

# **Sportsman Pilot**™



**Summer**



**1993**





one of the back rooms to see the engines Javier is collecting. Among them were some Hissos and deHavilland Gipsies . . . plus the beginnings of a Model A "airport truck." Back out in the hangar, we found the entire back wall to be a storage area for more old engines of various types. The real mind blower was a stack of crates that contained not one, not two . . . but **three** World War I Mercedes engines!

It was a good thing we stopped in to visit Chuck because he likely will not be at Rialto next year when we go California Cruisin' again. Javier Arango has built his own airport just east of the Paso Robles, CA municipal airport, about 180 air miles northwest of the Los Angeles basin. Principally for his World War I airplanes, it has an irrigated grass runway and appropriately styled hangars. At the time of our visit at Rialto, negotiations were under way to build a hangar on the Paso Robles airport for the World War II types and Javier's corporate airplanes. When completed, Chuck and all the goodies at Rialto will move north to occupy it.

Those of you who have been **Sportsman Pilot** subscribers from the beginning will recall that Chuck Wentworth was the winner of the Formula One championship at Reno in 1983 in the Number 69 "Flexi-Flyer." He was top qualifier as well. We ran a photo of Chuck warming up the racer in the Fall 1983 issue. Just two years before, in September of 1981, Chuck had received the thrill of two or three lifetimes when the Flexi-Flyer shed a part of its propeller and had its engine ripped off the airplane. The required safety cables caught it, however, and, somehow, with the engine dangling between the landing gear legs, Chuck was able to fly the airplane back to

the threshold of a runway. He walked away with little more than scrapes and bruises! Number 69 is still active today and was raced at Reno last September by Troy Channing. It was scheduled to be a participant in the Aeroshell Speed Dashes at Oshkosh this month, vying with other top Formula Ones in an attempt to set a new 3 kilometer world speed record.

Aviation is a small world, and air racing is smaller still!

