

CANARD PUSHER

JULY 1997

RUTAN AIRCRAFT FACTORY

VOL.12, ISSUE 3, NO. 89

by Captain Scott Kinkade

I recently had an experience that brings new meaning to the line "I lost an engine and had to do a deadstick landing." The incident occurred on 17 February 97 at Cherry Point, North Carolina. I had been flying in the local area during the day, and about an hour before sunset a friend of mine stopped by my hangar at New Bern and I offered him a ride (his first in the aircraft). We climbed into by VariEze, an O-200 that I had owned for about a year, and launched for a quick hop. After 10 minutes or so I decided to call the tower at Marine Corps Air Station Cherry Point, which is about 15 miles away, and ask them for permission to transit their Class D airspace. They approved my request (it was a holiday), so I lined up on runway 32L and began a pass at 1000 feet.

As I passed the tower, they asked me what type of aircraft it was, and after I told them I offered to make another pass to give them another look (old military rule of thumb: never go back for reattacks). They said OK so at the end of 32R I turned around and headed back in on 14L.

The runways at Cherry Point are parallel but offset end to end, with a 1000 foot-square centermat, and 14R directly in front of me for a total of about 18,000 feet of pavement. When I had traveled 3000 feet down runway 14L I was at an altitude of about 800 feet and an airspeed right about 200 MPH. I suddenly heard a loud bang followed by a severe noisy vibration and an abrupt deceleration. My immediate thought was that one of my wheel pants had come apart and was beating against the side of the fuselage.

I pulled power and attempted to determine what the problem was. As we continued to decelerate, I experienced an abrupt nose drop which I immediately countered with aft stick. The pitch

control at this point was extremely sensitive, and I attributed the resulting porpoising to "ham fisting" the stick under duress. When I had the pitch attitude settled out I began a short sidestep to set up for landing on 14R (still well in front of me). As I did this I made my only broadcast: "Tower, I'm just going to land straight ahead here." Moments later I rolled wings level and lowered the gear.

My attention at this point was completely outside the plane. I would estimate my airspeed on short final to touchdown was about 80 MPH, but I was flying strictly nose attitude, with my goal being to get on deck before I ran out of pavement. We ended up touching down on 14R with

Pilot *LITERALLY* loses engine, lands safely

about 6000 feet remaining. I let the nose down sooner than usual and during the roll-out we began a slow drift to the right. I fed in left rudder until I ran out, then fed left brake until that ran out too. We ended up rolling to a stop off the right edge of the runway but still on the pavement.

I climbed out to inspect what by that time I had determined must be a broken prop. As soon as I stepped out I stooped down to look aft under the fuselage. From that vantage I could see an air hose and some miscellaneous wires and cables hanging down from the engine compartment. Confused by this, I walked around back and was quite surprised to see that the lower cowling was gone and the engine compartment was completely empty. My engine had sheared off at the mounts and departed the aircraft back at the first sign of trouble.


see Engine Loss page 3

BRIEFS

Congratulations Hans— Hans Georg Schmid recently flew his Long-EZ from Switzerland to Cape Town and back. We will bring you his story in our next Canard Pusher.

Do we have tires? — Renavair Vintage Aviation Surplus specializes in the sale of antique, classic, warbird and homebuilt parts that are hard to find. For example, according to their brochure they have BF Goodrich 15x6.00 - 6 4ply; Goodyear 15x6.00 - 6 4ply & Pirelli 14cc 14 ply tires. (Call for other sizes). Renavair, Inc., PO Box 1029, Jacksonville, TX 75766. (888) 803-9996, fax (888) 803-9997.

Coming up on September 13 — Burt and Dick will open the Dinuba Historical Exhibit with a technical lecture in Dinuba, California. Cost is \$10 to attend the technical lecture or \$25 for dinner and lecture. Call Winona Campbell for more information. (209) 591-2144 Tuesdays and Thursdays



To report accidents and incidents

Call (805) 824-2645



or fax: (805) 824-4174
Attention RAF

Write: Rutan Aircraft Factory
1654 Flightline
Mojave, Ca 93501

RAF HOURS: Rutan Aircraft is officially open every Wednesday. Please call between 10 am - 2 pm (805) 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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Editor: Mike Melvill
Publisher: Tonya Rutan

U.S. & Canadian subscriptions \$14; Back issues \$3.50
Overseas (Airmail) subscriptions \$16; Back issues \$4

RAF is no longer accepting multi-year subscriptions. Please renew only after your current subscription has expired.

