

CANARD PUSHER

OCTOBER 2000

RUTAN AIRCRAFT FACTORY

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Burt's prototype Defiant has new home

Defiant N78RA, Burt's long-time private plane, is now basking in the admiration of museum patrons at the Stanley Hiller Aviation Institute in San Carlos, Ca. Suspended directly over its sistership the skew wing AD-1, the prototype Defiant has taken its rightful place as a part of aviation history. Burt developed both the Defiant and AD-1 at RAF in the late 70's. The AD-1, a low-slung skew-wing research aircraft, was built by Ames Industrial Corp for NASA in 1978 to test the benefits of modifying wing configuration during flight.

Defiant, designed with the hazards of engine-out in a light twin in mind, remained unnamed while under construction back in '78. Burt, Mike and crew were at loss of a moniker for the unusual four-place twin with swept wings and inline engines, so they sponsored a "Name the Plane" contest. Not only did Curtis Berry of Port Jervis, NJ come up with the perfect name for the aircraft but he provided a challenge. He wrote that "*defiant* infers the aircraft defies all the common assumptions about current production twin engine aircraft — in pilot skill required, safety, performance, construction and handling."

Still, the new airplane had to prove itself before the RAF crew would christen it so defiant a name as Defiant.

Flight tests soon proved that the airplane met Curtis's definition, and in fact exceeded its estimated performance estimates, verifying Burt's "no-procedure-for-engine-failure" design goal. "It doesn't take a lot of study" Burt said at the time, "to realize the impact of flight safety of a twin that not only has no appreciable trim change at engine failure, but requires no pilot action when it does fail." The airplane had earned its radical name.

see Defiant pg 6

Safety issues to be addressed

RAF is currently in the process of design and evaluation of two safety-related modifications for the VariEze and Long-EZ type aircraft. Mike and Burt are developing the modifications for testing on Mike and Sally's Long-EZ.

Neither were completed and approved by press time for this newsletter thus it will be mailed to all newsletter subscribers in CP #103.

While all licensed builders of these aircraft received their license more than 15 years ago, it is difficult to assure that everyone gets this important safety information. We will be notifying EAA Chapters a posting notice in Sport Aviation. If you know of anyone who may not receive this notice, please ask him or her to send a self-addressed, stamped envelope to RAF.

The two modifications are summarized in the following:

AILERON CONTROL SYSTEM RODEND SIZE — a recent failure of a HM-3 rodend in the aileron control system has occurred. Analysis of the part has shown it did not appear to fail due to bending or other over-loads. To prevent reoccurrence we are modifying the control system components to accept the larger HM-4 rodends.

PILOT'S ROLLOVER STRUCTURE — The current VE/LEZ pilot headrest structure is too small and too weak to provide adequate protection in the event the airplane flips inverted as the result of an accident. The new composite rollover structure is designed to fit all canopies and to interface with the canopy frame and fuselage longerons.

On the Rack

Reel footage of Dick Rutan's North Pole adventure will be featured on an upcoming segment of Real TV. Television producers told Dick that they were saving his segment for the November Sweeps Week.

Burt and some of his aircraft will be featured in the January 2001 issue of KITPLANES Magazine. It will be on the stands near you in December 00. For subscription info go to www.kitplanes.com and click on the Magazine tab. Or call 800-829-3340 (US & Canada) 904-446-6914 (Foreign). An index of 1985-1998 articles in Kitplanes is published on the web at <http://cozy.canard.com/ref-info/kitplane.html>

On the stands now — A short article about the Voyager is included in Life Book's softcover "The Greatest Adventures of All Time." Its on the stands now.

On the web — You can read about Hans Georg Schmid's record-breaking transglobal flights on the web. Go to www.millenniumflight.com

RAF HOURS: Rutan Aircraft is officially open every Wednesday. Please call between 10 am - 2 pm (661) 824-2645 and give your name, serial number and nature of the problem. If you are not in an emergency situation, we ask that you write to Mike.

Note — Sometimes you can catch Tonya at RAF Monday thru Friday. She is in and out. Try and try again.

When writing to RAF, send along a stamped, self addressed envelope, if you have builder's questions that need to be answered. Please put your name and address on the back of any photos you send.

