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COZY NEWSLETTER #59

October, 1997

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WHAT WE HAVE BEEN DOING

As some of you already know, we have obtained the services of a host company (Extremenet), obtained a domain name and address www.cozyaircraft.com, and with Vance's help and that of a close friend, Charles Wilson, have started up a web page which we hope to be adding to as time goes on. For anyone wanting to contact us, our e-mail address is natp@cozyaircraft.com. It has been suggested that we include in our web page pictures of completed Cozys with comments by the builders. If you would like to be included, please send us a good color picture of your Cozy with your comments. Thank you.

As reported in our last news letter, we re-installed our 0-360 Lycoming back in N14CZ and proceeded to break it in (it was rebuilt to new specs) in preparation for our annual fly-in trek to Arlington and Oshkosh. We declined IVO's offer to evaluate their cockpit adjustable propellor, because we didn't have time to properly check it out before leaving on a long trip, and also there seemed to be some question as to whether it would perform as well on the 4-cylinder Lycoming as on the 6-cylinder Franklin. After 9 hours break-in on the Lycoming, the temperatures had dropped down nicely and it was running well. My sister, Lee Parlee came down again to run the office in our absence, so we packed up and started

watching the weather (has it ever been bad this year!) The forecasts indicated that bad weather was moving in to the NW, so we decided to try to get there ahead of it. We left on Monday, July 7th. The weather all through the Rockies was severe clear. We got a wonderful view of the Grand Canyon. We refueled at Boise, ID, and it was clear all the way to Yakima, but there we ran into weather and had to detour around the Cascades, flying thru the Columbia River Gorge to Portland. From there northward it was very low ceilings and rain. We headed for Ft. Townsend on the Olympia Peninsula because we were invited to visit Cozy builder Jim Wickstrom and Suzie. For the next 2 days we were weathered in. We couldn't even get across the Sound to Arlington. We missed the first day of the fly-in, but so did everyone else. Ken Murphy arrived in his prototype Cozy Mark IV with his daughter, and Bruce Elkind and his wife were also there with their modified Cozy. Eric and Vicky Westland hosted a catered dinner for about 35 Cozy builders on Friday evening at their house in Mulkiteo and everyone was very impressed with the progress and quality of Eric's Cozy Mark IV project. We enjoyed meeting our Cozy friends and a number of prospective builders.

We left on Washington Sunday morning and took a more northerly route past Grand Coulee Dam and Glacier Park, because we were headed for Bemidji Minn. to meet our kids and grandkids at Rutgers lodge to celebrate our 50th anniversary. However, we only got as far as Williston, ND, before running into the same weather system which had come through Arlington. We stayed overnight and waited there until noon the next day for VFR weather to Bemidji. When we left Williston it was VFR, but when we arrived at Bemidji, a 400 ft. cloud layer was just rolling in, so we put N14CZ on the ground in a hurry.

We had a wonderful stay at the lodge with fishing, golfing, tennis, sailing, waterskiing, etc., and then on Friday night our kids had a big bash for us at the Lodge. They took a number of colored movies I had taken on our vacation trips while our children were growing up, and converted them to a 2 hour video which we will treasure, and gave us some wonderful gifts as well. It was over too soon.

We headed for Duluth, MN to stay with our youngest son and his wife a couple of days before heading to Oshkosh via the Twin Cities. When we were getting ready to leave Duluth, and I was pre-flighting our Cozy, I reached in the NACA scoop and felt a large object. It was a Lord mount bushing! The bolt and nut were lying there too. The lock nut spun freely on the bolt! I told Shirley we had to take the cowlings off and check the engine mount. We found the Lord mount bushing had come off from one of the lower dynafocal doughnuts, the other one on the bottom and one at the top were about ready to fall off. Only one bushing was tight and securing the engine! I asked the mechanic at the FBO to help me, and we reinstalled the one Lord mount bushing and replaced the locknuts on all 4 bushings. The mechanic said he never saw anything like this before in his whole life!

How did this happen? Well, the Franklin required a different engine mount, so when we removed the Lycoming, we just unbolted the mount from the firewall with the engine still attached, and remounted it on a stand with a dummy firewall. We delivered our Lycoming to the engine shop at Falcon Field (Lycon) with it mounted that way. When they finished rebuilding our engine, they remounted it on the engine mount and dummy firewall and delivered it to our hangar that way. What I didn't know and they didn't tell me was that they used junk (worn out) lock nuts in remounting the engine. I assumed (wrong) that they had used new hardware like they had everywhere else.

