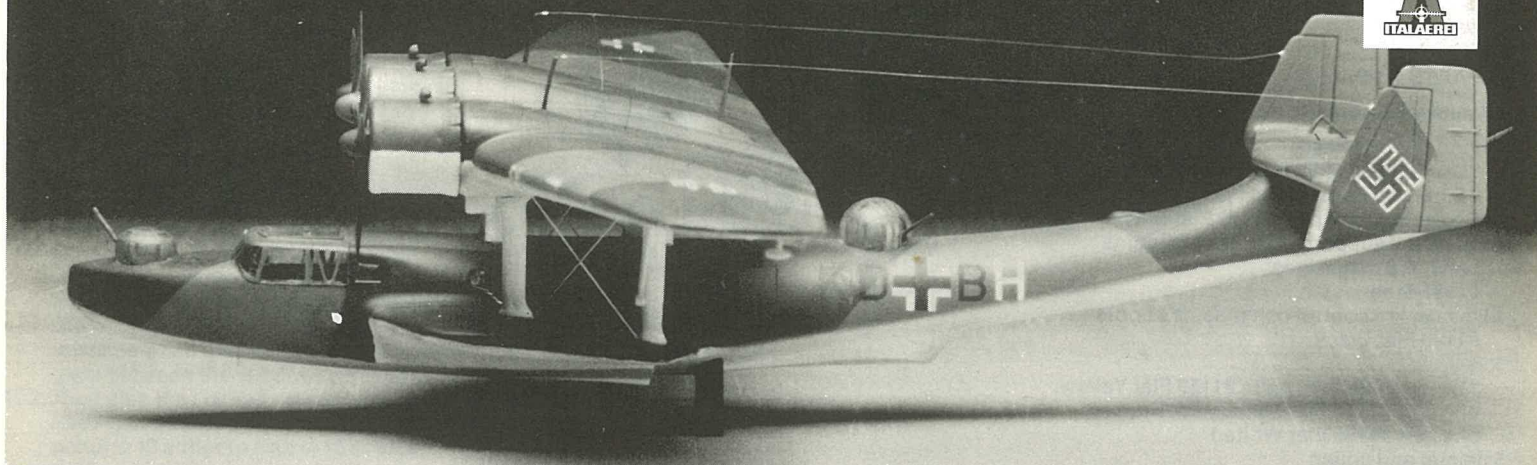


DORNIER Do 24

No. 868

TESTORS



HISTORY

The Dornier Do 24 had a long and varied career. It was designed in 1935 in Germany, at the request of the Netherlands government, as a replacement for a number of earlier Dornier "Wal" flying-boats which had served for many years in the Dutch East Indies. Several prototypes and twelve Do 24's were produced by Dornier, and a license agreement was arranged for a number more to be built in the Netherlands. Most of the original twelve were actually built by Dornier's Swiss subsidiary. The prototypes were evaluated by the German technical ministry, but were rejected in favor of the Blohm & Voss BV138.

Later, when Holland was occupied, a number of Dutch built Do 24's became available to the Luftwaffe. At this time the Luftwaffe recognized a severe need for air sea rescue equipment. The Do 24 was found to fill this requirement well. Dutch production was resumed with an engine change: from Wright Cyclones to German BMW 323-R engines of 1,000 hp each. Later, a second source was initiated at a French plant.

In total over 250 Do 24's were built, the majority being the T-1 version. They served in the Atlantic, Mediterranean, Baltic and Black Sea areas through the entire war. In 1944, twelve were supplied to neutral Spain for air sea rescue work. These rescued both Allied and Axis fliers who were forced down in their areas. Some of these Do 24's remained in Spanish service until the 1970's. Most of the Do 24's in Dutch East Indies service were destroyed during the Japanese invasion, but six escaped to serve as transports in Australia. After the war a small number were built at the French plant for the French navy.

The Do 24 was very rugged and well liked by crews.

Reference Sources

Warplanes of the 3rd Reich, W. Green (Doubleday Publications)—3-view drawings, data, photos, history

Scale Models, Vol. 9 #109, September 1978 (Model & Allied Publications)—three color plates, model photos

Air Enthusiast, Vol. 2 #1, January 1972 (Finescroll Publications)—photos of Spanish, French, Dutch, Swedish, as well as German Do 24's

Aircraft of the RAAF (Royal Australian Air Force), Pentland/Malone (Kooksburra Technical Publications)—color plate and photos of ex-Dutch Do 24's in Australia

Hitler's Luftwaffe, Wood/Gunston (Crescent Books Publications)—data, 3-view drawings, photos

SPECIFICATIONS

Span	88'7"
Length	72'4"
Weight Empty	20,723 lbs.
Weight Maximum	35,715 lbs.
Armament	Three 7.9 mm machine-guns or Two 7.9 mm plus one 20 mm cannon
Maximum Speed at 8,000'	206 mph
Maximum Range at Cruise Speed	137 mph
Service Ceiling	24,600'
Crew	6

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 over-spraying 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.

