

# Kit Planes: Amateur Pilots' Dream Ships

By LEE DYE, *Times Science Writer*

Lots of folks couldn't believe their eyes when Larry Lam's sleek airplane suddenly appeared in the driveway in front of his Palos Verdes home.

After 11 years, the retired aeronautical engineer was ready to see the plane he had designed and built inside his garage would fly. Like thousands of others in a growing national movement, Lam had built the plane with his own hands, and he was ready to realize a pilot's dream of flying his own creation.

But it had been a long, long 11 years.

"My family was really glad to see go," Lam said.

And when it rolled out of his garage, his neighbors stood in awe.

"We collected a crowd in a hurry," said Buck Buchanan, a pilot who had agreed to test fly Lam's plane, called the Wanderer.

## Brief Test Flight

The plane was hauled aboard a trailer and carted to an airport at Chino, and a few hours later it soared briefly on a six-minute test flight, proving that it was of sound aeronautical design, although slightly underpowered.

Lam was near tears when he proudly showed a videotape of that first flight to other pilots at the monthly meeting of the Torrance Chapter of the Experimental Aircraft Assn. He is shopping now for a more powerful engine, and he expects soon to realize the full rewards of spending 11 years inside his garage.

Would he do it again?

"Of course," he said. "Now my son wants one."

Lam's story is no isolated case. Most of the small, private aircraft

built in the United States this year will emerge from garages in suburban residential neighborhoods, not from the assembly lines of the nation's airplane manufacturers.

The trend has been spurred partly by economics. The price of commercially manufactured single-engine planes has soared out of the reach of most private pilots, plunging demand to the point that many companies have at least temporarily suspended building single-engine planes.

## Out of the Business

Cessna Aircraft Co. of Wichita, Kan., which built the ubiquitous Cessnas that blanket general aviation airports across the land, "got out of the single engine plane business" on June 1, according to company spokesman Dean Humphrey. The firm has indicated that it may resume manufacturing sometime after 1987, but that is open to question.

"In the late 1970s, we were selling nearly 9,000 a year," Humphrey said. That number plunged to 640 last year.

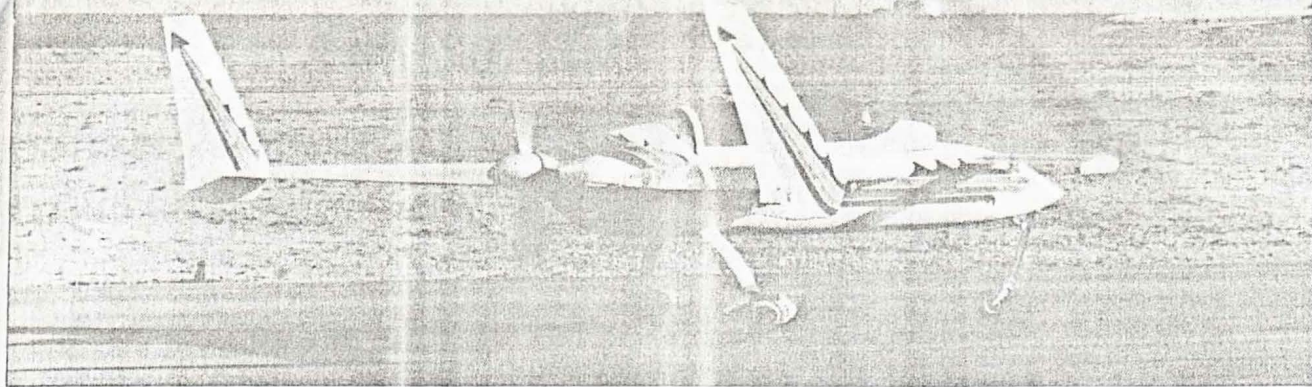
The commercial manufacturers have blamed their woes largely on the high cost of product liability insurance, which they claim has doubled the price of their planes.

