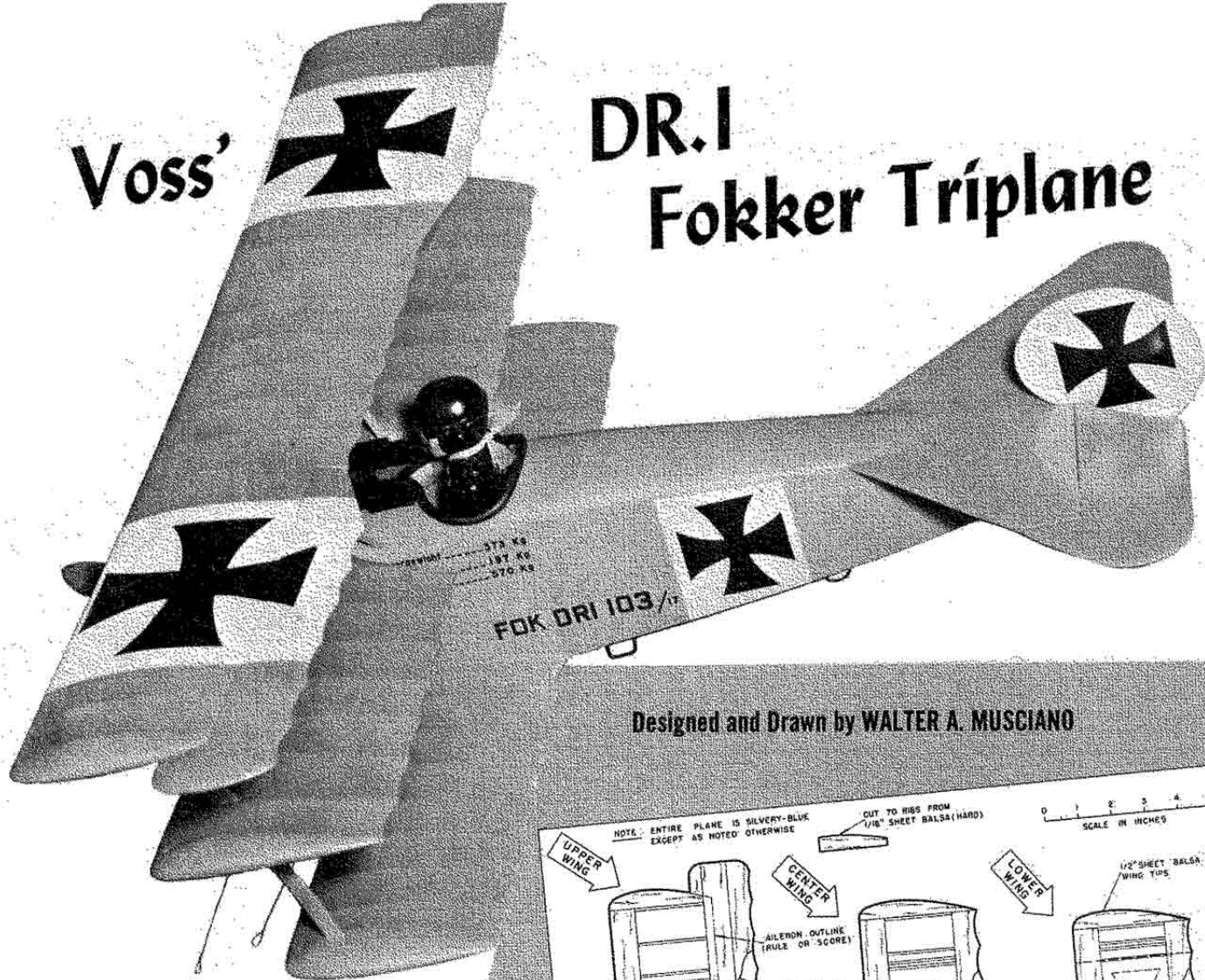


Voss'