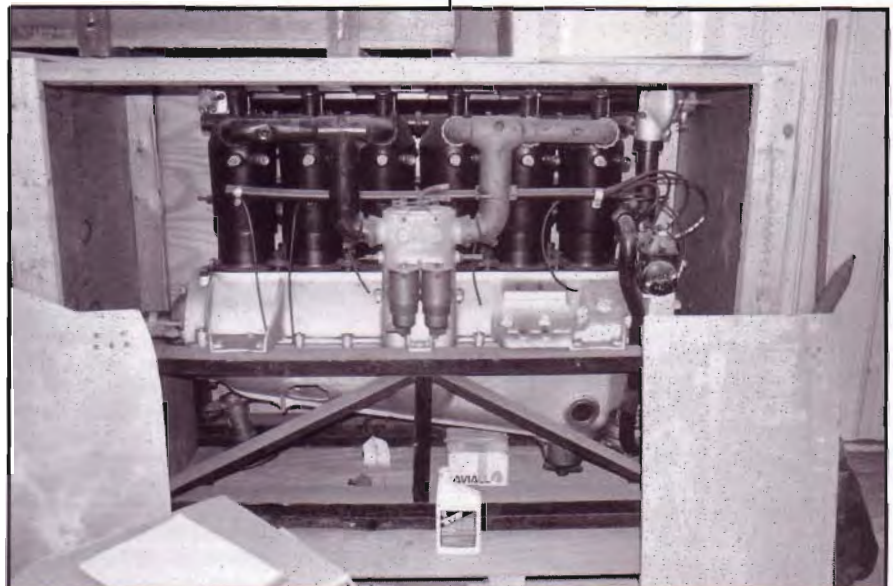
✓ **PAZMANY PL-9 STORK**

Following our visit with Chuck Wentworth,

**Sopwith Pup and other goodies in Chuck Wentworth's hangar.**

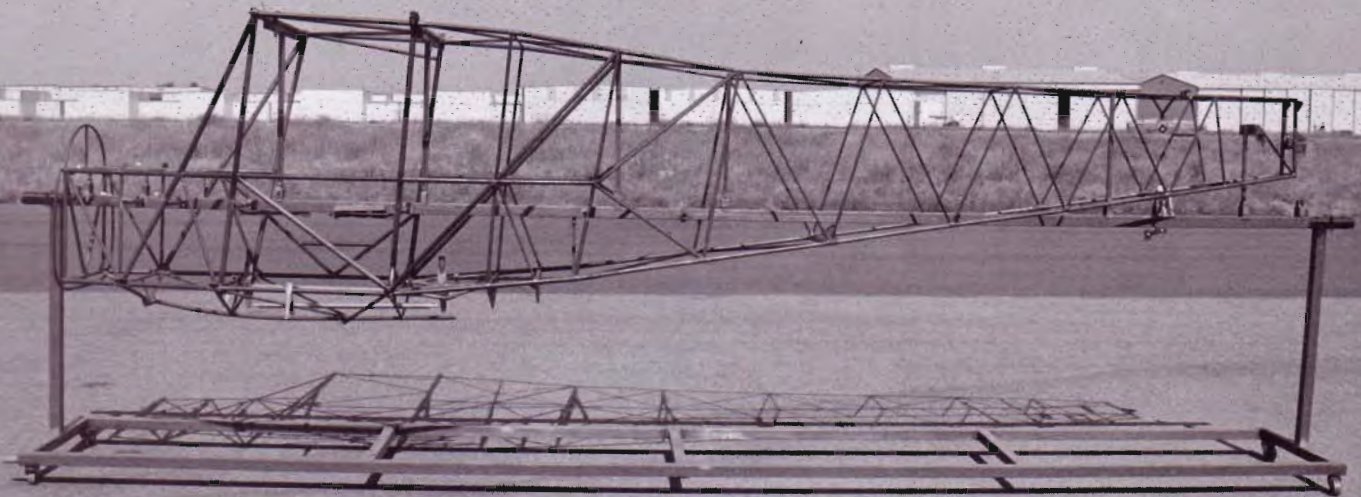
Ken and I walked across the ramp to visit Bob Feltes, who is building the prototype of Ladislao Pazmany's PL-9, a very faithful 3/4 scale homebuilt version of the legendary German World War II observation plane, the Fieseler Fi.156 Storch. Paz uses the English translation, "Stork." Pilots have always been fascinated with the Storch because it was capable of flying in and out of almost any

**A World War I Mercedes aero engine, one of three in crates at Chuck Wentworth's hangar.**





PL-9 fuselage in Bob Feltes' rotisserie welding jig.



open space and of moping along at incredibly low airspeed, when desired. The thought that occurs to any pilot is that one could fly the airplane with almost complete confidence that should an engine failure occur, it could be landed virtually anywhere within gliding range without fear of injury to its occupants. The only problem is that few Storches remain today, and for those that do, the price is prohibitive for all but the very wealthy. Furthermore, the Fi.156 is a big

airplane . . . with a span of 46.5 ft! Imagine trying to wrestle a beast that size in and out of a hangar single handedly. For that matter, imagine trying to find a hangar with a door wide enough to handle a wing that long.

Paz has addressed each of these drawbacks in the design of his PL-9 Stork. By reducing the size to 75%, he has ended up with an airplane with a span of 36 feet, which is the same as a J-3 Cub. And in building your own from scratch or from a kit, his Stork will be affordable.

It is interesting to learn how Paz came to the decision to scale down a Fieseler Storch. All of us associate him with his books on aircraft design, his sleek all-metal designs, the PL-1, PL-2 and PL-4, and the absolutely beautiful drawings he produced for all of them. Each of his airplanes was designed to FAA Part 23 certification standards and were held in the highest esteem by homebuilders, but they came along just about the time the composite revolution was beginning and suffered as a result. Like most homebuilts of the '60s and early '70s, the Pazmany designs were intended to be built from scratch from plans, which took the average person 4 or 5 years . . . or longer . . . of evenings and weekends to complete. Then came the composites, which could be built in just a year or two, and sales of all the scratch built dropped off. Today, the FAA allows "fast build" kits with enough prefabrication that designs like the PL-1, -2 and -4 could compete in the current market . . . and we may yet see some developments along those lines.

Meanwhile, Paz has moved on to the PL-9 Stork . . . to some degree because of what he has observed happening in the Kitfox/Avid Flyer end of the homebuilt market. Along with everyone else, including the factories themselves, Paz has been amazed at who the persons are who are buying these little airplanes in such great numbers and, especially, why they are buying them. When Dan Denney and Dean Wilson put the Avid Flyer on the market in the early '80s, it was

with the expectation that it would appeal largely to the younger set ready to step up from the "lawnchair" type ultralights to something more capable and only a little more expensive. That was not to be the case, however. The buyers, it turned out, were largely retirees or near-retirees, a great many of them former airline pilots, who had their own strips or lived on airport/home developments and wanted a strictly fun airplane that could get in and out of the smallest strips . . . or no



Bob Feltes holds a molded fiberglass rudder trailing edge up in position.



