

Swift, Odd Aircraft Keeps Dreams Aloft in Santa Monica

■ **Aviation:** The 17-foot-long, 700-pound Long-EZ can climb 1,400 feet in a minute. Its top speed is 204 m.p.h.

By RAJ KAMAL JHA
TIMES STAFF WRITER

At rest on the Tarmac at Santa Monica Airport, the Long-EZs look a bit like a flock of overfed sea gulls relaxing in the sun.

They certainly don't look like normal airplanes. Their noses touch the ground. Where there should be a tail, there's a propeller. Where there should *not* be a tail—out at the tip of each wing—there is one.

But earthbound appearances are beside the point; this tiny experimental craft is built to fly. And flying, say the fanatics who have made Santa Monica Airport the Long-EZ capital of the world, is something the plane does very well.

"All the rest are like station wagons in the air," said flight instructor Gulshin Gilbert. "The Long-EZ is a Ferrari."

Just 17 feet long and tipping the scales at 700 pounds, the Long-EZ holds world speed and distance records for its class of home-built plane. It can climb 1,400 feet in a minute, fly as high as 14,000 feet and fly 2,000 miles without refueling. Its top speed is 204 m.p.h.

Built primarily of Styrofoam, epoxy, Fiberglas and plastics, the Long-EZ is light, free from corrosion, fuel-efficient and nearly stall-proof.

The plane was designed in 1979 by Burt Rutan, the maverick aircraft designer who also created Voyager, the plane that entered aviation history in December, 1986, by circumnavigating the globe on a single tank of fuel.

In 10 years, the Long-EZ has attracted a following of aviation enthusiasts around the world. But the biggest single concentration is in Santa Monica, where more than 50 people—doctors, actors, flight instructors, lawyers and business owners—are spending hours every day building the planes in their

garages, tinkering with them in an airport hangar, showing them off at air shows or simply flying them.

The early Long-EZs were sold as kits by Rutan, but he has since quit the business. Newer ones are made from scratch by builders who work with plans obtained from other owners.

It's not a simple process. Those who work at it part-time can take two to four years to build the plane, but it is relatively cheap. Whereas a conventional two-seater, such as a 9-year-old Cessna 152, might cost about \$40,000, a Long-EZ runs about \$20,000—plus labor, of course.

Because it is built by amateurs and hobbyists, the Long-EZ is classified by the Federal Aviation Administration as an experimental plane and therefore cannot be used for commercial purposes. Nevertheless, FAA inspector Lyle Alexander said he thinks that it "is a great airplane" that "would pass all the tests" if it ever went into production.

Although a varied bunch, the members of the Santa Monica Long-EZ contingent seem to have three things in common: They enjoy the process of construction, they love to fly and they praise the inventiveness of Rutan.

"It's the first plane I fell in love with," said Gilbert, who has flown a variety of Cessnas, Pipers, helicopters and sailplanes. "It has incredible visibility. The canopy is completely clear. The sound of the air flow is like that in a glider. It's very maneuverable. You think of a turn and you will have turned. It's so light on the control."

Each Long-EZ, however, is "only as good as the builder," Gilbert said. He said almost all the problems that may arise can be traced either to faulty implementation of the construction plan or a pilot's error in judgment.

Westside businessman Stan Shnideman, 56, said Rutan's ge-



Tom Howard, left, and Stan Shnideman stand in front of the

nus is reflected in the manufacturing process.

"Burt had laid the plans out as an education in itself," said Shnideman, who bought the blueprint for the plane and a list of the necessary materials from Rutan in 1985. "It was not one big job but 100,000 small jobs. Fixing the glass there, putting the epoxy here, cutting the template. And at the end I had made a remarkable plane."

If Shnideman needed any confirmation, he got it in April when he and five others flew from Santa Monica to Lakeland, Fla., to participate in races organized by the Experimental Aircraft Assn. The team won five trophies and the Long-EZ bagged the first, second, third and fourth ranks in its category.

