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MOST FAMOUS GERMAN SHIP!

The recognition granted by Americans to the Fokker D-7 as Germany's leading World War battle plane is by no means ill-deserved. For had this craft been in the bloody game prior to those few final months, the Allied song of victory might never have been sung. Read the full story of this great ship in Henry Struck's article below, and then take his fine model plans and instructions into your workshop and prepare to-

Fly a Fokker D-7

Trail Blazers of the Air – No.9

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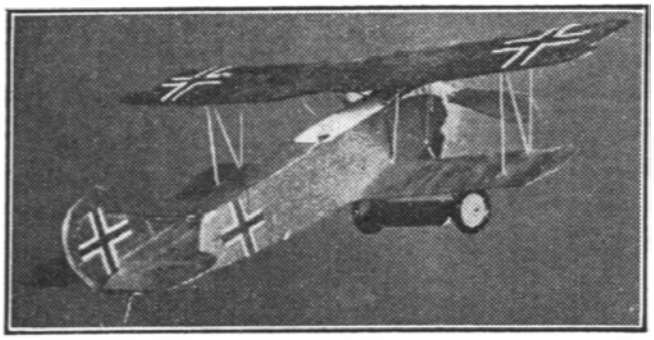
by Henry Struck

EARLY in 1918, undoubtedly aware of the fact that she was nearing her last chances for victory in the World War, Germany desperately launched a vast program of expansion and improvement for her flying force. And among other feverish activities, an open competition for a new single-seater fighting ship was announced by General von Hoeppner, commander of the Imperial Air Force.

Naturally, the leading aircraft firms entered ships, and among the new craft was a unique biplane developed by Tony Fokker. Fokker, it seemed, was pretty sure of his ground--for just a few months before, he had presented that now-famous red "tripe" to Baron Manfred von Richthofen, and with this ship as an introduction he had been able to chat with the Baron and other experienced action-airmen about what might constitute the ideal pursuit ship.

So, armed with this knowledge right from the skies of war, Fokker had taken great care and much time in the design and construction of his entry for the competition. But when construction was completed, the ship showed an alarming tendency toward spins!



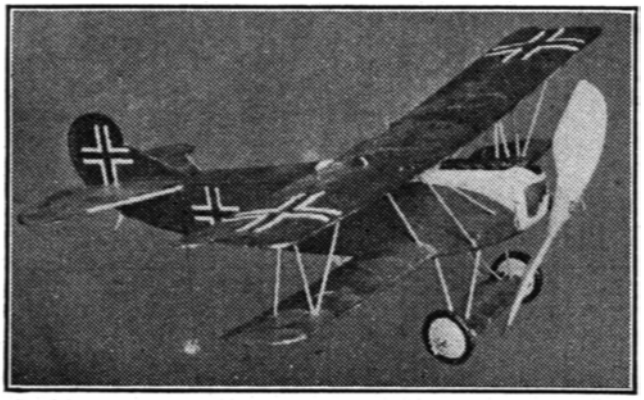
Undaunted, Fokker and a couple of mechanics sawed off the rear of the fuselage, inserted an extra section, added a larger fin, and

tried the ship again. The "bug" was killed-and the ship flew perfectly! And the open competition proved the new Fokker far more maneuverable than any German ship of the day. It is true that other ships were *faster-but* the front line aces who had test-flown the biplane stated their preference was for peppy combat performance rather than speed.

With the introduction of the new ships-which became known as the Fokker D-7, the subject of our Trail Blazer model this month-a definite change occurred in aerial combat tactics. Mass formations were emphasized, as opposed to the earlier days of the war when individual air duels formed the greater part of sky fighting. This change took place because the easier maneuverability of the new ships made it possible for flyers who were not "born birdmen" to handle their crates in closer quarters. And so satisfactory were these new group tactics of the German army in the World War the basis of air tactics throughout the world is almost entirely laid upon the system which they devised.

Like most truly great achievements, the keynote of the Fokker D-7 was simplicity, and clean, efficient lines marked its external appearance-there was no "birdcage" of wires and thick struts. The fuselage and tail group were of welded steel tubing, a type of construction pioneered and perfected by Fokker .

The wings were entirely of wood, and the very thick "high lift" airfoil tapered off to a thin section at the tips. With the 160 h.p. Mercedes power plant, the Fokker D-7 could make a speed of 120 m.p.h. which, while not quite up to many of the Allied ships she met in combat, was close enough to give her pilots satisfaction.



CONSTRUCTION

AND now for our model D-7, which you'll find simple to build, and sturdy. The scale is 1/2" on the model to 1' on the original ship. The three-view drawing (Plate 1) is half the size of the model, while the layouts on Plate 2 are drawn to full size.