If you are building a RAF design, you must have the following newsletters:

- VariViggen (1st Ed) CP 1 to current
- VariViggen (2nd Ed) CP 18 to current
- VariEze (1st Ed) CP 10 to current
- VariEze (2nd Ed) 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.

Engine Loss

I went back around to the cockpit to tell my passenger (fortunately a very good friend) and secure the fuel, which was pouring freely onto the pavement. At that point I could see the entire Cherry Point crash crew rolling down the runway towards us. They pulled up and the guys in the space suits jumped out with hoses while I tried to wave them off before they started up their water cannons. A Marine in charge of the spill kit came over and wiped up the gallon or two of fuel that had spilled, and I felt a little foolish for bothering to report the leak.

After a couple minutes some of the ground guys showed up in a pickup truck with my engine in the back. It had landed next to a taxiway about midway up 14L. It was obviously totaled and had about half of each prop blade still attached to the hub. The throttle cable was wound tightly around the prop shaft and case, indicating to me that the engine had been spinning during its fall. Five or six of us pushed the aircraft back to the hangar that houses my squadron (that mile and a half doesn't look nearly as far from the inside of a jet). That night a few friends and I dismantled it, and the next day I trucked it back to New Bern.

The next day I went up to the tower to talk to the guy who had been on duty during the flight. He told me that he had seen "something metal" fly off the plane almost as soon as we rolled wings level, followed shortly after by the engine, which at the time he thought was a sandbag thrown from the plane. I asked him if the "metal" could have been shiny white fiberglass, and he said yes it may have been. Based on what he pointed out to me from the tower, I took a truck out to the runway and walked along the grass to the right of the pavement. We recovered most of the lower cowling, shattered in no particular pattern, and several chunks of the wooden prop. A couple thousand feet beyond that was where the engine had landed. I am confident that all or a piece of the cowling came off and went through the prop, breaking the prop and causing the out-of-balance condition that caused the engine mount to fail. Specifically, I think the airscoop may have failed, or one or more screws on the leading edge failed and caused the forwards lip of the cowling to extend into the airstream. Regardless, I feel sure that the order of failure was: cowling, prop, engine mount.

Examination of the aircraft revealed that the engine had taken quite a bit of collateral equipment with it when it

tore loose, including both brake cylinders. Loss of the brake cylinders accounts for my inability to control the right drift on the runway. However, **THE AILERON AND RUDDER LINKAGES WERE UNTOUCHED.** Anyone familiar with the construction of the VariEze knows just how fortuitous this is. The aircraft was completely controllable except for the overly sensitive pitch response.

Some answers to frequently asked questions:

1) Yes, the engine actually left the aircraft and fell to the ground while the plane was in flight. I get this one a lot.

2) There was no damage to the rest of the aircraft except a small strip of fiberglass that was torn off the bottom of one wing when the cowling came off. The strip is about the size of a piece of masking tape five feet long.

3) An annoying assumption by non-flying folks is that the engine came off because it wasn't bolted on

properly. In fact, the engine mounting bolts are still firmly in place on the firewall. The bracket itself sheared off all four points within a half inch of the bolts.

4) The firewall side of the brackets are damaged into the fiberglass. Although a master craftsman may be able to rebuild the spar and firewall, I did not feel that the aircraft should be flown again. My insurance company agreed, and they paid me the full amount of my policy and will sell the aircraft for salvage.

5) I plan to buy another VariEze or Long-EZ. Contrary to another annoying assumption, I think the design proved itself admirably by allowing me to fly to runway centerline in spite of such a catastrophic failure. Nor do I hold the designer, builder, or any previous owner even remotely responsible for what happened. I flew the aircraft because I believed it to be safe for flight. I do not know what caused the failure, but if presented with an identical aircraft today I would have no reason to doubt its airworthiness.