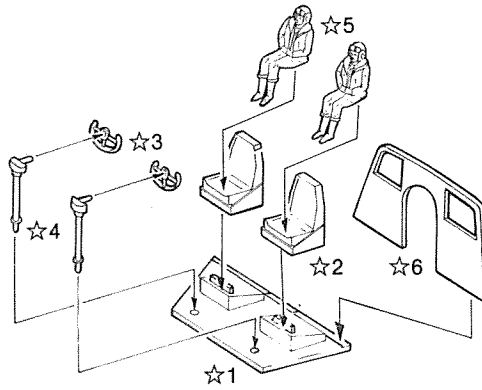
Wheels may be detached from the sprue and fitted onto toothpicks or matchsticks for painting. Then just hold the paintbrush against the edge of the wheel and rotate the wheel to obtain a neat, fast finish.

NOTE: Use the drawings in the **APPLYING DECALS** section for information on the paint scheme for the Do 24. Instructions for mixing the colors are given in the **DECALS** section. All parts not singled out in **Preliminary Painting** should be painted according to the illustrated paint scheme.

1 PARTS 1-14

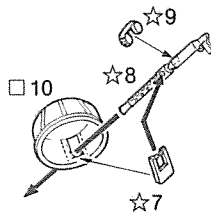
Preliminary Painting

- ☆1 floor, ☆6 bulkhead:
"Gray Green" (Mix four parts #1168 Flat White, two parts #1164 Flat Olive Drab Green, and one part #1149 Flat Black.)
- ☆2 seats, ☆7 supports, ☆8, ☆11 machine guns, ☆9 magazines:
#1180 Steel
- ☆3 wheels, ☆4 control columns, ☆5 boots:
#1149 Flat Black
- ☆5 vest:
"Yellow" (Mix two parts #1169 Flat Yellow, one part #1166 Flat Military Brown, and one part #1168 Flat White.)
- ☆5 helmet and collar:
"Dark Brown" (Mix one part #1166 Flat Military Brown with one part #1149 Flat Black.)
- ☆5 face and hands:
"Flesh" (Mix two parts #1167 Flat Desert Tan with one part #1168 Flat White.)

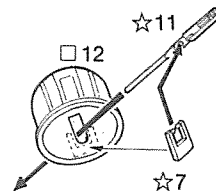


NOTE: For more information on painting the figures, refer to the **FIGURE PAINTING/WEATHERING** page. However, the facial detail is recommended only for experienced model builders.

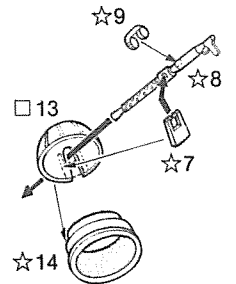
- 1. Assemble control columns by gluing one wheel (2) ☆3 to each column (2) ☆4. Then glue columns to cockpit floor ☆1 as shown.
- 2. Glue both seats ☆2 to floor ☆1. Also glue bulkhead ☆6 to top rear edge of floor ☆1.
- 3. Glue the co-pilot and pilot ☆5 to the seats ☆2 if desired.
- 4. Next build up the guns and turrets. Note the differences in turret sizes and gun types. The large center turret □ 12 has a long 20 mm gun ☆11. The small rear turret □ 13 has a lower ring piece ☆14. Be sure you are assembling the correct parts together. Glue one magazine (2) ☆9 to each gun (2) ☆8. Then add one support (2) ☆7 to each gun as shown. Glue support ☆7 to gun ☆11 which has no magazine. Glue lower ring ☆14 to rear turret □ 13.
- 5. Insert the guns in their proper turrets, as shown, by putting a small amount of glue on the forward side of each support ☆7. Use very little glue. One gun ☆8/☆9 fits into turret □ 10, and the other fits into turret □ 13. Gun ☆11 fits into center turret □ 12.



MG 15 7.9mm



MG 151 20mm



MG 15 7.9mm

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.

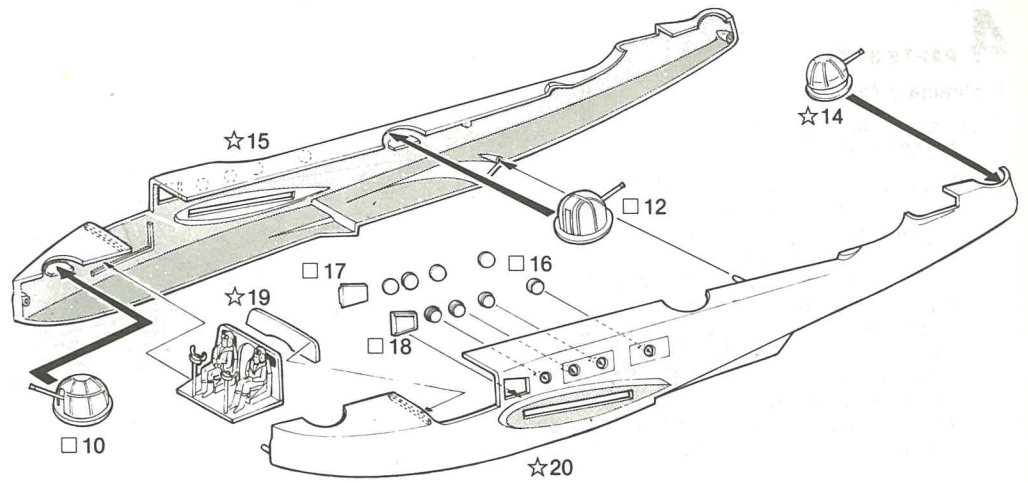
2 PARTS 15-20

Preliminary Painting

- ☆15, ☆20 interior of hull sides, ☆19 instrument panel:

