TRAINING WINGS

The one thing that is the same about flight training today compared to a decade ago is the airplanes. For the most part, schools still use Cessna 150/152s and 172s, Piper PA–28s and Tomahawks, and an occasional Beech Skipper or Sundowner. But fewer and fewer low-time trainers are available, forcing schools to consider other options for building their fleets. Meanwhile, the schools themselves are changing. Once, nearly all civilian flight training was done at local FBO schools, but today, university and accelerated flight schools are playing a bigger role. ■ The students, too, are different than those of a decade ago. Today, they are older, and they have different motives; many are considering careers in aviation, mostly the left seat of an airliner. ■ In addition, the number of new student pilots has been decreasing almost steadily since 1979, in part because pilots have not been aggressive in sharing with the public the excitement of flying. ■ In the next few pages, we explore the trainers being flown today and being planned for tomorrow, find out who's learning to fly, and tell of one effort to educate the public about the benefits of aviation and learning to fly.

—The Editors

HAWK 72

Are you ready for this: Cloning the 172.

BY MARK R. TWOMBLY

Hal Shevers has this crazy idea: He wants to build an airplane. Not a one-off backyard project for his personal flying, but an Everyman's airplane for the world market. A general aviation pilot, enthusiast, educator, and the owner of Sporty's Pilot Shop, Shevers observes with growing alarm the decline of general aviation manufacturing, especially in the United States. It is his view that there is not much time left to attempt to reverse the trend. "I can see disaster at the end of the tunnel," he says. "We're losing momentum, and once the momentum is gone, building it back up will be very difficult." Shevers is eager to do his part by offering to build a new training and personal-use airplane. But not just any air-

PHOTOGRAPHY BY MIKE FIZER

plane. Shevers wants to clone the most successful single-engine airplane in history. He wants to copy the Cessna 172.

Here is the plan. Shevers will "reverse engineer" the 172—use an existing Skyhawk as a template to develop blueprints for each part, then build a new airplane from parts that have been manufactured from the drawings. The airplane will undergo FAA certification tests leading to a new Federal Aviation Regulations Part 23 type certificate. Shevers believes it will take two years to begin delivering airplanes to customers.

The airplane will be virtually identical to the 172P, the latest version of the Skyhawk, which Cessna last offered as a 1986 model. The Hawk 72 will have the same airfoil and 174-square-foot wing, same 50-gallon usable fuel capacity, same 160-horsepower Lycoming engine, and same 2,400-pound gross weight as the 172P. It will, however, have a redesigned interior and some new instrumentation.

The airplanes will be sold factory direct at a price to be determined, but that is estimated to be from $80,000 to $100,000. Shevers wishes it could be far less. "The target price is $20,000," he says wistfully, "but that will be impossible, of course." Base price of a Skyhawk in 1986 was $53,050. Equipped, it went for nearly $75,000—only about $4,000 more than it can fetch today on the used market.

Cessna has neither publicly endorsed nor objected to Shevers' plan to build a clone of the Skyhawk.

The "Hawk 72" moniker is a deliberately close reference to the ubiquitous Skyhawk, but a new name will be selected before the airplane is put in production. Cessna has told Shevers that the name ties the airplane too closely to Cessna. "We see their point," Shevers said. "We have to respect their liability problem. We will change the name and number."

Shevers has met with Cessna Chairman Russ Meyer, Jr., concerning the Hawk project. Other than objecting to the name of the airplane, Hawk 72, Cessna has neither publicly endorsed nor opposed Shevers' plans.

Shevers says he would not go ahead with his project if Cessna would start building the Skyhawk again soon. Production of the 172 ended largely because of liability concerns, and according to Cessna spokesman Dean Humphrey, resumption of production depends entirely on a change in the product liability picture. Russ Meyer has said that, if "meaningful" federal standards governing general aviation manufacturers' liability are enacted, Cessna would announce within 24 hours that it would resume production of certain models in its single-engine line, most likely the 172, 182, and 206. It would take about two years to begin delivering new airplanes, according to Humphrey.