Not merely quick and maneuverable, the Long-EZ also has a remarkable range. A normally

equipped model can make a 2,000-mile trip. The Long-EZ is 3,970 nautical miles, statute 4,560 miles, set by Rutan, brother of the who also was co-pilot of on its global circuit. Dick Orr, 43, a former pilot in Vietnam who built his Long-EZ 18 months ago, said it was "the safest and the only model plane in the field," said David Orr, 43, a former pilot in Vietnam who built his Long-EZ 18 months ago.

"It has one of the most designs and has the advantage the pilot is uniquely knowledgeable about the mechanic airplane," he said.

Orr is one of the founders

METRO NEWS



CASSY COHEN / Los Angeles Times

Shniderman stand in front of their beloved Long-EZs at Santa Monica Airport, the Long-EZ capital of the world.

tur- equipped model can routinely make a 2,000-mile trip. The record is 3,970 nautical miles, or about statute 4,560 miles, set by Dick Rutan, brother of the designer, who also was co-pilot of Voyager on its global circuit. Dick Rutan's 1981 flight, in a Long-EZ equipped with an auxiliary fuel tank, went from Anchorage, Alaska, to the Turk Islands in the West Indies in slightly more than 30 hours.

The Long-EZ is "probably the safest and the only modern airplane in the field," said lawyer David Orr, 43, a former Air Force pilot in Vietnam who finished building his Long-EZ 1½ years ago.

"It has one of the most forgiving designs and has the advantage that the pilot is uniquely knowledgeable about the mechanics of the airplane," he said.

active member of Squadron 2, a group of about 35 Long-EZ owners or builders in Santa Monica. Group members meet frequently to share new ideas regarding design improvement and problems in construction. They also organize guest lectures and seminars featuring professionals from the aircraft industry and related fields, and it welcomes aviation enthusiasts who are interested in building their own planes.

But there has been a sharp fall in the design and production of homemade planes. Rutan stopped selling plans for Long-EZ and other experimental craft in 1985 because of concerns about liability.

Orr says Rutan's decision to pull out of the business is a symptom of a broader problem.

"The aviation business is stuck because developments are discour-

"Whenever a plane crashes, the mass media are all over them. . . . The same can't be said of a car crash."

Some of the Long-EZ contingent in Santa Monica suggest that the enthusiasm for home-built planes in general may also be on the ebb because busy people simply don't have the time.

But if Shniderman had any worries about the Long-EZ's future, he left them on the ground recently when he took a visitor up for a spin.

He soared quickly to 3,000 feet over the ocean, gave the control stick a gentle jab and the plane cut circles in the air. Then he executed some sharp turns and pirouettes.

Soon, Shniderman removed both hands from the controls and shouted into the microphone: "It's so easy!"

From the rear seat, it certainly

ROCKING UP

When Dan Gay and his Long EZ rock into the air above Great Yarmouth it's very familiar territory for Dan.

He's the local pilot – running a music shop and teaching business in Great Yarmouth and he learnt to fly 14 years ago at Seething Airfield, a few miles away. He and his unusual looking Rutan Long EZ (pronounced long easy), fly from Seething, and Dan loves displaying.

"My first display was at an Armed Forces Day at Cleethorpes where I later learned the crowd included a member of the royal family (the Duke of Kent) – which was quite a buzz on your display debut."

His aircraft was designed by pioneering Burt Rutan, whose other striking creations have included the Virgin Galactic spaceliner and the Voyager which, in 1986, was the first plane to fly around the world without stopping or refuelling.

The Long EZ features a lift-boosting mini "canard" wing – which can be seen on hi-tech military planes including the Typhoon fighter – as well as airflow-enhancing "winglets", now commonplace on the wingtips of most airliners.

