OMF Symphony

The sound of wings

A charming airplane to fly

BY JULIE K. BOATMAN

PHOTOGRAPHY BY MIKE FIZER

Matthius Stinnes, president of OMF Aircraft, is married. His wife, who received her private pilot certificate not too long ago, took measure of the kitbuilt Glasair II that he currently owns and told him she wouldn't fly it. When she saw the new Symphony, something approachable about the airplane connected, and she said, "I'll fly that!" Stinnes knew at that point he'd hit the mark.

The seeds of the Symphony were planted in Oshkosh, Wisconsin, in 1991, as Matthius and his son, Derek, wandered the grounds of what is now known as EAA AirVenture, shopping for an airplane. Enticed by the mix of high performance and lower cost available in the kitplane market, they settled upon Stoddard-Hamilton's Glasair III, which the elder Stinnes purchased at that time. He flew the airplane in the 1992 *Arc en Ciel* Round the World Air Race and was most impressed. "He

started out as a happy customer," Derek recalls of his father's early relationship with Stoddard-Hamilton. Along the way, Matthius also had a chance to fly another of the company's products, the GlaStar, and remembers thinking that the kitplane's "flying characteristics were absolutely superb for an initial pilot." While the Glasairs were low-slung, composite speed demons, the GlaStar was a high-wing utility airplane with a float kit optional. The opportunity arose to purchase the rights to build a certificated version of the GlaStar from Arlington Aircraft Development, creators of the design, back in 1998, and the Stinneses leaped at the chance. Stoddard-Hamilton, which declared bankruptcy last year, recently sold the kitplane rights to the GlaStar, Glasair III, and Glasair Super II designs to Thomas Wathen.

The parent company to OMF Aircraft is the Stinnes Group, a consortium of transportation companies employing more than 1,000 people in northeastern Germany. Yes, it's a family company—one that's been a going concern since 1720. The company was initially invested in the railroad business.

"It starts with an airplane," Matthius says of their decision to branch into aviation. He founded OMF Aircraft in 1998 with Derek and a team of engineers destined to secure certification for their production version of the GlaStar.

Christened the Symphony—"because it sounds good in any language,"

> The cockpit is wider than a Cessna 152's, as comfortable as that of a Tomahawk.

according to Derek—the airplane flew the fast track to an FAA blessing. The journey to certification took 16 months, with the first flight of the prototype aircraft taking place in October 1999 and the delivery of the type certificate this past April. "You say a few months—it seems like a few years," Matthius commented at the ceremony celebrating the certification, which was presented at the Sun 'n Fun EAA Fly-In. The Symphony was certified under European JARs prior to its FAA certification, which helped pave the way.

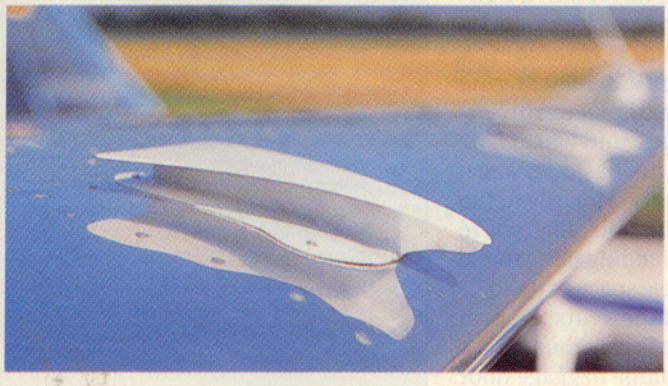
A truly new airplane

Though taking an established design through the certification process differs from starting at square one, the production airplane is decidedly not the same as the original. Derek points out that nearly everything on the airplane was strengthened or made redundant to meet FAR Part 23 specifications. Under the guise of making certification easier OMF decided simply to overbuild the airplane. As a result, very few of the parts are common to both the production Symphony and the GlaStar kit.

