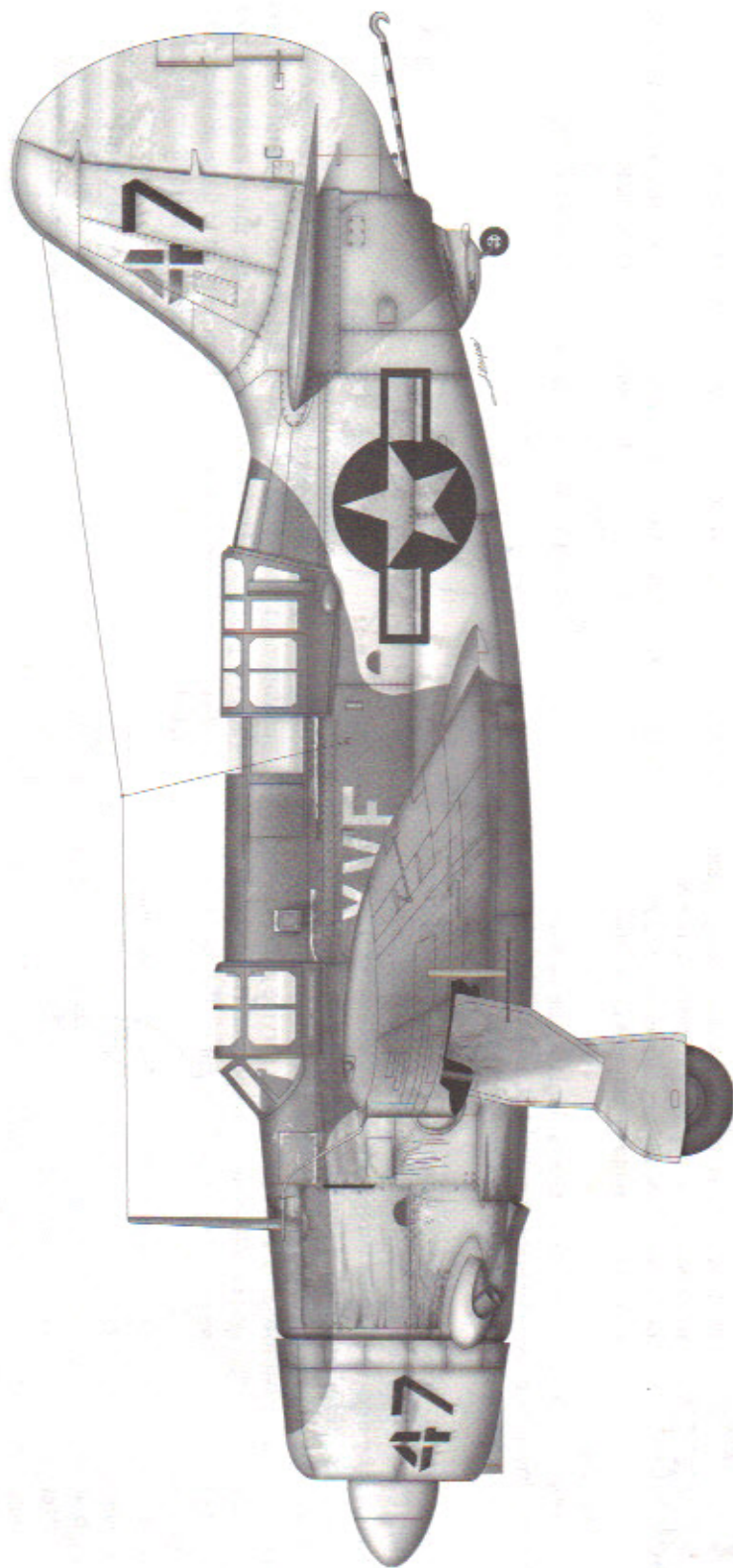


480406

SB2C-4 HELLDIVER



ACCURATE
MINIATURES



480406 SB2C-4 HELLDIVER

The development of what would become the last dive-bomber to be placed into operational service by the United States Navy began in response to a request for proposals issued in August 1938. Six aircraft manufacturers responded to this request, and the Curtiss XSB2C

design was selected for production.

To carry on a tradition begun by an earlier Curtiss biplane, the new dive-bomber was named Helldiver. Because of its large vertical tail, its handling characteristics and its big, heavy design, it was affectionately known as "the big-tailed beast" or simply "the beast."

The Helldiver entered combat on 11 November, when VB-17 launched from the USS Bunker Hill (CV-17) on a raid against Rabaul. The Beast had replaced the venerable SBD Dauntless by mid-1944 as the Navy's primary dive-bomber. The Marine Corps also started to operate Helldivers from a few land bases.

Helldivers participated in every major Naval action in the Pacific from 11 November 1943 until the end of World War II, and continued in service with the Navy until 1949. France, Italy, Greece, Portugal and Thailand also operated Helldivers in the post war years. The Helldiver's last combat was in Indo-China during the mid-1950s at the hands of French pilots.

The SB2C-4 was the penultimate Helldiver, and produced in greater numbers than any other iteration of the type. It was powered by a Wright R-2600-20 radial engine, which produced 1900 horsepower at takeoff. The SB2C-4 was also fit with perforated dive flaps, which had been introduced late in the production run of the SB2C-3. This feature greatly improved performance and handling characteristics during dives on the target.

This kit comes with decal options for several Helldivers. The Atlantic ASW II scheme of gray and white was a rare feature on Helldivers, but photo evidence does show several examples of Helldivers in wearing these colors, flying out of NAS Atlantic City, New Jersey.

Markings for two planes from VMSB 244, "The Bombing Banshees," are also included. VMSB-244 was the first Marine Corps squadron to take Helldivers into action during World War II when they attacked Cabaguio, Mindanao on 2 June 1945. Complete painting and finishing instructions are provided on the Accurate Miniatures web site, <http://www.accurate-miniatures.com>.

We have also included quite a few extra decals for Bureau Numbers. Our research was inconclusive on which plane used which BuNo, so we threw in a bunch of them in the event that your research proves more fruitful than ours.

Collins-Habovick LLC wishes to thank the following individuals for their help in the preparation of this kit:

Ian Holahan, Bill Hardy, Frank Collins, Don Greer

In order to help you paint your model correctly, we have provided a list of color recommendations. These colors are cross-referenced to the Federal Standard (FS) numbers wherever possible. Many model paint companies match their products to this system, and you may choose to match your favorite paint to these numbers. Your local hobby retailer may also be of assistance in helping you select the proper paint for this kit.

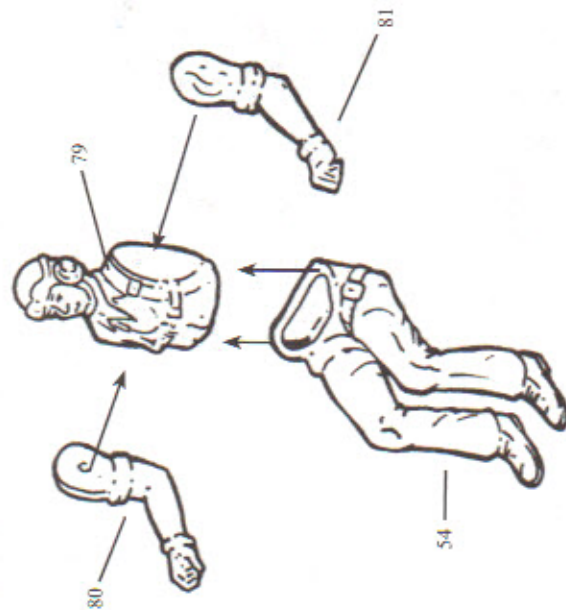
Model Paint Reference Chart*

FS/Color	Model Master Enamel	Floquil Poly S Acrylics	Tamiya Acrylics	Gunze Sangyo Acrylics	Vallejo Model Air	Revell Germany	Modelflex Acrylics
FS 17036 Flat Black	1749	10	XF1	H33	073	32108	16-119
FS 37875 Flat White	1768	11	XF2	H62	001	32105	16-120
FS 36231 Dark Gulf Gray	1740	505378	XF19	H317	N/A	N/A	16-83
FS 35164 Intermediate Blue	1720	500837	N/A	H337	N/A	N/A	N/A
FS 35044 Sea Blue	1719	500878	N/A	H326	N/A	N/A	16-34
Wood	1735	500828	N/A	N/A	077	32382	N/A
Aluminum	1781	01995	XF56	H8	062	32199	16-32
Gun Metal	1795	501992	XF10	H28	072	32191	N/A
Burnt Metal	1415	N/A	N/A	H61	N/A	N/A	N/A
Copper	1151	N/A	XF6	N/A	068	32193	N/A

*This chart is provided only as a reference to the modeler, and is the closest match possible from each paint manufacturer at the time of printing. Commonly used mixing colors will be necessary to fill in small details.

Step 1 Pilot Figure, Seat Belts

NOTE: A pilot figure is provided as an optional part to go in the forward cockpit of your model. Complete this step if you want to include this figure. If you elected not to use the pilot figure in your model, proceed with this step. If you are using the pilot figure, skip this step and proceed to step 3. Paint all parts prior to assembly.



- 1-1 Cement the pilot's legs (54) to the pilot's torso (79)
- 1-2 Cement the pilot's right arm (80) to the pilot's torso (79)
- 1-3 Cement the pilot's left arm (81) to the pilot's torso (79)
- 1-4 Refer to the drawing and remove the required parts from the sprue of etched metal parts.
- 1-5 Bend parts *12, *13 and *14 as illustrated in the drawing.
- 1-6 Use thin strips of paper to make the seatbelts and shoulder harnesses. Trim the paper so that it is just narrow enough to slip into the etched metal buckles.
- 1-7 Use water-based white glue to assemble the belts and harnesses, and to attach them to seat as shown in the drawing.