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1654 Flightline, Mojave, CA 93501

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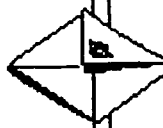
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CP 16 to current

Long-EZ

CP 24 to current

Solitaire

CP 37 to current

Defiant

CP 41 to current

A current
subscription of the
Canard Pusher is
mandatory for
builders, as it is the
only formal means
to distribute
mandatory changes.

George Rutan wants to extend thanks to the many friends and family who joined us October 7 at a memorial to celebrate the life of his wife Irene Rutan as well as those who could not attend but showered us with cards and letters.

Known to nearly everyone in the aviation community as "Mom," Irene Rutan, 84, died Tuesday, September 26, 2000 at home surrounded by family.

Mom Rutan's enthusiasm for Dick and Burt's aviation adventures never waned. She was their number one cheerleader. Mom was a regular attendee at many fly-in' gatherings, despite the weakness of her legs caused by the polio she suffered as a child, where she would search the flightline for every EZ on the grounds. She and Pop had not missed an Oshkosh Air Show for 21 years until she fell ill last spring.

We thought it fitting to hold the memorial for Mom in Scaled Composites' aircraft hangar on the Mojave airport among Burt's creations. The Catbird, the Adam 309 and the Boomerang were on hand as well as a row of EZs parked right outside the big hangar doors.

Although a heavy overcast throughout most of Southern California kept many fliers on the ground on the day of the memorial several managed to make it to Mojave where the sky was clear and the wind calm. Others made the long trek by car.

Many of Hospitality Club members will remember that in years past the club's annual Oshkosh meeting was closed with a song especially dedicated to Mom Rutan — the chorus of an Irish ballad called "Goodnight Irene."

At the memorial the group of 250 people stood to sing "Goodnight Irene" and then adjourned outdoors for a "Missing Mom Formation" led by Doug Shane and flown by Mike Melvill, John Lambert and Bob Grider in their EZs. The four-ship formation passed the crowd low over the runway. As they passed, Mike split off, pulling his Long-EZ up and away into the blue heavens until he and the airplane disappeared from sight. It was a touching tribute to a woman who loved her family of aviators so much.

The website EZ Squadron at www.ez.org has a lovely photo display of Mom's memorial for those who could not make it.



Irene "Mom" Rutan

September 6, 1916 - September 26, 2000

Dick Rutan has arranged a ceremony for Irene in Oshkosh at the Memorial Wall during AirVenture 2001.

If you would like to contribute to the memorial please mail your check payable to: EAA Aviation Foundation, In Memory of Irene Rutan and mailed to the: EAA Aviation Center, P.O. Box 3086, Oshkosh WI 54903

EAA will send an acknowledgement to all who contribute to this fund.

Oshkosh- 2000



Burt and gang solve the mysteries of the Egyptian pyramids at the Central States Assoc Hot Dog Roast.

Capt. Ralph Charles, who flies an Aeronca Defender, just celebrated his 100th birthday. Capt. Ralph keeps an airstrip at home.