All efforts to get Congress to adopt tort reform legislation have been unsuccessful, but the fight continues. The proposed legislation itself has evolved as proponents try to strike a balance between protecting consumers' interests and unduly burdening manufacturers. Meyer has said Cessna could endorse proposed tort reform legislation that provides only for a 20-year statute of repose. In

other words, a manufacturer such as Cessna would not be held liable for an airplane that is more than 20 years old. That would free manufacturers from much of the liability they now retain because, according to the General Aviation Manufacturers Association, the average general aviation airplane is more than 20 years old.

Shevers has met with other groups that also are weighing the prospect of producing a 172 look-alike, but he believes they are not as far along. He has set a deadline of January 15 for making a go/no-go decision on proceeding with his plan.

Why the 172 and not a new design? The Skyhawk has stood the test of time, Shevers explains. More than four decades of refinement has made the 172 among the most benign of airplanes. It is familiar to all, simple and economical to fly and maintain, and it's versatile—a good primary and IFR trainer, rental airplane, and personal airplane for a first-time buyer. There also is a huge market for parts sales, and Shevers conceivably could develop a family of airplanes by cloning other out-of-production Cessnas.

Shevers also feels it is important to certify and produce an airplane as quickly as possible, while a large market for trainers still exists. He estimates that 5,000 trainers now flying will need to be replaced. A carbon copy of the 172 should breeze through certification, whereas a new design probably would take much longer.

Improvements to the design could be made after the company is up and running and airplanes are being produced and delivered, Shevers said.

Cloning the 172 might be a preposterous notion if it were not Hal Shevers proposing to do it. He is one of the most successful people in general aviation. In 1960, he bought a supply of aviation-band radio receivers and began selling them out of the trunk of his Studebaker for $32.45 each. They sold well, and soon Shevers was hawking a variety of aviation products from a tiny shop at the Cincinnati-Lunken airport and through a mail-order catalog he published. The store was called Sportsman's Market, but most people referred to it as Sporty's.

In 1966, he moved into more spacious quarters across the street from the airport and called the new store Sporty's Pilot Shop. Five years later, he built a 5,000-square-foot building at Clermont County Airport, east of Cincinnati. Since then, Sporty's has expanded five times, most recently into a new 120,000-square-foot building across the runway from the original facility. Shevers also publishes *Sporty's Preferred Living Catalog*, a collection of gadgets for well-heeled homeowners. All of Sporty's products from both catalogs are stored at and shipped from the Clermont County Airport facility.

Sporty's is a marvel of efficiency, resembling a small Federal Express in the way orders are received, filled, and shipped and in the way customers are attended to. The two catalogs are hugely successful. About 800,000 orders are shipped in a year; United Parcel Service picks up more than 2,000 packages a day. Sixty percent of the business comes from the Pilot Shop catalog. The rest is Preferred Living merchandise.

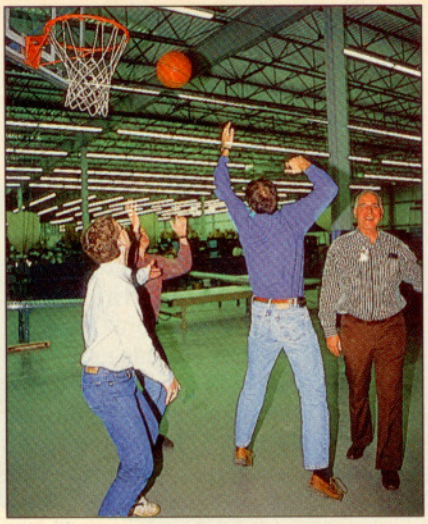
Shevers and his wife, Sandy, active-

ly run the business. Shevers has no office. His desk is one of several in a large open room that has a picture-window view of the warehouse and shipping area. He moves about the building checking on details while a cadre of managers, most of them young, attend to specific tasks. Informal, after-work meetings are held in a control tower cab that Shevers built atop one corner of the Sporty's building. The view is of an airport owned by the county but run by Shevers. He owns the only FBO on the field and owns or manages all of the hangars. He contributed the major portion of the county's share of a state-funded taxiway improvement project. He owns the land underneath Sporty's original and new buildings, as well as a chunk of property at the northeast end of the runway where he plans to erect more hangars.