DR.1 Fokker Triplane

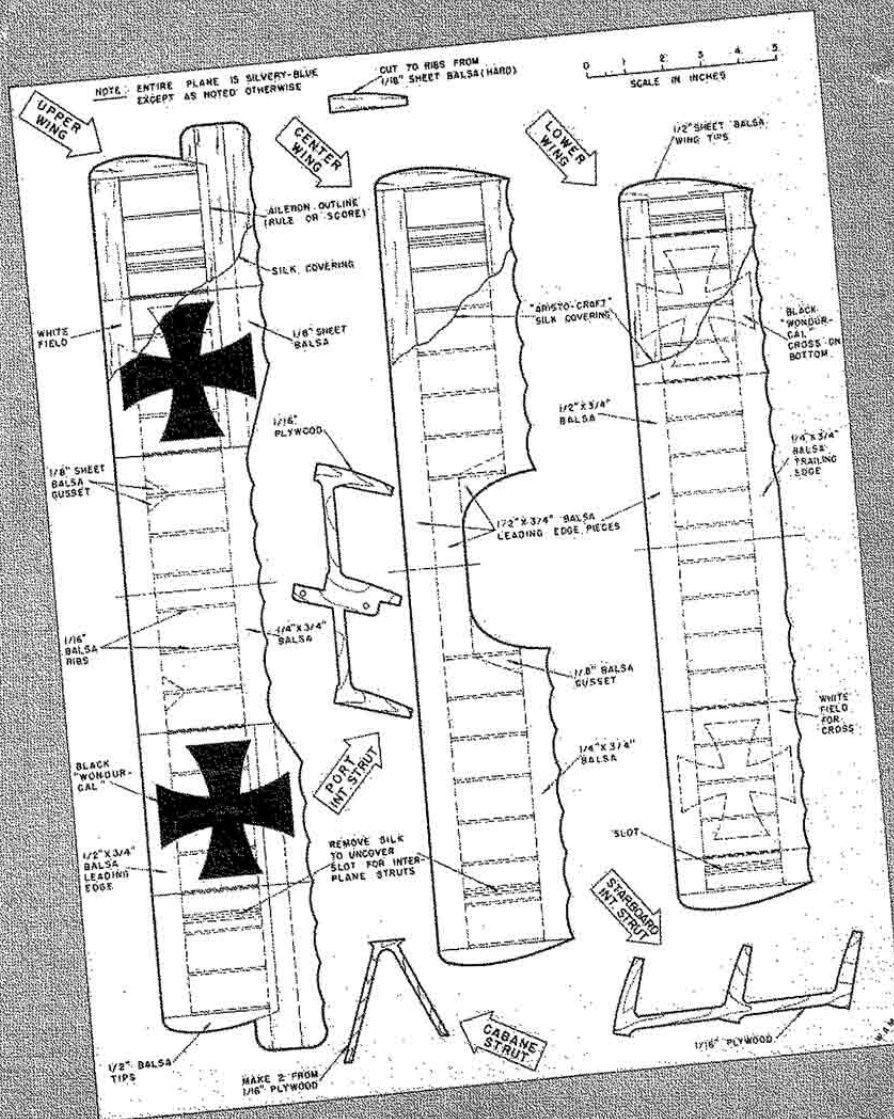


Designed and Drawn by WALTER A. MUSCIANO

■ The most glamorous and widely publicized German airplane of World War One is undoubtedly the Fokker Triplane. This tiny scout was used by the vast majority of German Aces including Udet, Richthofen, Voss, Loerzer, and Goering. It appeared along the Western Front in a wide variety of colors ranging from gaudy personalized markings to the standard 1918 lozenge-hexagon pattern.

Although slightly slower than the other fighters of its time the Fokker Dr-1 was extremely maneuverable. In the hands of an experienced pilot it became a very dangerous opponent. In view of the fact that the Triplane was difficult to fly it was seldom assigned to the novice or mediocre pilot. Very few Staffels were exclusively equipped with the Triplane; the Dr-1 was invariably mixed with several Albatros or Pfalz scouts. The very fact that it required an expert pilot to effectively utilize the advantages of the design caused the Triplane to enjoy a relatively short operational existence when compared to other planes of that time. The fact that wing tip skids were often fitted to protect the wings during landings and takeoffs attests to the difficult handling characteristics of the Dr-1.

