (2)



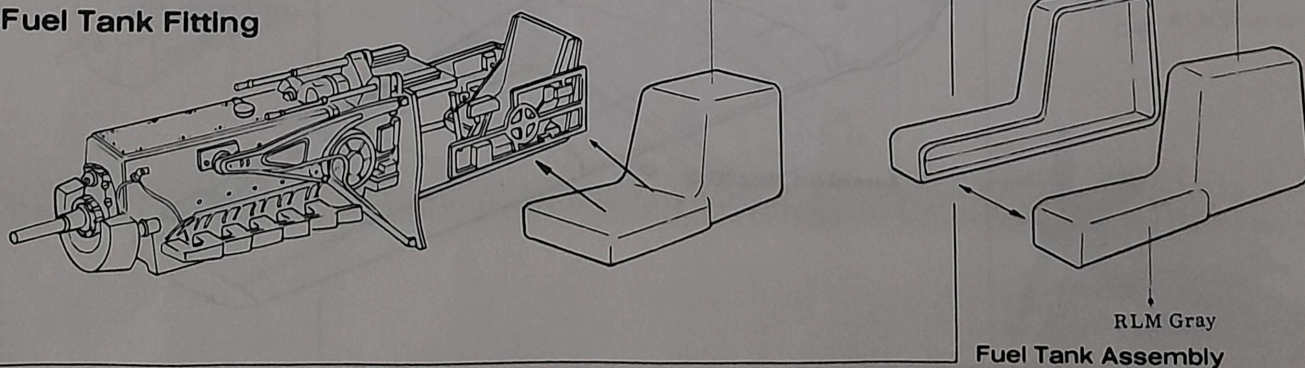
3 Machine Gun, Cockpit Assembly



4 Engine & Cockpit Fitting

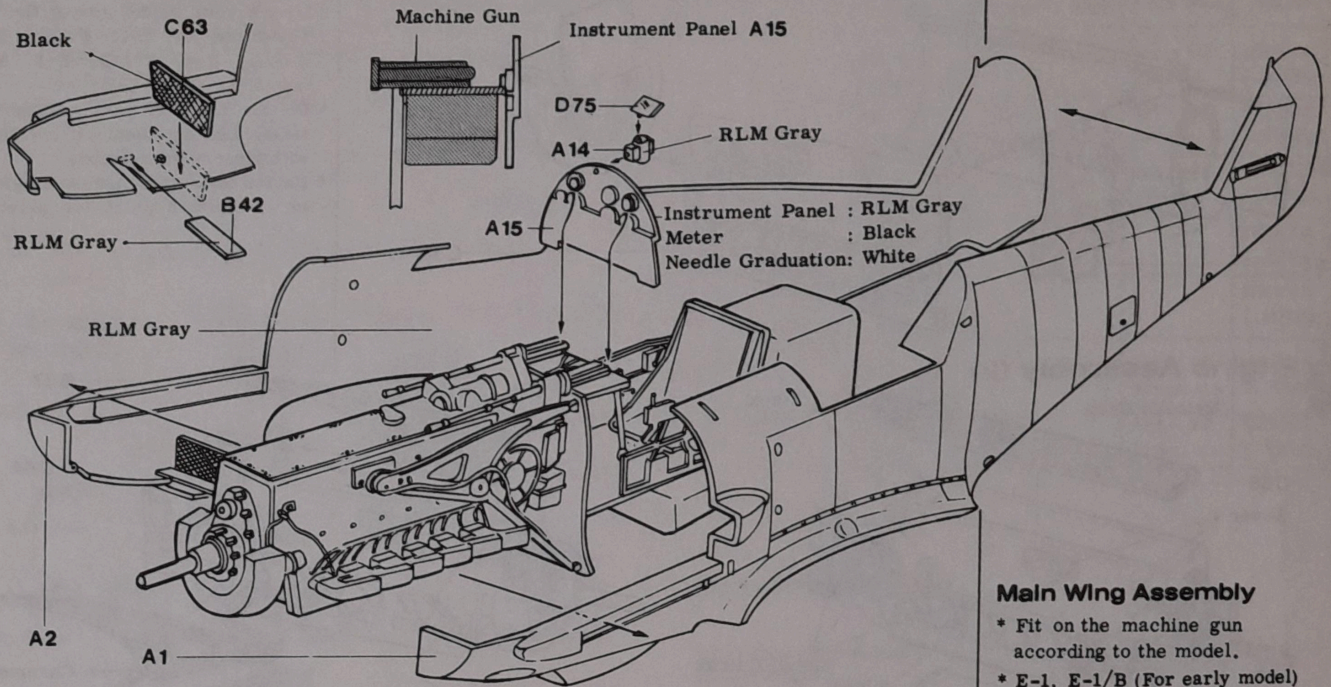


5 Fuel Tank Fitting



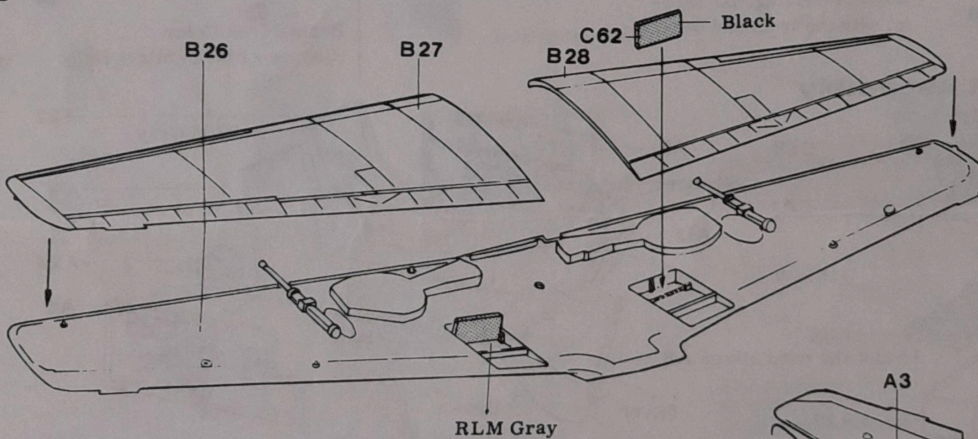
6 Fuselage Assembly

* Fit on the oil cooler parts (63) (42), assembled engine in 4 and instrument panel to the right fuselage and cement on the left fuselage.



