





We flew over the final check point, the Santa Rosa air center which is where they stop the clock, and entered downwind, got the gear down, landed quite short and taxied to the weight scales. We knew from our Alcor fuel-flow indicator what we had burned, but we wanted it verified on their scales. We were most satisfied when the weighing showed we had used within 1-1/2 lbs. or 1/4 gallon of our indicated fuel flow! We knew our race time, so we now knew our CAFE score. We were sure we had won, but it was really exciting at the Banquet and Awards ceremony to be called up and presented with all of the awards we did get. The crew of five shared the prize money and all of us had a really fine weekend in Santa Rosa.

Gary Hertzler, in his now "almost legendary", 80 HP VariEze, won the experimental two place as well as the CAFE Award for the largest percentage of gain in fuel efficiency in a category. Gene Sheehan was second in his quick 100 HP Q-200, followed by Klaus Savier in his very fast 100 HP VariEze. These three competitors have been dicing with each other each year for several years now and, this year, their scores were within 3% of each other. Close competition, incredibly efficient airplanes, good company, and lots of fun. Here are the results of this year's CAFE 400.

<u>A/C</u>	<u>PILOT</u>	<u>PAYLOAD (lb)</u>	<u>SEATS</u>
	<u>SPEED</u>	<u>MPG</u>	<u>HP</u>
		<u>CAFESCORE</u>	
CATBIRD	MELVILL	1000	5
	192.3	21.6	210
		2751708	
VARIIZE	HERTZLER	400	2
	152.5	49.25	80
		2360859	
Q-200	SHEEHAN	400	2
	174.6	40.93	100
		2322493	
VARIIZE	SAVIER	400	2
	177.0	39.57	100
		2284493	
SUPER BD	WARD	800	4
	173.1	18.58	300
		1754892	
LANCAIR	MAXWELL	400	2
	188.8	27.72	125
		1734679	
GLASAIR	KEEFE	400	2
	209.0	22.24	180
		1580555	

MOONEY	HAWKINS	799	4
	151.5	19.62	200
		1566710	
MOONEY	HUDSON	798	4
	167.2	16.65	200
		1503079	
MOONEY	LOEWEN	703	4
	163.6	18.62	200
		1487699	

### JACKPOT 1988

Burt flew Catbird, Dick flew "old blue", his record setting Long-EZ, and Mike and Sally flew up in N26MS, their own Long-EZ. On the way up, Burt spent most of the trip gathering altitude performance data for the Catbird and it was a beautiful flight at 17500 feet, absolutely smooth, with a good tailwind. When we arrived at Jackpot on the morning of Saturday, July 2nd, there were already over 50 EZ's on the ramp! The afternoon was spent in the pool. The evening dinner show was fun, but the big event was early Sunday morning - "Jackpot races".

Four separate classes raced: Stock VariEze, Stock Long-EZ, "Super Stock (Long-EZ's modified), and the Unlimited EZ (all EZ's not built per plans).

Burt flew the Catbird in the same race as the unlimited EZ's under Exhibition class. The first race was Stock VariEze's and it was won by Shirl Dickey. He beat Gary Hertzler by less than 2 miles per hour! The neat thing about it was that Shirl and Diane Dickey originated the jackpot and Wendover "EZ" flyins because Shirl has always been a competitive racer in everything he has been involved in from speedboats to airplanes. In five Jackpot flyins, Shirl had never won until this year. Congratulations, Shirl!

The second race was Stock Long-EZ's won by Bob Brown in his beautiful Long which he just recently flew his time off.

The third race for the modified Long-EZ's (bigger engines), the Super Stock Long-EZ class was won by Ed Kelly in his amazingly fast Long-EZ. Ed was very fast at the Sun 60 Air Race at Sun-N-Fun earlier this year, turning a lap from standing start at over 215 MPH! Second was Kick Kreidel and, interestingly, the third and fourth place finishers were two Cozy's, Vance Atkinson (a

previous VariEze builder) and Ken Francis.

