

15,000 and shut down; it's good for about an hour.

About 150 RF4s have been sold—21 of them in the United States—and 95 of its predecessor, the RF3. It is fully aerobatic (plus 9G, minus 7G) and is ingeniously simple in design. The wheel doors, for instance, are spring-loaded and are literally nosed aside by wire tracks on either side of the wheel fork. The neat, two-piece fiberglass cowling can be entirely removed by releasing a few Dzus fasteners, and the engine is mounted on pivoting lugs, so that it can be tipped down for easy service by the removal of two bolts. Nominal time between overhauls is 1,000 hours.

The ailerons and elevator have solid push-pull rod linkages with ball bearings all around, and are accordingly precise and responsive. The landing wheel is countersprung in such a way that when you release the lock, the actuator lever springs into your waiting hand of its own accord, and you push in effortlessly into the up-lock position with a single movement.

The queer landing gear turns out to work very well; taxiing in a stiff crosswind can be difficult, but most weather-cocking can be controlled by running the engine up and applying the brake at the same time. The wings have to be kept level in takeoff and landing, but if you happen to drop one, the outriggers are equipped with rollers and show no tendency to hang up or drag on the ground. The tailwheel does not pivot beyond about 30 degrees, and so the fuselage is equipped with carrying pegs at the rear for ground handling. Because of its gliderlike proportions, the RF4 is susceptible to dings in hangars and at gas pumps, and must be moved about with care.

American marketing of the RF4 and its imminent tandem two-seat folding-wing stablemate, the RF5 (larger VW engine, identical performance), is handled by Flying Machines Inc. of Columbus, Ohio, the Volkswagen distributor in Ohio and environs. Bert Buytendyk is his general manager, and there are main dealers in Pennsylvania, Florida, Oregon and California; a network of local dealers is still in the making.

The sole fly in this ointment is the FAA, which, unique in mudheadedness among the world's licensing bodies, has so far refused a certificate of airworthiness to the RF4 because the VW engine does not have dual ignition or carburetor heat. The FAA is bound by its books, and doubtless feels, too, that if you let a cat in the door a horse will soon follow. The airplanes, therefore, are operating in this country under experimental certificates, while FAA Washington debates with FMI and FAA Brussels with Sportavia GmbH. They may, in principle at least, be used only for exhibition and demonstration flying. (continued)

Cozy but complete, the Fournier cockpit contains a landing-gear lever and lock handle (to the right of the control stick), a trim control (at far right), plunger throttle (far left), spoiler handle (out of sight at lower left) and a utilitarian instrument display—all accessible from within the octopus grip of the plane's five-strap aerobatic body harness.



with the wing-mounted pogo wheels rolling smoothly every time a wing tip dropped more than about 5°.

I adjusted Capt. Foster's back-pack 'chute and walked toward the beautiful red-and-white hybrid, N1771. The wing-walk for cockpit entry could be just a bit wider for guys who wear No. 12 shoes, but once settled down in the cockpit, you find that there's more than enough room, with just a little extra. Without a seat cushion, I found that I could get the beautifully-clear bubble canopy closed easily with a couple of inches to spare. With the seat of your pants just about 18 inches above the runway, I asked for one narrow cushion. This put my baseball cap flush with the canopy.

The cockpit is completely functional and fairly straightforward. The conventional throttle is on the left with the handbrake, used either for parking or taxiing, just below the instrument panel on the left. Gear retraction is accomplished by unlocking a lever located on the floor just to the right of the wheelwell and then pulling back on a lever at the far right of the cockpit. As this arm goes over dead center, the gear-

down light goes off. Counter-balancing of this retraction cycle makes the force required surprisingly light.

The air-start lever is far enough forward of the gear handle so there's no chance of confusion. Phil Paul explained that air-starts begin with a 90-m.p.h. or faster dive, ignition switch (only single ignition) "on" and then give a stout pull on the starter lever.

There's a 10-gallon fuel tank behind the instrument panel and a dependable Piper J-3 Cub-type dip stick fuel gauge. And, just like the J-3, she'll spill a little fuel on the windshield when you're on your back.

The only thing that I found confusing in the Fournier's cockpit was the marking on the choke and fuel shut-off knobs. Choke is used only for ground starts. It is possible to read the markings on these two knobs wrong (see photo) but an easy remarking would put the proper words over the proper knobs. There's no carburetor heat lever since the VW engine takes its air in over the cylinders and then down to the carburetor intake, so you're running with "carb heat" on at all times.