The fuselage sides are cut from 1/32" sheet balsa to the pattern on Plate 2. Stiffener strips of 1/16" sq. are cemented across the inside of each blank as indicated. Glue the sides to the nose bulkhead of 3/16" sheet balsa. The formers are cut from 1/16" sheet, and Nos. I, II, and III are cemented in position at the top of the fuselage.

Connect the bottom with 1/16" sq. cross pieces, pull the rear of the body together, and insert former IV and the remaining bottom cross piece.

The bottom section of the nose

back to the rearmost landing gear strut is filled in with 1/8” sheet, the grain running crosswise to the body. Round this off to match the contour of the nose bulkhead. The top of the fuselage is covered with 1/32" sheet, and a wedge shaped sheet, not quite reaching the fuselage sides, covers the turtle back as shown in the three-view. Cut away the cowling for the dummy motor and cockpit.

The nose plug is a block 1/2" by 1 1/4" by 1 3/8” carved and sanded to meet the fuselage lines smoothly. Drill a hole at a slight downward angle and cement bearings of washers with bushings inserted.

Dummy cylinders and the exhaust pipe are shaped of suitable scraps of balsa and are then cemented to a flooring of 1/32" sheet fitted between the top edges of the fuselage sides. A door is cut at the rear of the body as shown, and a motor hook of .028 piano wire solidly cemented therein.

The landing gear consists of V's made from 3/64" by 1/16" streamlined bamboo struts. The upper ends are pointed and cemented into the fuselage bottom. The small spreader wing between the wheels is built up of 7 ribs, a 1/8" sq. leading edge, and a 1/16" by 1/8" trailing edge. When dry, this frame is attached to a triangular spar bearing an axle of .028 wire and which (the spar) has already been cemented in the apex of the landing gear V's. Mount a pair of 1 1/4" balsa wheels with thin tires, and we're ready to begin work on the

WINGS AND TAIL

THE taper of the wings naturally requires ribs of different sizes. Toward this end we have developed the following simple system. Cut out the tip and center ribs as shown on Plate 2. Then arrange a block of 1/32" sheet balsa slats and the shaped ribs, as shown in the rib taper detail sketch on Plate 1. With knife and sandpaper, using the finished ribs as templates, shape the wood into a tapered block. Spar slots are now cut, and you have a set of perfect taper ribs. Since there is no taper in the center section, five No.1 ribs are required.

The trailing edges (1/16" by 3/16" balsa) are pinned to a soft board. Cement the end ribs against them. Pin the leading edge (3/32" sq. stock) to the nose of these ribs, after which the remainder of the ribs may be slipped into place.

Add tips of 1/32" sheet and a spar of 1/16" sheet which is tapered from 3/16" at the center to 3/32" at the ends. Note that the spar and trailing edge of the lower wing are continuous and fit into slots at the bottom of the fuselage sides.

The tail group is flat in section, and is simply constructed of 1/16" sheet and 1/16" sq. balsa.

COVERING AND ASSEMBLY

SANDPAPER the entire framework evenly, removing any bumps that might prevent a perfect finish. A simple yet striking coloring is the basic color scheme on von Richthofen's famous "Jagdstaffel One"-all red with white rudder and

insignia outline. The various white bands and other designs that marked the individual members of this squadron may be selected from the many photos of Fokkers that have been published.

Cover all exposed parts of the fuselage and the airfoil surfaces with colored tissue. Apply it in separate sections at the tips and other curved places.

All wing struts are of 3/64" by 1/16" streamlined bamboo. Struts C are pointed, then cemented into the bottom of the fuselage just above landing gear struts A. They are then braced with the short struts D and E. A single pair of struts, F, also support the upper wing.

Mount the upper wing panel, allowing the struts to project slightly into the wing on the outside of the No.1 ribs, to provide ample surface for a strong joint. Check the alignment and the 1/16" incidence of the wing. The bottom wing and the elevator are cemented directly to the fuselage at zero incidence.

The entire model may now be sprayed with water and doped lightly to tighten the tissue. Keep an eye on all surfaces and correct any tendency to warp before the tissue is dry. The interplane struts G, H, and I, are now cemented in the given order to the outside of the No.4 ribs and the inside of the No.11 ribs. Two thin bamboo struts, J, brace the stabilizer.