7 Main Wing Assembly

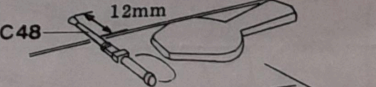
* After fitting on the machine gun (48) or (64) and radiator parts (62) cement the top main wing (27) and (28).



Main Wing Assembly

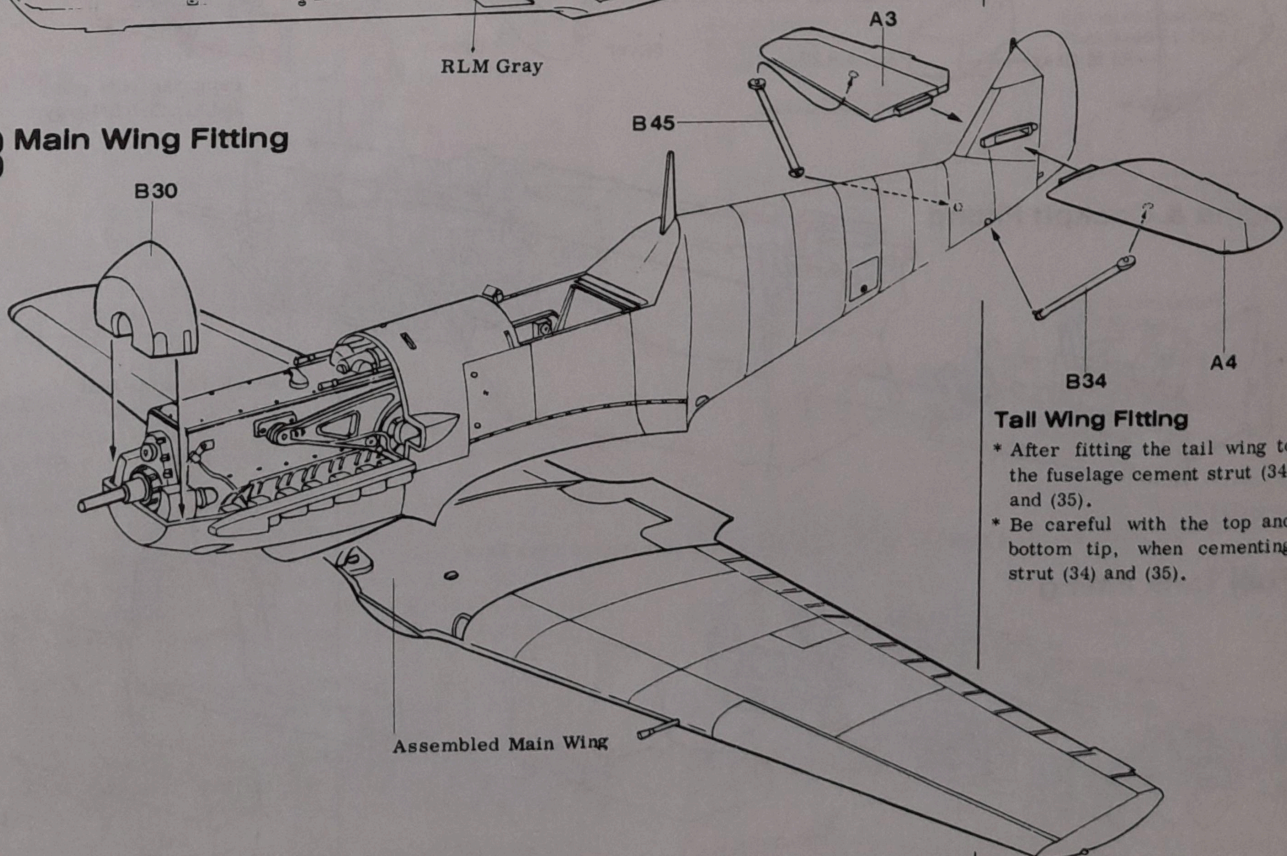
* Fit on the machine gun according to the model.
* E-1, E-1/B (For early model)

* E-3, E-3/B, E-4, E-4/B
E-4/TROP, E-7



Paint the machine gun black.