While you might think this would result in a heavier aircraft overall, one major change was made that proved a huge weight savings and kept the Symphony close to the GlaStar's performance numbers. The original lightweight load-carrying fiberglass fuselage is augmented with a tougher internal, metal-tube cage. The wings and control surfaces are constructed from aluminum (same as on the GlaStar). The company was initially faced with having to beef up the original fiberglass structure considerably to withstand Part 23 tests, but instead the lighter shell-and-cage combination saves weight for other airplane modifications. "There were two aileron hinges, but specs call for three," for example, says Derek. It's worth noting that these three hinges are beefy ones, and two adequately did the job before. And the fortification didn't stop there. The landing gear was changed to a spring-steel leaf design to withstand the drop test and the repetitive, less-than-stellar landings a training airplane is destined to endure. The number of ribs within the wings was doubled to make fatigue tests easier to pass. The idea: an airplane that's made to last.

More heritage

Over cinnamon French toast one morning, we talked to Tim Johnson, a former



The roomy cockpit, with low side windows and a curved windshield, gives occupants a sense of space (above). Two vortex generators on each wing make the Symphony particularly responsive when approaching a stall (left).

demo and test pilot for Stoddard-Hamilton who is now working with the Symphony, about the airplane's heritage as a GlaStar. The original GlaStar, according to Johnson, was designed to be put on floats, so its high-lift wing coupled with more power explains why the Symphony is such a capable land airplane. OMF chose to go with the Lycoming O-320 engine, at 160 horsepower, rather than the O-360 (180 hp) or the Continental IO-240B (125 hp), because it felt that the O-320 gave the best balance of power and mechanical reliability to the airplane. OMF also settled on a fixed-pitch composite propeller for simplicity. MT Propeller, the German manufacturer, also supplies them to the experimental and aerobatic markets, as well as holding STCs for several production aircraft.

Strangely familiar

Pilot conducted two test flights, two months apart, and both times we were impressed with how familiar the Symphony felt, even though it looks substantially different from other production high-wing airplanes. There are several reasons for this high comfort level.

The thick, high wing provides lots of lift and great slow-flight handling characteristics. Stall fences and large, boomerang-shaped vortex generators—two on each wing—make the Symphony particularly responsive when approaching a stall.

Visibility is good. Part of the cage structure runs across the windshield, making for a vaguely Piper Cub-like allusion during turns—which may take some getting used to if a Cub's not in your repertoire. However, the side windows are cut low and the windshield curves over the top of the cockpit, giving the occupants a sense of space. Additionally, windows in the cabin's ceiling provide visibility in turns, felling a common high-wing demon. The cockpit is wider than a Cessna 152's, as comfortable as that of a Tomahawk, and fairly roomy for a two-place airplane. Leather-detailed seats add a degree of comfort and style not matched by many aircraft in this class.

The Symphony has a stick, and it's low and natural when grasped in the pilot's left hand, while the throttle is mounted in the center of the panel and manipulated with the right hand. Control forces are fairly well-balanced. During the first flight, We found the ailerons a little heavier than the elevator, which seemed odd, but perhaps a few more hours on the airplane worked out some stiffness. We felt that the controls were much more evenly matched during the second flight (which was our photo mission—a formation flight for which aircraft controllability is critical).

Familiarity also lies in the fact that speeds feel "right" for those of us who learned to fly in the most popular single-engine high-wings, the Cessna 152 and 172. Plenty of power for the Symphony's gross weight means good climb rates and reasonable indicated airspeeds in cruise: 115 knots indicated during our test flights. According to the company, cruising at 8,000 feet with 75-percent power results in a healthy 130 knots true. OMF has positioned the Symphony for the flying-club market, where pilots can learn in the aircraft and then use it as a practical means to build time and kill time flying cross-country. At book cruise speeds, the Symphony won't elicit many "Are we there yet?" thoughts from pilot or passenger.

Steering on the ground is accomplished by differential braking; the free-

castering nosewheel has stops so that it won't turn completely around. Wheel fairings add to the Symphony's cheery, let's-go-fly looks. Some things are in unusual places, such as the fuel gauge, which is found above the right-hand door. Overall, though, the transition from Cessnas is simple.

Going slow

For the training market at which the Symphony is aimed, slow-flight characteristics are paramount. This is an aircraft likely to be used for instruction, because of its attractive price and docile handling, and it is an aircraft that does not bite. Stall speed is a relatively low 46 knots with flaps down, but the big news is how well the airplane handles down in this regime. The ailerons remain effective until the bottom drops out, and still the Symphony feels like it's flying: Maneuvering back and forth during the stall using the ailerons feels strange, but it's manageable. According to factory pilots, a burst of power just as the stall occurred was required for spin entry during flight testing. The stall warning horn beeps a healthy 14 knots above stall speed, creating plenty of time to correct a bad situation. This wide margin is a little unsettling on landing to pilots accustomed to the more standard 5- to 10-knot warning—you still have quite a bit of stick left before the sink begins.