The last race was for Unlimited EZ'S which included highly modified (bigger engines, as well as airframe mods) VariEze's and Long-EZ's. The Catbird flew in this race under the Exhibition class and Burt proceeded to completely annihilate the course record, set by Mike Melvill last year at 225.98, with a blistering speed of 245.54 MPH! That "Cat" is fast! Mike Melvill won this race, with John Chambers in his highly modified 0-235 powered VariEze second. Ed Kelly came in third and Wes Gardner in his Lycoming powered VariEze was fourth.

This was the best Jackpot ever. The weather was perfect, 78 RAF and composite-types flew in to enjoy the hospitality of Cactus Pete's Casino, and a great time was had by all. Two Long-EZ's flew in from New York, a VariEze flew in from Wisconsin and a Cozy flew in from Texas! There were 44 Long-EZ's, 29 VariEze's, 1 Defiant, 1 Catbird, 2 Cozy's, 1 Two Easy. In addition, a Tailwind and 3 Spam Cans flew in. We had over 150 people at Cactus Pete's over the 4th of July weekend and it was great. Many, many thanks, once again, to the organizers of this great little flyin, Shirl and Diane Dickey - you guys done good !!

#### RACE RESULTS

STOCK VE	(MPH)
1ST SHIRL DICKEY	199.31
2ND GARY HERTZLER	197.17
3RD JOE MOORE	196.88
4TH BOB PAULSON	189.0

STOCK LEZ	
1ST BOB BROWN	188.99
2ND TOM JEWETT	187.98
3RD BOB CAMPBELL	184.56
4TH DOUG KIRKPATRICK	183.98

SUPER STOCK	
1ST ED KELLY	216.04
2ND DICK KREIDEL	215.65
3RD VANCE ATKINSON (CO-2)	208.67
4TH KEN FRANCIS (CO-2)	205.98

UNLIMITED	
1ST MIKE MELVILL LEZ	228.89
2ND JOHN CHAMBERS VE	218.21
3RD ED KELLY LEZ	216.07
4TH WES GARDNER VE	209.26

EXHIBITION  
BURT RUTAN CATBIRD 245.54 MPH  
(NEW COURSE RECORD)

#### SHOPPING

Bob Davenport's nose gear shimmy damper for VariEze and Long-EZ...

This is a very important addition to your EZ. The original plans-built shimmy damper required constant care and adjusting, and in many cases, still allowed the nose wheel to shimmy and break the nose wheel fork. This has happened to a lot of EZ flyers. Don't let it happen to you. Contact:

Bob Davenport  
PO Box 650581  
Vero Beach, FL 32965-0581  
305-567-1844

Valve Cover Gaskets for Lycomings and Continentals.

Made from 100 % pure silicone, these gaskets will absolutely solve the age old problem of oil leaks at the rocker cover to cylinder head gasket area, especially on Lycomings! Contact:

Doug Price  
Real Gasket Corp.  
PO Box 1366  
Laurel, MS 39441-1366  
800-635-REAL or 601-649-0702

Doug has recently come out with a silicone gasket for the small Continental engines to fit between the oil tank and the bottom of the crank case. He is very happy with its performance.

Oil Breather Systems and Retrofittable Fuel Sight Gages for EZs. Contact:

Wes Gardner  
1310 Garden St.  
Redlands, CA 92363  
714-792-1565

**B&C SPECIALTY PRODUCTS** suppliers of alternators & voltage regulators for the VOYAGER are pleased to announce that their light weight starters in 12 volt & 24 volt are now STC'd for all LYCOMING 0-235, 0-290, 0-320, 0-360, & 0-540 engines. The sealed lead acid batteries they stock are also highly recommended.

