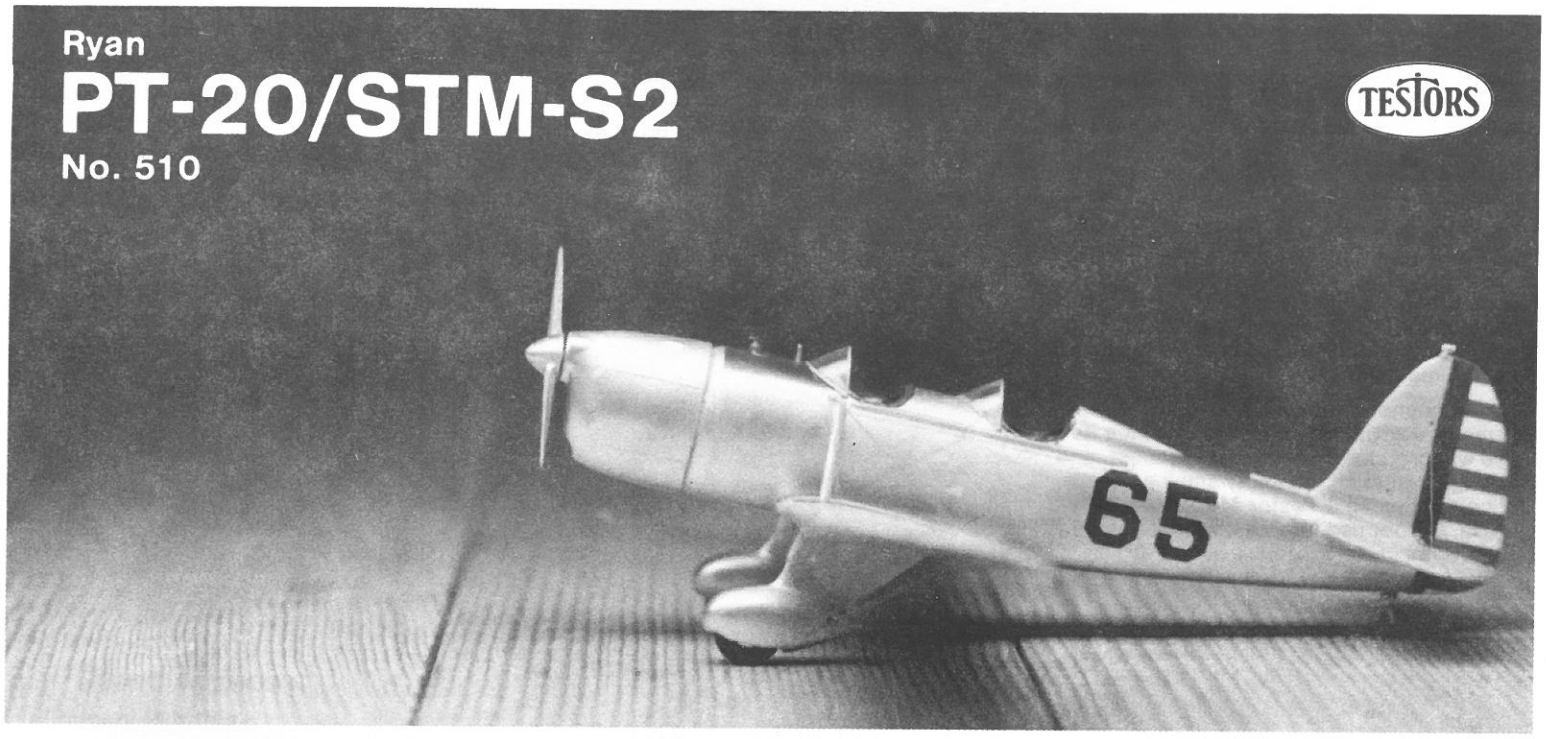
Ryan

PT-20/STM-S2

No. 510



HISTORY

There is something about a Ryan ST and the military PT-20 that brings whistles and a Wow! from the mouths of airplane lovers everywhere. The ST/PT-20 had It; it being a look that came out of the wonderously creative world of 1930's aviation design. The inline engine, dual open cockpits, headrest, and natty wheel fairings epitomize an era now gone.