The tiny 830-lb Fokker Triplane made its appearance in August of 1917 and, partially due to the success of Werner Voss, it was soon sought after by all of the leading German Aces. Powered by an Oberursel rotary engine of 110 horsepower, the Dr-1 attained a speed of 122 miles per hour. Wings were cantilever with no external braces or wires.

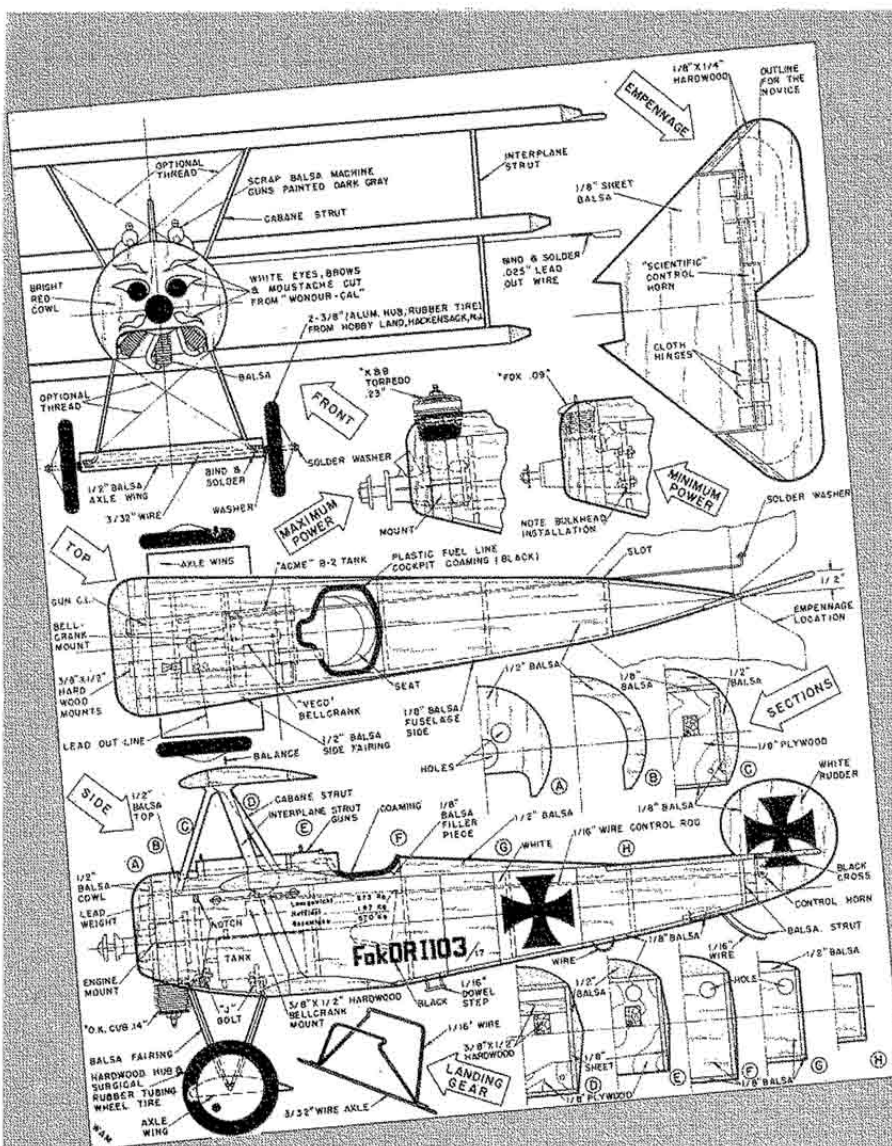
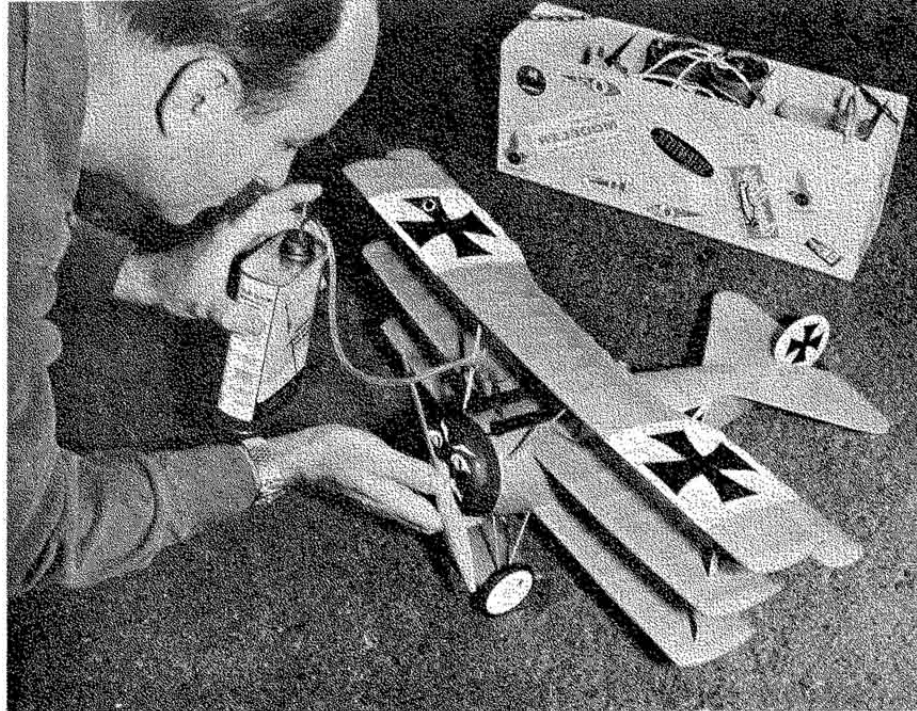


