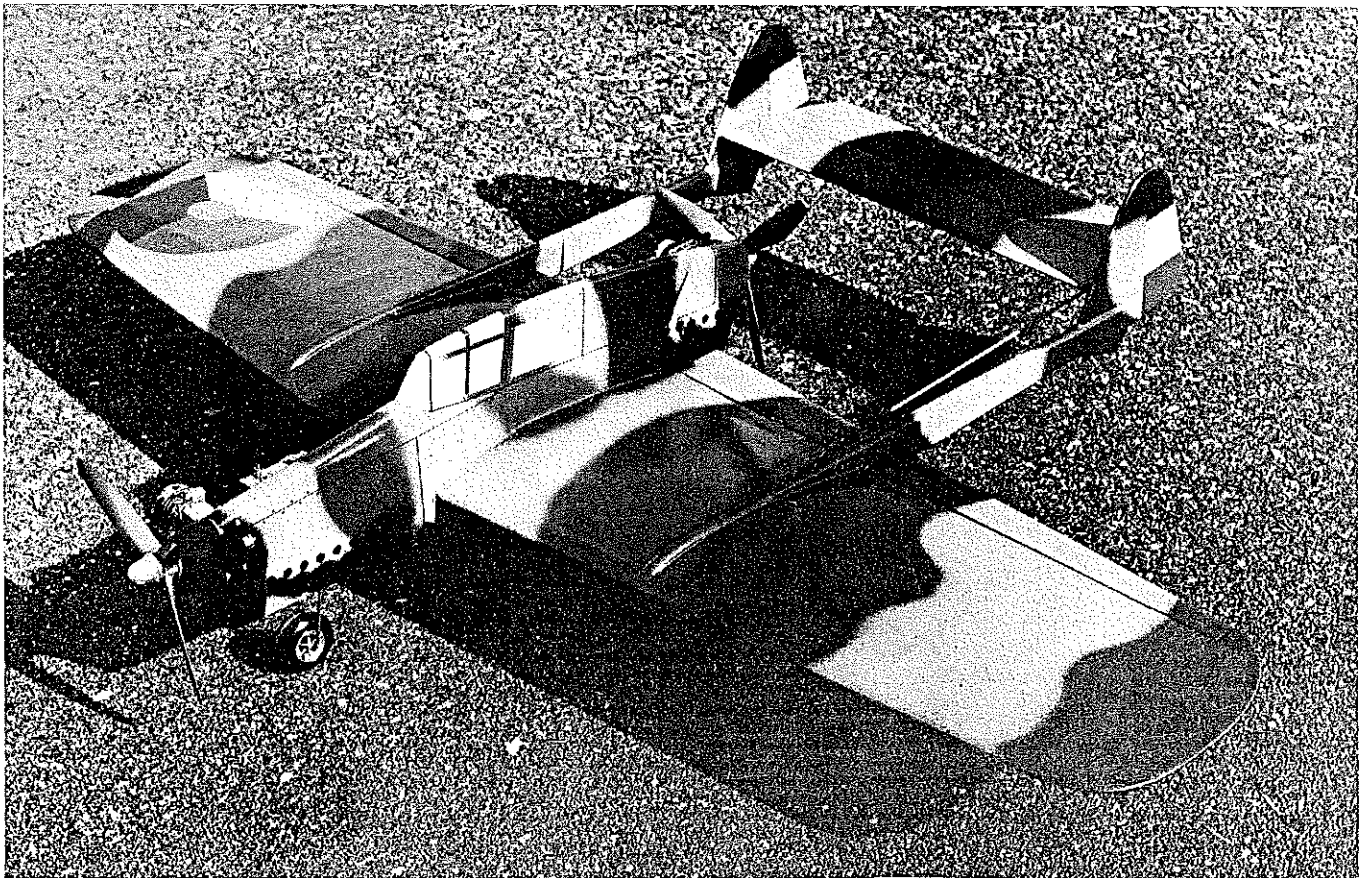


107

FOKKER D-23

This control-line twin has no engine-out problems
and will perform the entire stunt pattern.