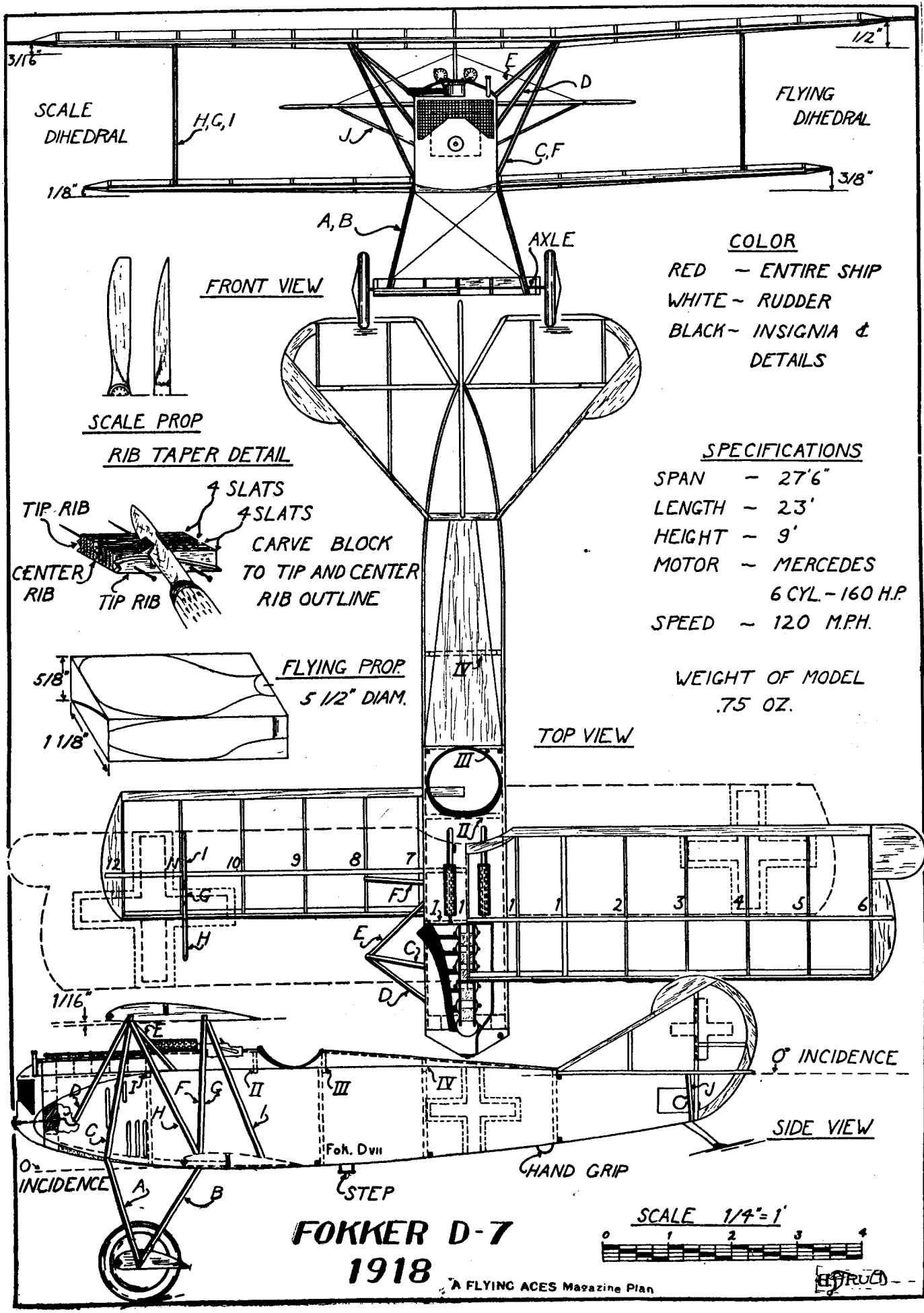
PROPELLER AND FLYING

CARVE the prop from a medium hard block 5/8” by 1 1/8 " by 5 1/2". After finishing with fine sandpaper, dope the prop for strength and smoothness. The prop shaft, formed of .028 piano wire, is passed through the nose plug and prop and embedded in the hub, with a couple of washers included for bearings.

Four strands of 3/32" flat brown rubber are required to fly a D-7 model weighing. 75 oz., and four strands of 1/8” flat brown rubber are needed for a heavier job. The model should be adjusted with clay so that it balances level at point 1” from the leading edge of the upper wing. Minor adjustments can be made by warping the elevators up slightly in case of a glide that is too steep, or warping them downward to correct a tendency to stall. Adjust the model to fly in fairly tight right circles, and then lubricate the rubber and wind it with a winder for flights that will make this ship one of your favorites.

Details not needed on a flying model such as steps, hand grips, radiator, guns, and the like-are shown on the three-view plan and can be easily made up from balsa scraps and pins.