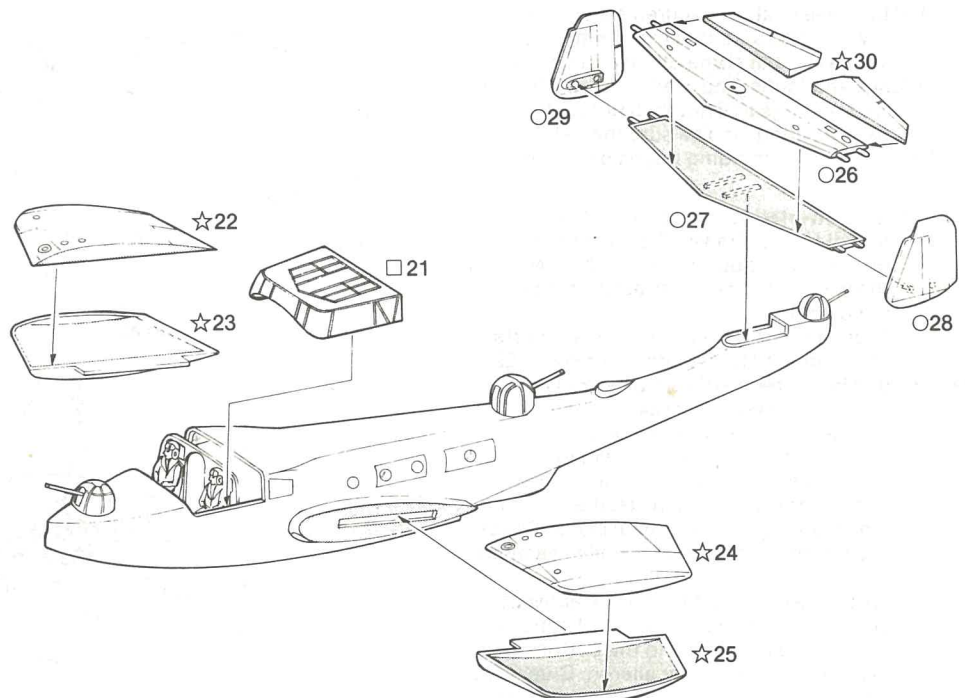
"Gray Green" (Mix four parts #1168 Flat White, two parts #1164 Flat O.D. Green, and one part #1149 Flat Black.)

- 1. Glue all the windows into the hull sides ☆15 and ☆20 as shown. Install windows □17 and (4) □16 into side ☆15, and window □18 and (4) □16 into side ☆20. 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. Run a small amount of glue around the inside edge of each window hole in hull, using a toothpick. Then insert the window. The white glue will be nearly invisible when dry, and it will also fill any gaps between the windows and hull sides.
- 2. Next glue the cockpit, as assembled in Step 1, to hull side ☆15. Glue instrument panel ☆19 either to side ☆15 or side ☆20.
- 3. Next, try to fit in each of the turrets, one at a time. Insert turret □10 into front of hull as indicated, holding the hull sides together firmly with one hand. With the other hand, check to see if the turret is free to rotate. If not, check for flash on the turret and/or hull edges. Remove turret and repeat this procedure for the other two turrets. Turret □12 fits into center of hull and turret ☆14 fits into rear of hull. When you are satisfied with the fit, glue the hull sides together, being careful not to get glue near the turret openings. Then, quickly before the glue dries, pry the top of the hull far enough apart to snap each turret into place. Then press the hull back together and let dry.



3 PARTS 21-30

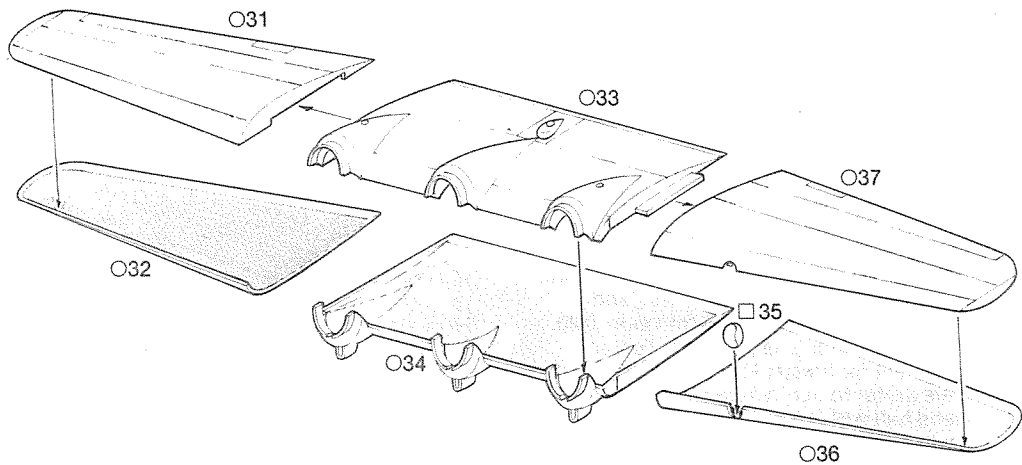
- 1. Glue the top half of the right sponson ☆22 to bottom half ☆23, and glue top half of left sponson ☆24 to bottom half ☆25. Then fit them to the hull as shown and glue in place.
- 2. Glue top of horizontal stabilizer ○26 to bottom ○27. Glue fins ○28 and ○29 to the ends of horizontal stabilizer ○26/○27. Be sure you get them on correctly. (Refer to drawing.) Check alignment while drying. Then add elevators (2) ☆30 to stabilizer.
- 3. When the above assembly ○26-☆30 is dry, fit it to the tail end of the hull. Sight along the hull to check alignment with sponsons ☆22-☆25, being sure that it sits correctly from all angles. Alignment must be perfect. Now, glue ○26-☆30 to hull, checking again while glue is drying.
- 4. Install the cockpit cover □21 as shown.