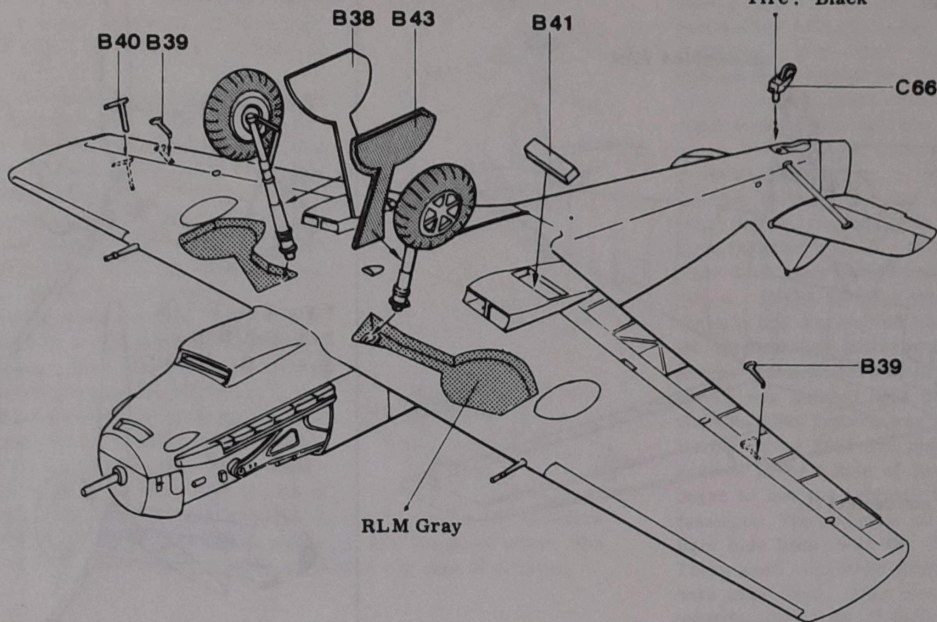
8 Main Wing Fitting



Tail Wing Fitting

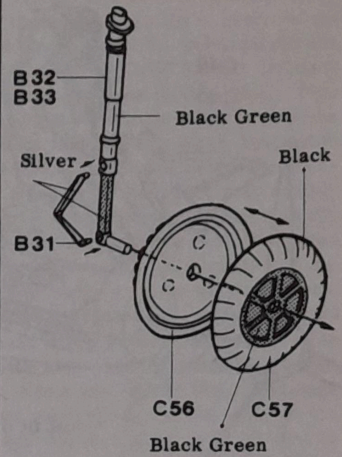
* After fitting the tail wing to the fuselage cement strut (34) and (35).
* Be careful with the top and bottom tip, when cementing strut (34) and (35).

9 Main Landing Wheel & Tail Wheel Fitting



Main Landing Wheel

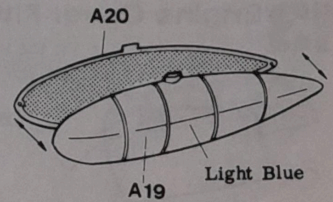
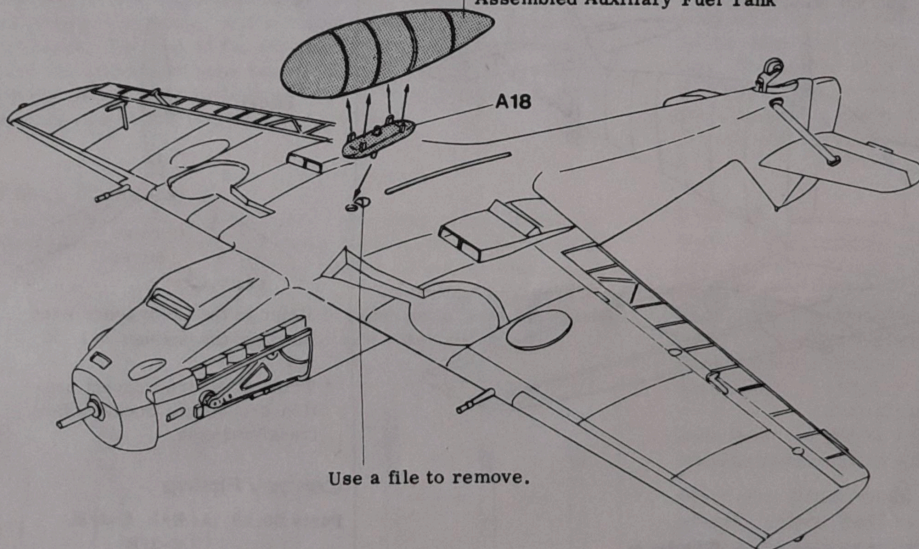
* Assemble 2 sets of main landing wheel.



* Cement the radiator flap (41) in either open or closed.