"I hope people enjoy seeing the unusual lines of the Long EZ," says Dan, who is an international music examiner for Rockschoo and teaches drums at Caister High School and Ormiston Venture Academy in Great Yarmouth.

"I have always loved planes – from making flying models as a

Designed by the man behind the Virgin Galactic spaceliner and the round the world Voyager, the Long EZ is a remarkable aircraft.



Picture: TMS Media

"I HOPE PEOPLE ENJOY SEEING THE UNUSUAL LINES OF THE LONG EZ"

Picture: Mike Page



STATISTICS

ROLE: fuel efficient long range flight

DESIGNED BY: Aerospace engineer Burt Rutan

ENGINE: 1 x Lycoming O-235 engine, 115 hp (86 kW)

MAXIMUM SPEED: 205 mph

LENGTH: 16 ft 10 in (5.12 m)

CREW: one pilot

Above: The Long EZ in flight

Left: Dan Gay and his Long EZ.

Below Right: The Long EZ rests on its nose on the ground.

child – but never thought I would own one, let alone fly one in a show over my town, which is a real cherry on the cake," he explains.

People wandering along Great Yarmouth seafront in the lead up to the show may have grabbed a sneak preview of his display as Dan practised the aircraft's twists

and turns between the piers.

Mr Gay is not the first flyer in his family.

"My granddad Phil Gay was a policeman in Great Yarmouth. In the First World War he was a bomb aimer – throwing bombs off the plane by hand," he says.

The Long EZ has the engine at the back and the pilot sits in a

semi-reclined seat and controls the Long-EZ by means of a side-stick, situated on the right-hand console.

His Long EZ, G-MUSO, was hand made and built by musicians Barry Castle and Mike Moran, who worked with Queen and other big names.

"The Long EZ is an excellent and extremely fun aircraft to fly. It has 10 hours endurance and is very fast, economically cruising at around 160mph with a top speed of around 210," says Dan, pointing out that while it only has a 115 hp engine it can cruise almost twice as fast as other aircraft with the same engine.

While highly manoeuvrable, it is not licensed for aerobatics in the UK. Dan is the founder of the UK EZ group which hosts an international meet at Seething each year. ●