Also new to the non-sailplane types is the spoiler handle located under your left elbow. This activates two upperwing vertical gates that pop up to "spoil" the lift, increasing your rate of

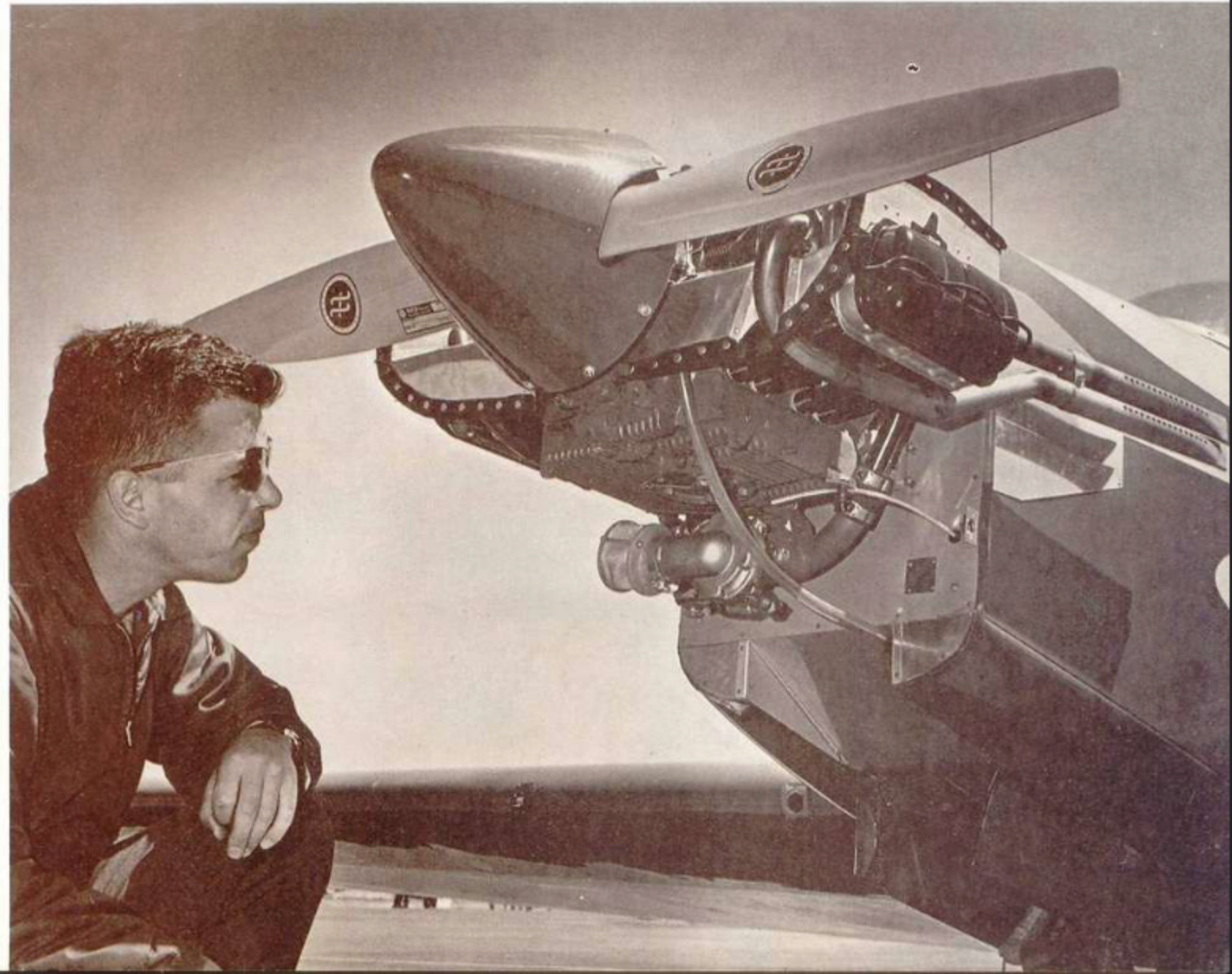
sink. Spoilers work somewhat like flaps in that they allow a steep descent without an increase in airspeed.

But enough of this over-the-shoulder preflight. It was time to go flying strictly for fun. Paul called for brakes, fuel, choke and switch "on." The VW fired easily and the choke handle was pushed closed. There was something different about this starting procedure, but it didn't register until I "propped" the little engine later for Capt. Foster. The engine and prop turn counterclockwise, as seen from the cockpit, rather than the clockwise rotation of most U.S. aircraft engines.

I taxied out slowly on the 380x150 Dunlop tire. There really isn't much to do before takeoff. How do you check a single-ignition mag? Make sure that both fuel and choke knobs are full forward. Check the controls for complete freedom, make sure that the trim tab is set for takeoff and you're ready. It's a real trim tab on the left side of the elevator, not a bungee spring.

I checked the bright desert skies for nonexistent traffic and gave her the throttle. Takeoff performance exceeds some of today's trainers and even a couple of family four-placers. Somehow you don't expect this from a 40-h.p. automotive powerplant but gross weight at takeoff is only 860 pounds. In zero

A 40 h.p. aircooled Volkswagen engine powers the German-made powered glider. Owner Phil Paul admires the clean lines of the RF4D at Fox Field, Lancaster, Calif.