Dick Sarpolus

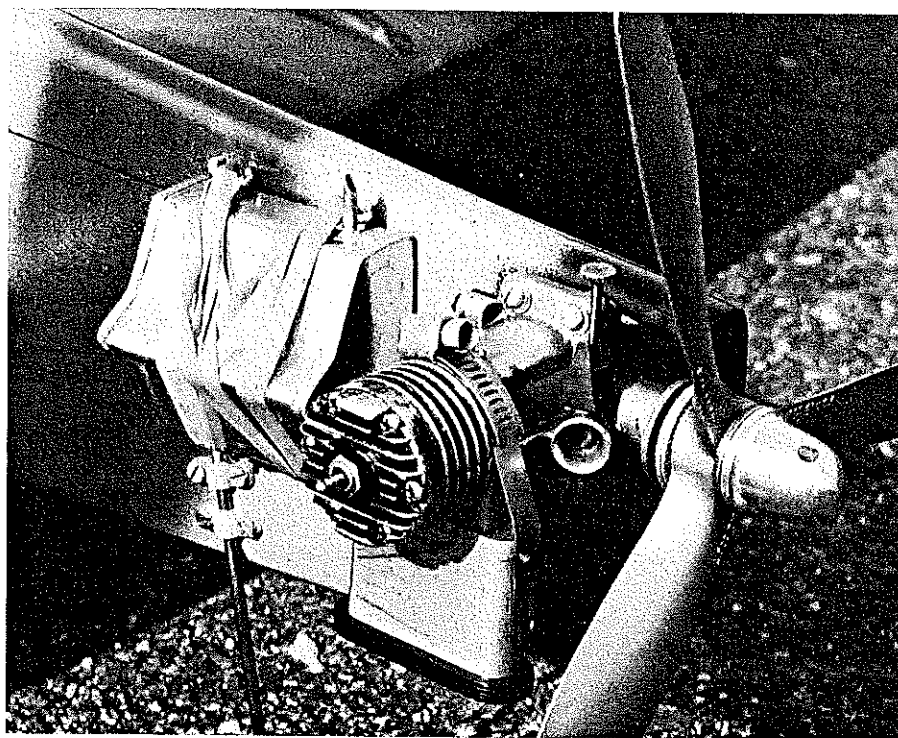
FOKKER D-23? What's that? And what country is that red, white, blue, and orange insignia from? These are the comments we hear most when flying this model, and of course that is why scale modelers try hard to find unusual subjects to model. This aircraft was developed and built by the Dutch prior to World War II as a single-seat fighter; testing proved it to be so good that it was to go into production and be the Dutch front-line fighter by 1942. The Nazi invasion of the Netherlands cancelled those plans and the plane was never produced.

Performance figures are impressive for that time period. It was powered by two Sagitta V-12 570-hp engines, had a wing span of 34' 8", length of 32' 6". The top speed was in excess of 373 mph, and the proposed armament of four 7.9-mm Browning machine guns would have made it a formidable fighting machine.

The overall configuration looked like it would make a good flying control-line model. The model is naturally a stand-way-off scale, with the profile fuselage configuration. To insure good pattern flying characteristics, a large wing, full flap/elevator controls, generous tail area, etc., were incorporated into the model configuration. Original intention for power was to use two .19's; however, for balance reasons, we went to a .35 in the nose and a .15 pusher. As designed, the model balanced perfectly.

The color scheme used was the Dutch three-color camouflage—dark brown, tan, and dark green. We could only find black and white pictures of the original and they apparently used the camouflage typical of Dutch planes at that time. To illustrate the problems of scale modelers, we located two good 3-view drawings of the D-23, which differed considerably from each other in major areas. Comparing the three-views with several photos, we selected the drawing which most appeared to be like the photos. Although the model is "only" a profile, a good paint job with sufficient detailing added makes a nice appearing ship. Advantage of the profile construction is, of course, simplicity and speed of construction.