Hard tooling for the fuselage frames



strip at all. Some actually operated them out of their back yards. Price was not a big factor. These people had money to spend and they kept demanding options until they ran the price of what started out to be an under \$10,000 kit to over \$30,000, if all the bells and whistles are ordered. We can only imagine the looks that would have come to the faces of Denney and Wilson if somehow in the beginning they could have looked into the future and found that customers would want and be willing to pay for powder coating of all the welded components, full IFR panels, etc., etc.

Nostalgia was another factor. Many of those older customers had learned to fly in the late '30s and 1940s in Cubs, Taylorcraft, Aeroncas and such, and airplanes that were similar to them were appealing. Many told the factories that they had done their "serious flying" as airline, corporate or military pilots and now they simply wanted something that was fun, something to hop over to their friends' private strips in, and something in which to fly to an occasional fly-in.

If **that's** what they want, Paz reasoned, then maybe some of them would want something like a scaled down Fieseler Storch. It would have the STOL characteristics, the nostalgia factor would certainly be there for World War II veterans and all those younger people who admire the aircraft of that era so much today, and if it were offered in plans form and kit form, it would be affordable by a wide range of builders. And, besides, the Storch had been a favorite of his since he built a model of one when he was a boy.

In the February 1991 issue of **Sport Aviation**, Paz told homebuilders of his intention to design a 3/4 scale Storch and received letters from well over 350 persons who indicated they would purchase plans . . . and kits, if they were made available. Still employed at that time, Paz began working evenings and weekends and got a good start on the drawings, but since retiring recently, he is now able to work on them full time. The fuselage, tail group and landing gear drawings are now completed, and he estimates it will take about another year to finish up.

After that 1991 article appeared, Bob Feltes contacted Paz and indicated his desire to build the prototype and perhaps eventually develop a kit. They came to an agreement, and the result, as of May 31 of this year, is what you see pictured here. With his partner, Francis Drake, Bob has built hard tooling for the fuselage and produced the first example from it.

Frankly, I was amazed at the complexity of the fuselage frame, which follows the original German design very closely. As you can see in the photos, the cross section varies at almost every station down its length, flaring outward at the top of the cabin so the crew can look almost straight down. Almost all steel tube fuselages are built like the stick models most of us have built: the sides are built on a flat surface, then have the cross members put in place. The Storch and the PL-9 Stork are built in just the opposite manner. Tubular cross sectional frames are welded up and, like sheet metal bulkheads in a metal airplane, are set in a jig and then the longerons are welded into their corners. One of the photographs shows the welding jigs for the fuselage frames stacked against the hangar wall. You will also notice there are a lot of tubes in the fuselage frame, which



**Francis Drake and his straight tail 182**

means a great number of welds to be made. This was done in the original airplane to provide a multiplicity of load paths for the landing jolts, which were awesome in an airplane that was routinely plopped down in rough terrain by hauling back on the stick and letting it "parachute" in. Builders of the PL-9 will have that same ruggedness because the same load paths are in it, also. With the very complete drawings Paz will provide, it will be possible for even first time builders to construct a PL-9 fuselage, but I suspect most will be more than willing to buy one already welded up from Bob Feltes.

Obviously, the Storch landing gear had to be exceptionally strong and have a very long throw . . . 16 inches, in fact! Paz designed a gear very much like the original in appearance and with a maximum shock absorber stroke of 9.6 inches, which with a 3.9 inch tire deflection, has a total vertical travel of 12.6 inches! The first one was built by Ray Simpkins of Waverly, OH and has been successfully drop tested in accordance with FAA Part 23 guidelines.