4 PARTS 31-37

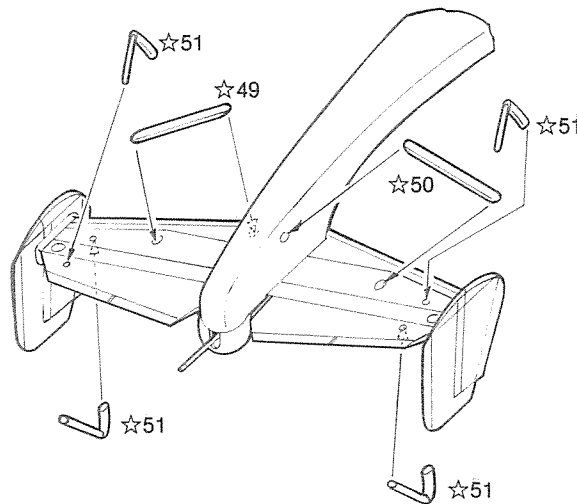
Preliminary Painting

- 35 back of landing light:
#1180 Steel
- 1. Glue right wing top ○31 to right wing bottom ○32. Glue center wing top ○33 to center wing bottom ○34. Glue left wing top ○37 to left wing bottom ○36, inserting landing light □ 35 into recess provided, as shown in drawing.
- 2. After checking the fit, glue outer wing panels ○31/○32 and ○37/○36 to either side of center wing panel ○33/○34. Set this wing assembly on a flat surface. Prop up the wing tips with pieces of sprue to maintain dihedral while parts are drying.



5 PARTS 49-51

- 1. Attach struts ☆49 and ☆50 from each side of hull to underside of each side of tail assembly, as shown.
- 2. Add counter balances (4) ☆51 to top and bottom of each side of the stabilizer, as shown.



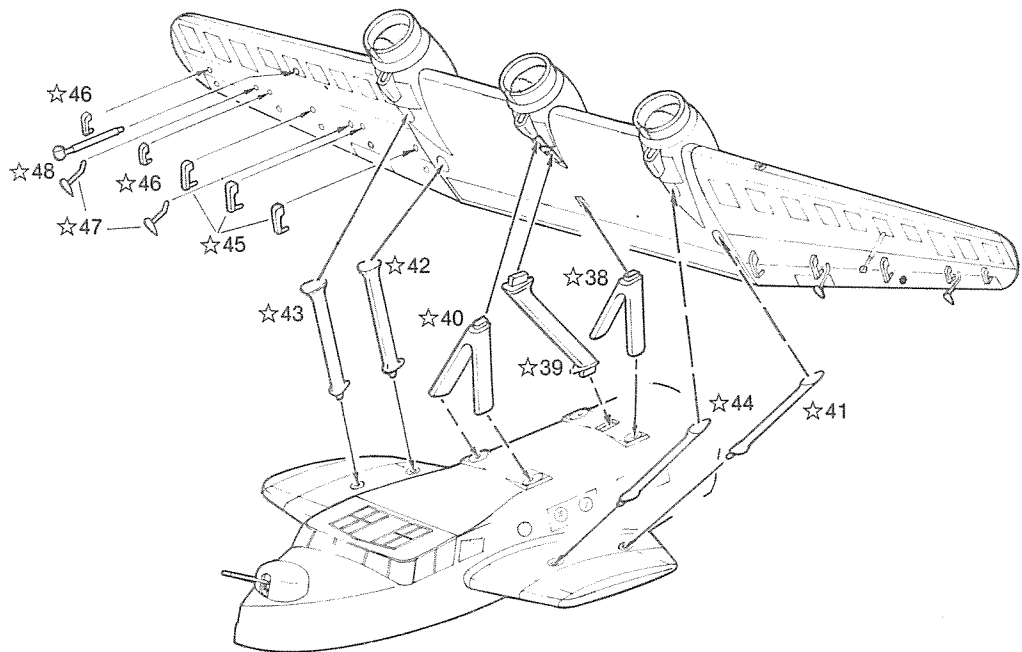
6 PARTS 38-48

Preliminary Painting

☆48 light on the arm:
#1180 Steel

NOTE: These next procedures are critical, so go slowly and be sure that everything is correct. Be aware that some of the parts have notches and tangs, and others fit to wings flat. Be sure the tangs and notches fit together well before gluing, and be sure the flat surfaces are free of molding ridges before attaching.