Shevers' desire to build airplanes appears to be the culmination of his years of involvement in general aviation and his particular interest in training, education, and promoting aviation to young people. Shevers, a CFI, was an originator of the AOPA Air Safety Foundation's three-day weekend ground schools to prepare students for FAA written tests. At Sporty's, he has established Sporty's Academy, which produces "What You Should Know" videotapes on flight training and proficiency. Shevers also has been a generous giver of financial support to a variety of aviation endeavors ranging from the United States Aerobatic Foundation to the Boy Scouts Aviation Explorers program. Sporty's also manages the General Aviation Market Expansion (GAME) Plan's toll-free telephone number, 800/I-CAN-FLY. Callers are mailed a brochure on learning to fly along with a list of flight training schools in their area.

Building airplanes also represents the ultimate challenge to Shevers' entrepreneurial nature. "It's an exciting thing to see if I can do it, raise the money, and help protect and support general aviation," he explains. "I have a chance here to become the next William Piper or Dwane Wallace."

Last November, Shevers invited members of the aviation press to Clermont County for a briefing on his plans to build airplanes. Shevers spoke in a hangar that he said could serve as a final assembly building for



Youth rules at Sporty's, and Shevers looks to youth to rebuild and revitalize general aviation.

newly manufactured airplanes. The hangar is next to the original Sporty's warehouse, which would serve as headquarters for the new firm.

At the briefing, Shevers unveiled what he calls the proof-of-concept Hawk 72. It is a 1981 172P that has been refurbished to serve as a working example of the airplane he intends to build. The blue and white with red trim paint scheme is loosely based on the way British Airways paints its jets.

Hawk 72

Estimated price: $80,000–$100,000

Specifications

Powerplant	Textron Lycoming O-320-D2J, 160 hp
Propeller	Hartzell or McCauley two-blade, fixed pitch
Length	26 ft 11 in
Height	9 ft 6 in
Wingspan	36 ft 1 in
Wing area	174 sq ft
Seats	2–4
Max gross weight	2,400 lb
Fuel capacity, 50 gal (usable)	

Performance

Takeoff distance, ground roll	890 ft
Takeoff distance over 50-ft obstacle	1,625 ft
Max demonstrated crosswind component	15 kt
Rate of climb, sea level	700 fpm
Endurance, max performance (8,000 ft)	5 hr
Endurance, economy performance (10,000 ft)	7.4 hr
Landing distance, ground roll	540 ft

Limiting and Recommended Airspeeds

V_{S1} (stall, clean)	51 KIAS
V_{SO} (stall, flaps)	46 KIAS

For more information, contact Sporty's, Clermont County Airport, Batavia, Ohio 45103; telephone 513/732-2593.

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. □

The airplane also has been completely reupholstered, with higher seat backs and thicker, more comfortable padding. Additional soundproofing is used in the cabin.

The panel has not been altered, although Shevers anticipates making some changes. For example, standard equipment will include an altitude encoder and transponder and an engine management system that monitors and records how the engine is operated and performs. Strobes, a standby electric artificial horizon, panel-mounted intercom, and 28-volt electric system also will be standard. The airplane will be sold either without avionics—"deaf and dumb" in Shevers' words—or with a VFR or IFR avionics package.

Other pieces of Shevers' plan are beginning to fall into place. Much of the basic manufacturing may be done in Albany, Georgia, by Fred Ayers. Ayers builds Thrush agplanes in the facility where the Rockwell 112 and 114 were once built. Shevers also has talked to ex-Cessna employees who engineered and worked on the company's single-engine models and who, according to Shevers, are eager to do a cloned version.

Initially, the company would have insurance to protect it against liability claims. But Shevers foresees a time when he might have to adopt the approach taken by Piper Aircraft: Forget about paying large liability insurance premiums. Instead, take an aggressive stand against liability suits perceived as unjustified, and structure the company to make it less attractive as a target of attorneys seeking large awards.

In Shevers' view, the biggest challenge will be financing the venture. He believes it will require $20 million: $15 million to build the first production airplane and $5 million of operating capital. The manufacturing company would be publicly held. Shevers has pledged $1 million and thinks the rest can be raised through a stock offering at $1,000 a share. He is convinced there are at least 19,000 Cessna pilots who would pony up $1,000 each to help ensure that a good supply of new airplanes—in particular, training airplanes—is available on the market. It's also a chance to make some money, he notes. "I'm planning on getting my million back, with interest," he says. "Other investors should plan on doing the same." □