The ST first flew on June 8, 1934, and became an instant classic. The airplane became a favorite at flight schools because of its good handling qualities and low operating costs.

With the advent of World War II, the PT-20 was introduced with a larger engine and slightly strengthened fuselage. A further development, the PT-22, featured a 5 cylinder radial engine, slightly swept wing, and a fuselage of greater width. The float equipped STM-S2 was built for foreign sales.

SPECIFICATIONS

Power	PT-20: Menasco 4 cylinder inline of 125 hp.
	STM-S2: Menasco 4 cylinder inline of 150 hp.
Weight	PT-20: 1,635 pounds - gross
	STM-S2: 1,828 pounds - gross
Span	PT-20: 30′ - 0″
Length	PT-20: 21′ - 4″
	STM-S2: 22′ - 8½″
Height	PT-20: 7′ - 2″
Service Ceiling	PT-20: 15,000′
	STM-S2: 12,250′
Max. Speed	PT-20: 132 mph
	STM-S2: 122 mph
Range	PT-20: 350 miles
	STM-S2: 246 miles

Reference Sources
Aircraft in Profile, Volume 7
(Doubleday & Company)

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 Enamels. Parts of the model are painted individually, and then the entire model is oversprayed when you have finished construction.

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. Warm water and liquid detergent remove the oils left from the manufacturing process. Let the parts dry and avoid excessive handling. Immediately before painting, wipe the parts with a "tac rag" (available at automotive centers) to remove dust and lint.

Most parts are best painted while still attached to the sprue or they may be detached and held with tweezers or "magic" type transparent tape. 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. Wheels may be detached from the sprue and fit 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 clean finish.

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.

All paints and materials indicated are available in ***Testor*** products. The Federal Standard (FS) paint colors are available in the ***Testor Model Master*** professional paint system. Colors indicated as No. are available in regular ***Testor*** enamels. Both paints are carried by good hobby retailers everywhere.

The Ryan can be built as a PT-20 or STM-S2 floatplane. Before beginning construction you must determine which aircraft you will build. Page 4, covering painting and decaling, will provide you with good views of the two airplanes. These will help in making a choice.

We recommend the use of ***Testor*** liquid cement, #3502, for construction since its use will produce the neatest, quickest, and strongest glue joints. Apply small amounts of cement using a ***Testor Model Master*** #2 brush. Do not use large amounts of cement.

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

Testor Model Master paint brushes are also recommended as an aid to good kit building. See your local hobby dealer for the full range.

You can build the model with or without the pilots and as either a World War II Army Air Corps PT-20 landplane or a Netherlands STM-S2 floatplane. Study page 4 before beginning.