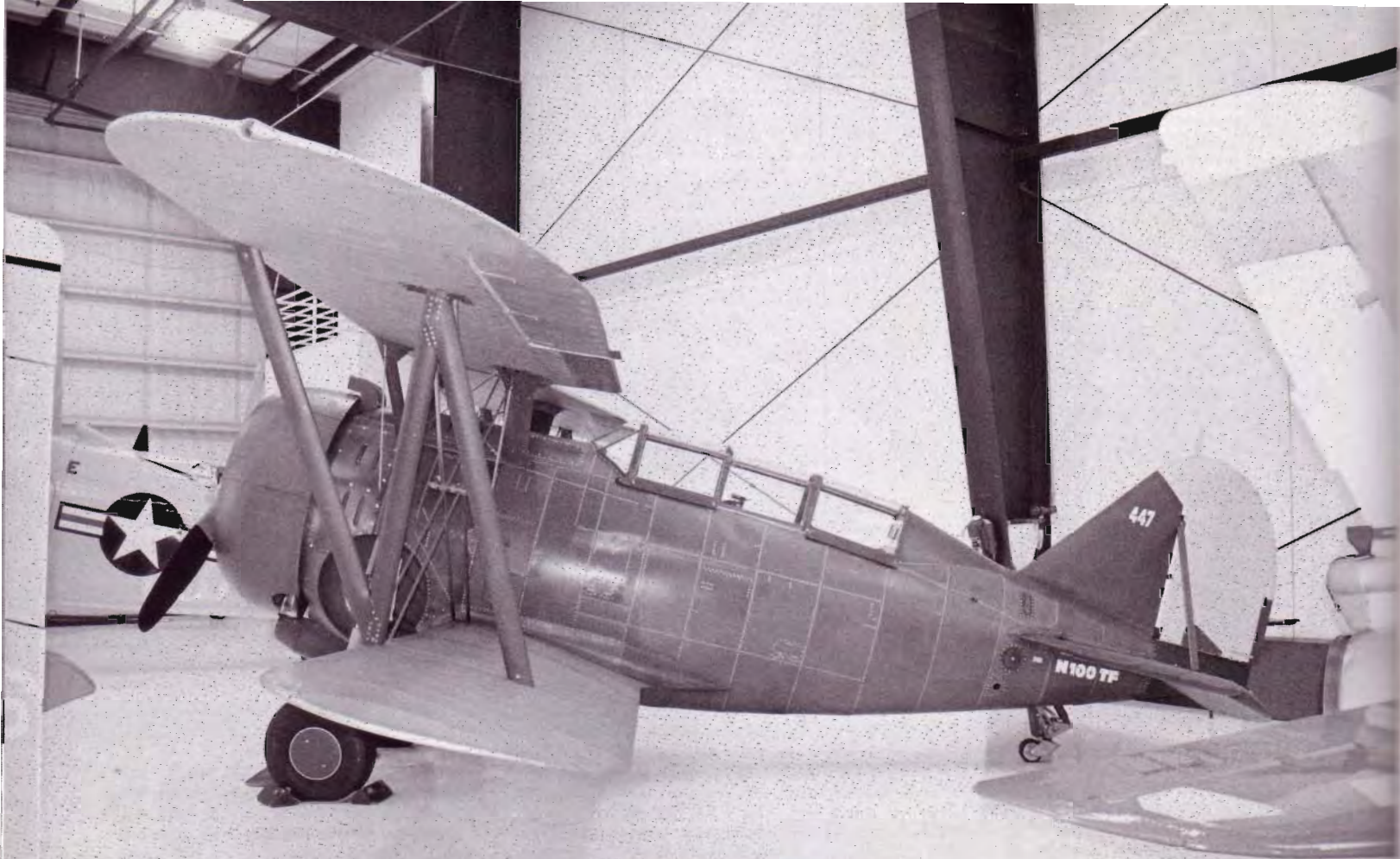
One thing the PL-9 will have that the Fi.156 did not have is a "stroking" seat . . . two of them, in fact. The FAA has a new rule requiring such shock absorbing seats in all future aircraft presented for certification, but a homebuilt, the PL-9, may be the first single engine lightplane with one. Paz has always been concerned with safety, and the PL-9 should make him rest well at night. The airframe is built like a bridge; the landing gear should take about anything a pilot can dish out . . . and the stroking seat will help save his spine from his own imprudence; the high lift devices will render the airplane virtually stall and spin proof . . . at least the "inadvertent" variety; and the landing speed will be slow enough to reduce the potential for injury to a minimum. Of course, there will always be those who will find an imaginative new way to fling themselves against some immovable object, but it won't be because Paz didn't try his best to save them from themselves.