When I complained (after returning home) they laughed and said mounting the engine on its mount was "airframe work" for which they were not responsible!

It was interesting that we hadn't noticed any increase in vibration as the engine was coming loose, that

is, there was no indication that anything was wrong, nor did we notice any less vibration after tightening up the engine again. We are fortunate to have a pusher, and also very fortunate we did not have a serious accident. I guess we learned not to trust anyone!

We flew to Oshkosh from the Twin Cities uneventfully, and got there a couple of days early. We noticed an ad in the paper for a Greenbay Packers beer and pig roast at a big screen in a sports bar, and attended. We met a very nice young couple there from Oshkosh and invited them out to the EAA to show them around the next day. They arrived bearing gifts with their two young daughters and appreciated seeing all the airplanes. We showed them our campsite in Paul's woods, and they said, "Next year, why don't you stay with us? We only live 5 blocks from the airport" Now, isn't that hospitality!

We set up our airplane and exhibit gazebo at the south entrance to exhibit building A, same as last year and had lots of Cozy builders and would-be builders stop by to talk, and sold a number of plans. Steve Wright had his electric nose-lift mockup there, which impressed many of our builders. We had builders there from Australia, New Zealand, Canada, S. America, and Europe— - quite an international contingent.

Our forum seemed to go quite well. Just as it ended, someone whispered in my ear that the Leons from Venezuela, with their twin engine Cozy didn't make it to Oshkosh because they were having engine trouble, and that they were going to install an aircraft engine. I announced this, but apparently it wasn't true, and I apologize. A good reminder not to report rumors before confirming them!

At the same time we were having the Cozy Builders Forum, in another forum, the NTSB was having their first public demonstration of how they make a final determination of the cause of an accident. The FAA provided the 5 member board with the results of the investigation, and then the NTSB board made the official decision. Guess what? For this 1st public demonstration, they selected the "Cozy" accident at Pueblo. I had learned about this beforehand and protested, saying that even though the builder had purchased Cozy Mark IV plans, he had modified the airframe *<text deleted per Nat Puffer>*, and never should have registered his airplane as a Cozy Mark IV with the FAA. Nevertheless, they discussed this accident in public and it got reported in the EAA News and the General Aviation News & Flyer as a Cozy deep stall, probably caused by airframe modifications made by the builder, as well as a mistake in calculating c.g., and I suppose it will appear in other aviation magazines as well.

The Cozy banquet at the Ramada Inn on Friday night was well attended. The featured speaker, GeeBee pilot Benjamin got caught in traffic, and couldn't make it, so different builders and pilots entertained us with humorous stories of their experiences. There were a number of door prizes, and we want to thank those who contributed them.

<text deleted per Nat Puffer>

This year the Cozys were parked at the North end of the flight line, so we only got up there once or twice. We think that altogether, there were 15 Cozys at Oshkosh, but not all at the same time, and 4 of these were Mark IVs.

We were planning to leave Wednesday morning, after the fly-in was over, but we learned that bad weather was moving in (what a year!), so we left early, Tuesday noon. We took a straight-line heading to Mesa, but when we got to Lincoln, NB, we ran into it. We flew under low ceilings and intermittent

rain showers, flying to the light spots, but couldn't get into Goodland, KS, our planned fuel stop. We landed instead at Oakly, where there was absolutely nothing except a runway, and called flight service. They advised us to try to get all the way to the mountains, to avoid getting stuck for several days, and said they thought we could make it if we headed NW, almost to Denver, and then to Pueblo. It was hairy, but we made it to Pueblo where we bumped into a couple other airplanes returning from Oshkosh, who were also stuck. The next morning FSS told us that it was clear on the west side of the mountains, if we could just get there. We saw a hole in the clouds above Pueblo, so we took off and climbed through to go on top. The only problem was that the tops kept getting higher. We couldn't tell where LaVita pass was, because all of the mountains were shrouded in clouds. But Denver Center had us on radar, and directed us toward the pass. We got up to 15,000 ft. and still hadn't cleared the tops of the clouds, but when Denver told us we were approaching the pass, we saw a hole and scooted through to the clear skies ahead. From there on home, it was duck soup, that is, clear skies and no problems. We have been making these round-robin trips to Oshkosh from Mesa since 1986 (we used to live in the Twin Cities) in three different Cozys now, and all we can say is that they have all been wonderful airplanes and never let us down, or maybe I should say they always let us down gently at our destinations.