6) All the cylinders and engine accessories are intact. I have no reason to believe that any failure *inside* the engine compartment broke the cowling.

7) Approximate numbers at time of the mishap: 800 feet altitude, wings level, 200 MPH. The aircraft was tested to 240 MPH. All engine readings were normal and the aircraft had been flown in that regime often.

see Engine Loss page 4

"I could see an air hose and some miscellaneous wires and cables hanging down from the engine compartment. Confused by this, I walked around back and was quite surprised to see that the lower cowling was gone and the engine compartment was completely empty".

Engine Loss

8) I have about 130 private pilot hours, with about 25 in the VariEze, and 1100 hours as a Naval Flight Officer in a Marine EA-6B (that's the guy who sits next to the pilot).

9) Following the mishap, I let New Bern FSS know what had happened (and obviously Cherry Point Tower knew as well). The only action I had to take with the FAA was to fill out a Hold Harmless agreement with the Tower.

Looking back on the incident, I can see several things that could have happened to make it much worse after the initial failure:

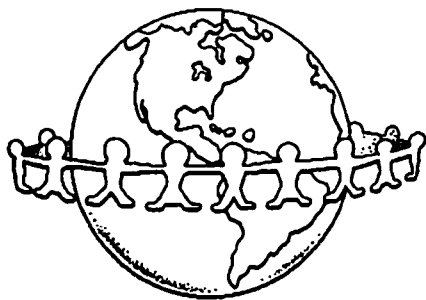
1) The whole thing could have happened someplace other than directly over a runway.

2) The engine could have landed on a C-130, a Harrier, or one of the construction workers who were nearby.

3) As we drifted off the runway following landing, we could have run into a thousand-foot marker, or worse, the arresting gear.

Is this a first? If anyone has had a similar experience we're interested in hearing about it. We'll discuss it further in the next issue of the Canard Pusher. — Editor

Welcome Home World Travelers



PARTY! Tri-Tip BBQ

July 26, 1997

3- 6 p.m.

at the Mojave Airport

We are getting together at the Hansen's Hanger on Mojave Airport for a welcome home party for Mike and Dick and a general Canard Get-Together

\$10 per person
for delicious BBQ Tri-Tip Dinner, cake and cool drinks

Please RSVP

Tell us how many & whether you are flying or driving.

For hotel or airport information leave your phone number & we'll call you back!

Leave a **SHORT** RSVP message on the RAF telephone
(805) 824-2645 or (805) 824-3880



WebMaster
Wayne Wright

Another great part of Mike & Dick's Mother Earth adventure was sharing it with old friends and new-found friends the world over. Unlike newspapers, newsletters or monthly magazines that deliver information on a daily, weekly or monthly basis, those interested in the world flight could check the web page (www.canard.com) and in moments could read all about the latest action, view photographs, etc.

This latest flight into technology was made possible by WebMaster Wayne Wright. As the updates about The Spirit Of EAA Friendship World Tour were written, Wayne would post them on the web page, keeping those who were monitoring the flight from all around the world up to date on the trip and the pilots.

Wayne and his wife, Vicki pilot the popular Canard Aviator's Page. "I started The Canard Aviator's Page to establish a web site to share information on our aircraft with each other, especially safety information," e-mailed Wayne.

He also copied the entire National Transportation and Safety Board (NTSB) database and painstakingly extracted all of the canards. That information was then added to the web site so that canard pilots could easily review all of the incidents and accidents that involved canard-style aircraft. Wayne added, "It's very sobering to read them, too. You only have to read a few to see that most accidents should not have happened. I read a few of them every week or so — it makes me more careful."

The Canard Aviator's Page receives about 5000 visits or hits a month and was voted one of the top 5% sites on the

internet today. Along with the site, Wayne and Vicki offer a canard aviator's mailing list service, and have nearly 400 canard pilots and builders presently subscribing. Through the newsletter, subscribers can locate parts, chat about item installation, share flight experiences, information about fly-ins, and even opinions on various topics. Internetters can subscribe and unsubscribe at will. Just send an e-mail to majordomo@canard.com and put subscribe canard-aviators in the message body. It's that simple.