Painting Instructions:

Flight Suit: Khaki

Mae West: Yellow

Soft Helmet: Khaki

Parachute straps & harness: Light gray or off-white with silver buckles

Shoes & gloves: Dark Brown

Headphones: Black

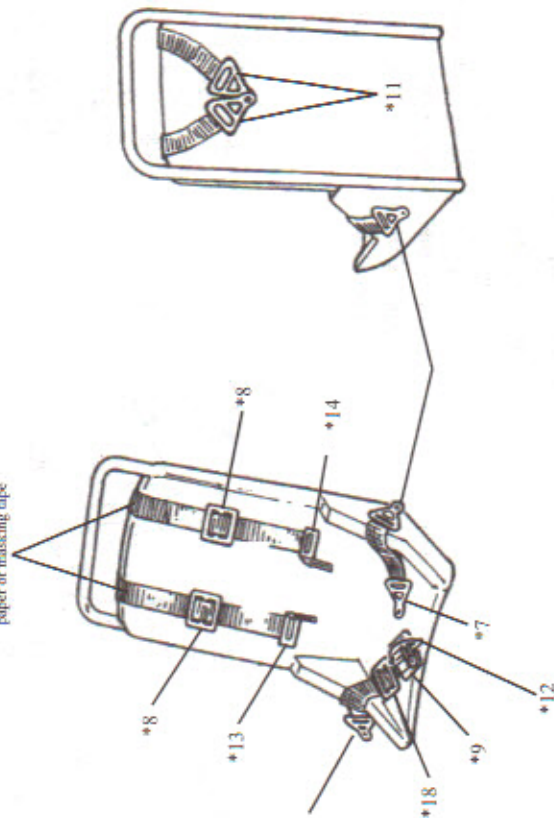
36-Chromatic Green

*9 Tan

Seatbelts and Shoulder Harnesses: Off-white or Light Gray

TIP: Use a drop of clear gloss or Future floor wax to simulate the clear goggles

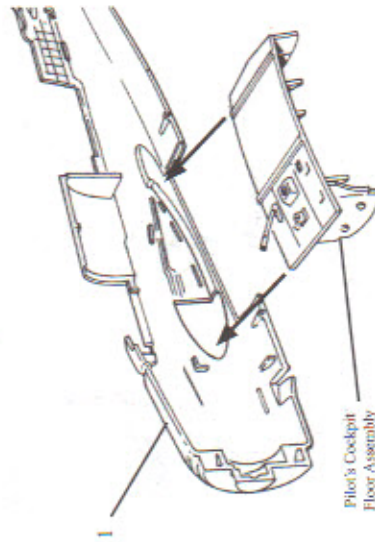
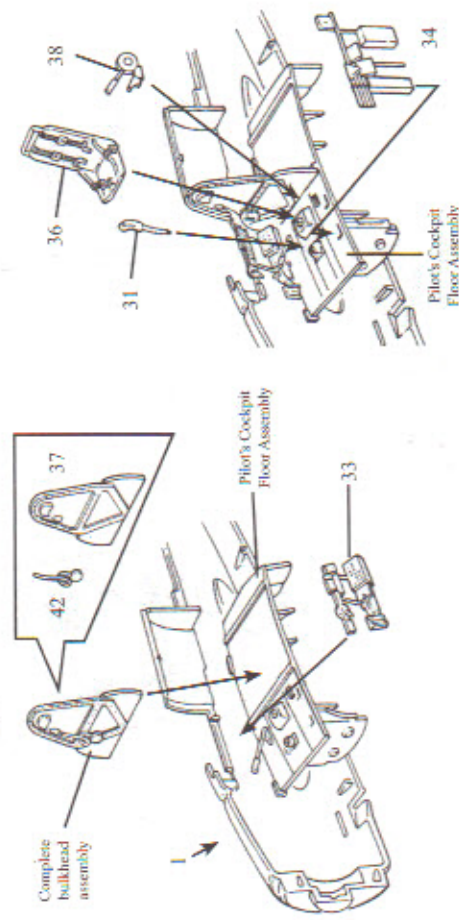
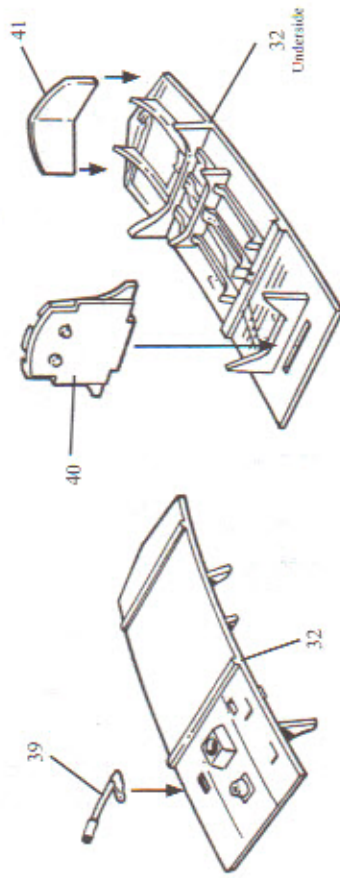
Make harnesses from strips of paper or masking tape



Step 2: Pilot's Cockpit Assembly

Painting Instructions:

- 1 (Inside) Chromate Green
- 32, 38, 40, and 41: Chromate Green
- 33, 34 Chromate Green Frame with Flat Black Boxes
- 31 Flat Black Handle, Chromate Green Stick
- 37 Chromate Green with Brown Head Rest
- 39 Chromate Green, with a White Handle and Red Tip
- 42 Flat Black



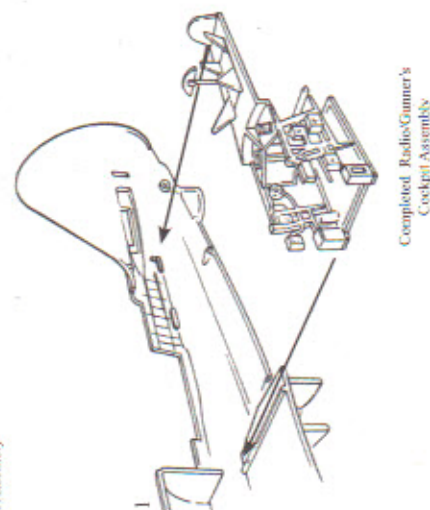
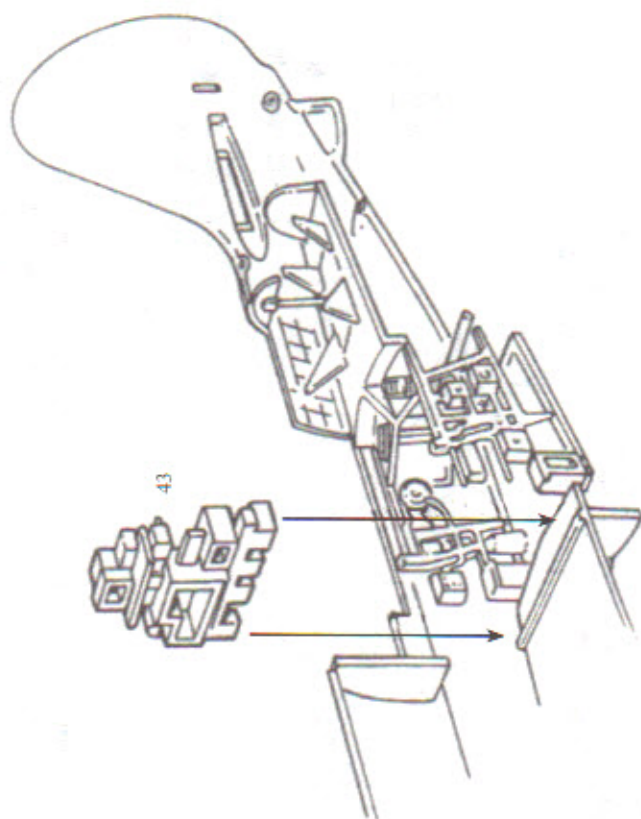
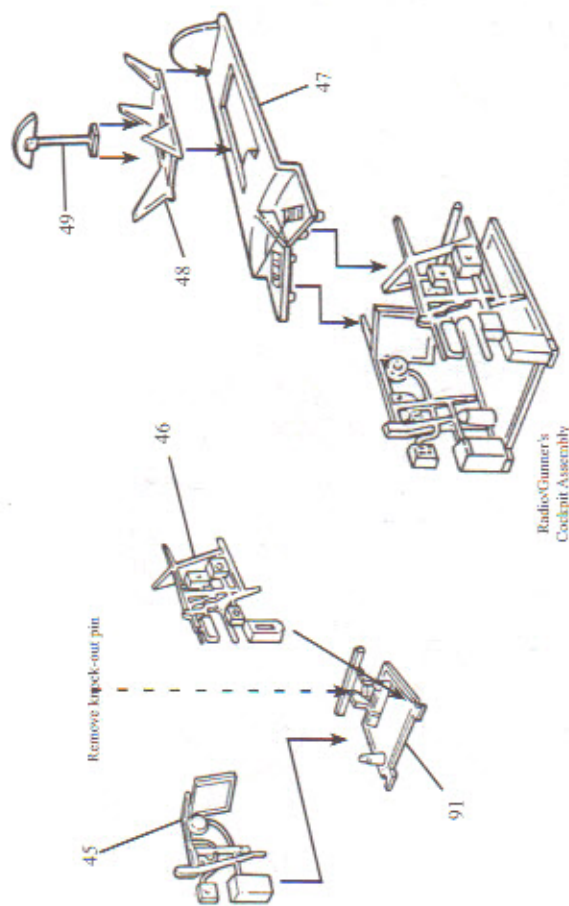
- 2-1 Cement the hydraulic Hand pump (39) to the Pilot's Cockpit Floor (32)
- 2-2 Cement the Forward Bomb Bay Bulkhead (40) to the Pilot's Cockpit Floor (32)
- 2-3 Cement the Aft Bomb Bay Bulkhead to the Pilot's Cockpit Floor (32)
- 2-4 Cement the Pilot's Cockpit Floor (32) to the Right Fuselage Half (1)
- 2-5 Cement the Oxygen Hose (42) to the Pilot's Bulkhead (37)
- 2-6 Cement the complete Bulkhead assembly to the Pilot's Cockpit Floor assembly and the Right Fuselage Half (1).

- 2-7 Cement the pilot's Right Side Details (33) to the cockpit floor and interior of the Right Fuselage Half (1) as illustrated in the drawing.
- 2-8 Cement the Pilot's Seat (36) to the Pilot's Cockpit Floor assembly.
- 2-9 Cement the Control Column (31) and the Arresting Gear Handle (38) TO the Pilot's Cockpit Floor assembly.
- 2-10 Cement the Pilot's Left Side Details (34) to the Pilot's Cockpit Floor assembly.