After returning home and catching up on correspondence, we made a little 5-day Cozy trip up to Page AZ to vacation on Lake Powell on a houseboat. If you haven't visited Lake Powell yet, we would highly recommend it.

ELECTRIC PITCH TRIM

We had one of the first installations of Alex Strong's electric pitch trim, which we were evaluating for builders. It worked fine in Arizona in the spring, but when we were flying across the northern states from Washington to Oshkosh, at high altitudes where it was cold, it stalled out on us and we could not adjust it for cruise after climbing to altitude. We called Alex and told him about this, and he offered to fly to Oshkosh to replace the unit with one which had a finer thread on the lead screw. We told him it wasn't necessary, just send it to us and we would replace it. He did, but we decided to wait to install it until we got home. In the meantime, Alex found a more powerful motor, which he sent to us at no cost, so we installed the new motor in the new unit and it has worked just fine since then. We were very impressed with Alex's design and support, and highly recommend his unit.

VANCE'S COLUMN

Dear Cozy Builders,

Before going to Sun 'n Fun this year I had to tear off my right wing. I tried to do it myself but could not do both sides of the nuts and bolts. I wound up bribing my wife to come down to the hangar and help me for only 10 minutes. How many of you have said that? Her reward being a nice dinner out, her

choice of restaurants, of course.

What precipitated all this was my radio wasn't transmitting too good and after a trip to the radio shop they said something like, "better get out your bucket of resin because the problem is in your airframe, like the antenna." After checking it all out I discovered the problem was in the BNC connector at the wing/strake root. The male portion had gradually pulled out of the female part (we're talking a few thousands here) and was making intermittent contact. I asked a radio friend how this could happen, since that connector had been in there since 1987 with no problems. He said the rubber shrinks with heat and cold in time, and if you don't get the length exactly right (within a few thousandths of an inch) this is what happens. WELL! Here I thought I had my best work.

That problem was easy enough to fix, the real problem is I didn't leave enough service loop in that area to pull out the offending cable through the lower access wing bolt hole to change the connector, thus, neh, neh, ya gotta pull the wing. So I advise everyone out there still building, put in an extra foot of cable going out to the wing antenna.

In connection with pulling and re-attaching the wing comes the question "how do you get that smooth looking gasket between the wing and the strake?" Easy, here's how it's done. When you go down to the hangar take some square ice cubes with you. Huh? Mask off both sides of the area you want to make the gasket on. Whip out some RTV (I use clear,) and apply a bead down in the void, you don't need much! I go about two feet and stop with the RTV, pick up one of my best looking cubes and lightly rub the top of the silicone until it's flush with the surface. After letting it set for a few minutes, pull the tape. When you are done, you'll find a professional looking seal between wing and strake. When you need to pull the wing, take a razor and cut the seal.

The next subject concerns fuel injection. If you are building, please do this even if you never put FI on your engine. The next guy might. **PUT ONE EXTRA FUEL LINE IN THE STRAKE!** Either strake. If you're got going to use fuel injection, then simply put a "B" nut on and cap it off. The reason for this little exercise is the infamous "hot start". If you've ever been where you can fry eggs on the sidewalk and you just popped in to refuel and leave, you know what I mean. Yes, that heat soaked engine makes the pilot look like an idiot. And sometimes he is, but enough about spam can drivers. Fuel injected engines tend to have the injector lines running atop the engine, right where the scorching, blistering, sizzling air collects. If ya don't believe me, put your hand onnatop the cowl, Macho Man, and see how long you can leave it there. Yeah, gets mighty hot up there. So hot that the fuel percolates and boils so that you wind up with nuthin but fuel vapors. Result, you engine, she no wanna start and run. Summer flying in the southern states can be brutal. The trick to stopping all this from happening is to get cold fuel up there. Here's how to do it.

Don Rivera from Airflow Performance sells a small fuel shut-off valve. I think it costs around \$75 bucks. He supplied me with one about 2 years ago but I didn't get around to putting it in 'till now 'cause ya gotta put in another darn fuel line, and a push-pull cable to control the valve. This valve is small (about 2 inches in diameter) and has 3 fuel lines connected to it and a lever to actuate it. You use it just like a mixture valve would be used, i.e., when you come in and land instead of using the mixture to shut down the engine, the glorious pilot would pull the shut-off cable which stops the flow between the throttle body and the fuel distribution spider. This shuts down the engine just like pulling the mixture to cut-off. Except, now there is fuel in the lines just below the spider that can be recirculated to keep things cool. When panchos pilot gets ready to crank up his mechanical marvel, he simply runs the electric fuel pump for a minute or so, opens the shut-off valve, and presto, the engine starts in normal fashion. This

system will also work for an Ellison throttle body. I've seen several that tend to surge in hot temperatures.