10 E-7 Outfitting Auxiliary Fuel Tank Fitting

Assembled Auxiliary Fuel Tank



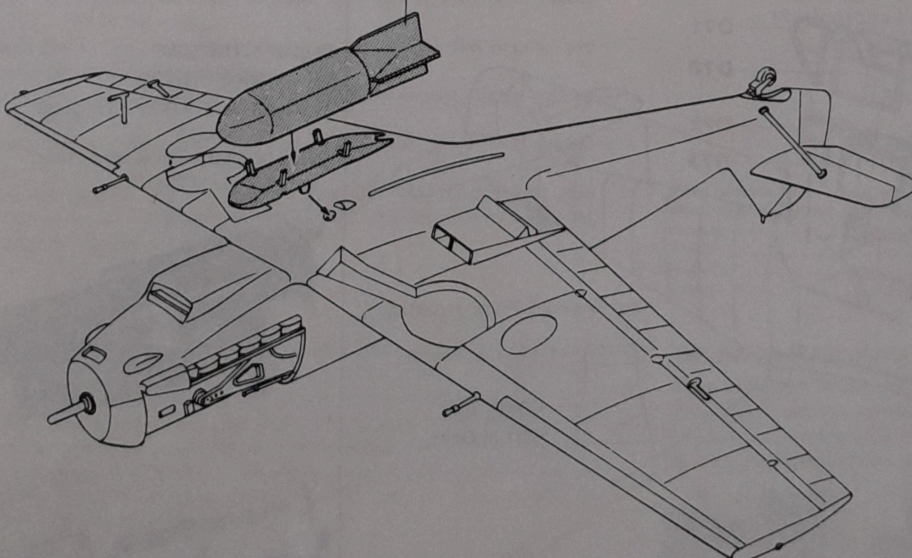
Auxiliary Fuel Tank Fitting

* When fitting the auxiliary fuel tank, use a file to remove the notch under the main wing.
* The auxiliary fuel tank is for only E-7 model.



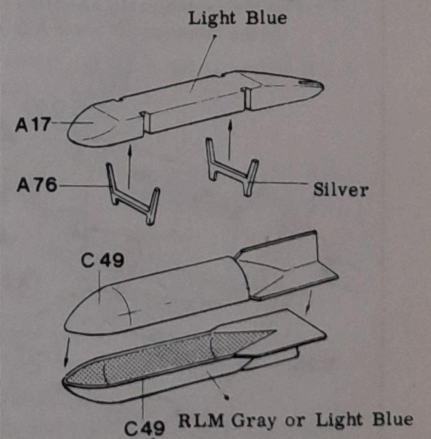
11 Bomb Fitting for E-1/B, E-3/B, E-4/B

Assembled Bomb



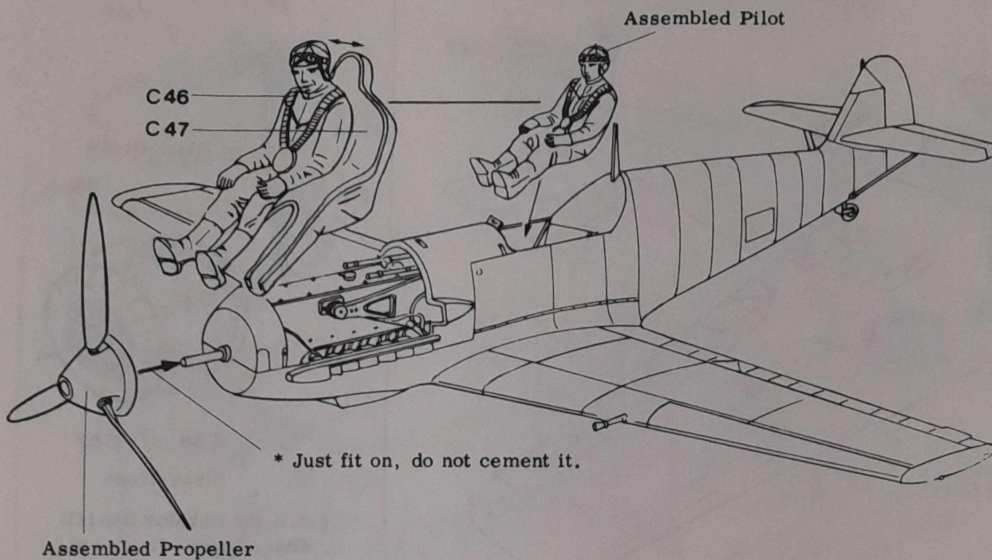
Bomb Fitting

* The bomb is for only E-1/B, E-3/B and E-4/B models.



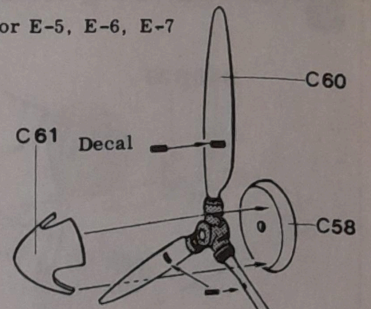
12 Propeller, Pilot Fitting

* Refer to page 7 for pilot painting.