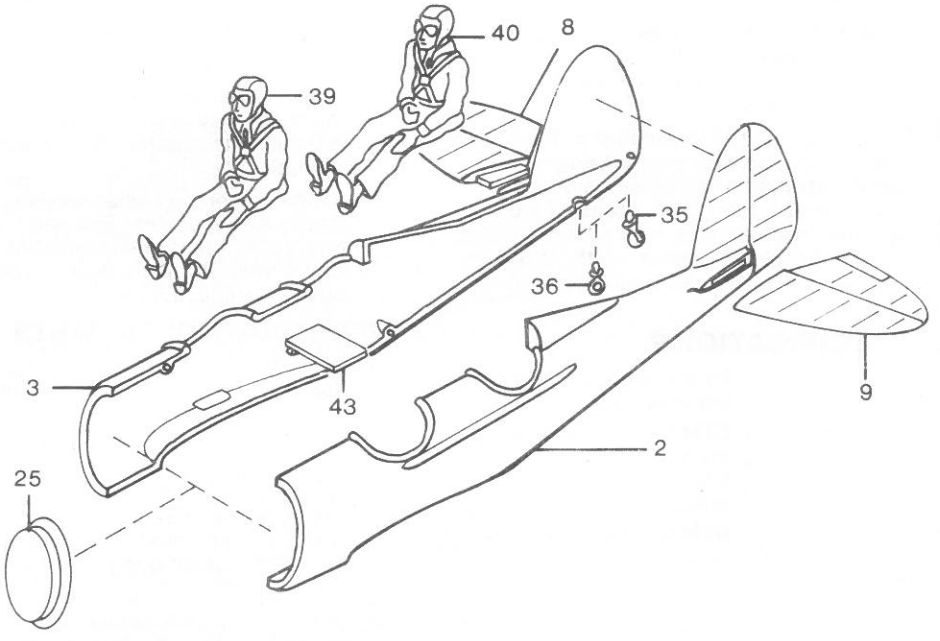
1 PARTS AS SHOWN

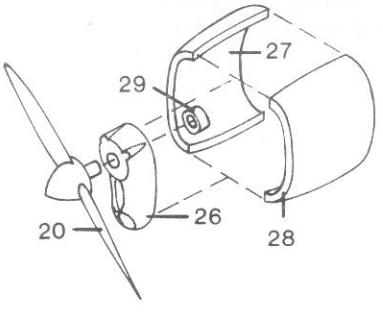
Preliminary Painting

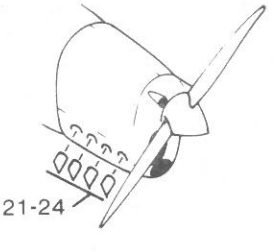
8, 9
Chrome Yellow FS 13538 if PT-20
39, 40 jackets
Military Brown FS 30117
39, 40 pants
Sand FS 33531
39, 40 faces, hands
No. 1116 Cream
39, 40 shoes
Gloss Black FS 17038
21-24
No. 1185 Rust
20
No. 1141 Wood

Assembly

1. Glue **43** to fuselage side, **3**. Now glue painted pilots into place. Glue fuselage side, **2**, to fuselage side, **3**. Now glue firewall, **25**, to front of fuselage, **2** and **3**.
2. Glue right and left tail surfaces, **8** and **9**, to fuselage. If building a PT-20 glue tailwheel, **35**, into place. If building the STM-S2 floatplane glue tiedown ring, **36**, into place.
3. Glue engine cowl halves, **27** and **28** together. Slip propeller, **20**, thru forward cowl, **26**, now carefully glue retainer ring, **29**, to the propeller shaft. Now glue unit to the front of the fuselage.
4. Glue exhaust stacks, **21-24**, to the engine cowl.







2 PARTS AS SHOWN

Preliminary Painting

1
Chrome Yellow FS 13538 if PT-20
2, 3 cockpit edging
Military Brown FS 30117

Assembly

1. Glue wing, **1**, to fuselage. Glue Pitot tube, **41**, to wing. Glue wing struts, **18** and **19**, to fuselage and wings. Glue windshields in place.

3 PARTS AS SHOWN

Preliminary Painting

30, 34 tires
No. 1183 Rubber

Assembly

1. Glue main gear halves, **10** and **11**, together trapping tire, **30**, between. Do the same for **12, 13** and **31**. Glue units to wing bottom if building a PT-20.
2. Glue float halves, **6** and **7**, together. Do the same for **4** and **5**. Slip forward spreader strut **17** into right float. Now glue rear spreader strut, **16**, to right float. Now glue left float to struts. Glue attachment struts, **14** and **15**, to floats as shown. Now glue float assembly to wing bottom.
3. If not mounting floats on Water Display Base you can mount the beaching gear bar, **32**, through the floats and glue beaching wheels, **33** and **34**, to ends of bar.