Wayne adds, "As part of the www.canard.com web site, we also provide a "classified advertising" section for non commercial use. There, one can find all kinds of things for sale including canard aircraft, engines, parts, wheels, etc."

Wayne and Vicki also produce great sites for others for as low as \$9.95 a month. Contact them by e-mailing sales@web-span.com or sales@canard.com. Your very own site could be up as quickly as 24 hours from right now...

In his spare time, Wayne has and flies three airplanes; a VariEze, a Long-EZ and a Cherokee. The Long-EZ is his work horse and he writes, "I fly the Long-EZ to/from work most days, except rain or IFR. My plane does not have the Roncz canard or the canard vortex generators, so it suffers the pitch down problem, even in very light rain. In fact, I believe I can "feel" rain in the stick before I can see it."

see WebMaster page 6

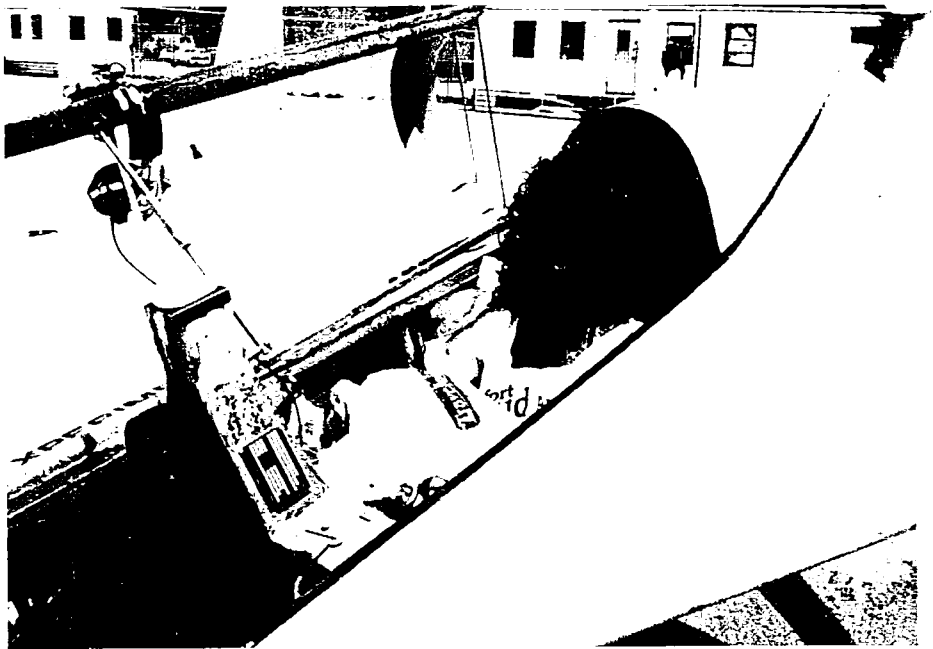
Internet Interview

by Kelly Hall

WebMaster _____

Always interested in aviation, and a pilot since 1985, Wayne decided to commute by airplane to work, rather than wasting two hours each day riding and sleeping in car pools. He e-mails the story, "I bought a Cessna 150 to learn to fly in as well as commute to work. I didn't have any kind of license when I bought it, so I had to have a pilot/mechanic friend fly it to our home airport for me. I found an instructor, and several hours later, I soloed it. After that, I quickly built flight time, and started commuting to work in the plane. After about three months, I took my private check ride, and then started working on an instrument rating, which I completed about six months later. At the end of my second year, I had about 700 hours flight time and I flew my little 150 from Maryland to an Oklahoma flight school where I completed a single and multi-engine commercial rating and a single/multi-engine flight instructor rating as well as an instrument instructor rating. I returned home in the 150, and began teaching others how to fly. I eventually earned my own multi-engine ATP certificate, once I obtained the required 1500 hours experience.