The price of entry

The day-VFR-equipped Symphony can be yours for $120,000—and this is a fully certified production model. In contrast, completed kitbuilt GlaStars on the market range widely in price, depending on the accessories and engine installed and the amount of time invested in the project. An informal survey that *Pilot* conducted in July found several from $79,995 to $115,000. The Symphony is built in Germany and shipped with the wings off to the distributor, Aircraft Manufacturing and Development (AMD) in Eastman, Georgia. Delivery lead time is currently three months.

The standard—and pretty basic—avionics package includes a Honeywell Bendix/King KX 125 nav/com, a Bendix/King KT 76A transponder, and a PS Engineering PM 1000 II intercom. A Vision Microsystems VM 1000 engine management system replaces run-of-the-mill engine gauges, and wheel fairings are also part of the basic package. Two interior upgrades—primarily to the seats—are also available. After that, you're on your own as far as adding more to the panel, but there's ample space to do so.

Though the airplane seats but two people, the cargo area is generous. Straps tie down bags and a large baggage door provides easy access. With two 170-pound people filling the seats, 285 pounds is left for fuel and bags. Filling the just-over-30-gallon tanks leaves room for about 100 pounds of cargo.

For an airplane conducive to training—and weekend field trips, the Symphony will have no problems finding a home. AOPA

i Links to additional information about OMF aircraft may be found on AOPA Online (www.aopa.org/pilot/links.shtml).

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SPECSHEET

OMF Symphony

Base price: $120,000
Price as tested: $120,000

Specifications

Powerplant	Lycoming O-320 D2A @ 160 hp
Recommended TBO	2,000 hr
Propeller	MT composite, 2-blade
Length	22 ft 84 in
Height	9 ft 25 in
Wingspan	35 ft
Wing area	128.4 sq ft
Wing loading	18.66 lb/sq ft
Power loading	14.73 lb/hp
Seats	2
Cabin length	48 in
Cabin width	43.3 in
Cabin height	44.8 in
Empty weight	1,325 lb
Maximum gross weight	1,960 lb
Useful load	635 lb
Payload w/full fuel	453 lb
Fuel capacity, std	32.5 gal (30.2 gal usable) 195 lb (180.9 lb usable)
Oil capacity	8 qt
Baggage capacity	165 lb (53.1 cu ft)
Exterior noise	69 decibels

Performance

Takeoff distance, ground roll	918 ft
Takeoff distance over 50-ft obstacle	1,148 ft
Maximum demonstrated crosswind component	20 kt
Rate of climb, sea level, as tested	880 fpm
Maximum level speed, sea level	162 kt
Maximum level speed, ft	162 kt
Cruise speed/endurance w/45-min rsv, std fuel (fuel consumption) @ 75% power, best economy, 8,000 ft	131 kt/3.5 hr (7.0 gph)
Service ceiling	16,500 ft
Landing distance over 50-ft obstacle	1,476 ft
Landing distance, ground roll	754 ft

Limiting and Recommended Airspeeds

V_X (best angle of climb)	70 KIAS
V_Y (best rate of climb)	80 KIAS
V_A (design maneuvering)	105 KIAS
V_{FE} (max flap extended)	90 KIAS
V_{NO} (max structural cruising)	110 KIAS
V_{NE} (never exceed)	162 KIAS
V_R (rotation)	70 KIAS
V_{S1} (stall, clean)	55 KIAS
V_{SO} (stall, in landing configuration)	46 KIAS

For more information, contact OMF Aircraft, Flughafenstrass, D-17039 Trollenhagen, Germany; telephone 866/663-1600 in the United States or (011-49) 395/425-6010 internationally; fax (011-49) 395/425-6020; or visit the Web site (www.omf-aircraft.com).

All specifications are based on manufacturer's calculations. All performance figures are based on standard day, standard atmosphere, sea level, gross weight conditions unless otherwise noted.