## RAF RECOMMENDED SUPPLIERS

Aircraft Spruce PO Box 424 Fullerton, CA 92632 714-870-755	Wicks Aircraft 410 Pine Street Highland, IL 62249 618-654-7447
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FeatherLite PO Box 781 Boonville, CA 95415 707-895-2718	Brock Mfg. 11852 Western Ave. Stanton, CA 90680 714-898-4366
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The above suppliers are still the only authorized RAF dealers for all your various aircraft materials and components.

## FOR SALE

Lycoming O-235-L2C, 2450TT, 95 since extensive top overhaul by Lycoming dealer, Hagelin of Long Beach. Includes all accessories, prop extension, prop and spinner. This engine won the stock Long-EZ race at Jackpot 1988. \$5500.00. Contact:

Bob Brown  
818-961-9871 (w)  
714-525-8032 (h)

## Breather System for Lycoming.

Mike has been using this system now for over 1000 hours and is very satisfied at this point. Wes Gardner has been running his for several years.

He is the designer, builder and supplier of this rather unique system.

The breather hose goes from the engine to an optional (in Mike's opinion!) oil separator mounted on the firewall and drains back into the engine from there. The breather hose then goes to a "T" fitting and on to a one way check valve which is welded into the exhaust header. A smaller hose goes from the "T" through a PCV valve to a fitting in the intake manifold. It sounds complex but it really is not. You will have to have a stainless tube welded into one of your exhaust pipes and you may have to tap a 1/8" NPT pipe thread into the intake manifold, or Wes can supply you with a part that clamps between the carburetor and the sump to take care of the problem. Mike does not use the separator itself rather, he just accepts the loss of oil that goes out of the exhaust. It is so small in his case that you cannot tell which of the four exhausts it is draining into. Wes, on the other hand, is very happy with the separator and recommends it.

What does this system do? Well, it takes your

breather and its associated messy oil stains on the cowling and dumps it through the exhaust system where all the oil vapors and oil are burned, and thrown out of the exhaust pipe, leaving no oil on the cowl. In addition, and perhaps more significantly, it lowers the pressure in the crankcase to below ambient pressure which causes any small oil leaks you may have to disappear due to the fact that these leaks now leak into, and not out of, the crankcase. Obviously, this slight reduction in internal pressure cannot take care of a major oil leak, but it is amazing how all the annoying little oil leaks dry up!

This is not a Lycoming recommended system, but it is a system that Wes has tested now for several years and one he has had running on several airplanes, including Mike and Sally's Long-EZ. Mike has not wanted to recommend this system in the past even though he has been running it for a number of years, but since Wes included the PCV valve in the system, the few little reservations Mike had have gone away. See "Shopping".

## CAUTION

Do not substitute micro for flox where it calls out to use flox in the plans. Flox is an extremely strong structural-type filler and is quite heavy. If it is called out instead of micro, it is because we require the additional strength in spite of the small weight penalty. Where micro is called out as a filler, do not use flox since the strength requirement is not needed and you will only pick up unnecessary weight.

## PLANS CHANGES

We at RAF, of course, cannot enforce a mandatory change as FAA can on a type-certified aircraft. The regulations allowing amateur-built experimental aircraft recognize that the homebuilder is the aircraft manufacturer and that the aircraft does not need to conform to certification requirements. This allows experimentation by the homebuilder giving him the freedom to develop new ideas. FAA achieves their goal of providing adequate public safety by restricting the homebuilder to unpopulated areas and to solo flight until his aircraft is proven safe.

It is the homebuilder's responsibility to maintain, inspect and modify his aircraft as he desires. However, we at RAF feel that part of our job is to provide information to the homebuilder in the form of recommendations that, in our opinion, are required for him to achieve a satisfactory level of flight safety.

<u>Category</u>	<u>Definition</u>
MAN-GRD	Mandatory - ground the aircraft. Do not fly until the change has been accomplished.
MAN-XXHR	Mandatory - accomplish the change at next convenient maintenance interval or within XX flight hours, whichever comes first.
DE	Desired - strongly recommended but not requiring grounding of the aircraft.
OPT	Optional - does not affect flight safety.