Step 3: Radio/Gunner's Cockpit

Painting Instructions:

1 (Inside) Chromate Green
45, 46, 48, 49, 91; Chromate Green
43; Flat Black



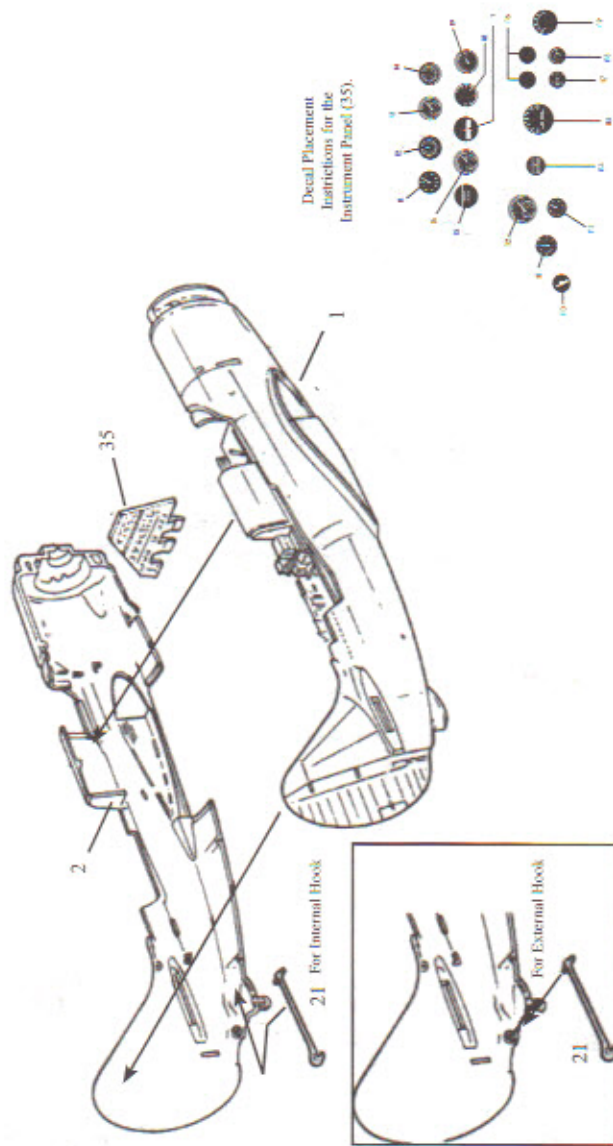
3-1
3-2
3-3
3-4
3-5
3-6
3-7

Remove the knock-out tab from the Observer's cockpit floor (91)
Cement the Right Observer's Cockpit Frame (45) to the Observer's cockpit floor (91)
Cement the Left Observer's Cockpit Frame (46) to the Observer's cockpit floor (91)
Cement the Turtleback Support (49) to the Turtleback Frame (48)
Cement the Turtleback Frame (48) to the Turtleback Decking (47)
Cement the Turtleback Frame (48) to the Observer's Cockpit Assembly
Cement the completed Observer's Cockpit Assembly to the inside of the Right Fuselage Half (1)

Step 4: Fuselage Assembly

Painting Instructions:

- 1, 2; (Inside) Chromate Green
- 89, 90; Chromate Green
- 35; Flat Black



- 4-1
- 4-2
- 4-3
- 4-4
- 4-5
- 4-6

Cement the Oil Cooler Front Panel (90) to the Oil Cooler Inner Box (89) as shown.

Cement the complete oil cooler in place inside the Right Fuselage Half (1).

Cement the Pilot's Instrument Panel (35) inside the Left Fuselage Half (2) as shown.

Determine whether you want to use an internal or external arresting hook, and attach the hook (21) to the Left Fuselage Half. Cement the hook in place for internally mounted applications, but do not cement for external hooks.

If you plan to use the pilot figure from Step 1, cement it to the Pilot's Seat (36) at this time.

Cement the fuselage halves together at this time.

Step 5: Engine Assembly

Painting Instructions:

*19; Steel

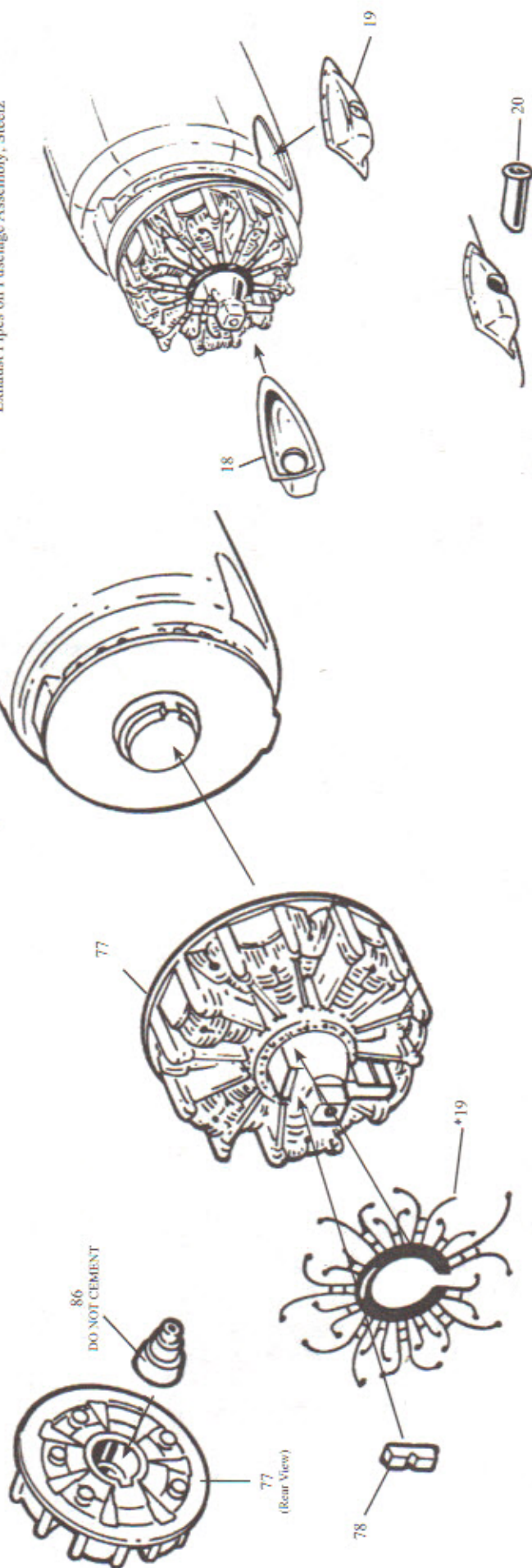
20; Steel

77; Steel Cylinders, Black Push Rods, Gray Crank Case,

78; Gray

Exhaust Pipes on Fuselage Assembly; Steel

Complete Fuselage
Assembly.

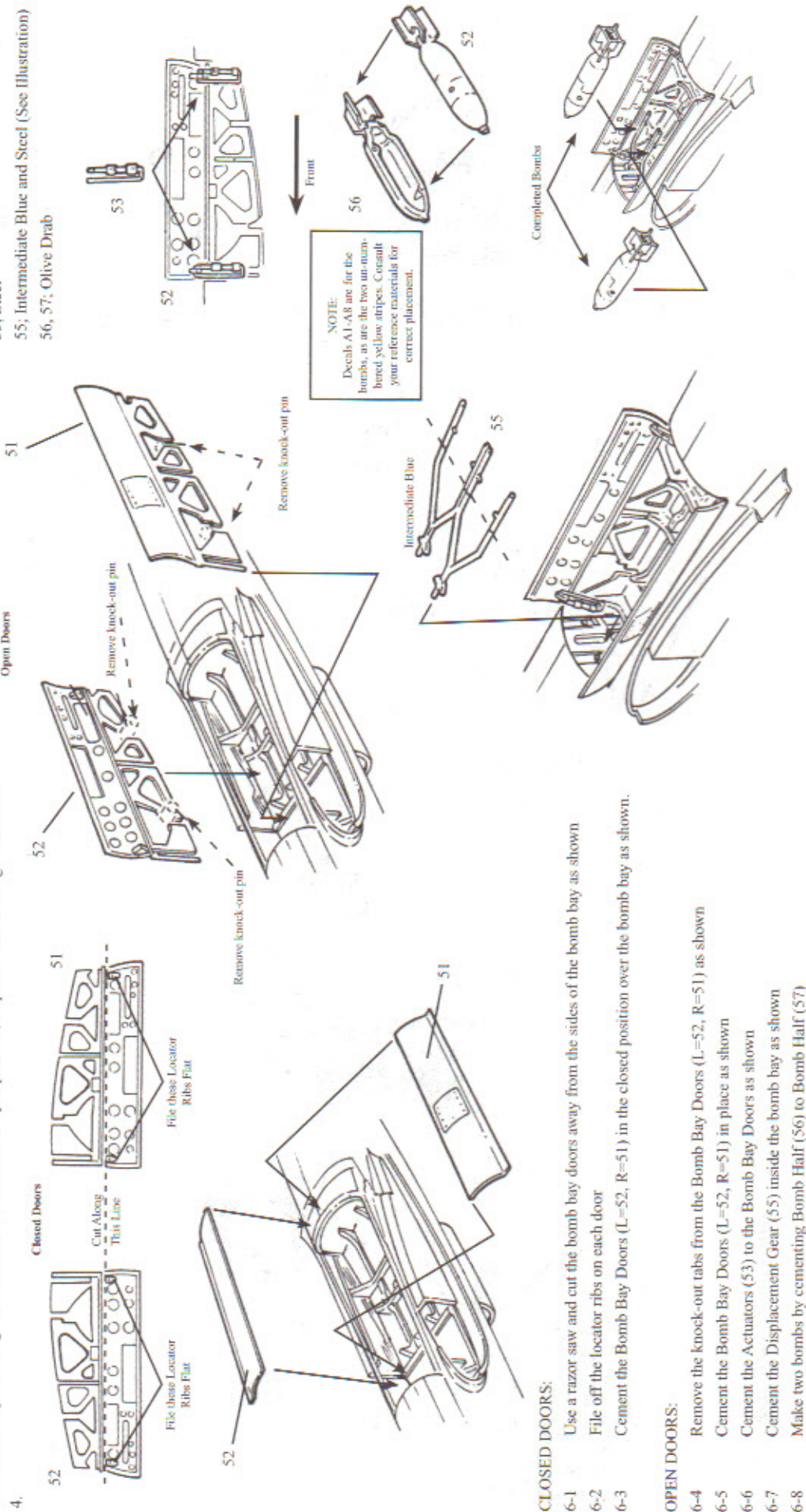


- 5-1 Push (DO NOT CEMENT) the propeller retainer (86) into the back of the Engine (77)
- 5-2 Cement the Engine (77) to the forward end of the fuselage. Be sure not to get any glue onto the Propeller Retainer (86)
- 5-3 Using water-based glue, carefully attach the Wiring Harness (*19) to the front of the Engine (77). Be sure to line up the location slot and gently push the end of each wire into place on each cylinder.

- 5-4 Cement the Carburetor Air Filter Control (78) to the front of the Engine (77)
- 5-5 Glue the Exhaust Fairings (R=18, L=19) to the sides of the Fuselage.
- 5-6 Cement an Exhaust Stub (20) inside of each Exhaust Fairing. Be sure the slanted ends of each Exhaust Stub fits flush against the side of the fuselage inside the Exhaust Fairing

Step 6: Bomb Bay Assembly

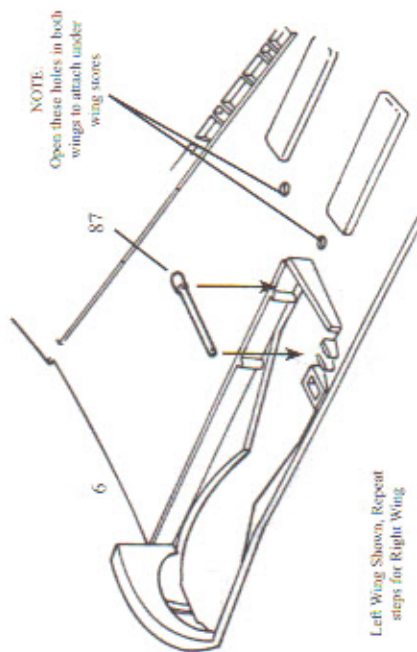
NOTE: You may build your model with the bomb bay doors open or closed. To build them in the closed position, follow steps 1 through 3 below. To build them in the open position, skip items 1-3 and begin with item 4.