**For Oshkosh Forums on
Audio Contact**

Forum Recordings

Dave Yeoman

3410 St. Peters Rd.

Marion, Iowa 52302

(319) 377-4188

dcyeoman@juno.com

For Forum Videos contact

Bruce Talbot

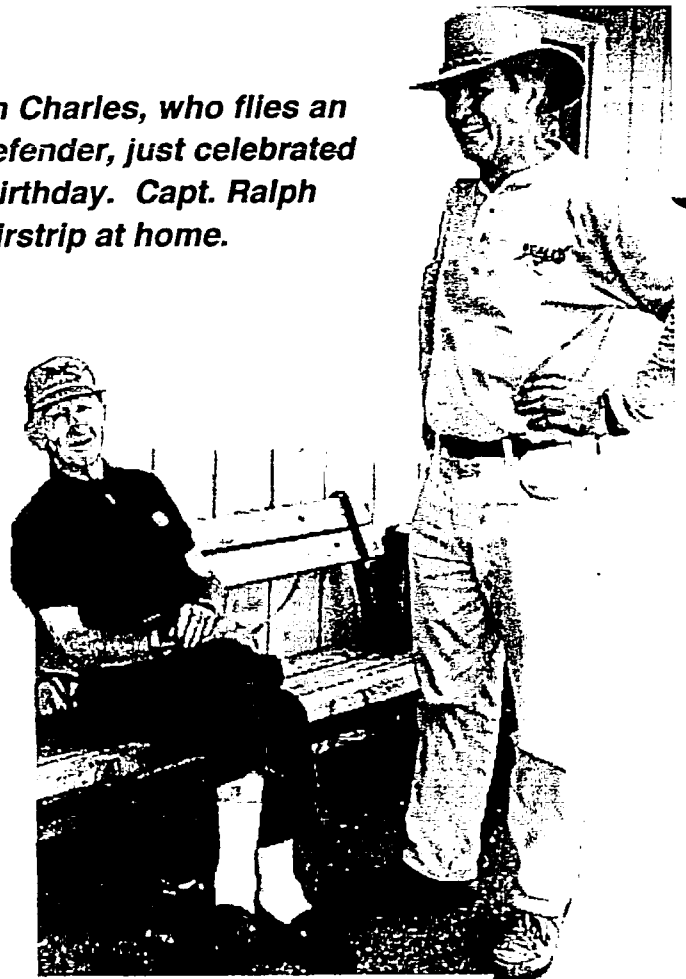
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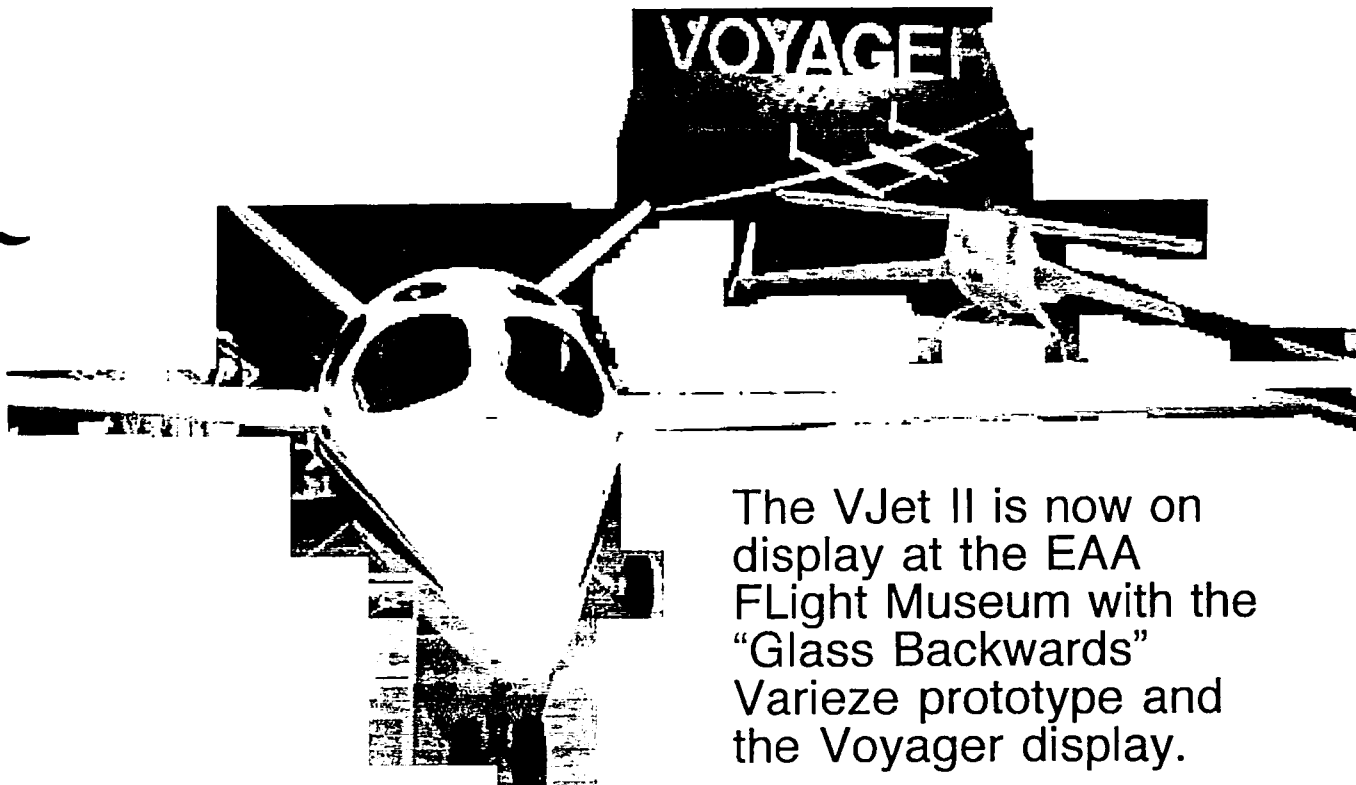
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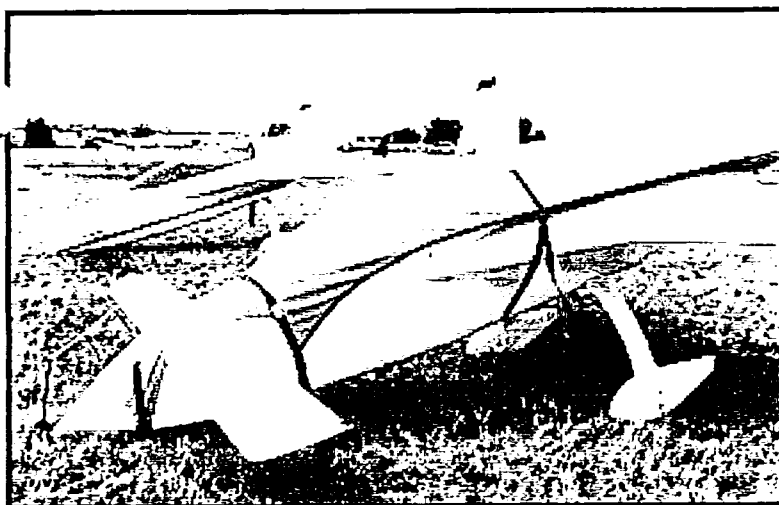
Buzz112@aol.com