- 1. Glue inverted vee supports ☆40 and ☆38 to hull top as shown. Then, insert and glue angle support ☆39 onto hull. Now, fit the wing onto the struts assembled above, but do not glue.
- 2. Then glue the right outer wing supports ☆43 and ☆42 to the right sponson ☆22 and left outer wing supports ☆44 and ☆41 to left sponson ☆24.
- 3. Set the wing upside down on a flat surface. Fit the hull, upside down, to the wing. This will allow you to check the angle of the outer supports. If everything looks right, glue the wing in place. Check alignment from all angles while assembly is drying.
- 4. When the parts installed in #3, above, are completely dry, add the control arms (4) ☆46 two to each side, to the bottom of each wing on the outer aileron. Glue three control arms ☆45 to inner segments of each wing bottom. Then cement two balance arms ☆47 to each side of the bottom of ailerons as shown. Add the small light arms (2) ☆48 to the forward underside of wings, one ☆48 on the right side and one on the left side.

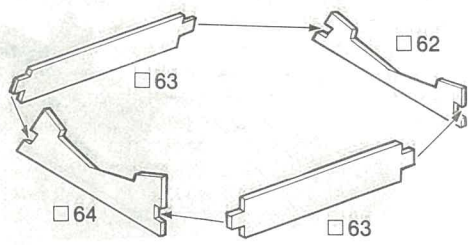
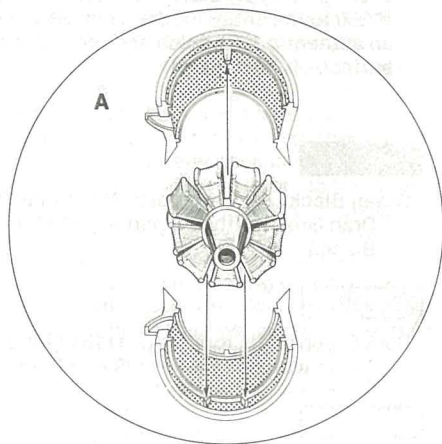
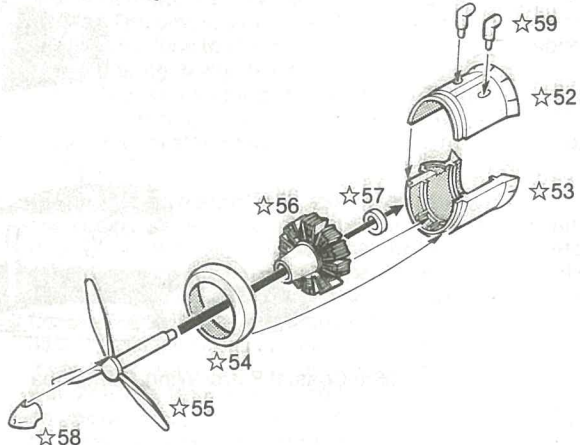
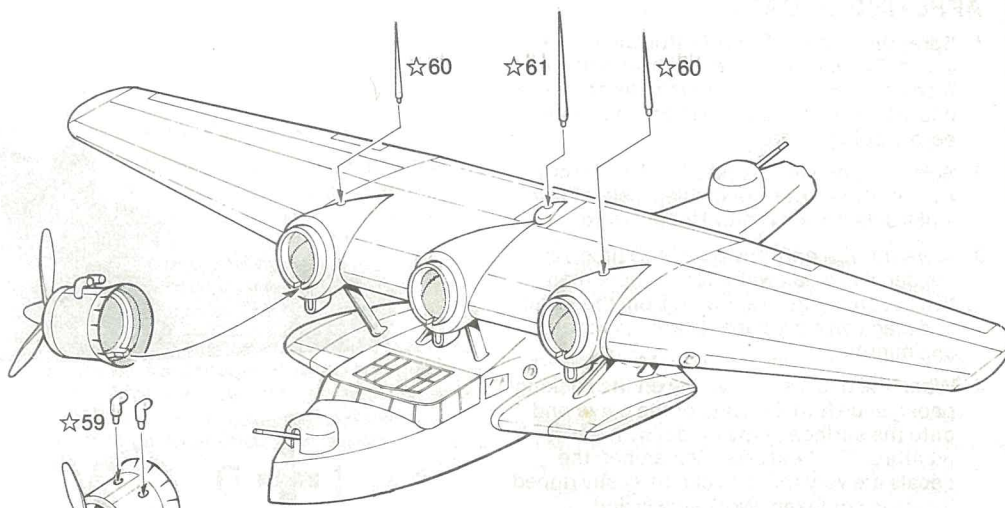


7 PARTS 52-64

Preliminary Painting

- ☆55 propellers:
#1149 Flat Black
- ☆56 engines:
#1180 Steel
- ☆59 exhausts:
#1185 Rust (Or, for a more aged appearance, mix one part #1149 Flat Black with two parts #1185 Rust.)