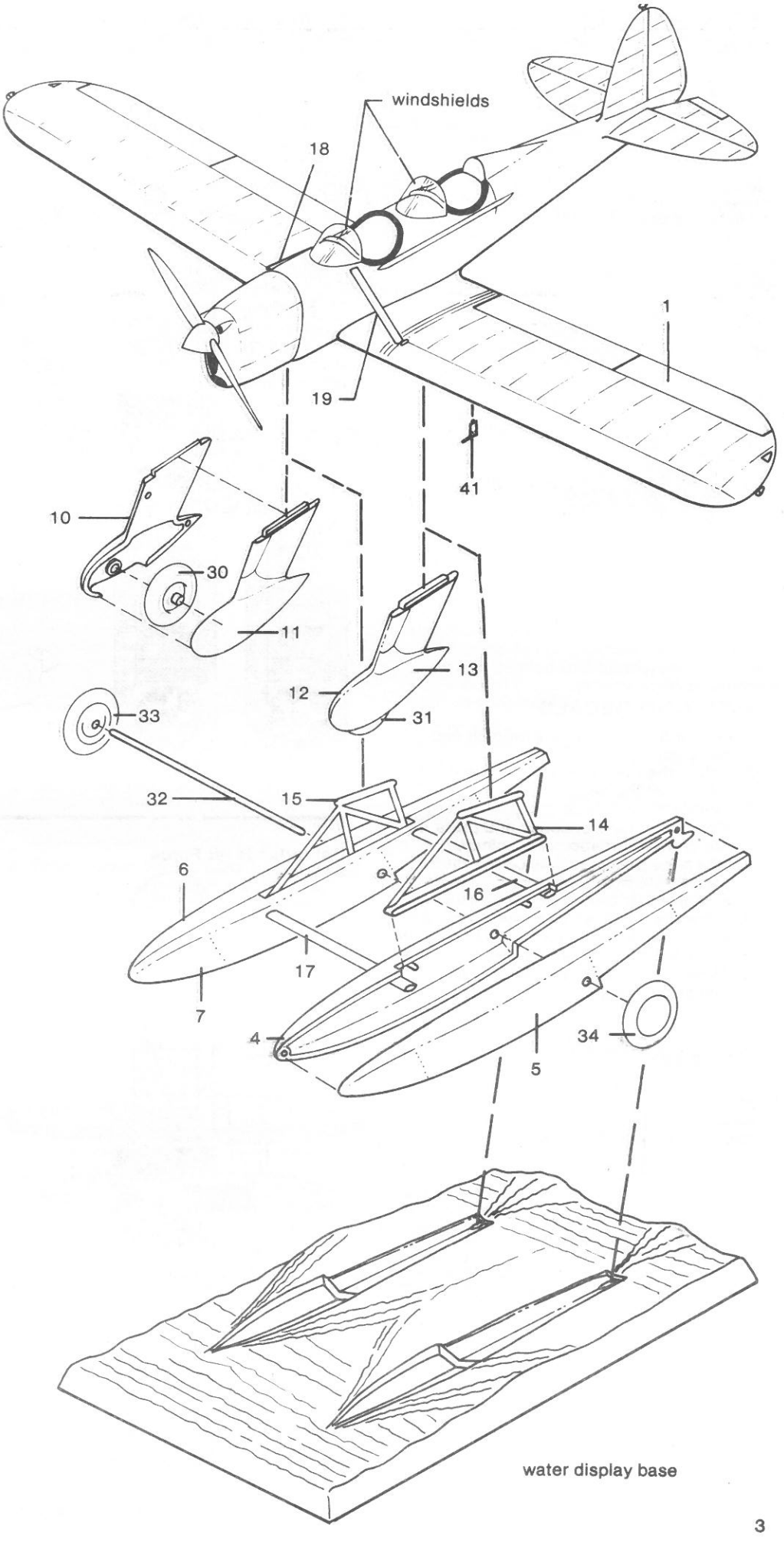
4 DISPLAY BASE

Preliminary Painting

Spray with *FS 34102 Medium Green.* Overcoat with ***Testor Glosscote*** No. 1261. Brush, lightly, breaker wave from float tips with No. 1168 ***Flat White.***

Assembly

1. The model STM-S2 can be glued to the base or the floats can simply be rested in the matching grooved areas of the base.