Cockpit and instrument panel of the RF4D. Knob on the floor is the gear lock. The author found labels on fuel and choke confusing (choke knob is concealed by the lever handle on the right side). Both should be forward for takeoff and flight.

her float for a couple of hundred feet at perhaps two feet off the runway to spill off some speed. Then the ship dropped easily in a normal three-point landing. (However, with the RF4D, it's only "two-point" until one of the pogos touches the runway after you run out of aileron control.)

I taxied in, cut the fuel and ignition and reluctantly climbed out. Here's a ship that I hope to fly again on a day when the thermals are popping.

The Fournier RF4D grew out of a single homebuilt in 1961 by Rene Fournier. More than 100 RF-3's were built in France before Sportavia in Schmidt-heim, Germany, purchased production rights and came out with the present model. Phil Paul reports that more than 100 RF4D's have already logged up to 3,000 hours per aircraft without either structural or engine failure.

Optional equipment includes radio, blind flight instruments, oxygen, 60-pound long-range fuel tanks mounted in the wings and a retractable ski for snowy conditions. Continental Airlines Captain Mira Slovak undoubtedly used more than 60 pounds of extra fuel when he ferried the first RF4D across the North Atlantic Ocean recently.

If you're thrifty at all, you'll really like the power plane performance of the Fournier. Phil Paul picked up N1771 in Denver after Bert Buytendyk (AOPA 249511) had ferried it out from Wooster, Ohio. It took Paul 10 hours and 30 minutes to fly the ship from Denver to Lancaster, Calif., on \$12.10

in fuel costs. He made high altitude landings at Alamoso, Grants and Flagstaff on the 1,050-mile trip into the usual headwinds of the area. RF4D performance is figured at a cruising speed of 112 m.p.h. and a range of 400 miles. At a more economical power setting of 2500 rpm and 70 m.p.h., the RF4D will go 55 miles on a gallon of gas. That's about twice what the ubiquitous VW will do on the ground at the same speed. Paul figures that he can rent his RF4D for about \$8 per hour.

Maintenance costs on the Fournier should be minimum. All plywood is treated with acrylic plastic for long life. The wing and tail fiberglass cover has proven to last for years. And for an engine overhaul, you can put the 135-pound 40-hp VW engine under your arm (if you're a very strong man), carry it to your nearest imported car dealer for a major overhaul. West Coast dealers quote prices around \$245 for a complete overhaul.

The neat two-piece fiber-glass cowling has just two cam-locks on the bottom half of the shell and six on top. It takes perhaps 30 seconds to completely uncowl the engine.

To pilots who have grown up since the days of dual ignition, the single mag concept may seem a little unconventional. To this, Phil Paul remarks, "How often do you see a VW pulled over to the side of the road with mechanical problems?"

So no airplane can really be this good and this much fun to fly without having

any faults? The problem at the moment is in the FAA's "paper work" department. There's a reciprocal agreement between the U.S., France and Germany, among others, to accept certified aircraft of each other's country, but with some reservations. Since powered gliders are relatively new in the U.S. (with the exception of the older Nelson *Hummingbird*, *Bowlus Dragonfly* and a few powered homebuilts), the FAA is in a bit of a quandry of how to license the aircraft (or the glider) and its pilots.

If you fly a powered glider capable of taking off under its own power, should you hold a powerplane license? Then, if you have the capability of shutting off the power in flight and restarting, does this require a glider rating? The Western Region of the FAA threw up its hands and said, "That's a problem for Washington."

However, the present RF4D is a single seater so that both a glider and powerplane student permit would make the pilot legal.

However, what happens after the end of the year when the two-place RF5 becomes available? It's now undergoing German certification flight at Dahlemer Binz Flugplatz, according to Phil Paul. The two-place version is powered with a 65 h.p. engine designed for the VW bus. When the first one of these is imported to the U.S., someone in Washington's FAA is going to have to decide just what kind of ratings are required to carry passengers in a certificated powered glider.

At the present time, the dozen or so RF4D's in this country are licensed only as "experimental" and are in the same category as many homebuilt aircraft. This "experimental" tag is no problem to the owner of a single-place Fournier (list price, \$7,800, East Coast delivery) except for his own personal insurance. However, this "X" certification does present a problem for the operator who wants to use one of these in his flight school.

Once the battle of the paper work is won and the availability of the two-place model for easy checkout, you should see an import that has the performance and for-fun flying to be completely competitive.

Both aerobatic training and soaring are becoming increasingly popular as airborne "finishing schools." From a purely personal standpoint, I wouldn't solo our daughter in a Cessna 150 until I had given her aerobatic dual in a *Citabria* for spins and the capability to roll (not split-"S") off her back. She also had two hops in a Schweitzer 2-22 so that motorless flight was nothing new. However, at the present time, the combination of aerobatic and soaring experience is a complex, expensive endeavor. With the advent of the two-place Fournier RF5 for dual instruction and the existing RF4D for solo practice, the entire training package becomes relatively simple.

And when the two-place RF5 is available, please put my name on the list of prospective pilots, both for additional education and just for fun. □