Wayne's step-son, Jordan, plans to solo in the VariEze on his 16th birthday this December. Also at home with Wayne, Vicki and Jordan is ten-year-old Devin and three-year-old Hayley. Wayne also has a grown daughter, Shelley, who is 19.



Vicki enjoys a ride in one of WebMaster Wayne's three airplanes.

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Burt's Mike's Dick's '97 Oshkosh Schedule

31 July — Spike arrives during Air Show
Thursday 11:30 am Burt X-Prize Forum

1 August — 10:00 - 11:15 am Burt Rutan *Mojave-Montrose Madness*
Friday 1:30 pm Dick Rutan — Eagle Hangar at Museum
5:00 -9:00 pm Annual Hot Dog Roast

2 August — 10:00 - 11:15 am Burt & John Roncz *Tent Talk Show*
Saturday 1:30 pm Dick Rutan — Eagle Hangar at Museum

3 August — 10:00 - 11:15 am Burt & Mike Melvill *Builder Support*
Sunday 1:00 pm Burt X-Prize Forum
1:30 pm Dick Rutan — Eagle Hangar at Museum
7:30 pm Jim Price — Award — Theater in the Woods

4 August — 1:30 PM Dick Rutan — Eagle Hangar at Museum
Monday

Mike and Dick are scheduling time for a slide show presentation of their EAA Friendship World Tour. Call Kelly Hall at (805) 824-4608 for times and dates

REMEMBER, all date & times are subject to change.

Be sure to check your program or call the EAA offices for ACTUAL times and dates

Invitation to Awards Presentation

Jim Price (MI) — Please join me in celebration of World Record Altitude Awards to be presented at Oshkosh '97. I offer this to my extended family of EZ & aviation friends. Isn't it great to see a Long-EZ take back the records? To my knowledge, I have the third Long-EZ to hold a World Altitude Record. The NAA will present awards at the Theater in the Woods evening program. It is now targeted for 7:30 pm Sunday night, but please check your program for the final date and time. Hope to see you there!

ANNUAL HOT DOG GET-TOGETHER

The annual hot dog roast hosted by Marty & Linda Paviovich and Gene and Ann Zabler will be held Friday, August 1 from 5 to 9 pm at the Nature Center Hospitality tent, west of the main permanent Nature Center building. Another group will have the facility until 4 pm so you early arrivals may find strangers. Seating might not be available so bring your own chair.

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*

RAF Recommended Suppliers

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

Brock Mfg.
11852 Western Ave
Stanton, Ca 90680
(714) 898-4366

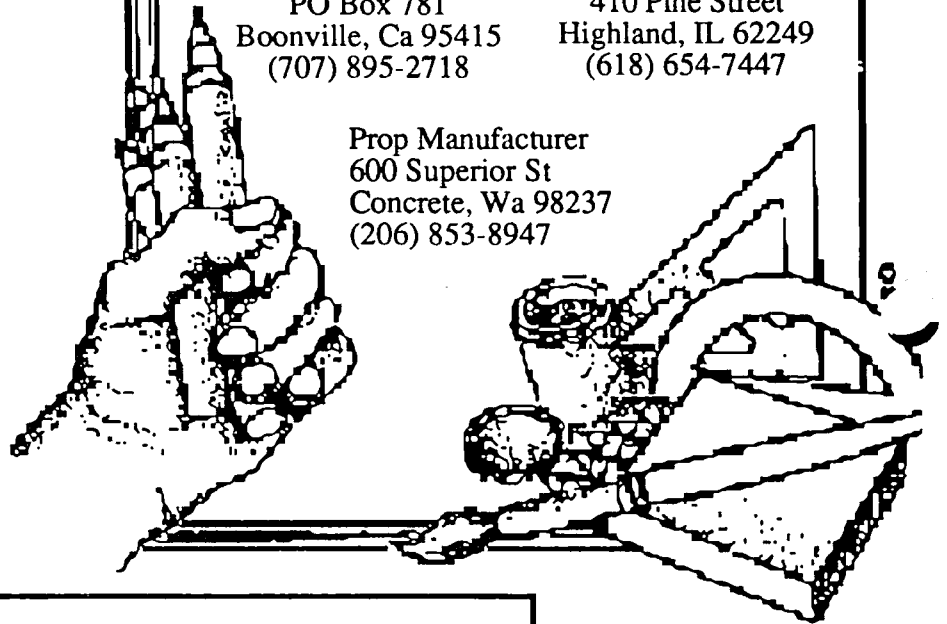
Aircraft Spruce West
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(714) 870-7551
(800) 824-1930