If any of you have the 0-360 180 hp with carburetor and are thinking of fuel injection, you can convert it over with a minimum fuss by talking with Don Rivera at Airflow Performance. His number is (864) 576-4512 in S. Carolina.

On another note, I had reason to replace the O-rings in my brake calipers. I came up with some pretty close O's, but not identical. Needless to say, after tearing them down, cleaning, re-installing the O-rings and bleeding the whole mess they still didn't work so hot. So I wound up calling Cleveland Brakes (Parker Hannifin) in Ohio. The calipers are the heavy duty units, Cleveland part number 30-133. The O-ring part number is MS 28775-224 (it's a standard ring). You can get them from any local aircraft parts store. Cost, \$1.15 ea. You CANNOT get them from Cleveland, Wicks or Spruce. If you don't get a good solid brake action using the first 3rd of your pedals, try replacing the O-rings, and you'll be glad you did. When I took my calipers apart, they were slightly pitted on the inside of the piston and piston area. If yours haven't been apart for some years, be prepared to polish the inside surfaces. After doing all this stuff I was relieved to find brake action was restored to like-new.

I asked several people at Parker Hannifin (Cleveland) if there were any problems using DOT 3 or 5 automotive brake fluid in their aircraft systems, like I and other builders have been using for years. I received mixed replies. One of their engineers said they couldn't recommend it, because they hadn't tested it. For you builders out there, one of the biggest advantages of using DOT 5 silicon brake fluid is it's non-flammable, cheap, and readily available. The disadvantage is it's clear and hard to see in the lines and leaves no stains. If you decide to make this change, I suggest you do a good job of flushing the system first, and maybe even change O-rings.

Some of you have seen the electronic fuel gauges I have. They have been in the plane for about 10 years now. The display unit is about 2 inches square and displays two rows of light bars, (left and right). The senders are capacitor type tubes with one in each tank. They are hooked to a miniature solid state sender (about one inch square and a quarter-inch high) on the inside of the fuselage wall. There are no moving parts in the entire system. A friend of mine who owns a micro-circuit business designed and built 3 of these units. One in my plane, one in Ken Francis's Cozy, and one in John Hays Long EZ. These were the prototypes. There is now a 4th unit in Frank Bibbee's Cozy MK4. His is slightly different in that the fuel indicators are not digital but analog meters. This system is the same type that is in the high dollar jets. It's easily retrofitable, reliable and adjustable for variable fuel. What a deal! So, you ask what's the price? The final price has not been set yet, but its going to be around \$320 for the system. Slightly more if you want the analog indicators. The company that is making these systems is PIC, Precision Instrument Control. They are about 2 miles from my house and the owner is building a Glassair II RG (well, we all can't be building canards) and is very knowledgeable about homebuilts. His company is also building the same system for the Jetcruizer and system components for Piper and Mooney. Phone number is (817) 498-2475. You can't beat plain ol sight gauges for simplicity and accuracy. But if you load the back seat up with all kinds of travlin stuff, and pile it to the ceiling, its nice to view your fuel on the instrument panel. I am enclosing a picture of the instrument to give everyone an idea of what the hell I'm talking about.

If you have an electric nose gear switch that shows a red light all the time once the gear is retracted, please add a time delay relay to it so the light goes out after a minute or so. You should never fly a normal flight with red lights on throughout the flight. This situation can cause supreme embarrassment

and humble you up at a most inopportune time. For those of you who have never had an opportunity to check out in a production retractable aircraft, the landing gear light system works something like this. Green = down and locked. Amber or yellow = intransit. Red = not up & locked or not down & locked or one or more gear doors not stowed. Our system can be a lot simpler. Anytime the gear handle or switch disagrees with the landing gear position, you will have a red light. Otherwise a green light. All the above is in addition to a warning horn and light when the throttle is at idle and the gear is not down. More next time.