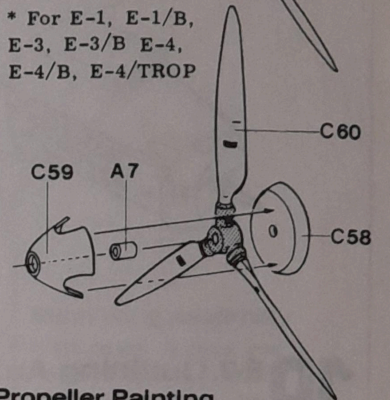


Propeller Assembly

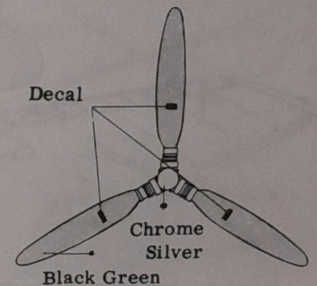
For E-5, E-6, E-7



* For E-1, E-1/B, E-3, E-3/B E-4, E-4/B, E-4/TROP



Propeller Painting



* Refer to the Color Guide when painting the spinner (61, 59, 58).

* Trim off the transparent section around the decal before transferring it.

Canopy Fitting

Parts 69, 70, 71: E-1, E-1/B, E-3/B

Parts 72, 73, 74: E-4, E-4/B, E-4/TROP
E-5, E-6, E-7

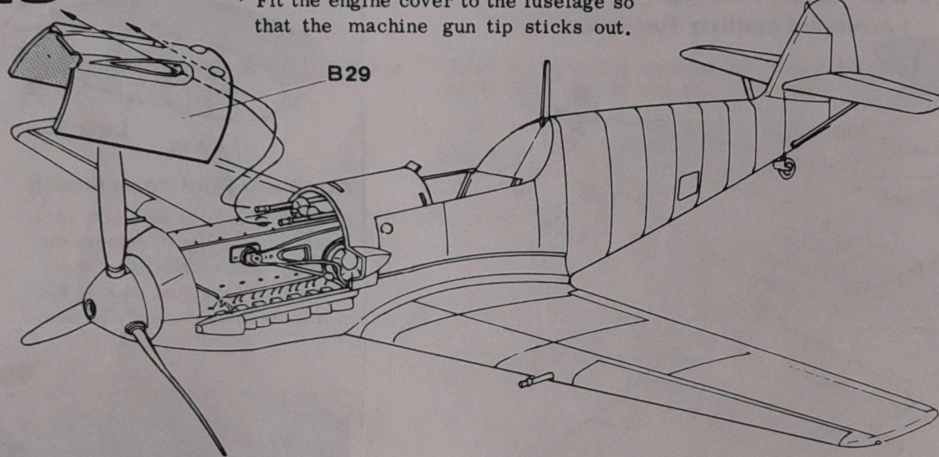
Super Charger Air Intake Fitting

Parts 35: E-4/TROP (Tropical Model)

Parts 36: All models other than E-4/TROP.

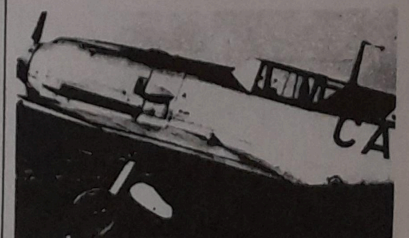
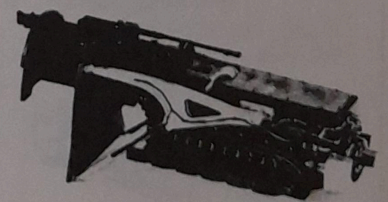
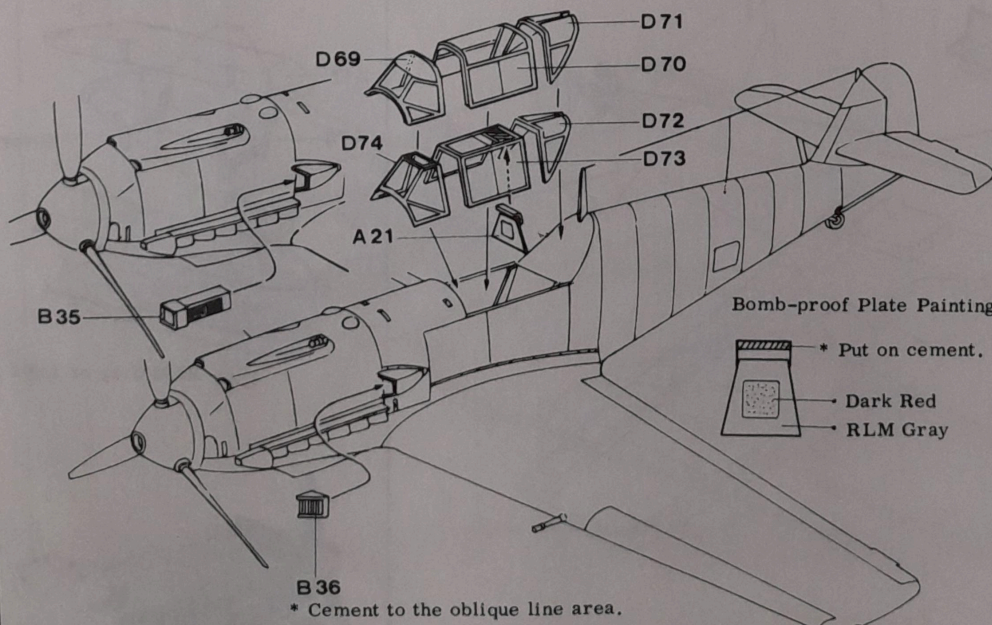
13 Engine Cover Fitting (Do not cement.)