- 1. With the model right side up, add the three antenna posts (2) ☆60 and ☆61 to top of wing as shown in drawing.
- 2. To build up the three engine assemblies, slip each cowl front (3) ☆54 over each front of engine (3) ☆56. Then slip a propeller shaft (3) ☆55 through each engine and cement a retainer ring (3) ☆57 onto each shaft ☆55. Glue a spinner (3) ☆58 to the center of each propeller ☆55 as shown.
- 3. Glue two exhausts (6) ☆59 to the top half of each cowl ☆52. Glue each top cowl (3) ☆52 to each lower cowl (3) ☆53. Then, noting position as shown in Drawing A, slip one engine into each cowl and glue cowl fronts ☆54 to cowls.
- 4. Noting the notch in the lower nacelle fronts, glue the engines in place on wing as shown.
- 5. To assemble the stand, glue □64 to one □63. Then glue □62 to □63. Glue the remaining □63 to □62 and □64.
- 6. Add antenna wires, if desired, using fine monofilament thread or fish line or wire. The diameter of the wire should be .001 to .004 inch. Also add the x-shaped bracing wires between the outer wing supports ☆42 and ☆43, and ☆41 and ☆44. (Refer to side view drawings on **APPLYING DECALS** page.) This wire should be considerably thicker than the antenna wire — .005 to .010 inch in diameter. It is most easily duplicated by using soft wire taken from stranded electrical wire. Strip the electrical wire and separate out one strand. Stretch the strand and cut it to the necessary length. It can be glued in place with "white glue" used at full strength.



IMPORTANT

Every effort was made to insure the completeness of this kit — however, should any part be missing, write directly to:

THE TESTOR CORPORATION
620 BUCKBEE STREET
ROCKFORD, ILLINOIS 61101

Print your name and address plainly, when writing. Request parts by name and include the kit name and number.

DORNIER Do 24 STOCK #868

NAME _____

STREET _____

CITY _____

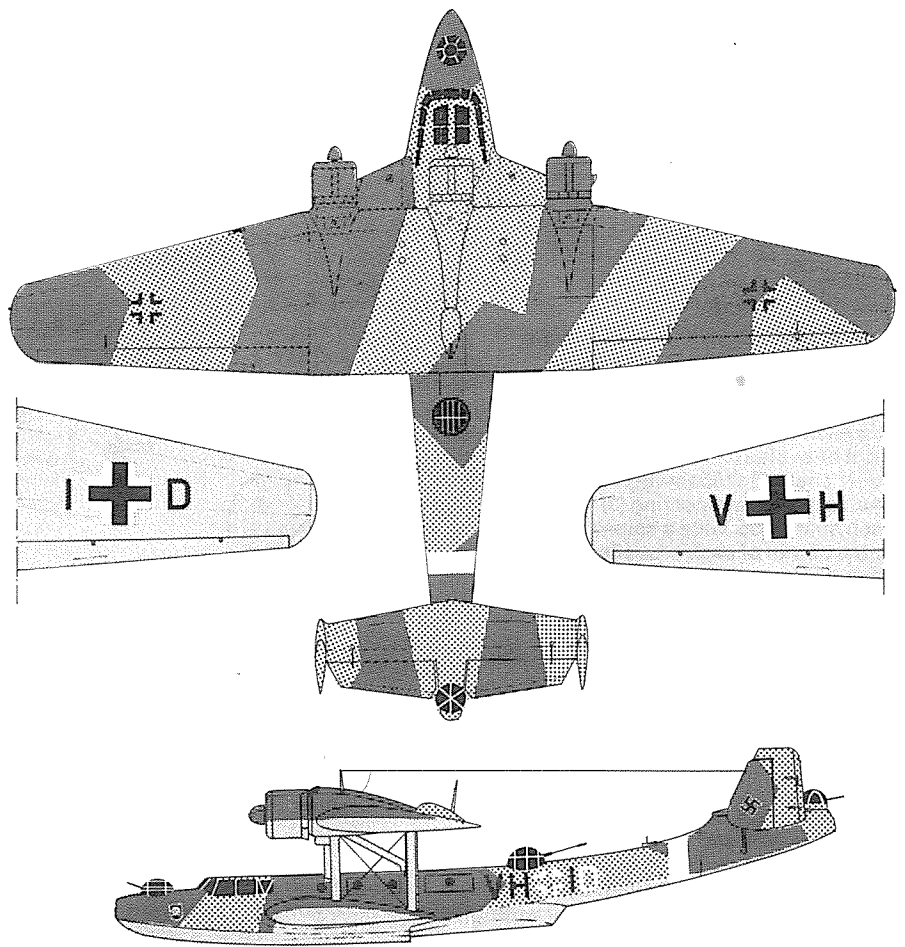
STATE _____ ZIP _____

PART DESCRIPTION _____

KIT NAME _____ STOCK # _____

APPLYING DECALS

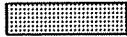
1. Spray entire model with Testor Glosscote #1261. Decals adhere best to a smooth surface and the shinier the finish, the smoother it is. Allow the Glosscote to dry thoroughly before going further.
2. Select the decals you plan to use, and cut each of them out from the decal sheet with small scissors or Testor Hobby Knife.
3. Working with only one decal at a time, dip the decal in clean 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.