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**THERE ARE NO PLANS CHANGES FOR ANY RAF DESIGNS THIS TIME.**

Please submit any significant plans changes that you may come across as you go through the building process.

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Since RAF is no longer active in the development of homebuilts, we are not likely to discover many new errors or omissions in the plans. For this reason, we need help from you.

**ACCIDENTS AND INCIDENTS**

Bob Yarmey, a professional pilot and Long-EZ builder, was involved in a serious accident in his Long-EZ. Recently he offered to share his thoughts with all of us and he wrote this accident report and comments. It is not often that any of us who fly get to hear the thoughts and opinions of a pilot involved in a serious crash for obvious reasons. Bob is a very experienced pilot and a very observant person whose views may be very important to all who fly. We found his comments on how to touch down on a short field in an emergency such as he had, most instructive and very perceptive. The average homebuilder/pilot is so concerned

with damaging his creation that in a bad situation, instead of trying to preserve the safety of the people aboard, he or she is likely to try to preserve the airplane at all costs. As Bob has pointed out, this is not the way to go. We can appreciate this point, particularly, having been there a time or two ourselves. Every EZ builder should read this accident report several times. The time may come when knowledge such as this could save your life. We are most grateful to Bob Yarmey for taking the time and having the courage to write this report so that others may benefit.

**REQUIEM? FOR A LONG-EZ**

With much excitement, I awoke on the morning of June 14, 1986. The previous night, I had been up late - washing and waxing my Long-EZ, N23RY. I wanted her to look her very best while on display at the big Texas Sesquicentennial Airshow in Waco, Texas. With my wife, Margi, settled in the back, we enjoyed a comfortable 45 minute flight from our home base at the Addison Airport in North Dallas.

It grew to be an oppressively hot day - right at 100 degrees. We enjoyed a great airshow, yet after having answered hundreds of spectator questions, we were anxious to get airborne once the field reopened. A little over half way back to Dallas at approximately 2500 feet AGL, we experienced a sudden complete loss of power. Searching around, I spotted a field about a mile off the right wing. As I swung into a wide right-hand turn to land into the wind, I turned on the boost pump, switched fuel tanks and checked the mixture and mags - all to no avail. Established on a base leg, I can recall observing a line of trees at the roll-out end of the field and utility lines at the approach end. Given what I estimated to be about 2,500 feet of field in between, I decided that my approach path should be planned to just clear the wires. I felt well prepared for this situation since I had performed a good number of practice forced landings and actual engine shut-downs both during my thorough flight test phase and subsequently. My 170 hours in this Long-EZ had been accumulated since her maiden flight four months previously. My overall experience includes 9,300 logged hours as a professional pilot in a wide variety of aircraft.

Once on final, Margi recalled me saying that I needed to go a little bit lower. I remember

feeling confident on a short final that everything was going to turn out OK. Tragically, this was not the case as I was to realize while slowly emerging from heavy morphine sedation a week or so later.

I was disappointed with the FAA's investigation of the accident. Once the badly damaged forward fuel lines were by-passed and the prop replaced, the engine started up and ran satisfactorily. Despite the extensive damage at the fuel selector location, the FAA said the AN 818 aluminum coupling nuts were found to be finger tight and listed this as the probable cause. This was hard for me to accept as I had recently applied fuel lube to help unstick the fuel selector valve and had checked that these fittings were plenty snug. I personally suspect that given the hot conditions and my use of mogas that the occurrence of vapor lock was a possibility.