* Fit the engine cover to the fuselage so that the machine gun tip sticks out.



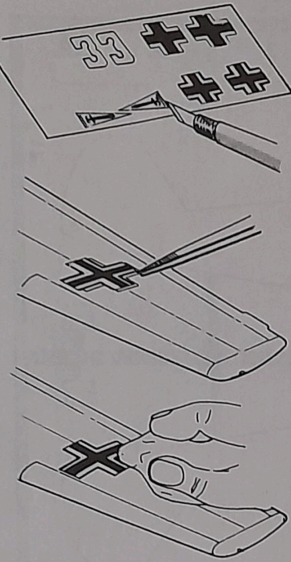
14 Canopy, Supercharger Air Intake Fitting

* Fit on the parts specified for the model. Fit the bomb-proof plate A21 only to part D73.



Method to Apply the Decals

- (1) Cut out the decal, to be used, from the card board and trim off the transparent side (not printed). (Refer to Drawing 1).
- (2) Dip the decal into a lukewarm water until the cardboard curls and then remove. Wait until the cardboard returns to its original flatness; then it is ready to be transferred.
- (3) Lightly press the edge of the decal with the finger and when it slides smoothly bring it to the surface of the model. (Refer to Drawing 2.)
- (4) Slightly move the decal until it protrudes about 2 - 3mm off the edge of the cardboard. Then place the decal on the prescribed place and lightly press it and remove the cardboard by sliding it off.
- (5) Press the decal with a soft cloth that absorbs water and remove the moisture around the decal. Make sure the decal is positioned correctly and press it firmly to remove the moisture underneath and so that it adheres on the model. The place where the decal is to be transferred must be cleaned of any dust or oiliness.

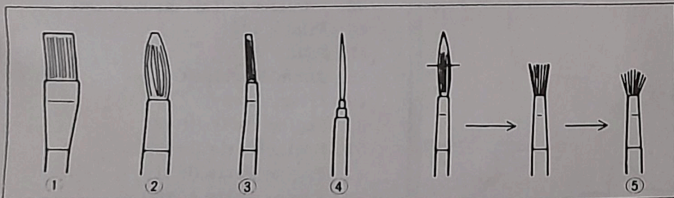


Painting

To beautify the model paint the parts. To paint the colors so that it appears fresh, the important thing is basic painting method and selecting the proper tools, and to repeatedly practice until you get the correct knack. The dust on the surface of the model must be cleaned off, and the oiliness of your hand should be washed off. Also the cement that is protruded on the parts must be removed with a knife or a fine sandpaper so that the surface is smooth.

Painting Tools

Use a water color painting brush whose tip is soft. Wide and narrow brushes of various sizes should be ready for use, varying to the sizes of the parts. To dissolve or mix the paints, use a jar with a wide mouth. To clean the brushes have the lacquer thinner ready; after painting, to preserve the brush, remove the paint from the brush with the lacquer thinner and then wash it with water and dry it.



- (1) Flat Brush: Use to paint wide and flat surfaces. A soft tip water color brush should be ready on hand and the tip thickness should be 1/2 - 1/3 of the width.
- (2) Round Brush: To paint small parts. Same as the flat brush, use a round brush for water color painting.
- (3) Narrow Brush: To paint the lines around the canopy frame and on the fuselage.
- (4) Profile Brush: To paint the pilot's face, fine paint work on the suit.
- (5) Scramble Brush: Cut off the tip of an old and used brush, and lightly burn it. Lightly tap the brush with just a small amount of paint on the tip.

Painting Small Parts

Since the small parts cannot be completely painted while it is on the stem, remove it from the stem before painting. Corrects the parts, with a file or knife, removing the burrs, lines created by the metal moulding, and places where the level is different, and then paint it. To paint the propeller, wheels and parts which has holes, insert a toothpick through it and paint. To set it to dry stick the toothpick tip into a putty-like base. For parts without holes, use a clip to stabilize the parts and then paint it.

Paint

There are lacquer paint (different from the regular lacquer) that will not dissolve the plastic and enamel paint. Lacquer paint will dry fast. The painting should be done so that it leaves no brush marks. On the otherhand enamel paint dries slowly and does not leave any brush marks.

Painting Colors on German Planes

During World War II the painting colors on German military planes was teemed with variation, compared to the military planes of other countries. There were many planes painted in diversified colors besides the standard colors. The standard colors and basic painting on the Me109E, when the great war started, was black green on the upper surface and light blue on the lower surface. Subsequently the upper surface was camouflaged to splinter type pattern in black green and dark green ... with the lower surface in light blue. This splinter type pattern was standardized during the early part of the war, but was repainted in the front line accordingly to distinguish from the other planes. Other than the combination used for camouflage there were planes using the black green and RLM gray combination. In the splinter type pattern for camouflage, there is the straight line and curved line type, but the majority of Me109E used the straight line pattern. During the campaign in France, at the border of the western front the lower surface on the sit down tactic planes was painted light blue and spread over to the fuselage and rudder. This pattern was continued after French campaign and in November of 1940 the planes with this type of painting showed service in the Battle of Britian. From the end of 1940, Germany began to use its original ink spot camouflage on the side of the fuselage. The authentic camouflage was dark gray spots painted on light blue base, with the top and bottom border being scrubbed. There were also other planes camouflaged with dark green spots on dark gray base. This type of painting was adopted as a standard painting pattern on all fighter planes until April of 1941. Other than this the planes were painted with water color at the front line, accordingly to the area, weather and season. Besides this, with the exception of the tropical painting pattern on the planes which was assigned in the Mediterranean area, the fuselage and upper surface on the wing was painted sandy brown and the lower surface light blue. During the early stage of the great war each unit painted the planes to the taste of its pilot and service crew, with variation of camouflage painted on the ink spot pattern.