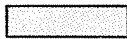
106th Coastal Patrol Wing, Baltic Sea



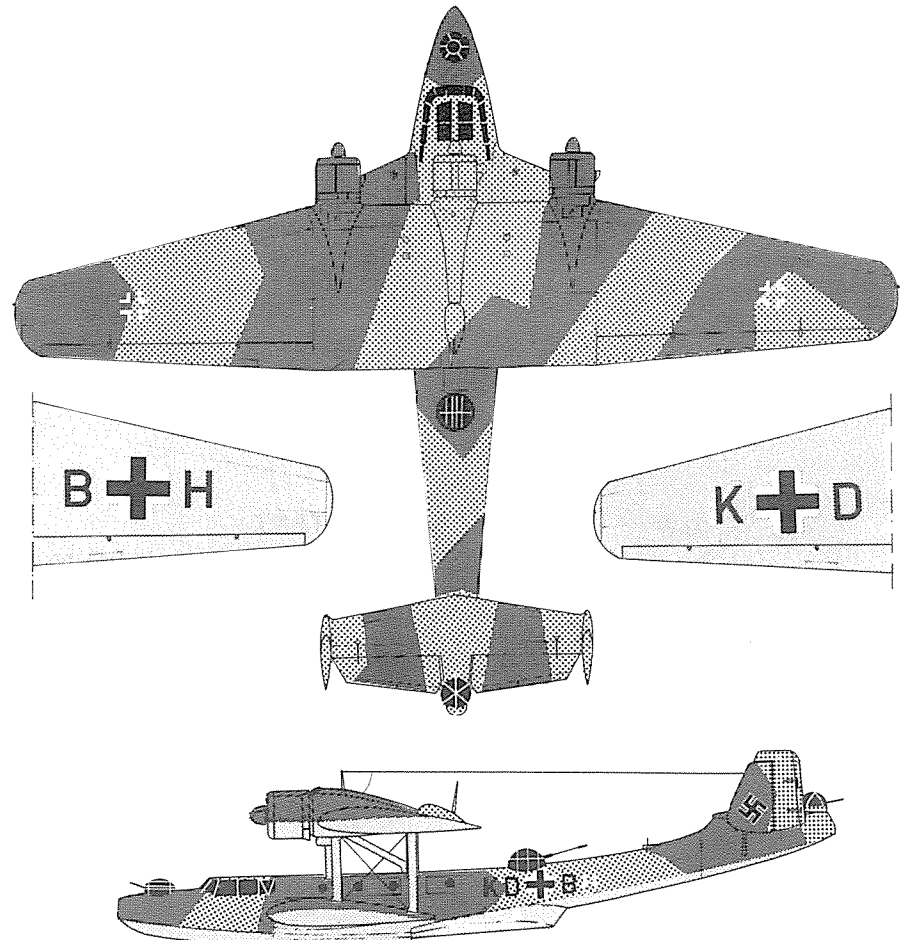
"Green Black" (Mix two parts #1164 Flat Olive Drab Green with one part #1149 Flat Black.)



"Dark Green" (Mix four parts #1164 Flat O.D. Green with one part #1149 Flat Black.)



"Light Blue" (Mix ten parts #1168 Flat White, two parts #1162 Flat Sky Blue, and one part #1164 Flat O.D. Green.)



Air Sea Rescue Wing, Syracuse, 1943

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 attach 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 the Flat Light Tan. Fill in under the 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 Dullcote. 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 Dullcote to avoid rubbing off the stains.

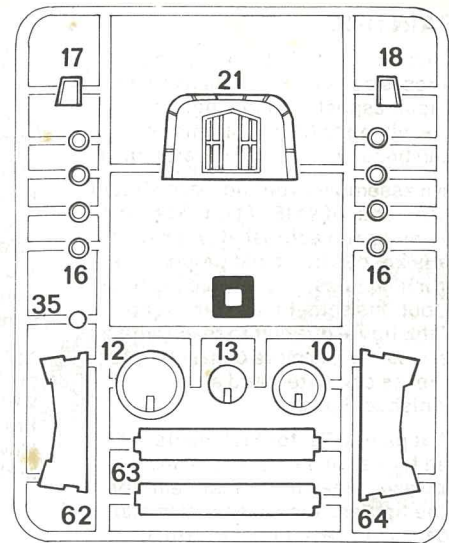
Oil stains should be done very subtly. Oil really has very little color, so it only leaves light stains. Tint a small amount of thinner lightly with black paint. Add a small drop to the area you want to appear oily. Now with a strong breath, blow the "oil" back along the plane. Keep in mind the direction 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.