Aircraft Spruce East
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Feather Lite
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These pre-molded generators are specially engineered for aircraft application. Available in white, they can also be custom molded in quantity to match specific paint colors for aircraft manufacturers and OEM suppliers. After installation, the sail appears to be molded an integral part, rather than an "add-on". The final result not only looks better, it performs better than typical hand-made aluminum fences. Molded vortex generators adhere better, do not corrode, require no painting and are easy to install: one Long-EZ canard can be equipped with a full span of generators in less than 90 minutes.

A kit containing fifty generators is available for a price of \$25.00 plus \$2.00 shipping and handling per kit. Two kits are sufficient to equip the full span of a typical canard (i.e. Long-EZ, Dragon-Fly, et al) or both ailerons on either canard or conventional planforms. Documentation is included. Please send check or money order to:

CCI, PO Box 415, Quakertown, NJ 08868-0415
Please allow 2-3 weeks for delivery, Sorry, no COD's.

Note: These vortex generators are not TSO'd for use on type-certificated aircraft.



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VariEze builder/flyer Bill Butters has started a company to develop a full range of buried antennas. These are normally supplied with a BNC connector built into the actual antenna, but can be supplied without connectors to include enough length of co-ax cable to facilitate easy installation with minimum weight and bulk.

Call Bill Butters 800-758-8632 Advanced Aircraft Electronics, PO Box 4111, Florissant, MO 63032

Feather Lite



LONG-EZ PARTS PRICE LIST

Main gear strut	\$349.00	
Nose gear strut	\$58.00	
Engine cowls, pr. (glass)	\$329.00	
Engine cowls, pr. (Kevlar)	\$480.00	
Cowl inlet	\$48.00	
Wheel pants (3.5x5)	\$150.00	
Wheel pants (500x5)	\$180.00	
Above item in Kevlar	\$215.00	
NG 30 cover	\$21.00	
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Nose wheel cover NB	\$19.50	
Sump blister	\$19.50	
NACA inlet	\$47.00	
3" extended nose gear	\$70.00	

Feather Lite, Inc. is proud to announce another product to re-introduce to EZ builders: The original Space Saver Panel by the late Rusty Foster. This is a bare fiberglass panel with a molded recess for builder installation of an aluminum flat stock electrical panel. \$40.00

Contact Michael Dillely or Larry Lombard (both former RAF employees and EZ builders and flyers)

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Grover Beach, CA 93483-1052
805-489-8155**



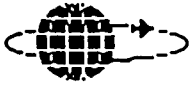
STARTER FOR 0-200 CONTINENTALS

B&C Specialty has introduced a beautifully made, 12 volt starter specifically designed to be installed into the accessory housing on a Continental 0-200 engine, or on an 0-240.

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Bill Bainbridge has these starters available for immediate delivery and they can be had STC'd or for homebuilts.

Contact: B&C Specialty Products, Inc.
123 East 4th Street, Newton, KS 67114
316-283-8662



They're Baccck! Mike and Dick have returned from the Spirit of EAA Friendship World Tour on Tuesday, June 24 at about 1715 hours. During the flight each burned 2040 pounds of fuel, each used 30 quarts of oil and each flew over 38,000 statute miles, enough to circle the globe 1.5 times at the equator. Both Mike and Dick put 240 hours apiece on their Hobbs meters. They look forward to seeing their friends and recalling their trip with a slide show July 26 at the Mojave Airport. For more information visit the website at www.canard.com and see page 4.

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Inside

Pilot lands after *literally* losing engine Pg 1
 Party planned for Mike & Dick's return Pg 4
 InterNet Interview Pg 5
 Burt's, Mike's, Dick's Oshkosh Schedule Pg 7

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