Cessna's smallest plane, the two-passenger Cessna 152, sold for around \$40,000 with basic avionics gear in 1985, the last year it was manufactured. Although some small planes are still being built commercially, the cost usually runs substantially more than \$100,000, and some sell for as high as \$350,000.

That, in turn, has added to a boom that was already under way

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GEORGE R. FRY / Los Angeles Times

A Long-EZ, a challenging home-built, taxis out for takeoff; below, Ron Schroeder works on a similar plane in his Torrance garage.

## KITS: Planes Give Pilots a Special Thrill

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among the craftsmen who have turned to their talents more than to their pocketbooks.

"You can build your own airplane, a nice plane, for between \$5,000 and \$10,000," said John Burton of the Experimental Aircraft Assn. of Oshkosh, Wis.

But it is so time consuming that only a small percentage of those who start actually finish, according to amateur aircraft builders. And the successful ones all seem to have one thing in common: They enjoy building as much as they enjoy flying.

"You can't do it just because you want the airplane," said Ron Schroeder of Torrance. "You will never get through it."

Schroeder is building a Long-EZ designed by Burt Rutan, the innovative designer who created the Voyager aircraft that two pilots hope to fly around the world without stopping and without refueling. The Long-EZ is one of the most challenging of the home-builts, but those who complete the task end up with a plane that will cruise at 180 m.p.h. while burning less gas than a compact automobile.



LEE DYE / Los Angeles Times

### Airborne Sports Cars

That high performance is one of the reasons that more and more pilots are turning to home-builts. These small, extremely maneuverable planes are like airborne sports cars. The price one pays for that performance is in the payload. Many of them are single seaters, and few carry more than two persons with about 35 pounds of baggage.

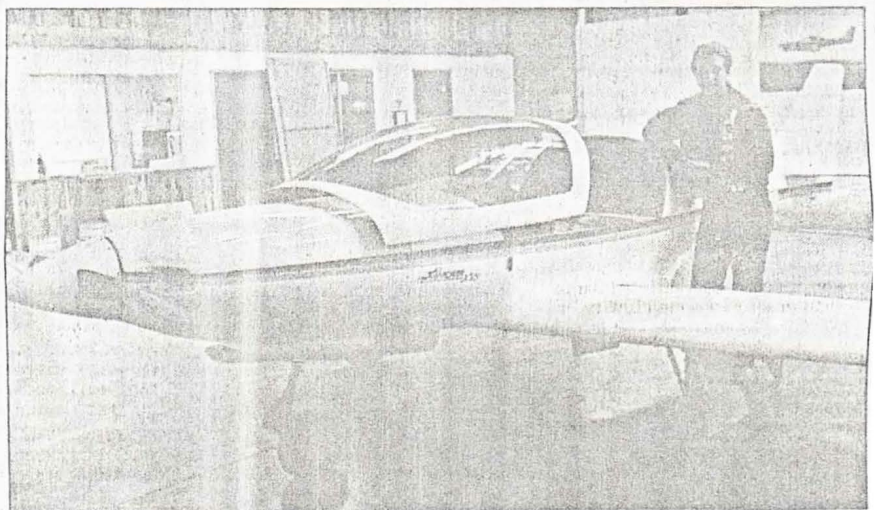
In recent years the Federal Aviation Administration has streamlined its certification process, making it far easier for amateurs to get an "airworthiness certificate" that allows them to fly their home-built airplanes. Prior to 1983, the FAA conducted "progressive inspections" at various stages during construction, but now the agency inspects only the final product.

"We won't look at it until it's done," said H. E. (Bud) Martell, manager of the FAA's manufacturing inspection district office in Van Nuys.

When it does finally inspect the plane, the FAA looks only at the quality of workmanship, not the design, Martell said.

"If he's got something that doesn't look like a wing, and he wants to try it, we'll let him," he said.

