KIT AIRCRAFT PROFILE

# THE GLASAIR


*These lines are worth the wait.*

Over the years, one learns to distinguish between the different types of crowds at the EAA fly-in at Oshkosh. The look-at-the-shine-on-that-Spartan-Executive crowd is not the same as the look-at-that-weird-straggly-homebuilt crowd. This year at Oshkosh, I spotted a wow-a-new-interesting-terrific-airplane crowd and wandered over to see what the new and interesting and terrific airplane was. It was a Glasair.

Gleaming white, with not a rivet in sight to mar its fiberglass surface, its nose pointed sharply into the air, the Glasair was surrounded by the homebuilders and the tire-kickers who annually pay homage to the newest and the most striking design around. A sign gave the basic information about the Glasair, but designer Tom Hamilton was nowhere in sight. I did find him later in his shop in Issaquah, Washington (near Seattle), to inquire about his new aircraft. He sounded a bit harried and not too certain that he was ready to attract any more orders to add to the 200 he already has. The tire-kickers included a number of buyers.

Not satisfied with the sleek looks of the prototype shown at Oshkosh, Hamilton has refined the design even more, with his yet-to-be-completed, newest prototype. He has set up complete tooling molds for the new version. The Glasair components are vacuum-molded, fiberglass composite shells made in female molds, said Hamilton. He found a special type of vinylester resin with a strength almost identical to, or exceeding, that of room-temperature-cure epoxies. It cures in two to four hours, mixes easily and has a low viscosity, said Hamilton, and evidently does not cause the allergic reactions that other resins produce.

Glasair builders have to drill, cut and trim the component shells as necessary, following painted-on guidelines, and seam the shells together. Final cutting work was not done at the factory, Hamilton said, because the kit is so complete, it is close to being ineligible under the Federal Aviation Administration's 51-percent homebuilt rule.

**SH-2 GLASAIR**

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|---|---|
| Kit price* | $7,500 |
| Construction | All composite |
| Time to build (est) | 800-1,000 hr |
| **Specifications** | |
| Engine | 115-hp Lycoming O-235 (also 150-hp Lycoming O-320) |
| Wingspan | 23 ft 3 in |
| Length | 19 ft |
| Height | 6 ft 5 in |
| Wing area | 80.6 sq ft |
| Seats | 2 |
| Empty weight | 815 lb |
| Useful load | 485 lb |
| Gross weight | 1,300 lb |
| Fuel capacity | 24 gal |
| **Performance** | |
| Takeoff distance (ground roll) | 825 ft |
| Rate of climb | 1,110 fpm |
| Maximum speed | 179 kt |
| Cruise speed (75% power at 7,500 ft) | 173 kt |
| Range (75% cruise w/45-min reserve) | 212 nm |
| Fuel consumption | 6-8 gph |
| Landing distance (ground roll) | 750 ft |
| Stall speed | 49 kt |
| Information packet | $7.50 |

**Engine not included in materials kits.*

*Based on designer's figures.*

PHOTOGRAPHY BY THOR EMRICH


Tools and equipment needed or handy are a small compress, a rivet gun, an oxyacetylene torch, a drill press and a right-angle drill. Hamilton suggested that some of the items might be borrowed from friends.

Construction is aided, said Hamilton, by his step-by-step, illustrated manual. One Glasair builder we talked to, who had no previous experience with composites, started his project before the manual was prepared, but he had no difficulty. He does have the advantage of living only 20 miles from Hamilton's shop. Sixty percent of his work has been completed, he said, in only seven months.

Building a Glasair may sound easy, but it will not be cheap. Basic price for the kit is $7,500, which does not include crating or shipping, engine, propeller, wheels, tires, brakes, tailwheel and tailwheel spring.

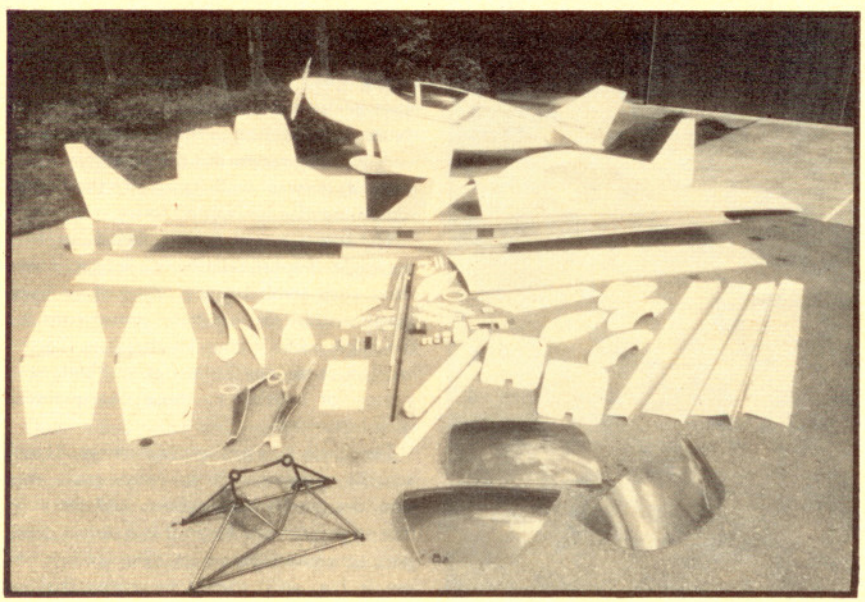
For the money, however, the builder does get speed and performance in a sleek airplane. Hamilton spoke of "rambling" up to 200 mph (173 knots) and of being surprised at finding himself at 180 mph (156 knots) on downwind. And that is with the 115-hp O-235 Lycoming. He thought the 150-hp O-320 would be the better choice.

With the 150-hp engine, Hamilton calculated that 75-percent cruise at 7,500 feet will be 192 knots, with a top speed of 200 knots. Rate of climb would rise from 1,100 fpm with the 115-hp engine to 1,900 fpm. Stall speed would go up less than two knots to 51 knots. Empty weight would increase to 835 pounds, and gross weight would be 1,400. Fuel capacity would increase to 36 gallons.

All of the builders whose kits have been delivered live in the Seattle area, and they have been able to test-fly the prototype Glasair. "It's not a plane for the Cessna 150 pilot," said Hamilton. "It's fast, responsive and high-performance. You have to understand and treat it accordingly." He said that everyone does hammerheads in it, but he does not stress its aerobatic capabilities.

Hamilton's airstrip is short and rocky, so he wanted a particularly tough landing gear. The all-glass, conventional gear is strong and cheaper than tricycle gear would be.

A place on the production line costs $500, nonrefundable. But if Hamilton is booked for more than five months, he will require only a $150 deposit. (He said he is backlogged through 1981.) If prices go up, because of the petroleum-based materials used, and the builder does not like the new quote, Hamilton said he will refund the deposit. —*MFS*



*By replacing the plastic with fiberglass composite, the Glasair becomes a grown-up version of a Revell model airplane kit. But when assembly is complete, it will not fit on your mantel.*