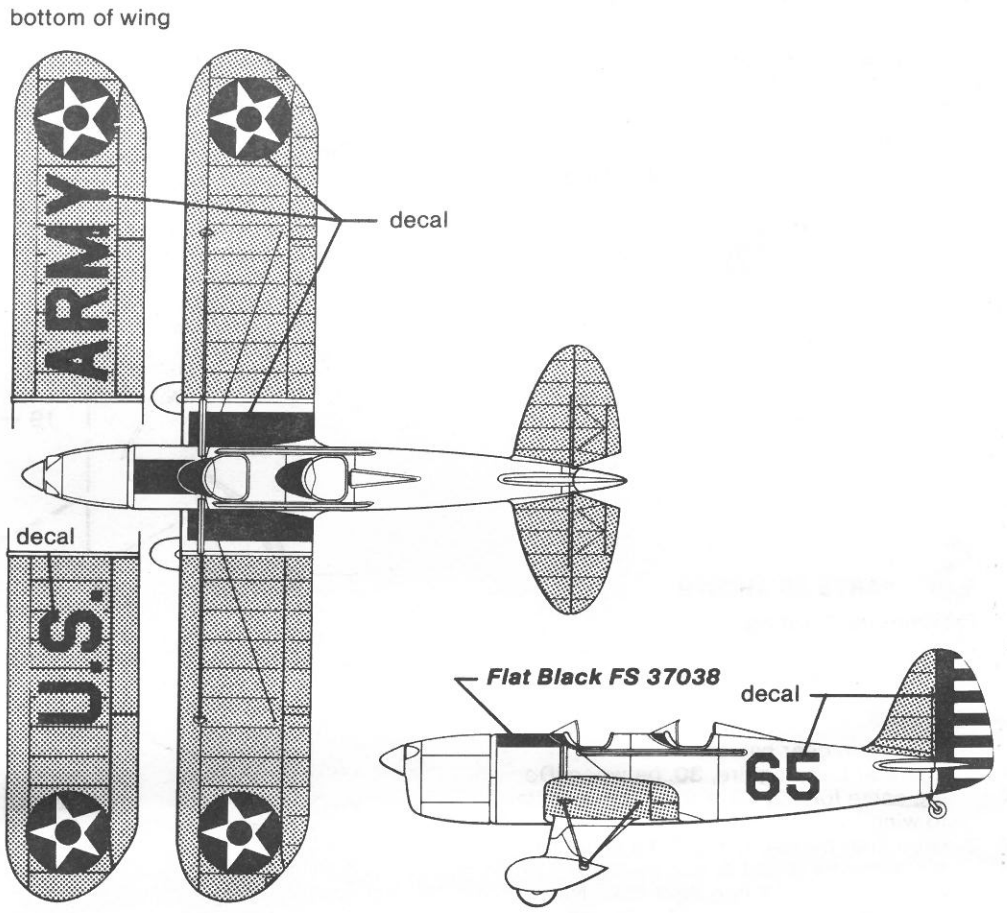


COLOR KEY

Chrome Yellow FS 13538

Chrome Silver FS 17178

U.S. Army Air Corps
PT-20



APPLYING DECALS

1. Decals adhere best to a smooth and shiny surface.
2. Select the decals you will use and cut them from the decal sheet.
3. Work with one decal at a time. Dip in clear water for 5 seconds and place on paper towel for about one minute.
4. When the decal loosens on the decal paper slide from the paper onto the model with a soft clean paint brush.
5. Once the decal is positioned, apply a small amount of Testor Decal Set #8804. Allow the decal to dry undisturbed.
6. Allow the decals to completely dry (usually overnight).

COLOR KEY

Chrome Silver FS 17178

Netherlands Air Force
STM-S2