Flight performance is good. The model will do the full stunt pattern—not as well as a real pattern model, but good enough for the casual flier. The sound of the two engines is an added excitement bonus. When the .15 stops, the model flies on with the .35 and will do reasonable maneuvers with just the front engine running. If the .35 stopped first, we assume the model would barely fly or gently land; haven't had it happen yet. For those not wanting the complexity of a second engine, the .35 alone and a free spinning rear prop would be a good way to go. And for the more ambitious modeler, the fuselage could be built up rather than profile. Basic sides, bulk-



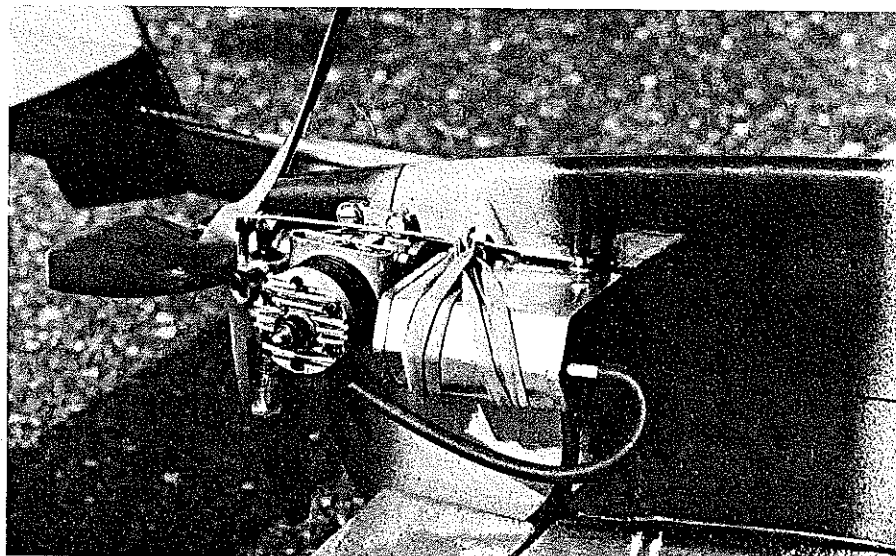
heads, shaped blocks top and bottom, pastic canopy; more work for a better looking ship.

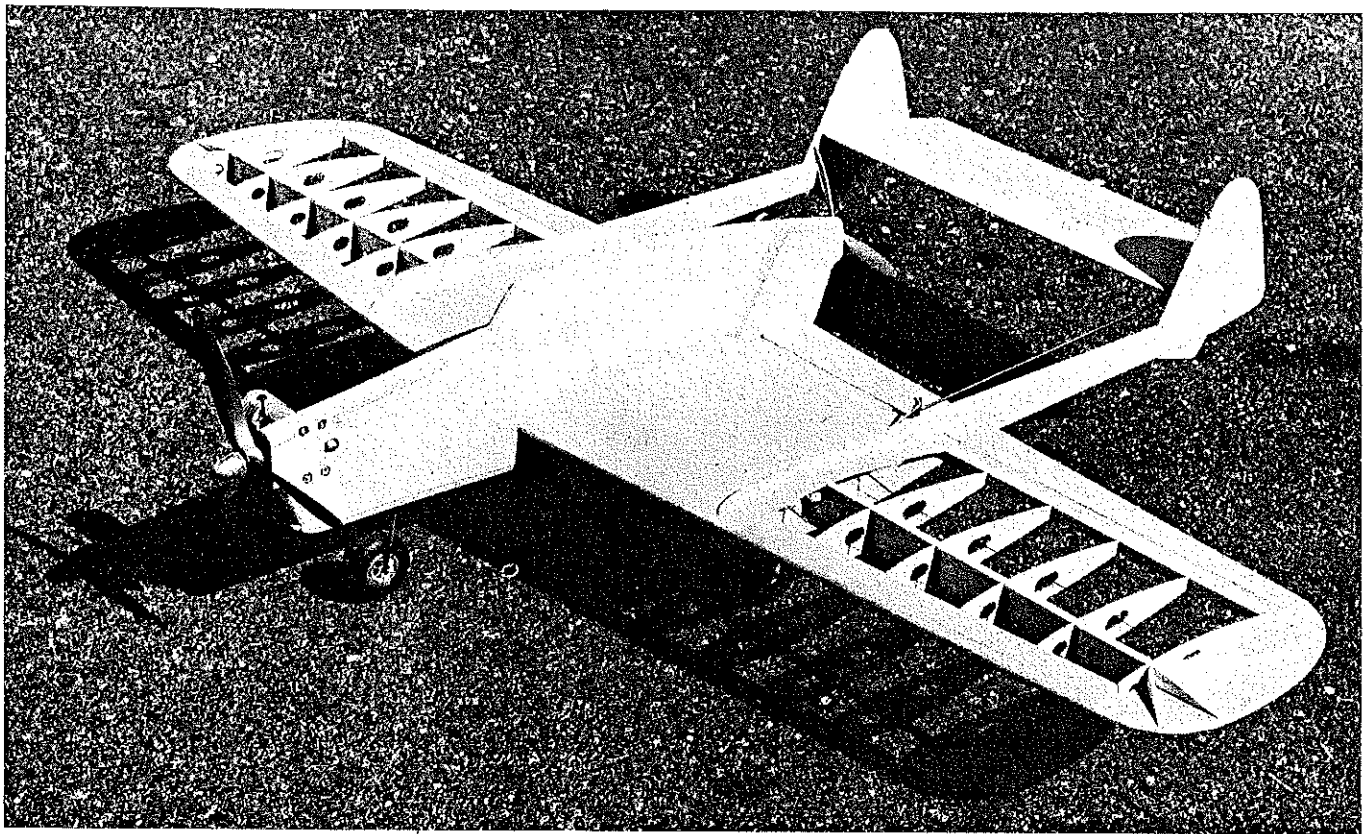
Enough scale information and sales pitch; if you want a distinctive, easy twin, get a good supply of wood and we'll proceed with some construction comments. I believe it is best to cut out all the necessary parts before starting to build. Make your own kit first, rather than cut as you go. The wood sizes are standard and all material should be available at any reasonable hobby shop. For the wing, standard shaped leading and trailing edge stock should be purchased to save a lot of carving. The 1/2" balsa fuselage is edge-glued from 3" or 4" wide stock to get the necessary width. Landing gears are always a problem, but 1/8" wire is not too hard to work with. A wire bender makes it easy, but you can al-