Long-EZ N112TG





The VJet II is now on display at the EAA FLight Museum with the "Glass Backwards" Varieze prototype and the Voyager display.



On EZ Row



Jack & Golda Cox

ACCIDENT REPORT

Defiant _____

NTSB Identification: DEN00LA132

Accident occurred JUL-17-00 at FARMINGTON, NM
Aircraft: SPENCER LONG-EZ, registration: N51EZ
Injuries: 1 Minor, 1 Uninjured.

On July 17, 2000, at 1353 mountain daylight time, a Long-EZ, N51EZ, registered to and operated by the pilot, received substantial gear damage when it collided with terrain during an emergency landing at Four Corners Regional Airport, Farmington, New Mexico. Flight originated just moments before the accident. The experimental aircraft took off; the pilot declared an emergency; the aircraft returned to the airport and landed short of the runway. The 1986 Long-EZ was powered by a converted reciprocating Ford engine. The private pilot was not injured. His private pilot certificated passenger sustained minor injuries.

Visual meteorological conditions prevailed, and no flight plan had been filed for the personal flight being conducted under Title 14 CFR Part 91.

LAWRENCEVILLE, GA

Date: 10/03/2000 Experimental Defiant
One crew member, no injuries; cowling damaged on aircraft; circumstances unknown

NTSB Identification: CHI01LA029

Accident occurred OCT-22-00 at IOWA CITY, IA
Aircraft: Fowler VARIEZE, registration: N82JF
Injuries: 1 Minor.

This is preliminary information, subject to change, and may contain errors. Any errors in this report will be corrected when the final report has been completed.

On October 22, 2000, at 0825 central daylight time (cdt), an experimental-amateur built Varieze, N82JF, sustained substantial damage when it nosed-over during a forced landing following a loss of engine power while in cruise climb. Visual meteorological conditions prevailed at the time of the accident. The personal flight was operating under the provisions of 14 CFR Part 91 and was not on a flight plan. The pilot, the sole occupant, reported minor injuries. The flight departed the Iowa City Municipal Airport, Iowa City, Iowa, at 0816 cdt, for the local test flight.

The brand new Defiant and Long-EZ made their debut at Oshkosh in '79, stirring up excitement as never seen before at the annual air show.