Designer-author Musciano fuels his control line scale Fokker. Note tool-and-fuel accessories "tote" box.

Approximately six hundred Triplanes were completed; about one fifth of these were in action at any one time. The Dr-1 was one of the best "dog fighters" of the war and more than a match for the SE-5 and Spad when properly handled. Standard armament consisted of two Spandau machine guns mounted just forward of the cockpit.

Our one-inch-to-the-foot scale control line model Fokker Triplane is a replica of the famous silvery-blue Triplane flown by Lt. Werner Voss.

If the reader desires, he can duplicate the first Dr-1 flown by Baron von Richtofen by painting the entire plane bright red except the cowl and rudder which should be white. The crosses, on white fields, are located as shown on the Voss machine and are the same type. The serial number was FOK. F 102/17. This is not the triplane in which the Baron was killed, it is the one in which he scored numerous victories.



Full size plans for the Voss Fokker Triplane are on Group Plan #360 from Hobby Helpers, 770 Hunts Point Ave., New York 59, N. Y. (60c). See Voss story on pg. 12.

Any glow plug or diesel engine of from .09 to .23 cubic inch displacement can be used in this model. The smaller engine will provide superbly realistic flying but is recommended only for the experienced flyer. The .23 will pack plenty of zoom into your Dr-1. We consider a .15 size to be ideal for this 220 square inches wing area model.

Construction begins with the wings which represent the ultimate in simplicity. They require no dihedral or sweepback and, being of constant chord, they have only one rib shape. The rib spacing shown on the plans is exact scale and is recommended. Trace and cut the wing ribs to shape and cement them to the leading and trailing edges directly on the plans. Add the rough cut wing tips and upper wing aileron extension. When the cement is dry trim the leading and trailing edges and tips to shape with a sharp knife such as an "X-acto" No. 26 blade. Sandpaper thoroughly and cover the wings with "Aristo-Craft" silk using a mixture of clear dope and cement as the adhesive. Apply about four coats of clear dope to each wing and set aside to dry thoroughly.

Fuselage sides are cut to shape along with the bulkheads and formers. Cement the bulkheads and formers to the sides and set aside to dry. Notice that the plywood bulkhead is located a distance aft of the cowl in order to comfortably accommodate the majority of engines. Firmly cement the hardwood engine mounts to the two plywood bulkheads and also cement sheet balsa between the mounts and the fuselage sides. Apply several coats of cement to the engine mount installation.

The commercial fuel tank is installed. Wedge this in place with scrap balsa and use plenty of cement all around the tank. The plastic filling, vent and feed tubing should be attached to the tank before it is installed. Slip the feed line through the hole in the bulkhead.