The accident investigation revealed that after impact with some smaller gage wires near the top of the cluster, the aircraft impacted the ground 70 degrees nose down at approximately 70 kts wings level. The fuselage shattered with severe damage extending to and including the front seat bulkhead. I was ejected at the impact point as the aircraft flipped over and came to rest 27 feet further on. Margi was terrified as she remained secured in the inverted aircraft with fuel coming out of the broken vent lines. Other damage included: a clean shearing off of the right winglet at the attach juncture, one-third of the top left winglet crushed (with no apparent damage at the juncture), the left-hand baggage pod sheared off in the wing saddle area although the right-hand pod remained attached intact, the canopy and aft turtle-deck were flattened to within approximately 4 inches of the longerons, the head rest sheared off along with a good portion of the front seat bulkhead, the canard remained surprisingly intact except for major crushing damage to the center section area.

We thank God that given the severity of the forward fuselage and canopy damage, that both Margi and myself came out of it alive and reasonably well. She suffered a concussion and a cracked rib. We were very fortunate that bystanders were immediately available to re-right the aircraft and extricate Margi. Also, a veterinarian was right on hand and administered three tourniquets to me. A Care-Flight helicopter delivered me to the

emergency room in quick order. I don't know how, but I appeared to have maintained consciousness during the whole ordeal. Unfortunately, both my legs were eventually amputated just above the knees. I am thoroughly convinced that my decision to employ approximately 15 pounds of extra thickness thermo-foam absorbed a great deal of the impact forces and prevented both of us from receiving any internal or spinal injuries. In reflecting on how this tragedy might have been avoided, I would advise against the use of any automotive fuel. Although I had no problems in using it up to that day, operating temperatures had never exceeded about 80 degrees. In all honesty, I cannot rule out that human factors may have played a part. The long hot day standing on the concrete ramp left me feeling irritable and not too perky. It is possible that my judgement could have been impaired.

The point at which my landing gear snagged the thin wires indicated that just another two feet of altitude would probably have put me in the clear. In evaluating the position of the canard relative to a line extending from my eye level to the aircraft flight path it appears to be within the realm of possibilities that the highest thin gage wire that I struck could have been hidden from my view by the canard. With this in mind, I would caution anyone flying a canard aircraft to closely eyeball the approach area well prior to getting set up on final approach.

Besides being concerned with the utility lines at the approach end, I was equally preoccupied with the consequences of not stopping before reaching the trees at the end of the field. I suppose its a natural feeling for a pilot - especially a homebuilder to avoid anything that could inflict even the slightest damage to his creation. Had I been willing to just get it down and accept the possibility of minor airframe damage, I could have avoided all personal injury.

No other aircraft has ever come close to providing me with the great satisfaction and sheer flying excitement as N23RY did. Given the nature of my disability (specifically, loss of ankle articulation), the rudder/brake combination of an unmodified Long-EZ represents a viable and realistic opportunity for me to get back flying again. I am contemplating a static load analysis of my aircraft which has been stored in my garage.

Amazingly, close visual inspection of the wings, spar, strakes and rear half of the fuselage reveals no apparent damage. Any builder/flyer of a properly constructed Long-EZ is entitled to utmost confidence in its structural integrity, energy absorbent characteristics and resultant crash worthiness.

My twin brother, Al, and his wife, Cathi, are heading towards completion of their beautiful Cozy later on this year. I'm really excited and will not hesitate to go up and fly that Rutan derivative.

(Signed)  
Bob Yarmey

### INTERNATIONAL VARIEZE AND COMPOSITE HOSPITALITY CLUB NEWS

#### 1988 IVCHC Oshkosh Events:

- Sat. July 30 Ladies Luncheon at 11 a.m.  
Butch's Anchor Inn
- Sat. July 30 EZ Bull Session  
UWO EZ Lounge  
North Scott Hall, 4th floor  
8 p.m.
- Sun. July 31 Morning Social Hour, 9 a.m. - 12  
Free Coffee and Doughnuts  
Homebuilder Type Club  
Headquarters  
"Happy Bicentennial Australia!"
- Mon. Aug. 1 IVCHC Oshkosh Banquet  
Butch's Anchor Inn at 6:30 p.m.  
\$14.00 per person  
Purchase tickets at the RAF  
booth