Front engine is the old dependable Fox .35. Tank is a 3-oz.—many are on market; just be sure to use correct type. That 3-blade prop is only for show. Dick flies with a 10 x 6 two-blader. He used a DuBro muffler on front engine, chosen for smallness and lightness.

Opposite page: That two-color camouflage almost makes you forget it's a profile! A fast, heavily armed fighter, the D-23 was set for production at the time of the Nazi invasion.

An O.S. 15 pusher engine maintains flight on its own. Note the fuel feed. Ignore wire; it only locked the RC throttle on Dick's engine. Grish has molded nylon Tornado pusher props. One used is an 8 x 6—what he found in shop. Didn't have rear muffler when pix taken.





Fokker D-23

ways clamp it in the vise and go to work with a hammer.

We'll discuss the wing first because we don't like to build wings. So do it first and get it out of the way. The notched full-depth spar and notched ribs are about the easiest way to get a good strong wing. No planking or cap strips on this model. Notching the leading and trailing edges is work and could be omitted but we believe the increase in strength is worth it. Block up the ribs carefully when building the wing, on a good flat work surface, to insure no warps get built in. Epoxy in the landing gear blocks, their plywood doublers, and the bellcrank mount as these pieces take a lot of stress. There is more center-section planking than on most models due to the twin-boom layout. The flaps, necessary for good stunt performance, are troublesome as they must be made in four sections. Be sure all sections are lined up with each other and move freely without binding.

Tail surfaces do not require much comment as they are simply cut from 3/16" balsa sheet and sanded to shape. A general comment here, the more you sand the better the model will look. Try for an air-foiled section on the stab and rudders—round off the booms—and really round off the profile fuselage. Don't leave square edges.