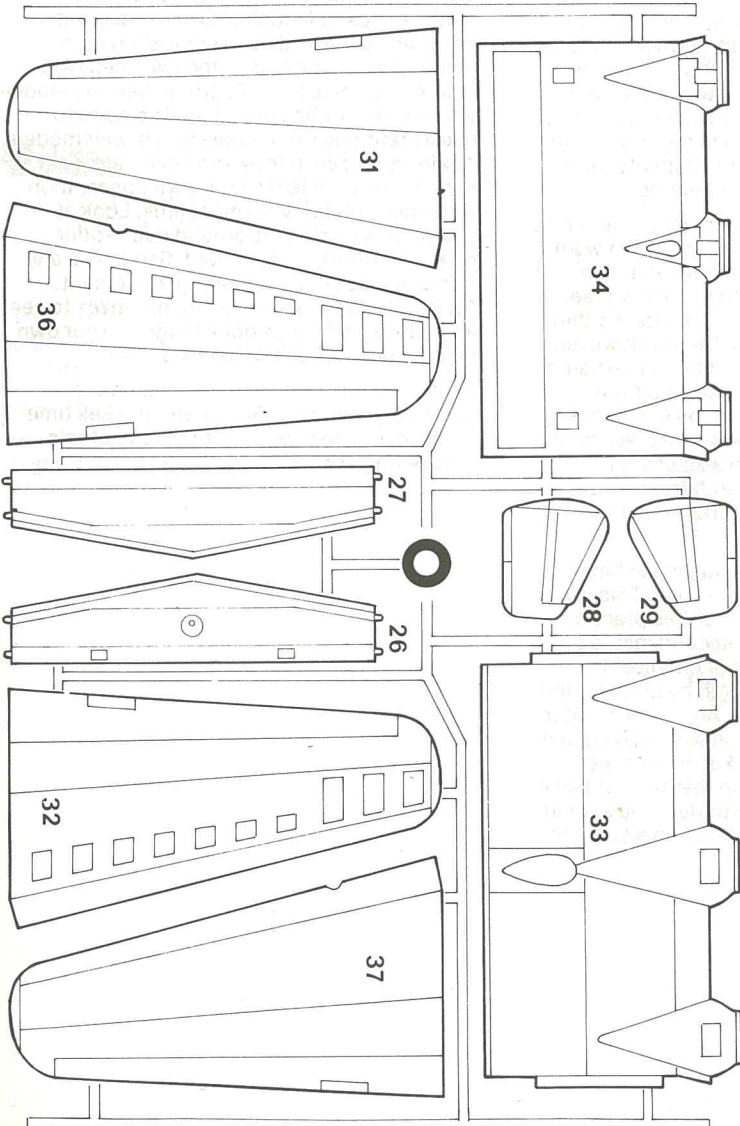
Experienced modelers do several things to aid them in their hobby. One of the most helpful is attending meetings of their local International Plastic Modeling Society chapter. Here they see and discuss modeling techniques. Your local hobby shop will help you locate your local I.P.M.S. group. Serious 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.

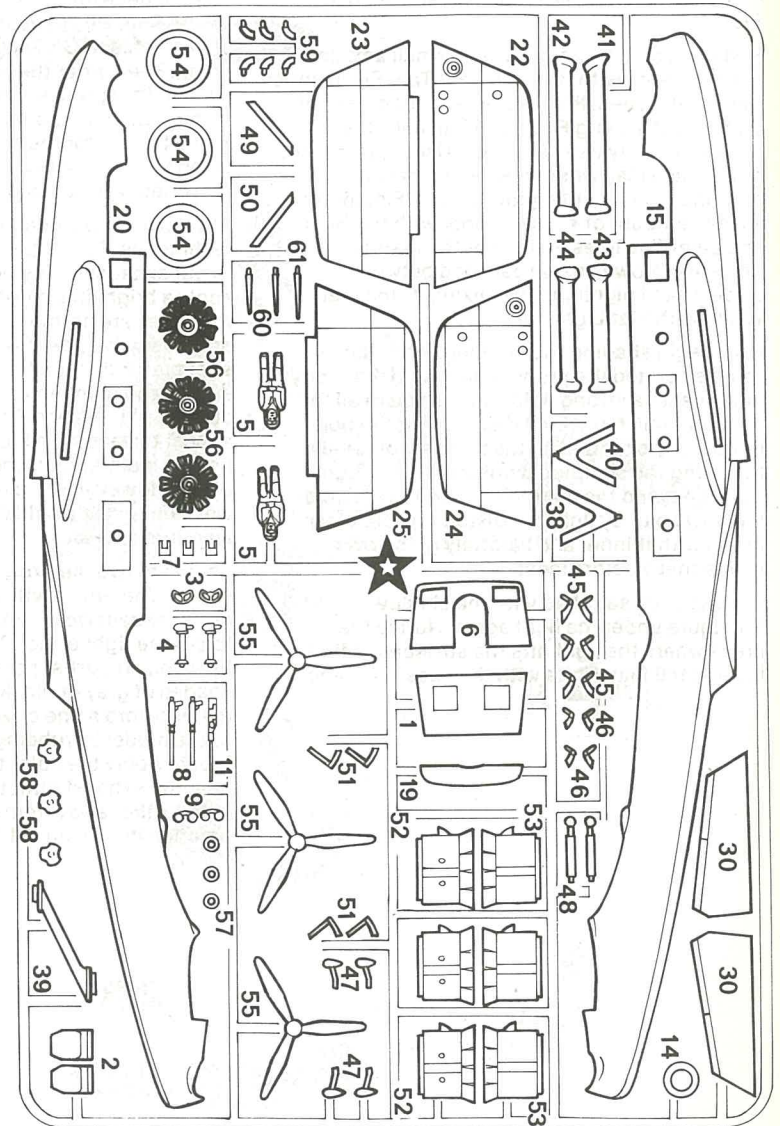
Remove this page from the instruction sheet by cutting along indicated line. Use the drawings of the complete sprue as a part-locating reference when building the model.



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: ☆