IVCHC 1988 Ed Hamlin Memorial Trophy winners are Buzz and Peggy Talbot of IL. Buzz has been an IVCHC representative for years and the Talbots have organized and hosted remarkable flyins like the Rough River Dam Flyin and the Brockridge Airpark Corn Roast. The Trophy was created by Donald and Bernadette Shupe to recognize members who have put in extra effort, time, and energy in promoting hospitality, travel and support to other EZ builders and pilots! Nominees and winners are selected by IVCHC members. Previous Trophy winners were: 1983 - Mike and Sally Melvill, 1984 - The "Real" George Scott, 1985 - Shirl and Diane Dickey and Don and Edna Foreman, 1986 - no nominations, and

#### 1987 - Bruce and Bonnie Tiffit!

This year the Club is having its first annual "MS WORLD IVCHC" event which is sponsored by IVCHC and WICKS AIRCRAFT (410 Pine Street, Highland, IL 62249). The purpose of the event is to recognize the lady with some, or all, of the following qualities: Friendly, Charming, and Humble personality; Airplane and Aviation Enthusiast; Helpful and Nice to Partner and Others; Good sense of Humor; Pilot and/or Co-Pilot of an Aircraft; and Pleasant appearance and carries self well.

The ladies who have been nominated for the TITLE are (in alphabetical order) Diane Dickey of AZ, Joan Hansen of AZ, Coyla McKean of TX, Sally Melvill of CA, Sasha Munir of CA and Shirley Puffer of AZ.

All members of the Club are encouraged and qualified to vote, and the winner of "MS WORLD IVCHC 1988-89" will be announced at the IVCHC Oshkosh Banquet (usually around 250 attendees) when and where coronation will take place.

IVCHC will once again reserve rooms as a group at the University of Wisconsin Oshkosh for the "1989" EAA Oshkosh Convention. This service is FREE - all you need to do is to send a check for \$20.00 payable to either IVCHC or UWO along with your name(s), address, phone numbers, arrival and departure dates, and whether you will be flying or driving, to IVCHC/Shupes at 2531 College Lane, La Verne, CA 91750.

Staying with the group is FUN, Friendly and Memorable!

IVCHC would like to encourage communication between EZ type clubs. The Shupes have always published events and informal flyins of EZ groups, organized by members as well as non-members, so long as the meetings are friendly and geared to serve EZ pilots and builders. We would be happy to publish any group meetings and flyins - simply send us a note. Many type clubs have become quite popular because people have been willing to send news to the Canard Pusher and IVCHC for Newsletter publication. And we are most happy and proud to see that still so many wonderful people like Shirl and Diane Dickey of RACE, Dick Kreidel of LE Squadron I, David Orr of LE Squadron II, Al Coha of San Diego Squadron, Arnie Ash of Central States Assoc., EZ Builders of Florida, Dayton Ducks, and etc., have been so highly motivated in serving EZ

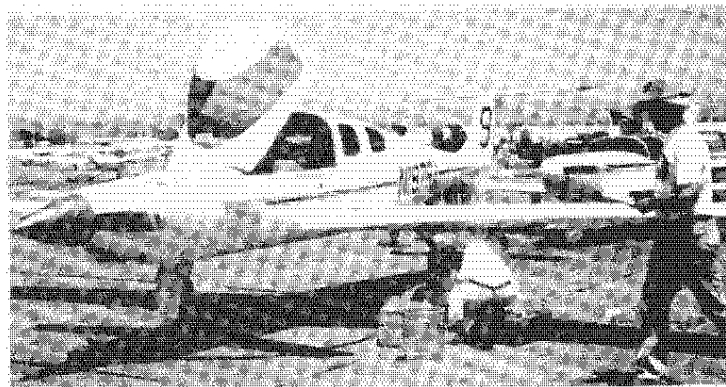


people.