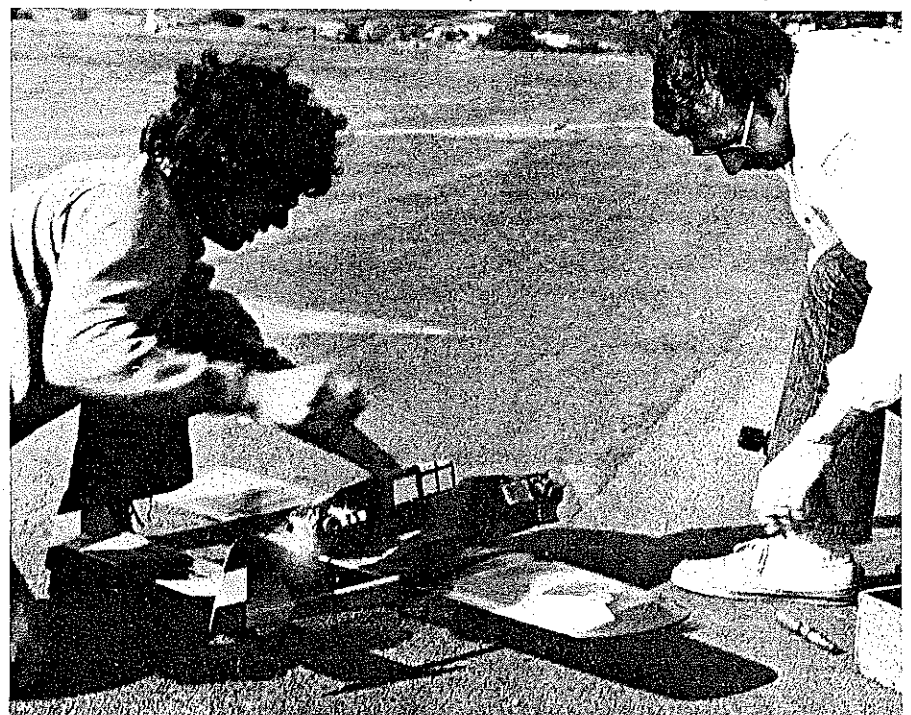
The tail booms are made from three pieces of 1/2" balsa, to conserve wood and make the plane easier to assemble. Use firm wood here as the booms are rather small sections.

The fuselage is easy; that's why we're building a profile. Space the 3/8 x 1/2" hardwood motor mounts to suit your engines, and for better appearance install blind nuts for the engine mounting bolts before you add the 1/8" and 1/16" plywood fuselage doublers. We use epoxy on the motor mounts and plywood doublers because of the engine vibration here.

continued on page 79

The covering won't hide doubtful construction on this model. Note how nicely you can fill and feather joints between the doublers and balsa. Model can do maneuvers on the front engine alone. On two it really moves out.

Live action! Our quick reaction is that there are engines all over the place. Don't forget the rear prop while tuning the front engine. Note Dutch markings on wing and rudders.



CL Combat/Johnson

continued from page 23

The idea in Slow Combat was to "slow" the event down speed-wise but not make it a slow event as in "dull." Current planes with inboard tanks, super-short nose moments, and full-race engines far outclass any Sunday flier's plane. Some of the other proposals were to eliminate rules that are either unnecessary or not enforceable. You may build the same old thing regardless of the rules but, remember, your opponent may take advantage of every loophole and give you the treatment.

AT OUR ANNUAL contest we tried a new method of airplane/line processing, new for us anyway. We set up a pit area big enough for all planes in the first round, each plane next to the opposing one and all in flying order according to the draw. A tightly stretched string marked the point to center models on while two more strings marked the plus-or-minus 6-in. area. Length, thickness and pull tests were easily accomplished, as was the passing out of streamers. This tremendously speeds up the show and also makes for a safe place to park your model and lines while out helping friends. Even though all contestants knew of the thorough processing facing them, we had two that tried to get away with long lines, two with undersize .015's for Fast Combat, and one joker who tried to tell us his HP 40 was really a 36 because he put a short rod in it. The Event Director asked him what size he thought he'd have if he put in a rod out of his Chevy pickup! Processing can be a real pain but, with efficient organization, it can accomplish its goals, keeping everyone safe and honest.

The no-kill rule was tried in Slow Combat with the result being better overall matches, but with a new problem arising. If a contestant cuts the string, he only gets credit for one cut and is unable to get any more points other than through air time, this used to mean playing dodge 'em for the remainder of the match. As in FAI Combat we found guys taking a couple quick cuts and then staying down for the rest of the match with a "ha, ha, won't start engine." A variation of this trick is to fly inverted about a foot off the ground which is a purely defensive move. It makes for a very interesting inverted team race where it is impossible for the trailing plane to catch the other, unless it is about 20 mph faster, since the leading pilot can whip and block just like in real Team Race. It's legal, it is about the only prayer the guy has, but is it sporting? Maybe the CAC should have proposed giving points for the most number of laps completed. I believe in the dark past there were rules limiting the number of level laps one could fly. There must be a solution to this problem, possibly new streamers, WAM gives points for close passes...ready for that? Actually, many think that this maneuver

has its equivalency in real air-to-air combat. It's called the coward's way out.