Picture: TMS Media

COPA Flight

The Journal of the
Canadian Owners and
Pilots Association

OCTOBER 2018

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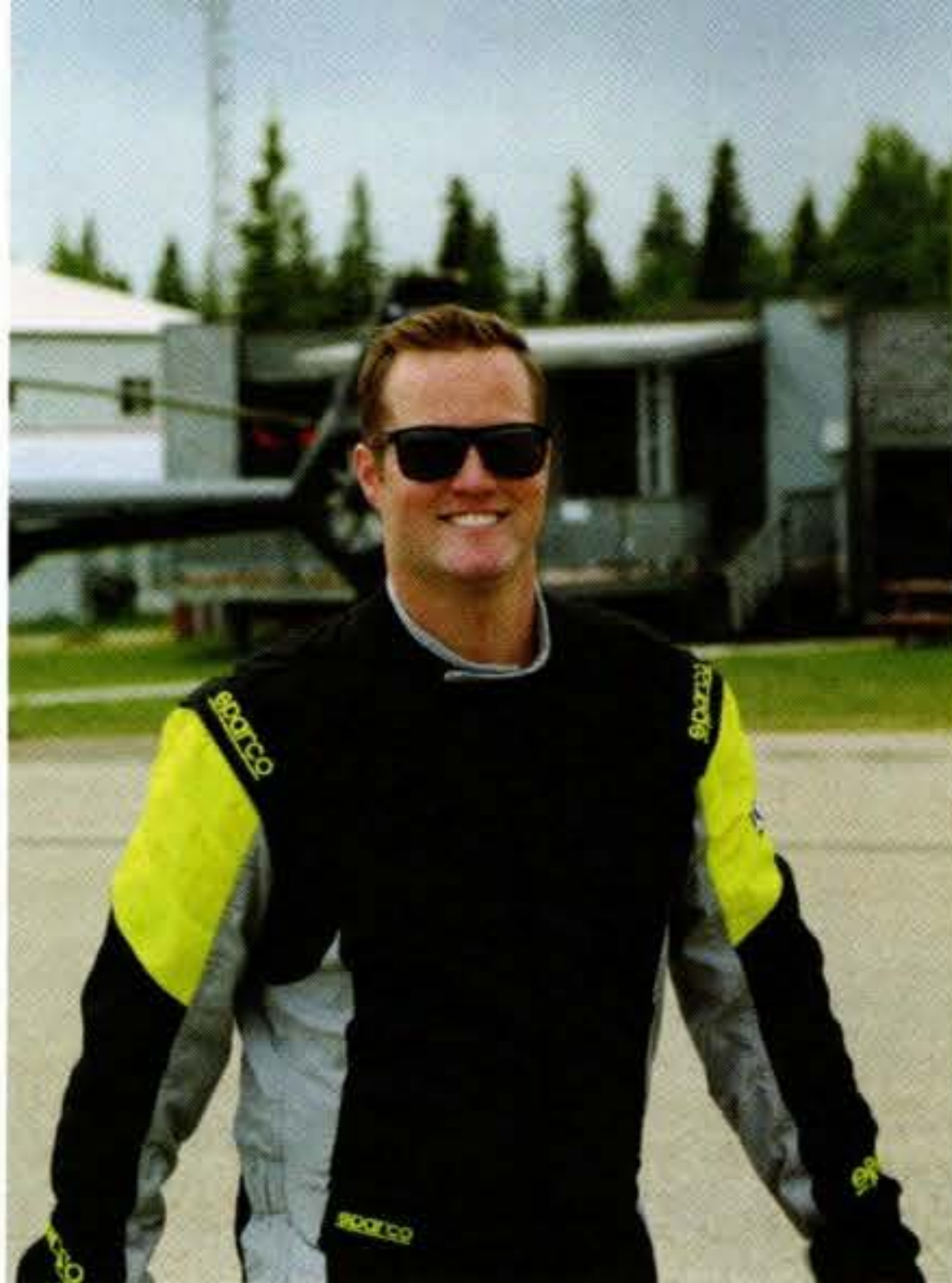
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SHOW PILOT





AIR SHOW STANDOUT

KYLE FOWLER KEEPS IT DIFFERENT

BY RUSS NILES

As air show pilots go, Kyle Fowler is the first to admit he's not in the same league as the superstars who entertain thousands at the world's biggest shows but there he was, rubbing shoulders with the likes of Sean Tucker, Rob Holland and Kyle Franklin on aviation's biggest stage.

In fact, the Rocky Mountain House auto mechanic, who has only been performing for three years, probably wouldn't have even qualified to perform at AirVenture 2018 except for his choice of airplane and his refreshing, winning attitude.

Fowler captured the imaginations and attention of tens of thousands with a relatively slow and almost eerily quiet performance of gentle aerobatics and photo passes in a futuristically angular, canard-wing Long EZ homebuilt.

"I'm the only one who flies anything like it in North America," said Fowler, who is as surprised as anyone at his meteoric rise to the very top of the air show world. He said his relatively tame performance is just an out-of-the-ordinary demonstration of an extraordinary aircraft design.

"You've got to stand out by being different," he said.

Fowler, whose father Ken was half of Team Rocket, a two-ship team flying homebuilts, grew up in the air show business, often missing school to help his dad on the circuit.

"When I was 12, I announced my first airshow for my dad in Arizona," said Fowler, a 32-year-old avowed family man who works for an oilfield company all over the oil patches of B.C., Alberta and Saskatchewan.

Like many, he was enthralled by the revolutionary designs from the fertile mind of Scaled Composites' Burt Rutan, but the Long Ez, Rutan's answer to the Cessna 172 was his favourite.