Bend the music wire landing gear struts to shape and bind together with soft fine wire (not aluminum). After all alignment adjustments are made the joints should be well soldered. Bolt the landing gear assembly to the plywood.

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twice that number for a professional job. Thin the last two coats about ten percent and always wait until the previous coat is dry before applying the next coat.

The black crosses and serial numbers are cut from "Wondur-Cal" decal sheet. This is fuel proof and requires no protective coating. The face on the cowl front is white "Wondur-Cal."

Machine guns are carved from scrap balsa and colored dark gray. Use plastic fuel line or rubber tubing for the cockpit coaming. This is painted black.

Commercial rubber wheels should be used for flying. Scale type wheels made from a hardwood hub and rubber tubing tire should be saved for exhibition only. We have flown with the scale type wheels and found that they suffer greatly in appearance by being scratched. (The author has discovered that scale type WW-I aluminum hub, sponge rubber wheels of 2 3/8" dia. can be purchased from Hobby Land, 390 Main Street, Hackensack, N. J., for one dollar per pair. These fit most one inch scale fighters like the Triplane and can be used for flying.)

Flying a triplane is no different than any other model except for the abundance of wing area. Never fly if the model balances tail heavy. Some of the lighter engines may cause this condition therefore do not hesitate to add lead weight to the extreme forward end of the cowl interior if the craft is tail heavy.

Flight lines can be .010" diameter stainless steel. We prefer braided lines for scale and sport flying because they do not kink as easily as solid lines. This Triplane can be tested on thirty-five to forty foot lines. When the characteristics of the model are known the lines can be increased to sixty feet if desired. It is recommended that the flying site be a paved surface like a parking lot or school yard to insure safe takeoffs and landings. After a score or more flights have been experienced added realism comes by keeping the model rolling on the ground for a half lap or more and then gently allowing it to rise slowly for a true-to-life take-off. We have built and flown over a dozen Triplanes of all types and always found them to be excellent flyers and a big spectator attraction at any flying field—so have fun!

Voss' Fokker

(Continued from page 19)

bulkheads and coat with several layers of cement.

The commercial bellcrank is bolted to the hardwood mount and the lead out wires are attached to the bellcrank. Cement the bellcrank mount to the engine mounts and fuselage sides at this time.

Cut the elevator, stabilizer and rudder to shape and sandpaper to a streamline section. Cement the elevator halves to the hardwood joiner and firmly install the commercial control horn. Install the elevator to the stabilizer with cloth hinges. Cement the stabilizer to the fuselage followed by the rudder. Offset the latter as the plans illustrate. Connect the control rod to the bellcrank and control horn via a slot in the fuselage side. Solder a washer to the ends of the control rod to prevent it from clipping off the bellcrank or control horn.

The center wing and the lower wing are cemented to the fuselage in the correct positions. Cut the plywood interplane struts to shape and sand smooth.

FOKKER TRIPLANE—LIST OF MATERIAL

(Material is balsa except where otherwise indicated)

Two 1/16" x 3" x 36" hard for wing ribs; (2) 1/8" x 3" x 36" med. for fuselage sides and bottom, part of fuselage top, fuselage formers; (1) 1/2" x 3" x 36" soft for fuselage top and side fairings, cowl, wing tips; (1) 3/8" x 1/2" x 18" hardwood for engine mounts, bellcrank mount; (1) 1/8" x 3" x 6" plywood for bulkheads; (1) 1/16" x 3" x 6" plywood for interplane struts; (2) 1/2" x 3/4" x 36" medium for leading edges; (2) 1/4" x 3/4" x 36" medium for trailing edges; (1) square yard Aristo-craft silk for wing covering; (1) 8 oz. Aero Gloss Clear Dope; (1) 4 oz. Aero Gloss Balsa Filler Coat; (1) 4 oz. Aero Gloss Silvaline Aluminum Dope; (1) 4 oz. Aero Gloss Curtiss Blue Dope; (1) 2 oz. Aero Gloss Swift White Dope; (1) 2 oz. Aero Gloss Stearman Red Dope; (1) 1/16" dia. x 36" music wire for landing gear and control rod.