The FAA's regulations were designed to protect people on the ground, not the people who build their own airplanes, according to pilots interviewed for this story.



LEE DYE / Los Angeles Times

Lance Neibauer stands beside a Lancair, which he sells as a kit from his small factory.

### Freedom to Try

Martell added that the FAA does not "try to suppress" amateur builders.

"Our attitude is 'if you think that is good, try it,'" he said. "That's the only way this aviation business is going to grow."

If the FAA inspector is satisfied with the quality of workmanship, he will issue a "special airworthiness certificate" that allows the plane

1985, an increase of about 9% in only two years. Last year, 117 amateur-built planes were registered in the area covered by the Van Nuys FAA office, which extends north from the San Fernando Valley to the Oregon border.

That number is expected to grow tremendously this year in the wake of an amateur building craze that may be without precedent in the history of aviation.

The growth is so great that the largest manufacturer of single engine airplanes in the

official publication of the Experimental Aircraft Assn.

"We sold 40 kits in the first three weeks," Neibauer said in an interview in his hangar on the edge of the Santa Paula airport.

He said he has already sold 175 kits, of which 115 have been delivered.

This has been accomplished even though the kits have been in production for such a brief time that no one has completed one yet.

He has customers in six nations on three



# KITS: Home-Built Dreams Take to Air

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cannot enforce. It takes about 1,000 hours to assemble a kit such as the Lancair, although all the major structural components are supplied in the kit, and Neibauer has a letter from the FAA stating that buyers can be licensed if they assemble the kit.

Neibauer admits the FAA is being lenient in its interpretation of the "51% rule," but he says it is essential if general aviation is going to survive.

"The entry level has dried up with production aircraft," he said.

For many pilots, he and others said, building their own planes may be the only way to fly.

They are aided in that effort by the availability of a wide range of sophisticated materials that have led to a new generation of sleek, high performance planes. Most kits consist primarily of premolded fiberglass parts that are either joined to form the main structure, as with the Lancair, or fitted over a home-made wooden skeleton, as with the popular KR2, manufactured by Rand Robinson Engineering of Huntington Beach.

The KR2 was designed by Ken Rand and Stuart Robinson while both were working as flight test engineers at McDonnell Douglas.

"We think there are well over 1,000 KR2s flying," said Jeanette Rand, president of Rand Robinson.

The KR is at the lower end of the market in terms of price. The kit sells for about \$4,000, but that does not include the motor or instruments. The plane is powered by a Volkswagen engine, which has been re-engineered for aeronautical use.

Equipped with the barest instruments, she said, the completed plane runs around \$10,000, considerably less than half the cost of a Lancair. Full instrumentation, however, can push the cost much higher.

Amateur builders claim that anyone with reasonable skills and a few ordinary tools can build their own plane from a kit.

"It's about the same complexity of a model airplane kit," said Kevin Kelley, an architect who now works at Rand Robinson, "except you tend to pay more attention to the plans."

The degree of the difficulty depends largely on the type of aircraft. There are fewer and fewer pioneers such as Larry Lam these days, because most builders shy away from designing their own plane and go with a kit instead.

Amateur builders generally get high marks for safety, although crash statistics for home-built planes are not readily available.

"Most of the people who build are going to fly in it," said the FAA's Martell. "They're pretty sincere."

He said he has seen no evidence that home-built planes are inherently unsafe, and several amateur builders noted that their liability insurance is about the same for their homemade planes as it is for similar production aircraft, indicating that the insurance industry has no problem with safety.

The FAA does not require any safety equipment aboard home-builts that is not required for production aircraft. The requirements are based on the use of the aircraft. For example, certain instruments are required in order to fly in controlled air spaces, and the

at air shows along the way. He was almost home when he ran into a fierce snowstorm over the San Gabriel Mountains.

He was descending through the storm when his engine failed, his wife, Jeanette, recalled. Rand, a veteran test pilot, was killed in the crash.