At the time of our visit on May 31, the engine situation was still fluid. Paz was leaning toward a 2.2 liter Subaru with Australian Max Peters' belt reduction unit. Whatever engine is used, it should be able to run a large

wooden fixed prop with a rather distinct, pointed blade shape to look like the 102.25 inch Schwarz or Heine props used on the German Storchs. Paz has already designed a roughly 3/4 scale, 85 inch prop of the proper shape for a 150 hp engine and the drawing will be part of the plans package. Builders will likely choose other engines, also, including Lycomings and Continentals . . . although it will be difficult to cowl them in a way that will look like the old German cowls. The German versions of the Storch were powered with an Argus As 10C inverted, air cooled, 90 degree V-8 with a displacement of 775 cubic inches. For extreme reliability, the engine was grossly understressed, producing a modest 240 hp at only 2,000 rpm. This presents an intriguing possibility for builders of PL-9s: inverting something like a 350 Chevy and running it direct drive at a low rpm to produce 150-180 hp or so would allow an authentic appearing cowl (with the radiator mounted flat atop the engine, as Steve Wittman does in his Olds powered Tailwind) and would produce the same lazy V-8 growl the Argus does. The French-built Storchs, the Morane Saulnier Criquets, were powered with 240 hp inverted, inline six-cylinder Renault engines, so the 180 hp Czech inverted sixes now available through Moravia, Inc. of Thunder Bay, Ontario would be another choice. Anyone contemplating such installations should work with Paz on the engine mount and weight and balance, of course.

Having worked in tooling, welding and parts fabrication for the Stolp Starduster Corporation and others over the years, Bob Feltes is more than capable of producing a kit for the PL-9 Stork. Ken Brock is in the metal stamping and fabrication business himself, so is far better qualified than I to judge the work we saw on the Stork prototype Bob Feltes is building. He was impressed, so I consider that to be an excellent recommendation. At the present time, Paz intends to restrict his role to selling drawings and providing builder assistance, and allow designated vendors to produce the kits and specialized components. At this time, these are the addresses that should be used for





Cinema Air's Grumman G-32

further information:

**For plans and builder info:** Ladislao Pazmany, Pazmany Aircraft Corporation, P. O. Box 80051, San Diego, CA 92138.

**For PL-9 kits:** Bob Feltes, c/o Francis Drake Aviation, 1455 N. Linden, Rialto, CA 92376, phone: 909/350-4019, Fax: 909/357-8621.

**For PL-9 landing gears:** Ray Simpkins, 320 State Rt. 551, Waverly, OH 45690, phone: 614/947-2938.

**For PL-9 fiberglass parts:** Jack W. Perkins, 2375 Michael Faraday Dr., No. 8, San Diego, CA 92173, phone: 619/661-6727.

It was a pleasure, also, for Ken and I to meet Bob's partner, Francis Drake, during our visit. He was pounding out metal ribs when we walked in, and, like Bob, was most

**Part of the warbird collection stored in Cinema Air's pristine hangar at the Palomar Airport.**



generous with his time during our visit. It was a surprise to learn that Francis is 86 years old . . . because he certainly doesn't look it . . . and is still an active flight instructor. A native of West Texas, he came to the Los Angeles area when he was 23, learned to fly and would spend World War II instructing cadets at the Chino, CA airport. After the war, he did a lot of corporate flying and charter work (with a number of political bigwigs as steady customers), but always kept his hand in instruction. Until just a few years ago, he operated Francis Drake Aviation out of the hangar now occupied by Chuck Wentworth, but a problem with one eye deprived him of his second class physical and he closed down the operation. He has subsequently been able to qualify for a third class physical, which allows him to instruct Private pilots and better. On the day following our visit, he was scheduled to give a 65 year old lady pilot her BFR.

Like so many of the older pilots I have had the privilege of meeting, Francis is quite an inspiration. At 86 he is as sharp as a tack . . . and still as enthusiastic about flying as he ever was, he says. He intends to keep flying as long as he can and keep active in projects like the PL-9. Never a smoker or a drinker, Francis has not abused himself physically, and it shows . . . but beyond that, both he and I believe it has been his rapt interest in flying that has kept him youthful in body and mind. It's something for all of us to think about. I meet people like Francis all over the country, and the one thing they all have in common is the fire in their eyes when they start talking about airplanes and flying. It's more than fun, I'm convinced. It's therapeutic.

In addition to working with Bob Feltes on the PL-9 project, Francis (yes, friends have been calling him Sir Francis Drake all his life) is in the process of restoring a straight tail 182 he has owned for many years. He has flown it all over North America and considers it to be one of the best all-around light-planes ever built. Like a lot of owners I'm beginning to meet now that EAA has established its new Contemporary (1956-1960) judging category, Francis prefers the pre-1960 straight tail 182s. I'll have an article on one of them in a future issue and tell you why.

## F3F'S

At every place we had visited thus far . . . Corona, FlaBob and Rialto . . . Ken and I