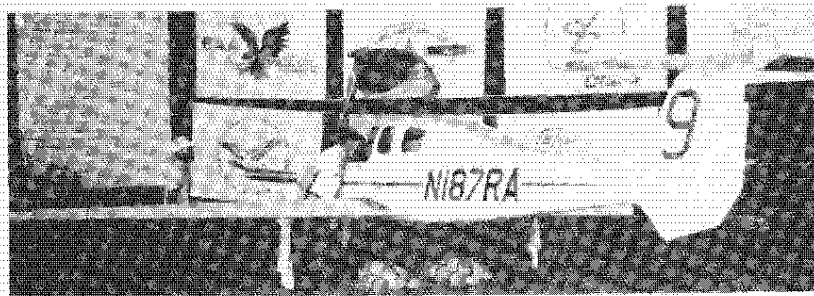
If you are not members of some of these groups, you are really missing out on a great deal because between the groups "we cover everything", including promoting "hospitality"!

p.s. Thanks to Sally Melvill, Joan Richey and Dave Orr for an "Unforgettably" well organized and nicely run Burt's Birthday Party on the 18th of June - What a Party! Sorry you have to do all the setting up and cleaning up - it was all worth it, wasn't it?!!!

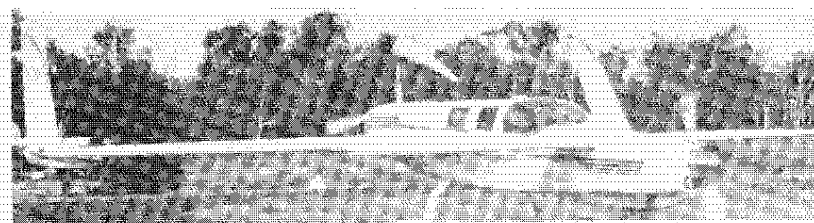
We sure are glad that Burt likes birthday parties! By the way, congratulations to Tonya, (Burt's girlfriend, that is) for making her solo flight one day prior to the party!



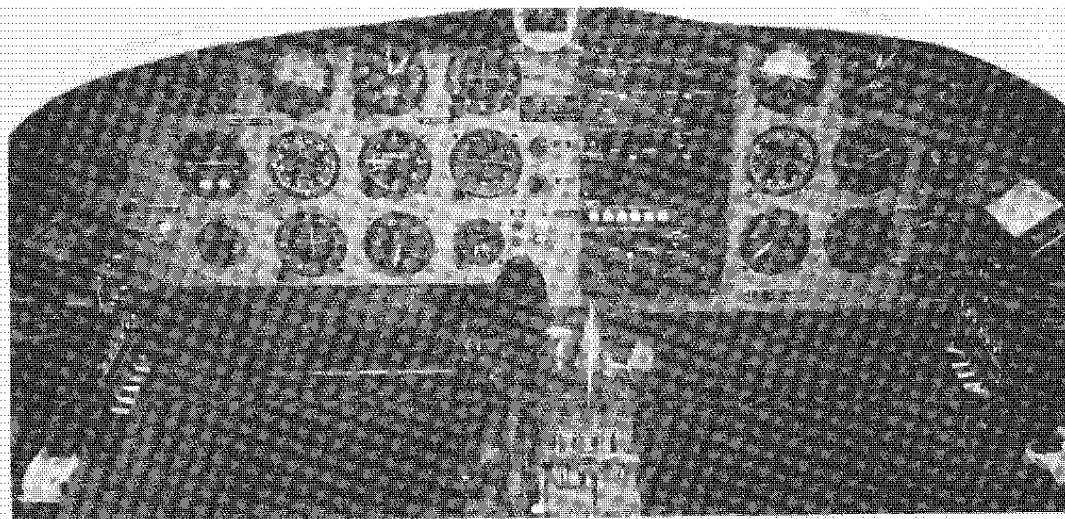
DRAINING ALL THE FUEL PRIOR TO WEIGHING EMPTY AT THE CAFE 400 1988.