THE BIG NEWS in combat engines is the Fox 15 and 35. Very little is known about the 15 at this writing except that it comes in various styles, depending on whether plain or ball bearings are employed. Stubblefield used a ball-bearing rear exhaust version to win FAI at the Nationals (my spy failed to produce a picture of the engine). The 35 also won the Nationals in both Fast and Slow Combat and is holding up remarkably well in all hands. The hackers who could blow up any engine are having their success with this one, too, but for normal out-of-the-box use this engine is the best on the market. The sample we tested did everything asked of it, good starts and power plus. It was very easy on plugs—which your pocketbook will appreciate.

The one annoying thing is the need to send it off on the rich side, blubbering rich if you're running a lot of nitro, not quite so rich on the lower nitro fuels. The problem is the tremendous amount of revs it picks up once unloaded in the air. Literature packed in the box recommends pinching the line to keep the engine cleaned out just before launch. This doesn't do much for accurate fuel metering, or when you want to be first up and the engine decides it's time for a pinch and tune shuffle. Engines that take the thrust on the rear bearing, such as Fox, seem to exhibit this unloading more than Tigres which take the thrust on the front bearing. An interesting experiment for you machinists would be to set up a Fox with a Tigre-type front end. The square venturi on the Combat Special is also suspect by those who love round venturis; since shape is ultimately more important than mere size they claim a round venturi would solve some of the problems.

Next article I'll have the answer because I'm making a couple of venturi sets in order to plot size and shape in relation to power and fuel consumption. The smallest venturi that will let the engine reach its horsepower peak will also be the most efficient. Most often a larger venturi does nothing except make for erratic needle settings and waste fuel. Almost any current racing engine will flow more than enough air/fuel mixture with its standard venturi, or one quite a bit smaller. B-Team Race models go over 110 mph with .290 venturis and this would be considered small for a Slow Combat engine. The majority of top runners worry more about producing power consistently than flash horsepower over some part of the power curve.

MACA WILL BE running the FAI Combat Team selection when we find out if the FAI will be going to a three-year cycle, and in what year combat will be held. If you're interested in world class competition then now is the time to get started. Besides the Tigre G-15 and G-20 the new side-port X-15 is a real strong performer, probably equal to Rossi and Cox when in

combat trim and tune. Gordon Delaney had one of these in his FAI Challenger and consistently pulled a streamer at over 100 mph and through the turns just as strong.

Charlie Johnson, 3716 Ingraham St., San Diego, CA 92109—Tel. 714-273-6530.

Fokker/Sarpolus

continued from page 31

Overall assembly must be done carefully to insure true alignment so you will have a straight flying aircraft. First major assembly step is the fuselage onto the wing. It must be perpendicular to the wing and installed using epoxy and fiberglass cloth to reinforce the fuselage/wing joint at the leading edge. With the fuselage on, the flaps may be added.

Prior to putting the booms on the wing, install the fins/rudders onto the booms. The triangle stock stab mounts onto the rudders. Slide the booms onto the wing and pin the stab into place on the rudders; adjust the booms to keep the stab level with the wing and glue all in place. Make up the pushrod to the elevator, mount landing gears, install screweyes in fuselage for the gas tank rubberband retainers.

We suggest you then remove all possible hardware to be re-installed after painting the model. We use nylon hinges and epoxy them into the surfaces after all parts have been painted. Everyone has their own favorite finishing technique and materials they prefer. We are sold on Super Coverite for the wing covering material and recommend it. Wood surfaces are prepared with several coats of clear dope and sanding sealer, sanding thoroughly between coats. For the camouflage paint job a spray gun or airbrush is almost a necessity; done with a brush or masked off it will not look as authentic. Other detailing; panel lines done with a drafting pen, rivets simulated with rub-off dots, windows painted on, etc., all will add to the finished model.

The pusher .15 is installed with no offset; the front .35 is installed with two washers under the front of each mounting lug. Use well broken-in engines. Run up each engine separately, adjust the needle valves, and top off the tanks. The rear engine should be set fairly lean as it tends to richen when in the air due to the tank location. The plane flies well, with no bad characteristics.

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