Miscellaneous: One tube Ambroid Cement, straight pins, fine and very fine sandpaper, washers, commercial control horn and bellcrank, nuts and bolts, washers.

Note: Combine equal parts of the silver and blue dope to make the silvery-blue color.

Fighters escorted by eight SE-5 scouts below him and quickly swooped down and attacked the scouts. The daring pilot also noticed a dozen "Camels" and a dozen RE-8 two seaters a few miles away. One of the eight SE-5 scouts became his forty-eighth victim.

As the uneven battle continued, another flight of SE-5 scouts dived on the Triplane from the clouds above. This second group was Flight "B" of the famous R.A.F. Squadron No. 56 led by Captain McCudden. Every member of his flight was an ace and included Rhys-Davids; Bowman, Haige, Lewis and Mayberry. The "Camels" climbed to join the fight and a group of Spads also joined the melee! The sky was alive with Allied airplanes and the only German to be seen was the silvery-blue Triplane.

McCudden and the Flight "B" aces engaged Voss and the uneven fight continued at a fierce pace for almost ten minutes. The battle had narrowed down to eight SE-5 scouts against the lone Triplane with the remaining three-dozen Allied planes guarding the escape routes of the Fokker. The amazing Voss sent bullets into every one of his adversaries and at one time raked both wings of McCudden's plane. The twisting and turning DR-1 spread the English planes over many miles of sky in their attempt to shoot the youngster down. At one time the tiny Triplane was caught in the crossfire of five SE-5 scouts with a total of ten machine guns, but he managed to maneuver out of the trap. Upon several occasions Voss broke through the circling English but each time he returned into the fight with increased determination.

When a flight of Albatros fighters appeared in the distance, Werner Voss broke from the trap and tried to lead them into the battle but they would not follow this fearless youngster.

Finally Lieutenant A. P. Rhys-Davids found himself flying head-on towards the silvery-blue Fokker. He opened fire with the single Vickers and the wing mounted Lewis machine gun and kept shooting until the Lewis drum was empty. The Triplane continued on its course, zoomed under the S.E.-5, and then dived into the ground. Werner Voss died at the age of twenty. The silvery-blue Triplane crashed behind the Allied lines and the flyer was buried by the British.

(The author wishes to express his appreciation to Messers. Charles Donald and Vincent Vecchio for their assistance which made this article possible.)

Werner Voss

(Continued from page 12)

of the Fokker Triplane as an advantage over the faster Albatros. The combination of an excellent pilot and a superbly maneuverable airplane made the Voss-Triplane combination hard to beat. When Voss proved his choice was good by shooting down twenty-two Allied aircraft in the incredibly short time of twenty-one days, von Richthofen decided to use the Triplane as well thereby assuring its popularity among the other aces. During a dogfight with two "Camels," often called the best "dog fighter" of the war, Werner Voss was wounded in the right arm after almost seventy bullets pierced his Fokker DR-1 Triplane. He ended the fight by shooting down one of the "Camels."

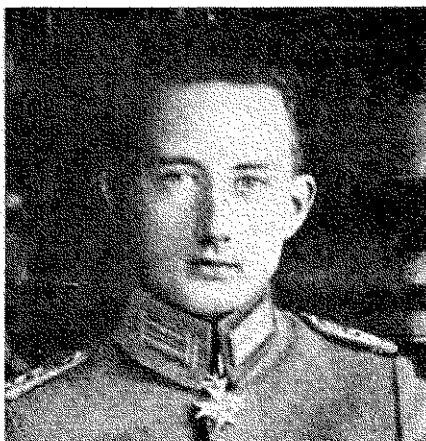
With his arm still in bandages from the "Camel" incident, Voss took off alone at dawn on September 23, 1917 and became involved in what was to be the most spectacular air battle of all time and the young flyer's last aerial engagement. Flying very high over the front at Ypres, Voss sighted six Bristol

Teenage Ace

■ Germany's "teenage ace" first saw action in World War One at the age of seventeen with one of the famous "Death Head Hussar" cavalry regiments as an enlisted man. He received the Iron Cross for bravery during this period. Rhineland born Voss then transferred to the Air Service and won his wings in record time at the age of eighteen. He proved to be an exceptionally capable pilot and, because of this talent, he was made an instructor—the youngest in the German Air Service! In May of 1916 Werner Voss was assigned to light bombers and his skillful handling of the awkward planes enabled him to outlive most of the other flyers in his squadron. He was then made a flight leader. Voss received his commission as an officer in September of 1916 when he joined the band of select pilots of Boelcke's secondary Jasta 3 but did not see action until that October at the age of nineteen.