Colors

- Black Green : (Black + Green) Schwarz-Grün
- Dark Green : (Green + Brown + Black + Yellow) Dunkel-Grün
- Light Blue : (White + Dark Blue + Yellow + Slight Black) Hell-Grau
- RLM Gray : (Yellow + Green + White + Slight Black) RLM Grau
In England Greenish Gray is called Light Olive Green.
- Sandy Brown : (Yellow + White + Brown + Slight Black) Gelb 79
- Light Gray : (White + Black + Yellow + Blue) The brightness is almost the same as Light Blue ... Grau 76.
- Dark Gray : (White + Black + Yellow) Grau 74
- Metallic Gray : (Silver + White + Black + Clear) Used on metal parts.

Other than listed above, it will be convenient to have on hand the primary colors (red, yellow, blue, green), white, black, silver, copper and chrome silver colors. Use semi-gloss or mat finish paints.

Detail Painting



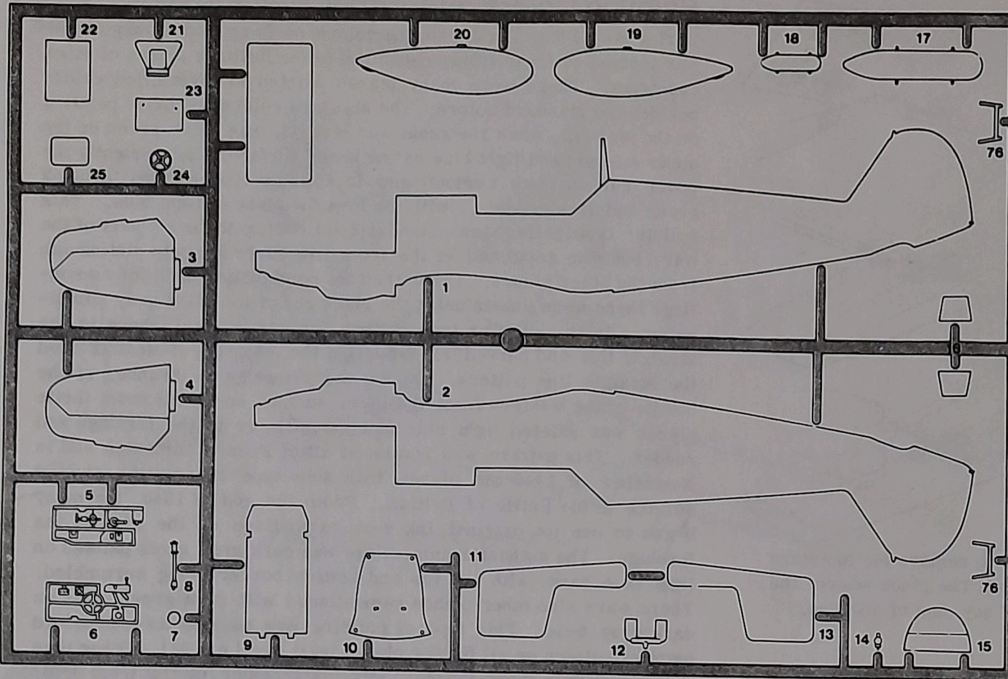
- Plane Interior, Instrument Panel, Seat RLM Gray
- Wheel Housing, Wheel Cover Inner Side RLM Gray
- Landing Gear Unpainted Silver, Black Green or RLM Gray
- Wheel Dark Gray (wheel), Black (tire)
- Propeller Black Green
- Exhaust Pipe Burnt Iron (copper + black + slight red)