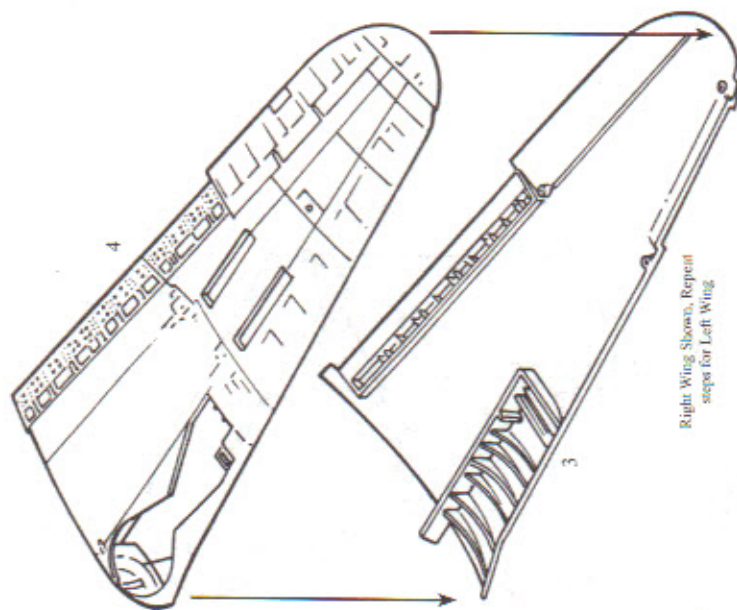
Step 7: Wing Assembly

Painting Instructions

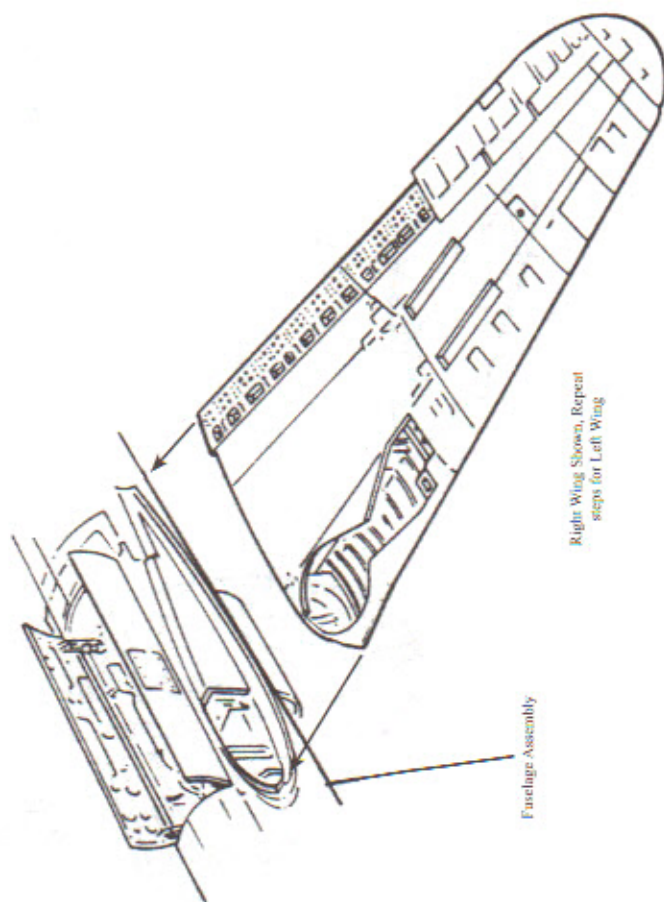
3, 5 (wheel wells); Chromate Green
87; Black



Left Wing Shown, Repeat
steps for Right Wing



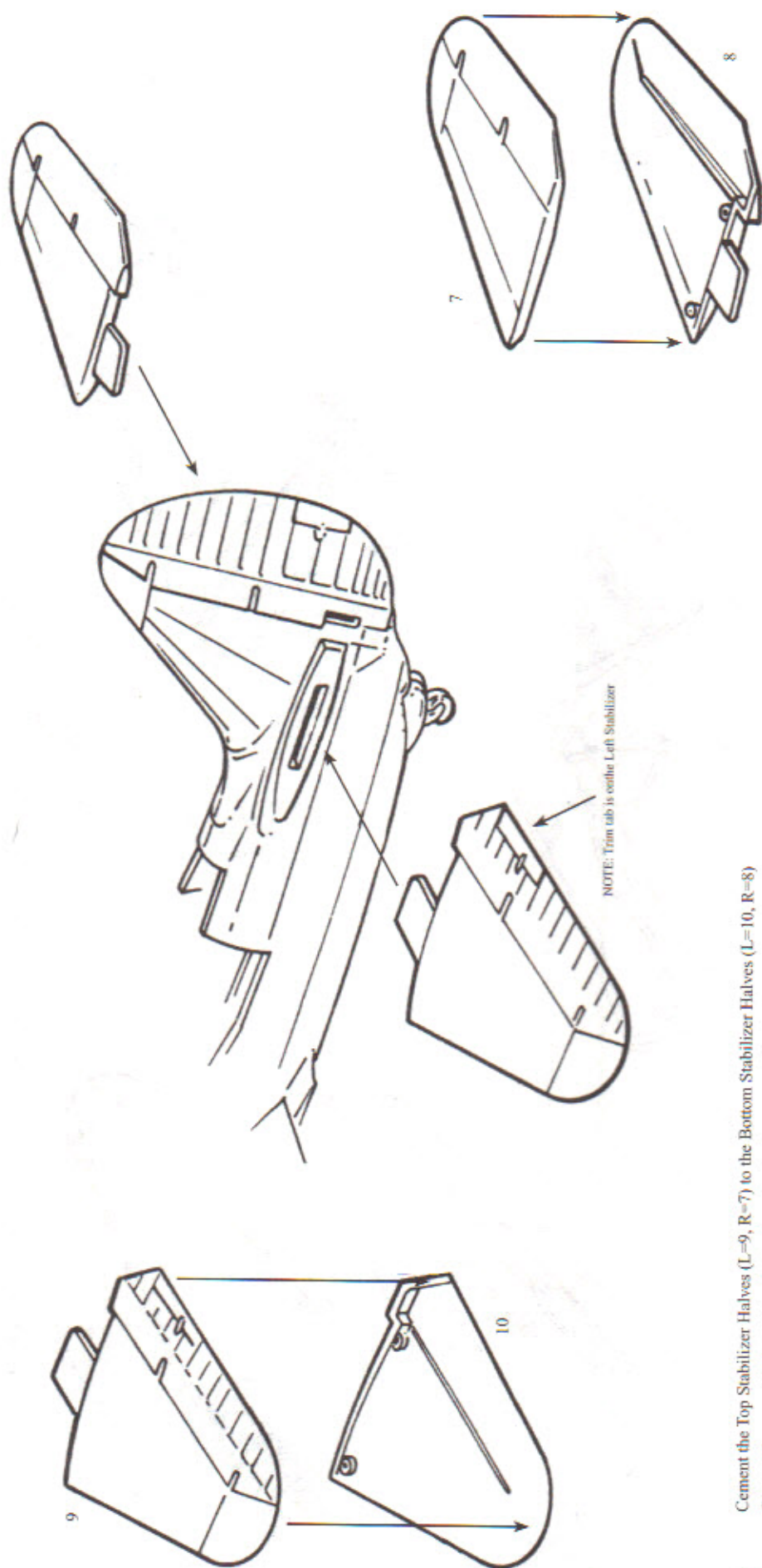
Right Wing Shown, Repeat
steps for Left Wing



Right Wing Shown, Repeat
steps for Left Wing

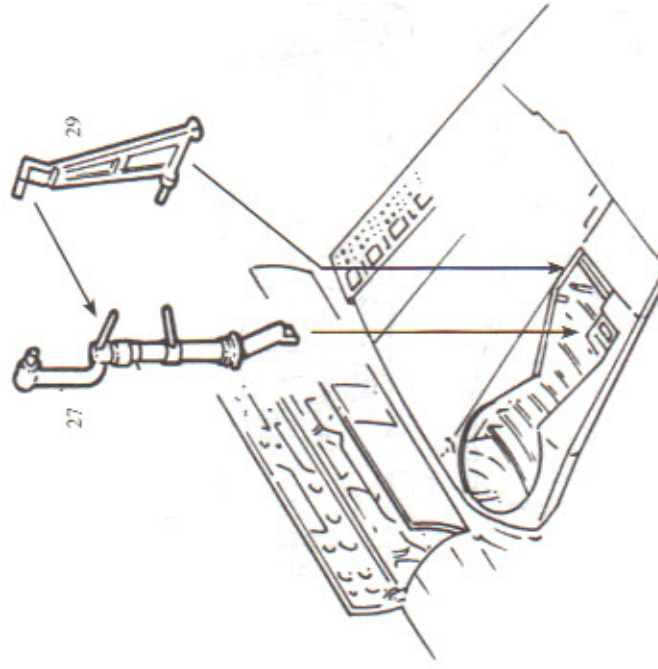
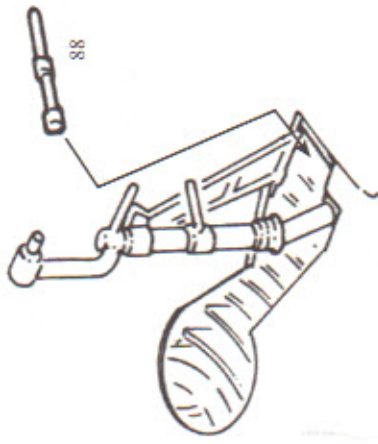
- 8-1 If you plan to use Bomb Racks (58; see step 11) on your model, open up the flashed-over holes in the Wing Bottom Halves (L=6, R=4)
- 8-2 Cement a Cannon Barrel (87) in place on Wing Bottom Halves (L=6, R=4)
- 8-3 Cement the Wing Top Halves (L=5, R=4) to the Wing Bottom Halves (L=6, R=4)
- 8-4 Cement the Wing assemblies to the Fuselage, carefully checking the alignment as you go.