Werner Voss was one of those rare and daring pursuit pilots who flew solo patrols in addition to the required squadron sorties. He generally attacked any number of Allied planes he would chance to sight on these unofficial excursions over the front and he usually emerged victorious over at least one victim. This young flyer's record was also most unusual in that the majority of his forty-eight victories were against single seat fighters and not the slow two-place observation planes. These were all shot down in the short time of the fourteen months.

Voss was then transferred to the famous Boelcke Jasta No. 2 and was assigned to the flight led by Baron von Richthofen. The Baron immediately recognized the young man's talent and it is said that the Red Knight was jealous of his ability. The "teenager" was second only to the Baron in the number of victories scored over the Allied planes when Richthofen formed his own Jasta 11.

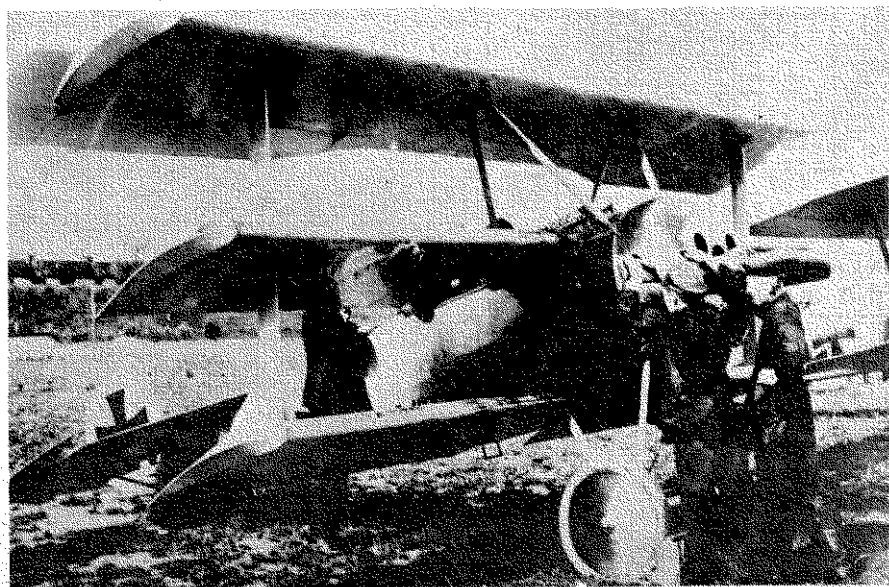


Voss' disregard for danger is illustrated by an incident in which he shot down a British two-seater in the middle of "no man's land." The craft made a crash landing but the crew managed to run back to the Allied trenches. The young German was on a solo patrol and feared that this victory would not be recorded without tangible evidence of the incident. Although a battle was raging below, Werner Voss landed his plane near the wreckage of his victim, barely missing the shell craters and trenches. He leaped out of his cockpit and dashed to the two-seater and removed one of the machine guns. By this time the Allied soldiers in the area were firing rifles, mortars and machine guns at the flyer and a platoon was advancing toward the young daredevil. Voss struggled back to his plane with the souvenir and made a spectacular take-off to safety.

The daring exploits of Voss along the Western Front were admired by both Allied and German flyers. He was known as the "checkerboard ace" because of the black and white checks that he had painted on his planes; however, when he flew the Fokker Triplane Voss changed his scheme to all silvery blue with a face painted on the cowl front. The fact that the young Lieutenant took advantage of the face-like appearance of the Triplane cowl clearly illustrates his sense of humor.

Werner Voss was the first German Ace to recognize the superb maneuverability

(Continued on page 66)



Voss' Fokker with face on cowl (Charles Donald photo). See pg. 18 for plans.