"I remember when I was a kid saying to myself that I would buy one and do airshows in it," said Fowler.



A few years ago, Fowler made that dream come true when he found a beautifully built and well-loved Long Ez in Medicine Hat.

The original builder Boyne Lewis, who had kept the painstakingly-built aircraft in his hangar during the 29 years he enjoyed flying it, had lost his medical and reluctantly put the aircraft up for sale. But Fowler said he wanted the airplane to go to a good home.

"I told him exactly what I wanted to do with the airplane and he was pretty excited about it," said Fowler.

Something that attracted Fowler to the plane was its colour. Almost

all Long EZes are painted white to keep the composite airframe cool and prevent delamination. Lewis's bright, pale yellow paint scheme was a striking contrast to most of the fleet and it had never suffered any heat damage. It's also a great colour for visibility by air show patrons and Fowler has kept the original paint.

The addition of decals and promotional lettering has increased the risk of heat damage, but Fowler pays a lot of attention to preventing it. "You have to keep a close eye on it."

The Long Ez was designed by Rutan as a super-efficient commuter aircraft

▲ Kyle Fowler has cut a swath through the air show world with his unique Long Ez show. He appeared at some of North America's biggest shows, including AirVenture and the Canadian International Air Show.

and Lewis had acknowledged that intent with his choice of a tiny Lycoming O-235 engine whose 115 horsepower could push the aircraft along at 125 knots for more than 2,000 miles.

Fowler's main sponsor Aerosport Power replaced the fuel-sipping original engine with a more robust IO-320, which has substantially boosted per-



formance. Another engine change is likely in the works with the lighter, yet more powerful IO-340 Stroker engine leading the list of candidates so far. Long EZes have a delicate centre of gravity (it's why pilots park them with the nose wheel retracted) and engine weight is a critical factor in maintaining that balance.

Another major sponsor, Catto Propellers, will finish off the new power package. Keeping it all running smoothly is crew chief Gavin Lee. Other sponsors include Lightspeed Headsets and Softie Parachutes.

All the power in the world can't

change the inherent limitations of the airframe and its aerodynamic characteristics. The aircraft can take a maximum of plus-five and minus-2 Gs and has a narrow speed range for entering most manoeuvres. "It's very unforgiving in the aerobatics that I do," he said.

It all adds up to a relatively sedate show package that involves a lot of slow rolls and knife-edge work. Fowler said he's not trying to compete with the Hollands and Tuckers of the air show world and he's concentrating on offering a splash of colour and variety to the general mix of acts.

"I don't have to be the best pilot out there," he said. "I'm just trying to be different."

And while there is some method to his career plan, he's amazed at the success that 2018 brought. "I cannot believe how much traction I got," he said.

Going into 2019, he said his schedule is filling up quickly and he's hopeful he'll be invited back to Oshkosh and Toronto along with all the other shows he's booked for next season.

There's another issue of balance that Fowler has to pay special attention to. As the father of two and member of a blended family with his girlfriend Miranda and her two children, Fowler must balance a life on the road with his life at home.

*I LOVE IT WHEN
THE KIDS COME UP.
THEY JUST LOVE
THE PLANE*

"I love my family and they are number one above all else but support my adventures with air shows," said Fowler.

Despite his popularity on the air show circuit, it's not lucrative enough to pursue full time and he needs his day job to keep stoking those home fires. However, his employer has embraced the opportunities offered by his weekend work and, in addition to Fowler's main role as a mechanic, he's also the pilot of the corporate Navajo.

"Most days I'm wrenching on vehicles and every once in a while I jump in the Navajo and take them wherever they need to go," he said. Company executives in turn give him broad latitude to pursue the air show career.

Through it all Fowler has been mindful of a key reason that air shows exist, which is to inspire the next generation of pilots and aviation industry workers.

"I love it when the kids come up," he said. "They just love the plane. 🙌"