Ink Spot Painting Method

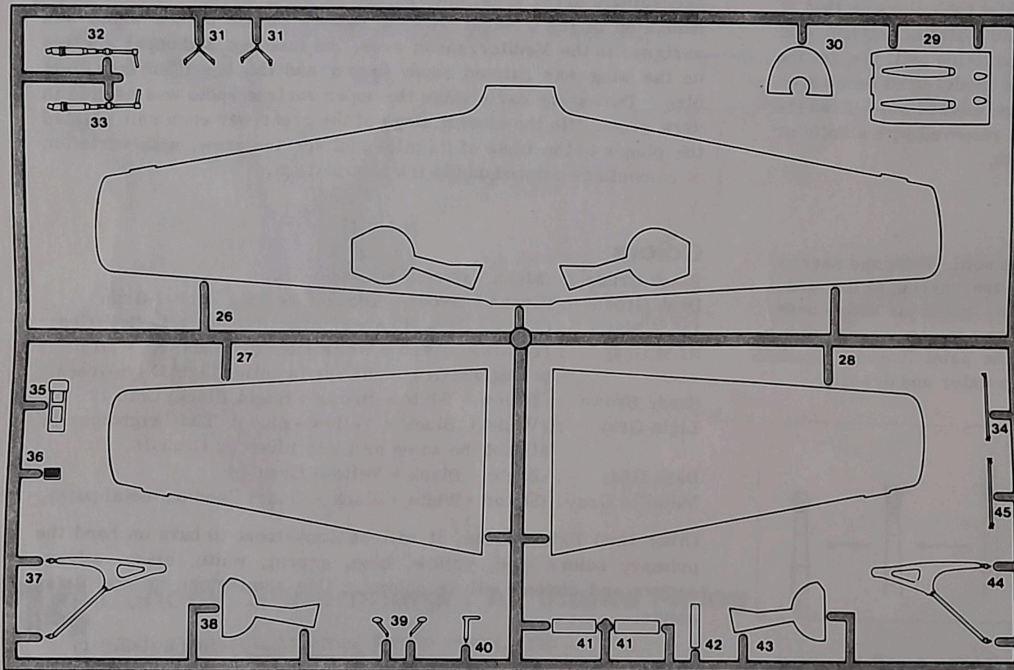
When using the brush, use the scramble brush with moderate amount of paint and dab the model surface for spots. Or coat the base with lacquer and on top of it with enamel thinner. Before it dries spot the surface with enamel paint.



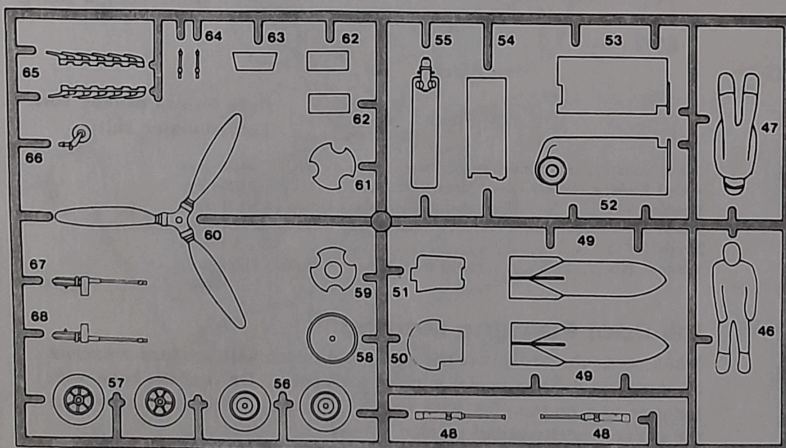
A Parts



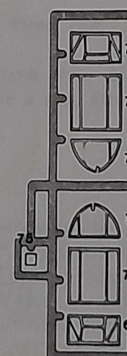
B Parts



C Parts



D Parts



Parts

1. Fuselage (left)
2. Fuselage (right)
3. Horizontal Tail (right)
4. Horizontal Tail (left)
5. Side Panel (right)
6. Side Panel (left)
7. 20mm Machine Gun Muzzle
8. Control Stick
9. Cockpit Floor
10. Bulkhead
11. Fuel Tank (right)
12. Fuel Tank (left)
13. Foot Pedal
14. Bomb Sight
15. Instrument Panel
16. Magazine
17. Bomb Rack
18. Auxiliary Fuel Tank Rack
19. 250 Litre Auxiliary Fuel Tank (right)
20. 250 Litre Auxiliary Fuel Tank (left)
21. Bomb-proof Plate
22. Seat
23. 7.9mm Machine Gun Carriage
24. Trim Tab Adjust Handle
25. Oil Tank
26. Main Wing Bottom
27. Main Wing Top (left)
28. Main Wing Top (right)
29. Engine Cover
30. Cowling Parts
31. Torque Link
32. Main Strut
33. Main Strut
34. Horizontal Tail Strut (left)
35. Sand Filter (tropical)
36. Supercharger Air Intake
37. Engine Mount (right)
38. Main Wheel Door (left)
39. Mass Balance
40. Pitot Tube
41. Radiator Flap
42. Oil Cooler Parts
43. Main Wheel Door (right)
44. Engine Mount (left)
45. Horizontal Tail Strut (right)
46. Pilot
47. Pilot
48. 20mm Machine Gun
49. 250kg. Bomb
50. Engine Parts (front)
51. Engine Parts (back)
52. Engine Parts (left)
53. Engine Parts (right)
54. Engine Parts (bottom)
55. Engine Parts (top)
56. Main Wheel (outer)
57. Main Wheel (inner)
58. Spinner Parts
59. Spinner (for fighter)
60. Propeller
61. Spinner (for scout plane)
62. Radiator Parts
63. Oil Cooler Parts
64. 7.9mm Machine Gun
65. Exhaust Pipe
66. Tail Wheel
67. 7.9mm Machine Gun (left)
68. 7.9mm Machine Gun (right)
69. Front Canopy (E-1, E-3)
70. Center Canopy (E-1, E-3)
71. Back Canopy (E-1, E-3)
72. Back Canopy (E-4, E-7)
73. Center Canopy (E-4, E-7)
74. Front Canopy (E-4, E-7)
75. Bomb Sight Parts

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