According to news accounts at the time, his last words were: "I'm going to hit."

Hundreds of others, however, have picked up where Rand left off, and a few of his planes can be found at nearly any air show.

What all the builders seem to have in common is a desire to create something really special.

"You have to have a love of flying and a love of building," said Kelley of Rand Robinson.

"I can't ever remember not wanting to build my own plane," said Schroeder, who is president of the Torrance chapter of the Experimental Aircraft Assn.

Those who have done it say that there is little in life that rivals the sensation of soaring above the Earth in their own creation.

"I was too busy [on] my first flight to get very emotional," said Neibauer, describing the maiden journey of the Lancair. "The second flight, after you're sure the engine isn't going to fly off, you can relax. Then it really sinks in."

"I still get that feeling, looking out the window at the wings I made, and the ground so far below. It's pretty special."

# PROBE: Parks Chief Accused

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subject of race into Deukmejian's campaign for reelection against his Democratic rival, Los Angeles Mayor Tom Bradley.

While the black mayor recently said his color should not be a "hidden issue" in the campaign, Deukmejian has repeatedly refused to discuss the role that race may play in voters' minds Nov. 4.

The Equal Employment Opportunity Commission began looking into the charges against Briner more than a year ago after Silvester Widemon, a former deputy director of the Department of Parks and Recreation, alleged that Briner had harassed her into quitting her job. Its findings are based largely on confidential interviews with department employees.

"The commission concludes there is reasonable cause to believe that charging party [Widemon] was subjected to harassment . . .

because of her race and sex," according to the agency report completed in September.

The commission also said: "Witnesses state that the director openly and routinely used racist and sexist terms when referring to minorities and women. These terms included nigger, spear-chucker, nip, broad, wop and spic. He also made other discriminatory jokes and statements and is said to have referred to the charging party [Widemon] as 'it.'"

Commission officials would not discuss the findings but said the agency is seeking to settle the case with Briner. Forms the settlement might take include reinstating Widemon or awarding her a sum of money. If a successful settlement cannot be reached, the commission is prepared to take Briner to court.

Briner has long been followed by charges of racism. In 1984, the Senate Rules Committee delayed

his confirmation of parks and recreation department, after the committee's report he apologized he might have been marked by comments.

Briner called "a retreat of a totally dismissive ago."

"I have never found out who is making and find out what he said," he said, given the opportunity to accuse.

Briner said he has been meeting employees stepped on to be people who obviously. This and we're in the Briner's law

# Fetus, Removed From Womb for Operation

From Times Wire Services

SAN FRANCISCO—Pediatric surgeons here took a 23-week-old human fetus out of his mother's womb to perform critical surgery that saved the unborn baby.

Baby Mitchell was born normally in a Caesarean section at a Texas hospital near his parents' home nine weeks after the 1985 surgery to correct a blocked urinary tract. His case marks the longest time a baby has survived after such an

operation before birth, doctors said.

The same surgical team at the University of California, San Francisco, had performed similar surgery twice before. In one case, the infant died nine hours after birth because of kidney and lung damage suffered before the operation could be performed; in the other, the baby died six months later as a result of complications from an unrelated birth defect.

"It took years and development Dr. Michael R. surgeon who team, said, much got all out so it works

Harrison ph Baby Mitchell at a meeting Academy of Medicine in London.

# SAVE

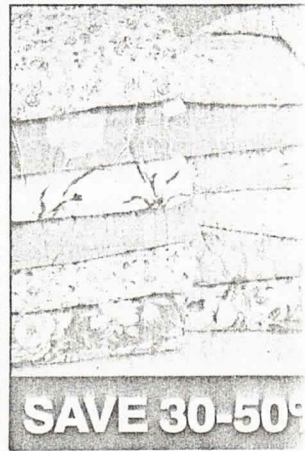
## 4 DAYS ONLY...ENDS S



SAVE 1/3



SAVE 25%



SAVE 30-50%