Flying Aces – April, 1938



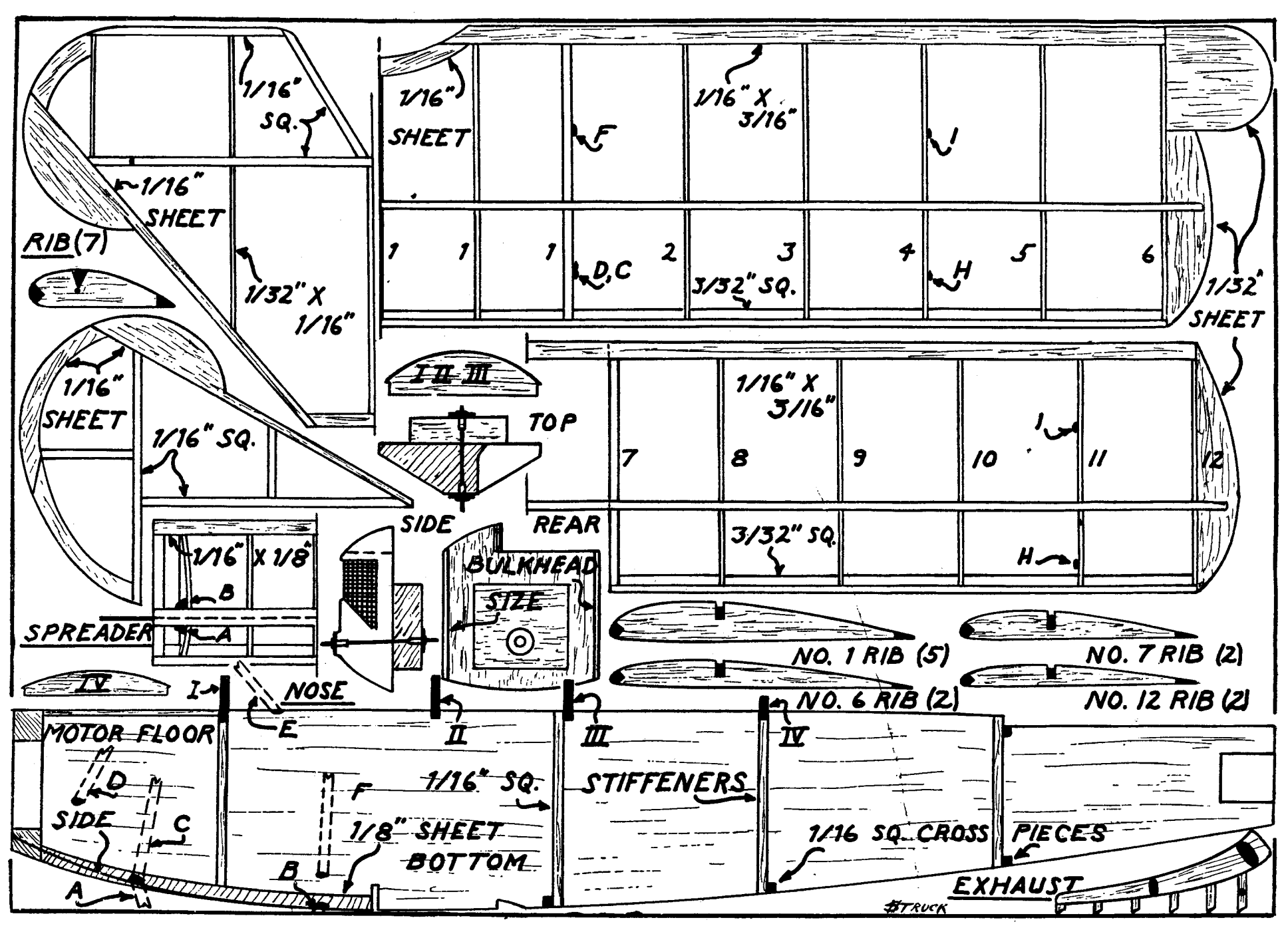
COLOR

RED – ENTIRE SHIP
WHITE – RUDDER
BLACK – INSIGNIA & DETAILS

SPECIFICATIONS

SPAN – 27'6"
LENGTH – 23'
HEIGHT – 9'
MOTOR – MERCEDES 6 CYL. – 160 H.P.
SPEED – 120 M.P.H.

WEIGHT OF MODEL .75 OZ.


1/16" SQ.
1/16" SHEET
RIB (7)
1/32" X 1/16"
1/16" SHEET
1/16" SHEET
F
1/16" X 3/16"
I
1 1 1 D,C 2 3 4 H 5 6
3/32" SQ.
1/32" SHEET
I II III
TOP
1/16" SHEET
1/16" SQ.
SIDE
REAR
1/16" X 3/16"
I
7 8 9 10 11 12
3/32" SQ.
H
1/16" X 1/8"
B
SPREADER
A
BULKHEAD SIZE
NO. 1 RIB (5)
NO. 7 RIB (2)
NO. 6 RIB (2)
NO. 12 RIB (2)
IV
I
NOSE
E
II
III
IV
MOTOR FLOOR
D
SIDE
C
A
F
1/16" SQ. STIFFENERS
1/8" SHEET BOTTOM
B
1/16 SQ. CROSS PIECES
EXHAUST
STRUCK