The two aircraft were joined-up by Mike Melvill flying his VariViggen for the first-ever Rutan three-ship fly-by. Once they landed crowds mobbed the trio. Burt has a photograph — one of his favorites — of that scene on his office wall. The throng of people jumping, waving, encircling the Defiant is so dense that all you can see of the airplane is part of the canopy and the tip of one propeller.

N78RA flew 1418 hours before its retirement and donation to the Hiller Museum in 1999. It averaged 180 knots at 17500 and had range of over 1600 miles while burning 11.2 gal/hour. While Defiant N78RA was built only for research and development purposes, RAF eventually sold a limited number of plans for the aircraft. Only a handful of Defiants are known to be flying today.

Hiller's Aviation Museum chronicles aircraft history from 1869 through 100 years into the future. As visitors, you make your way into their two-story 27,600 square foot main gallery viewing over forty aircraft, exhibits, and many interactive displays. The museum is truly a unique experience devoted to telling the story of early historical and future aviation developments in California. It's well worth a visit. The Hiller Aviation Museum is centrally located in the San Francisco Bay Area at the San Carlos Airport. 601 Skyway Road Phone: (650) 654-0200 Fax: (650) 654-0220

Dana Timmer wrote that when he recently replaced the front inner tube on a tire he found that the new tube came out of the wheel assembly at 90 degrees and was long enough that it clipped the fork assembly each time the wheel spun around.

Has anyone else had this problem?

Let us know at RAF
email raf@hughes.net
ph (661) 824-2645

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| Want your poster signed by Burt Rutan? | _____ | \$15 | 23x33 Long-EZ "Cut-Away" drawing (see CP 33) |
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VariViggen, VariEze and Defiant fly in harmony |
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Spin-On Oil Filter Adapter for Lycomings

B & C Specialty Products' latest product is the neatest idea I have seen in a long time. It is a 90-degree, spin-on oil filter adapter for Lycoming engines. It is beautifully made by CNC milling out of a solid aluminum billet and bolts onto the accessory case in place of your oil screen housing or AC spin on filter adaptor. It fits perfectly, does not interfere with the magnetos, the vacuum pump or even the mechanical tachometer drive. It also has plenty of clearance on your engine mount and firewall, important considerations when you operate an EZ!

I installed one on N26MS and now have a full flow, spin on champion oil filter, with no high pressure hoses to a remote mounted filter which could leak. It comes with everything you need to install it: a new gasket, new aluminum washer for the vernatherm, and new copper washer for the oil temperature sensor. They even send a small container of the proper sealant for the gaskets. Of course it comes with new Lycoming bolts to mount it.

It is fairly expensive at \$395 but is available to EZ flyers until the end of 1996 for \$350. I am extremely pleased with mine and I heartily recommend it for anyone running a Lycoming engine on an EZ. A fuel flow spin-on filter allows 50 hours between oil changes and prolongs the life of your engine.

Give B&C a call at (316) 283-8662 or fax (316) 283-8000. You'll be glad you did! *Mike*

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These suppliers are still the only authorized RAF dealers for all your various aircraft materials and components.

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Fax (909) 372-0555

Aircraft Spruce East
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(770) 228-3901
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Feather Lite
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Contact Michael Dilley or Larry Lombard
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*Items must be shipped by truck.

Nose Gear Ratchets

I have agreed, effective October 1, to take on the job of producing the nose gear ratchets that have been supplied by Dr. Curtis Smith. The job kind of overwhelmed him, and I am hoping that it does not do the same to us! I have orders for around 25 standing right now and am tooling up to do an initial run of 100. Price has, of course, gone up. The cost of materials and labor always does. I will be offering the units built exactly to his original specifications. I can't improve on a perfect design! I will, however, be offering the units in two finishes. The standard unit, part number 44807, and a chrome finished version, part number 44812. These are also the Sears part numbers for the two finishes of the 1/4 inch ratchet drives. Each ratchet includes installation hardware and instructions. Prices are as follows:

44807 Ratchet	\$49.95
44812 Chrome finish ratchet	59.95
Shipping & Handling	5.00

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Signed by
Burt & Dick Rutan



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CP 102

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