Step 8: Tail Assembly

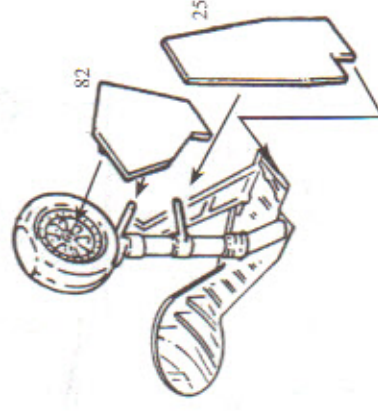
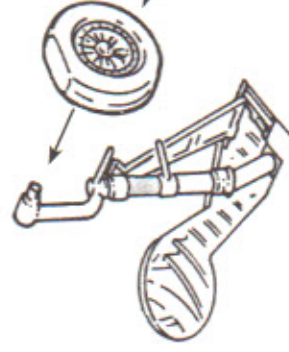
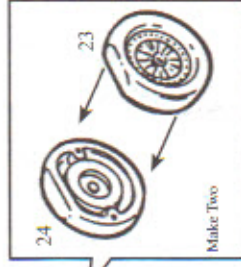


- 9-1 Cement the Top Stabilizer Halves (L=9, R=7) to the Bottom Stabilizer Halves (L=10, R=8)
- 9-2 Cement the completed stabilizer halves into the Fuselage, carefully checking the alignment as you go.

Step 9a: Main Landing Gear Extended



- 9-1 Cement the Right Main Gear Strut (27) to its sloe inside the right wheel well
- 9-2 Cement the right Main Drag Truss (29) in place as shown
- 9-3 Cement the gear Rod (88) in place as shown
- 9-4 Cement the Left Main Gear Strut (28) to its sloe inside the right wheel well
- 9-5 Cement the right Main Drag Truss (29) to the Left Main Gear Strut (28) and to the inside of the left gear well.
- 9-6 Cement the gear Rod (88) inside the left gear well



- 9-7 Make a pair of completed Main Gear Wheel by cementing a Main Wheel Outer Half (23) to a Main Wheel Inner Half (24).
- 9-8 Cement a completed Main Wheel assembly to each Main Landing Gear Strut. Be sure the flattened side of the wheel sits squarely on the surface
- 9-9 Cement the Lower Right Gear Door (82) to the right landing gear as shown.
- 9-10 Cement the Lower Left Gear Door (83) to the Left Landing Gear
- 9-11 Cement the Upper Gear Door (26) to the Left Landing Gear

Painting Instructions:

- 23, 24; Tires are black, Inner Wheels are Chromate Green,
- Outer Wheels are White
- 27, 28, 29, 30, 88; Chromate Green
- 25, 26, 82, 83 (Inside Surface); Chromate Green

Right Main Landing Gear Shows. Repeat steps for Left Main Landing Gear

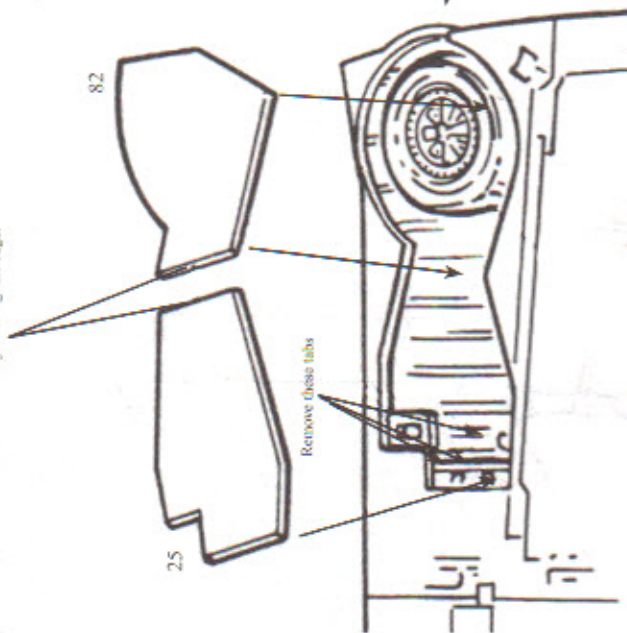
Step 9b: Main Landing Gear

Retracted

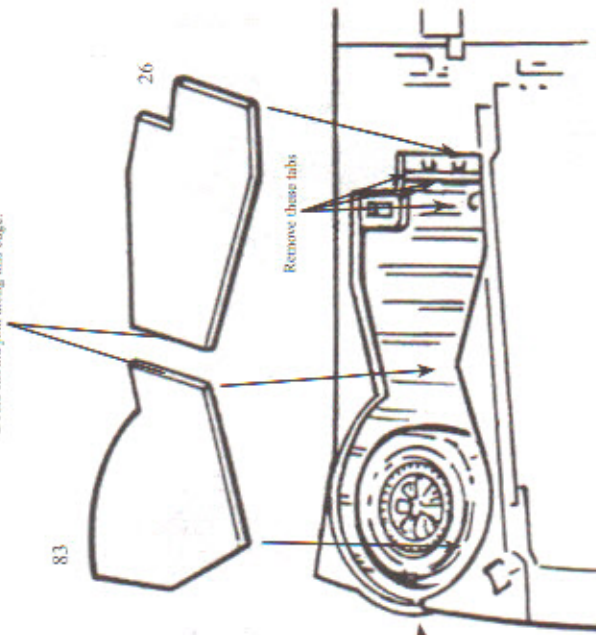
Painting Instructions:

23, 24; Tires are black. Inner Wheels are Chromate Green,
Outer Wheels are White
25, 26, 82, 83 (Inside Surface); Chromate Green

Doors should join along this edge.



Doors should join along this edge.



Complete Main Wheel Assembly
Be sure that the flattened part of the wheel is facing outboard so that it is covered by the main gear doors

9-12 If you desire to build your model with the landing gear in the retracted position, begin by removing the three tabs at the outboard end of each wheel as indicated in the drawings.

9-13 Make two Main Gear Wheels by following item 10-7 above

9-14 Cement the completed Main Gear Wheels into the Gear Wells as shown. Be sure that the flattened

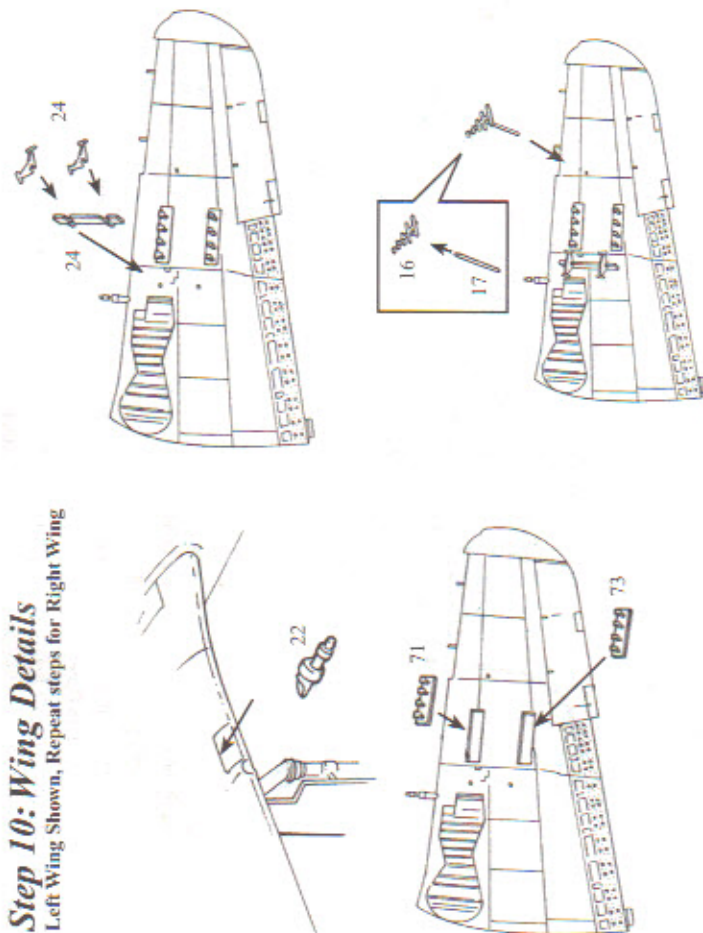
part of the tire is outboard so that it will be covered by the Main Gear Doors

9-15 Cement the Upper Gear Door (25) and the Lower Gear Door (82) over the right wheel as shown in the drawing. Be sure the doors join along the inside edges as indicated

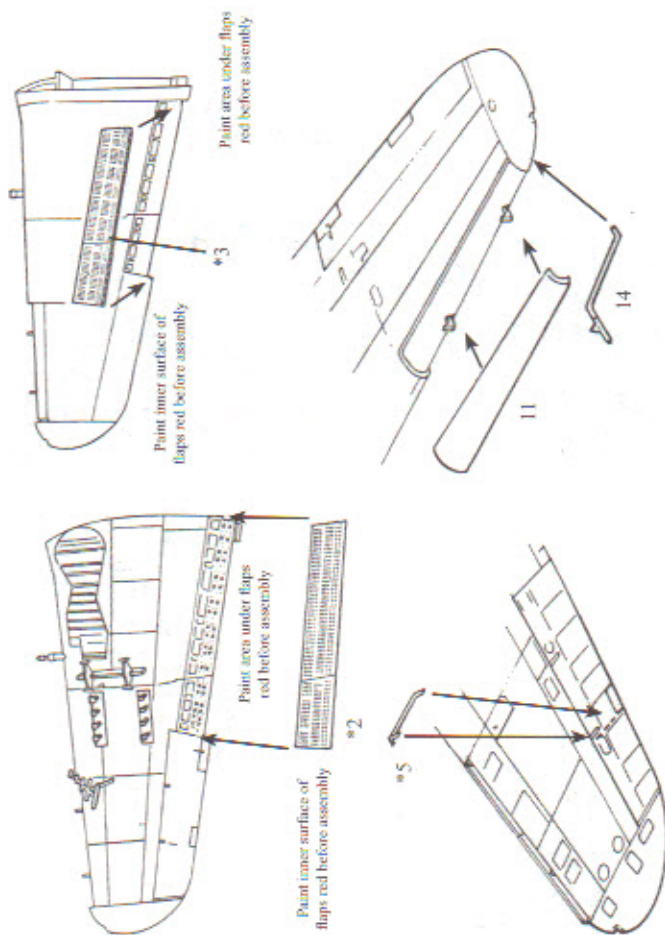
9-16 Cement the Upper Left Gear Door (26) and the Lower Left Gear Door (83) over the left wheel

Step 10: Wing Details

Left Wing Shown, Repeat steps for Right Wing



- 10-1 Cement a Cannon Muzzle (22) to the leading edge of each wing. Make sure each muzzle aligns with the cannon barrel inside the wheel well.
- 10-2 Cement the Forward Rocket Stubs (71) and the Alt Left Rocket Stubs (73) in the recessed areas of the underside of the left wing.
- 10-3 Cement the Forward Rocket Stubs (70) and the Alt Left Rocket Stubs (72) in the recessed areas of the underside of the left wing.
- 10-4 If you opened the holes in the bottom of each wing in step 8, cement two Anti-Sway braces (59) to each of the two Bomb Racks (58).
- 10-5 Cement the completed Bomb Racks to the two-locator holes under each wing.
- 10-6 Cement a YAGI Antenna (16) to an Antenna Mount (17), then cement the completed assembly to the underside of the Left Wing. Be sure that the Antenna Mount is perpendicular to the underside of the



wing.