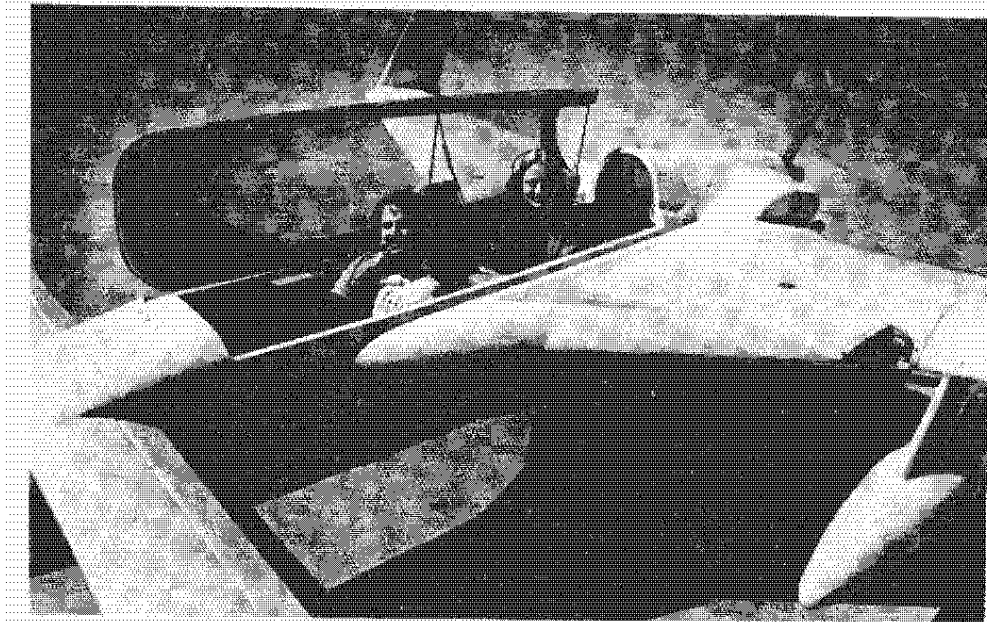
ON THE SCALES AT THE CAFE



CLIVE CANNINGS NEW DEFIANT. THE FIRST MULTI-ENGINE HOME BUILT TO FLY IN AUSTRALIA. HE TOOK 5011 MAN-HOURS IN TWO YEARS AND FOUR MONTHS TO COMPLETE IT.

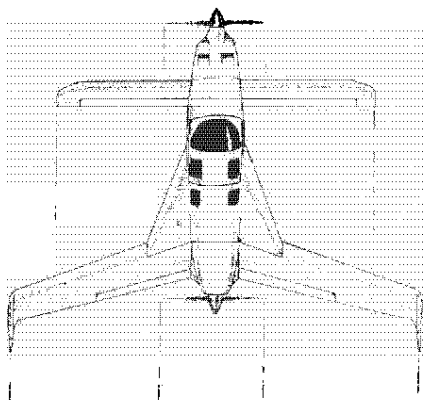


CLIVE'S DEFIANT INSTRUMENT PANEL WHICH INCLUDES NARCO AVIONICS WITH R-NAV AND A DUAL VACUUM SYSTEM.



BOB AND MARGI YARMEY IN THEIR BEAUTIFUL LONG-EZ, BEFORE THE ACCIDENT THAT BOB HAS WRITTEN UP IN THIS NEWSLETTER

**Rutan Aircraft Factory  
Building 13, Mojave Airport  
Mojave, CA 93501**



**TO:**

**first class mail**

**July '88**

The line which appears above your name lets you know through which Canard Pusher you are paid. If your label says **LAST ISSUE CP 56**, then this is your last issue, and you need to renew.

**CP 56**