- 10-7 Make a second YAGI antenna by cementing the remaining YAGI antenna (16) to the remaining Antenna Mount (17). Cement the completed assembly to the underside of the Right Wing. NOTE: Since the YAGI Antennas rotated 180 degrees, they may be mounted in any position.
- 10-8 Paint the areas on the wings and inner surfaces of the Dive Flaps red, as indicated in the illustration. Allow the part ample drying time.
- 10-9 Cement the lower Left Dive Flap (*11) and the Lower Right Dive Flap to the appropriate wing.
- 10-10 Cement the Upper Left Dive Flap (*3) and the Upper Right Dive Flap (*4) to the appropriate Wing.
- 10-11 Cement the Right Trim Tab Actuator (*5) and the Left Trim Tab actuator to the underside of the appropriate wing as shown.
- 10-12 Cement the Left Leading Edge Slat (12) and the Right Leading Edge Slat (12) to the tabs of the appropriate wing.

Step 11: Cabin Details

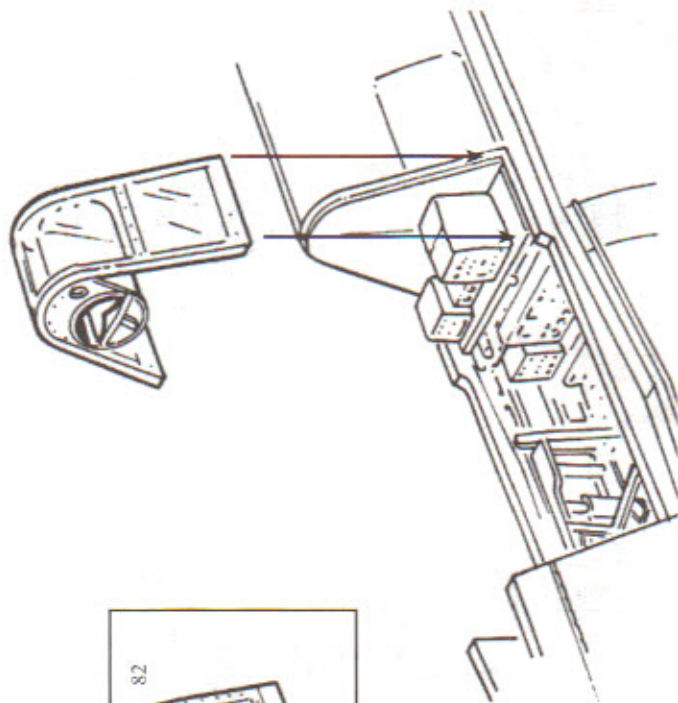
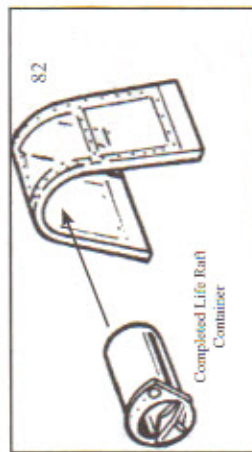
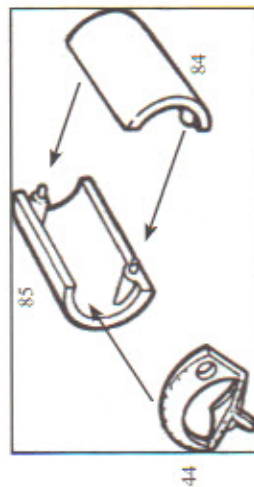
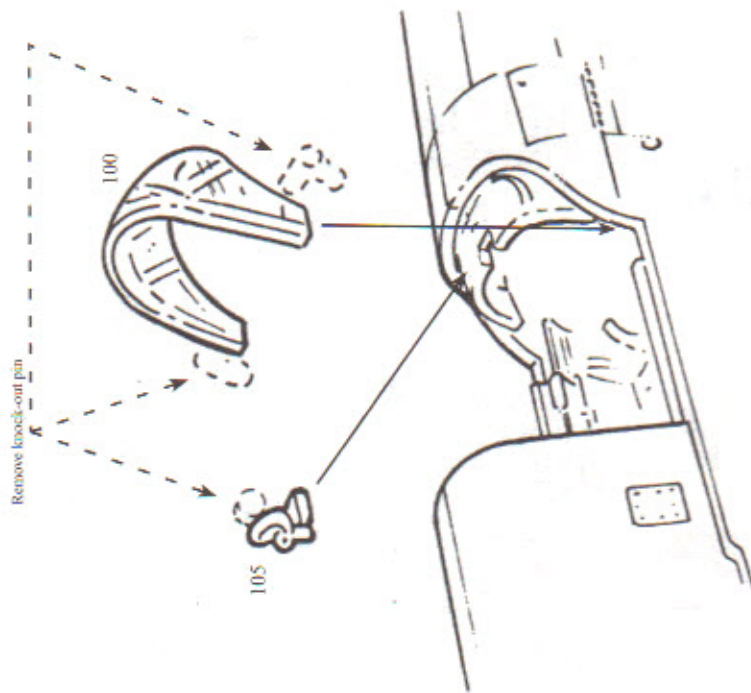
NOTE: Use a water-based glue to attach the clear parts. This will reduce or eliminate any crazing of the clear parts.

Painting Instructions:

84, 85; Chromate Green

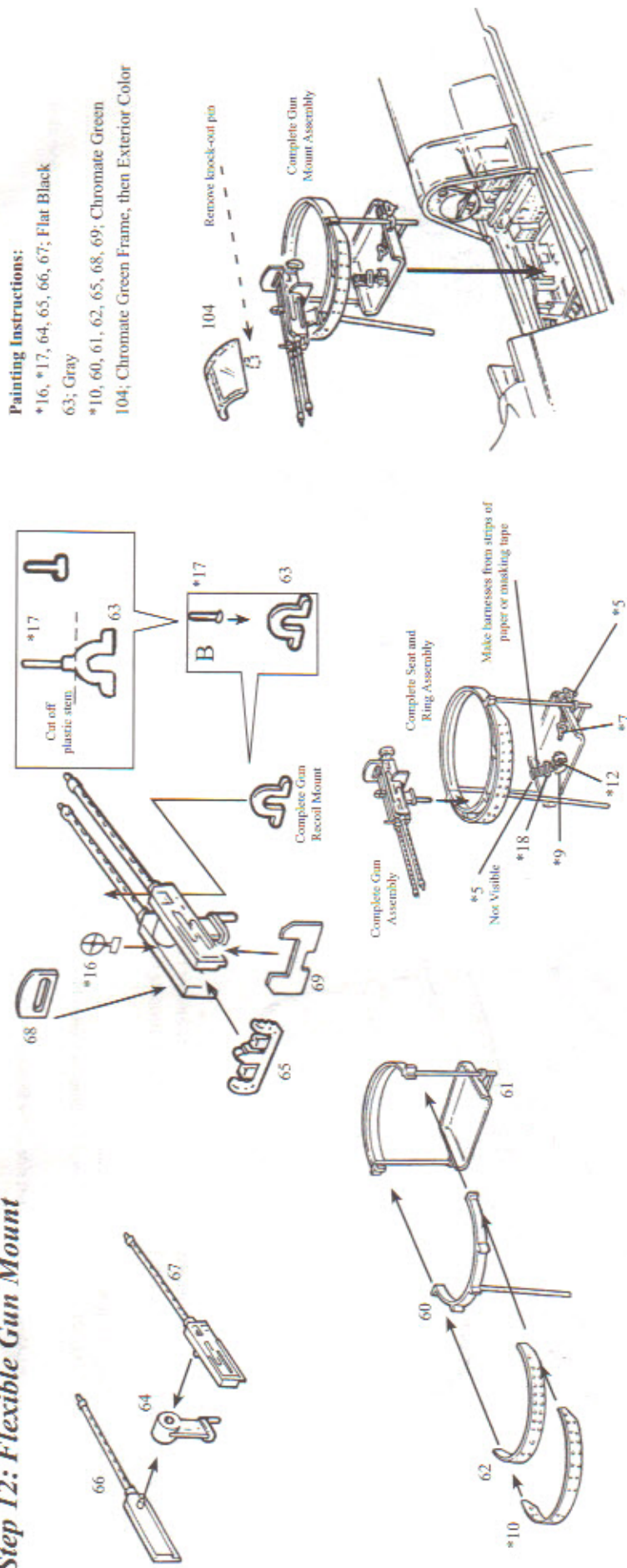
105; Flat Black Base

100, 102; Chromate Green Frame, then Exterior Color



- 11-1 Attach the Gun Sight (105) to the locating notch inside the pilot's cockpit
- 11-2 Glue the Windscreen to its location at the front of the pilot's cockpit.
- 11-3 Cement the right half of the Life Raft Container (84) to the left half of the Life Raft Container (85)
- 11-4 Cement the End Panel (44) to the Life Raft Container
- 11-5 Glue the complete Life Raft Container inside the Fixed Cabin Windows (102)
- 11-6 Glue the Fixed Cabin Windows (102) to the fuselage

Step 12: Flexible Gun Mount



Painting Instructions:

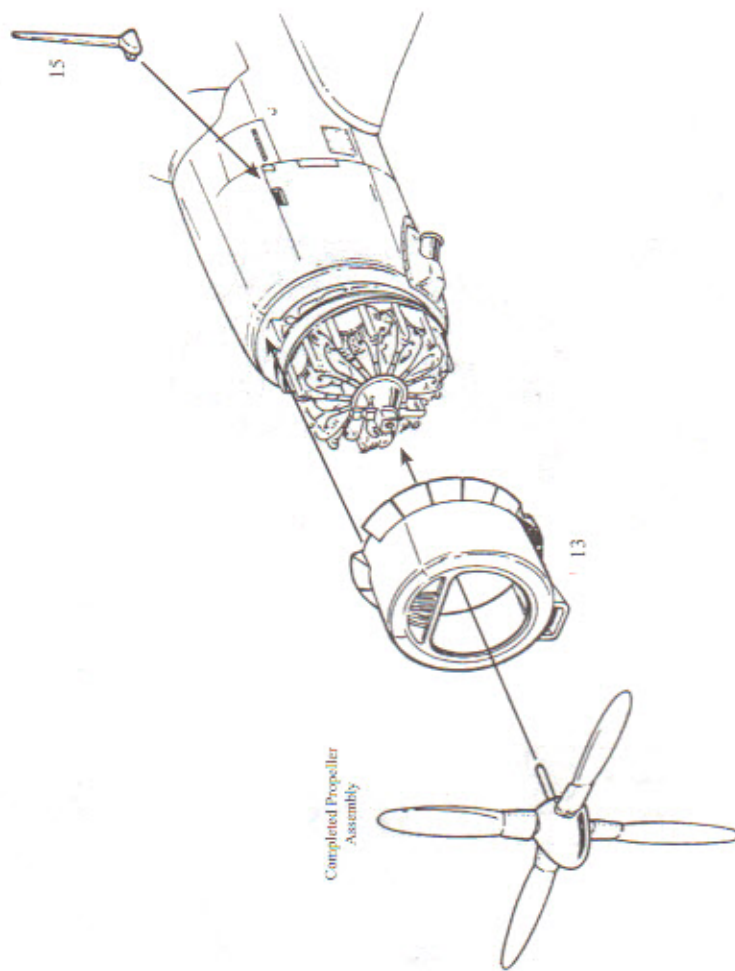
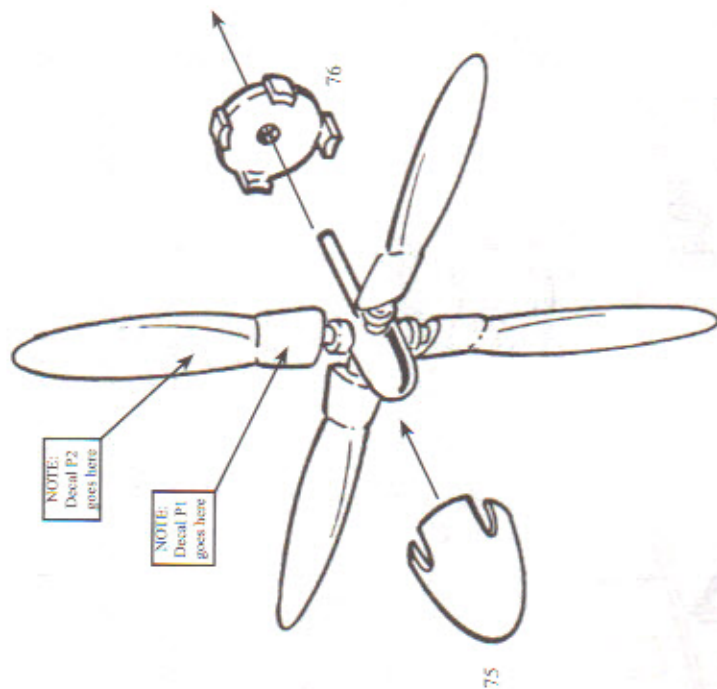
- *16, *17, 64, 65, 66, 67; Flat Black
- 63; Gray
- *10, 60, 61, 62, 65, 68, 69; Chromate Green
- 104; Chromate Green Frame, then Exterior Color

- | | | | |
|------|---|-------|--|
| 12-1 | Cement the Left Machine Gun (66) and the Right Machine Gun to the Gun Carriage (64) | 12-9 | Cement the Gun Mount (60) to the Seat (61) |
| 12-2 | Refer to Detail Drawing A and cut off the plastic stem on the Gun Recoil Mount (Front) (63) | 12-10 | Cement the Inner Ring (62) to the Gun Mount (60) |
| 12-3 | Remove the Bead Sight (*17) from the Photo-etch sprue, and bend the tab 90 degrees as shown in Detail Drawing A | 12-11 | Cement the Outer Ring (*10, PE Sprue) to the Inner Ring (62)
(Use part 62 as a template to bend *10 into the proper shape) |
| 12-4 | Glue the Bead Sight (*17) to the top of the Gun Recoil Mount (Front) (63) as shown in Detail Drawing B | 12-12 | Make two lap belts for the observer's seat by using the Anchors (*5), the Buckle Catch (*7), a Latch (*12), a Slip Buckle (*18) a Leather Backing (*9), and two thin strips of paper or masking tape, as shown in the drawing. |
| 12-5 | Cement the completed Gun Recoil Mount (Front) to the machine guns as illustrated | 12-13 | Cement the completed Gun Assembly to the completed seat and Ring Assembly. |
| 12-6 | Cement the Top Armor Plate (68) and the Side Armor Plate (69) to the Machine Gun Assembly | 12-14 | Carefully cement the Completed Gun Mount Assembly into place in the observer's cockpit. |
| 12-7 | Cement the Triggers (65) to the end of the Machine Guns | 12-15 | Glue the Turtleback Window into place on the aft fuselage |
| 12-8 | Glue the Ring Sight (*16) to the top of the Machine Gun Assembly between the two guns | | |

Step 13: Propeller and Cowling Assembly

Painting Instructions:

75; Flat Black with a .125 inch yellow tip (FS 13538)

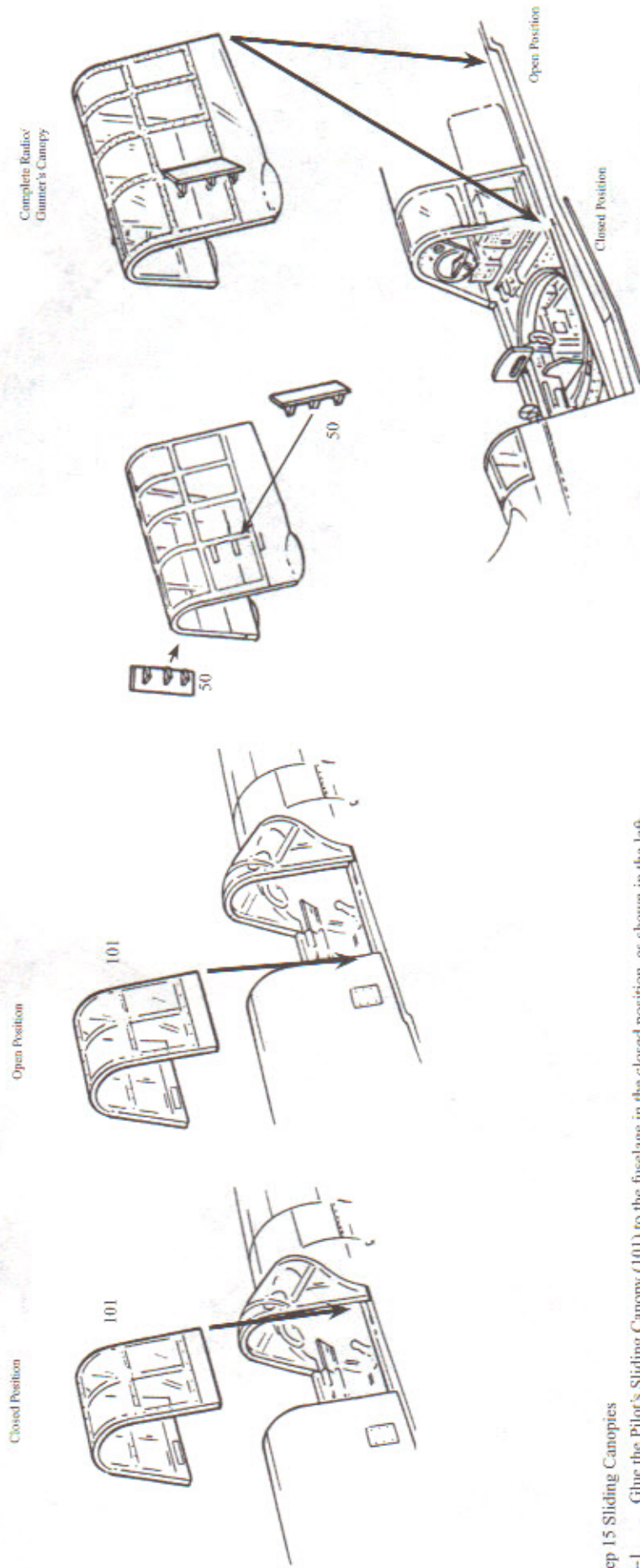


- 13-1 Slide (DO NOT CEMENT) the shaft on the Propeller (74) into the Spinner Plate (76)
- 13-2 Carefully cement the Spinner (75) to the Spinner Plate (76) while trapping the Propeller (74) between the two parts
- 13-3 Cement the Cowling (13) to the front of the forward Fuselage
- 14-4 Slide (DO NOT CEMENT) the shaft of the completed Propeller Assembly into the hole in the 3 front of the engine.
- 13-5 Cement the Antenna Mast (15) to the top left side of the forward fuselage.

Step 14: Sliding Canopies

Painting Instructions:

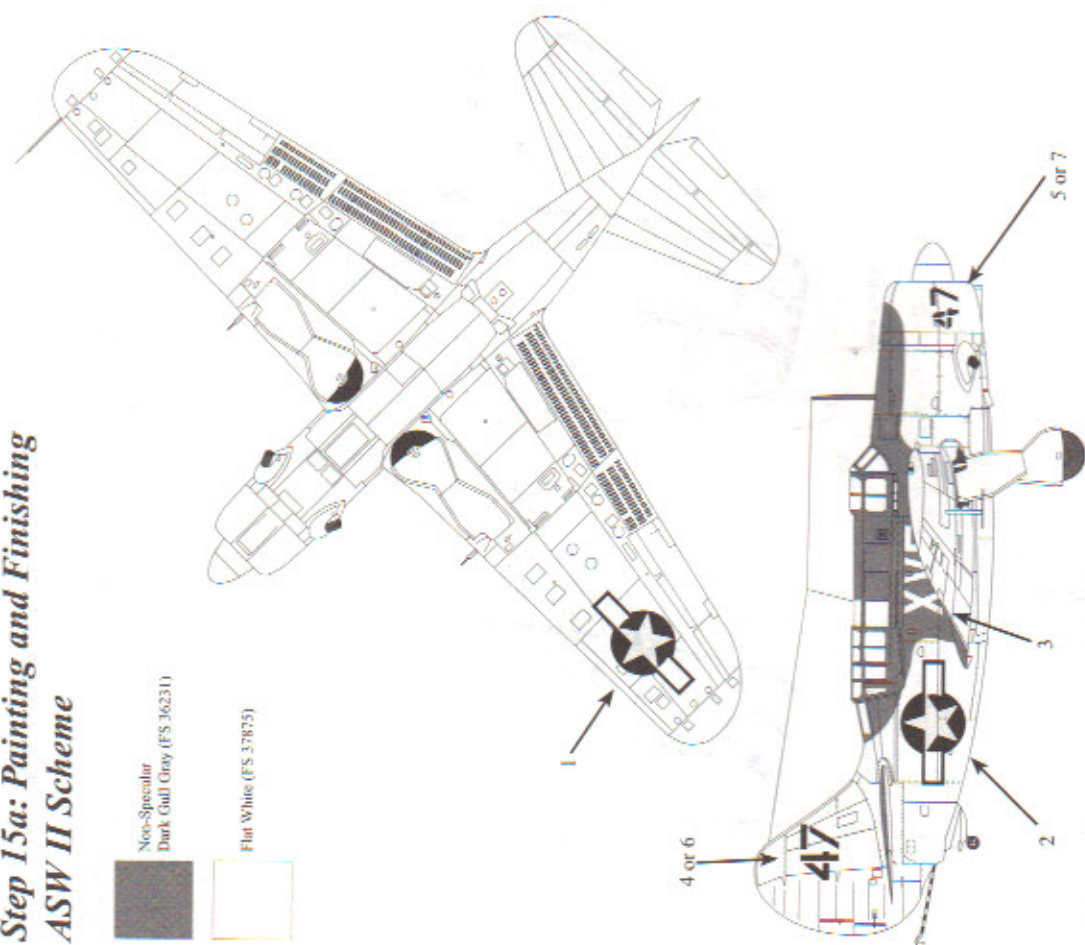
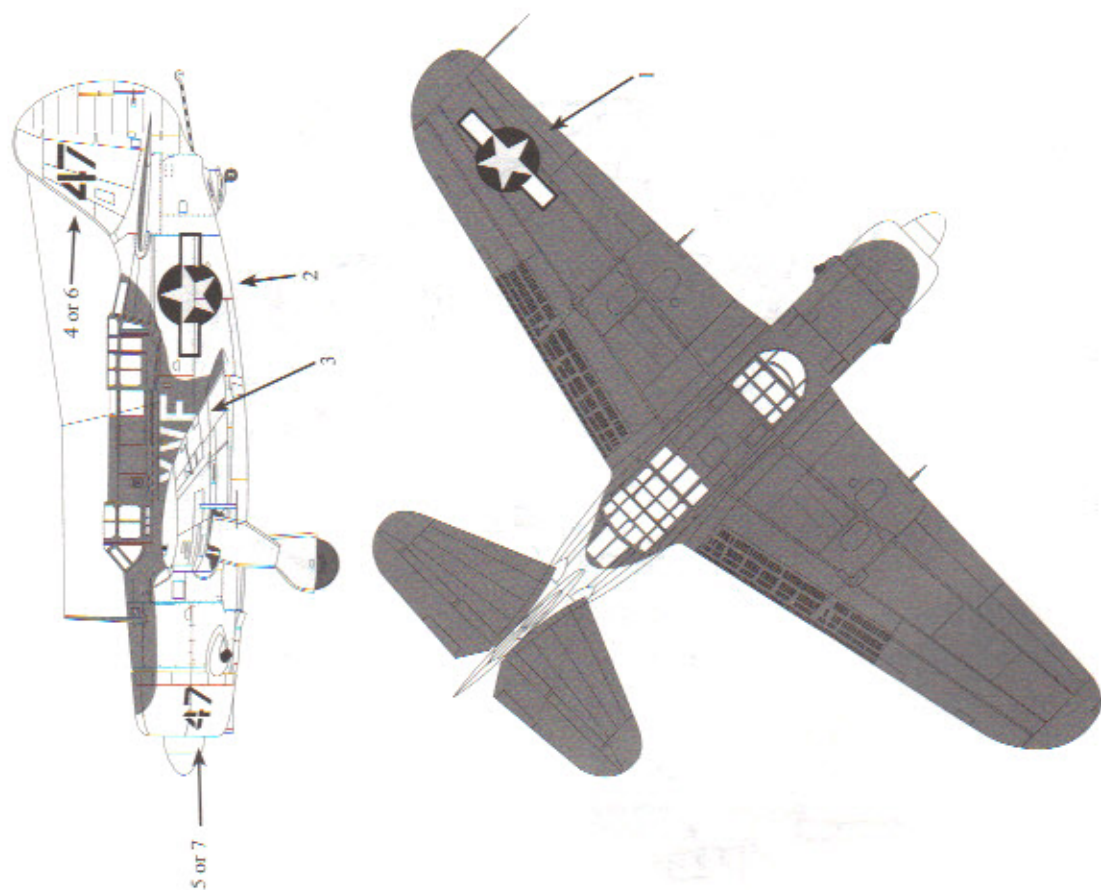
75; Flat Black with a .125 inch yellow tip (FS 13538)



Step 15 Sliding Canopies

- 14-1 Glue the Pilot's Sliding Canopy (101) to the fuselage in the closed position, as shown in the left illustration, or in the opened position as illustrated in the right illustration
- 14-2 Glue the two Air-Floe Deflectors (50) to the Observer's Sliding Canopy (103)
- 14-3 Glue the Observer's Sliding Canopy in either the opened or closed position

Step 15a: Painting and Finishing ASW II Scheme

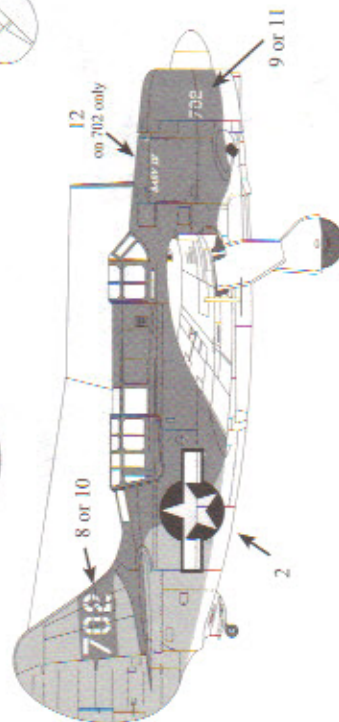
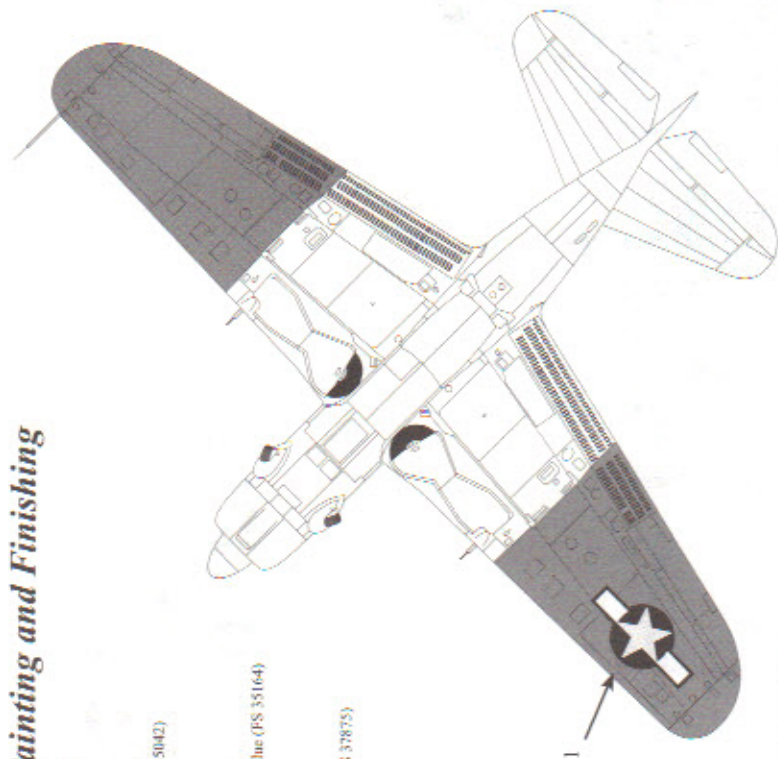
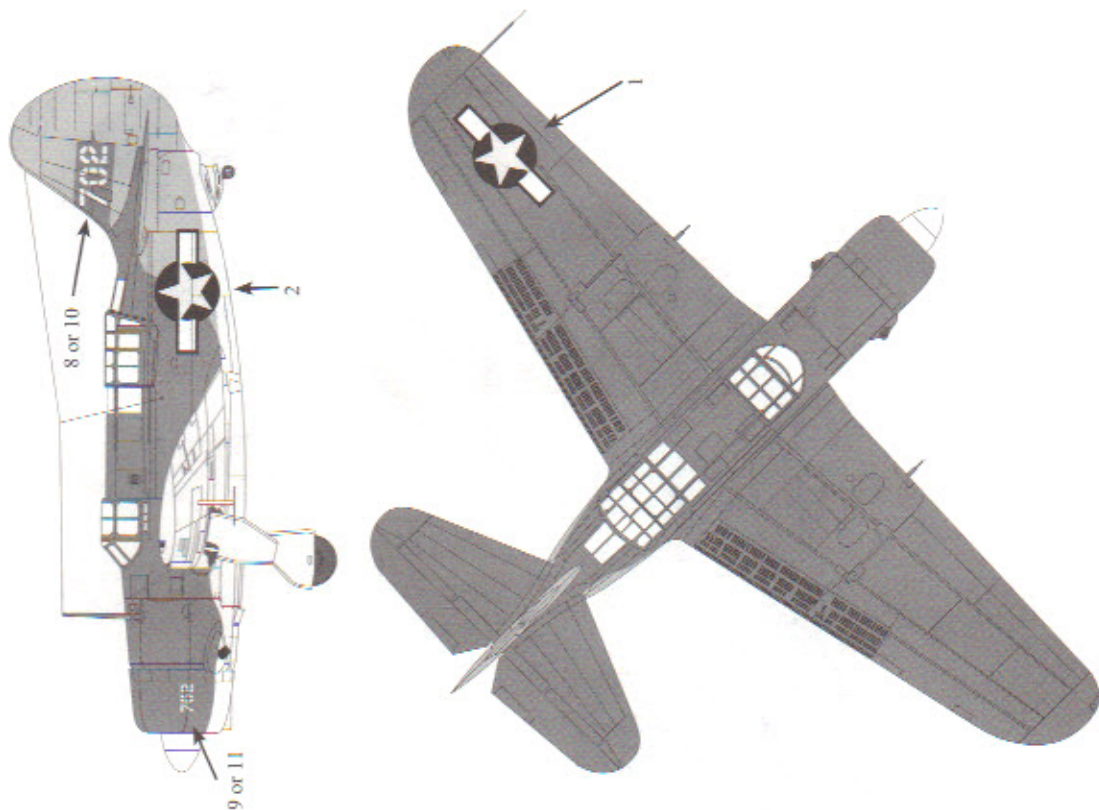


Step 15b: Painting and Finishing **VMSB 244**

Non-Specular
Sea Blue (FS 35042)

Non-Specular
Intermediate Blue (FS 35164)

Flat White (FS 37875)



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