Vance Atkinson N43CZ

vaatk@flash.net

EDITORIAL COMMENTS

I learned to fly in 1944 when airplanes were rather simple, and even when I graduated to Navy operational airplanes, they still weren't very sophisticated. When I built and flew my first Varieze, I kept it as simple as possible, because that was what Burt Rutan preached. He said that if you were thinking of something to install in your airplane, toss it up in the air. If it came down again, it was too heavy to install.

Home-built airplanes have come a long way and become very sophisticated. Vance is a state-of-the-art pilot flying state-of-the-art Lear Jets and is used to a lot of systems that some of us don't even understand, and he keeps up-to-date on all the latest developments. That is why his input is valuable. But we can testify that even a bare-bones Cozy Mark IV will still perform very well. Here are some additional comments on the subjects Vance has raised.

It has always been our practice to install an extra com antenna and an extra nav antenna, because it is so easy and cheap, even though we have never had to use the spare. We run a co-ax cable from the spare to a point where it is easy to connect, should we ever have to use it.

Our experience to date with about 600 hours on the Ellison throttle body is that we have never had a problem with a hot start. Our fuel lines are all low on the firewall and underneath the engine so that in the parked position natural convection air flow through the NACA scoop on the bottom keeps them from becoming heat-soaked. We used to have the oil cooler at the top of the cowl above the accessory case, so there was cool air flowing up along the firewall after engine shutdown. Now that we have relocated the oil cooler, some hot air is trapped at the top of the firewall, but we still haven't had a problem. With an electric solenoid valve for priming, if there ever would be vapors in the fuel line, we think extra priming would overcome the problem. Jack Wilhemlson, after an emergency landing for an undetermined cause, has experimented with sizing the priming nozzles so that he can run his engine on primer alone, should the carburetor somehow become plugged and fail to operate. Just an idea.

We think our electric nose gear warning system is very simple. When the gear is in transit, a green light glows when it is going down, and a red light glows when it is going up. When the gear reaches its travel, either up or down, all lights go out. We have windows in the nosewheel well, so we can see whether the gear is retracted or extended. We also have a warning horn which sounds and a red light which flashes if

it is not down when we close the throttle for landing. This is a very simple system which works well for us.

FIRST FLIGHTS

Please report your first flights to us. It is an important accomplishment for you which we would like you to share with others.

1. We received a call from Larry Aberg, in Vancouver WA, that he was doing his taxi testing on his newly completed Cozy Mark IV, taxied over a piece of carpeting, and it broke his prop. He said that he had been quoted 3-months delivery on a new prop, so we sent him our spare. We hope he has, or is about ready to make his first flight. We wish you better luck, Larry, this time!
2. Jeff Mailard is flying his recently completed 3-place. He is very pleased with his Cozy, but he has a new engine and thinks he is having CHT and EGT problems. However, he is using Westach analog engine instruments, which he hasn't calibrated and which may not be accurate. He reported that his EGTs are around 1500 Deg. F, but has black soot in his exhaust pipes, so we advised him to calibrate his temperature instruments, or replace them with digital ones.
3. Liese Aufill and Mike Brown are flying. Liese was our first female builder and married her helper during the course of her project. She writes:

9/10/97

Dear Nat and Shirley,

Cozy 3-place N97PZ #581 flew for the first time on 9/6/97, Mike's birthday. It just worked out that way. We'd been shooting for Labor Day, but magneto/ignition problems kept us on the ground.

We've been having a heat wave in southern California, and Camarillo, where we're doing our test flying, is usually hotter than L.A. The temps were in the mid-eighties at 3:30 pm when she rolled down the runway for her first taste of freedom. Our friend Verne Simon, a long-time EZ pilot was our test pilot.

The flight was uneventful (a good thing, by our reckoning), but was cut short by a high CHT on the #3 cylinder (437 F); the other cylinders were running in the 330s on straight mineral oil.

In addition to the hot cylinder, which we'll address with turning vanes in the cowling, the post flight debrief yielded these items, in order of significance:

1. The trim springs were too weak to do the job; they'll be replaced with stiffer ones.
2. Glare from our panel (which is white) reflected in the canopy to a degree that Verne felt was unacceptable. We are going to try cutting the glare with static cling-type film first, before resorting to repainting the panel.
3. The tach display was an LED-type, which was not visible in the sunlight. We've swapped it out for an analog display.
4. The radios seem to have interference (noise), although in our ground checks with the engine running, they seemed okay.

5. Our cabin is too well-sealed; the cabin cooling air (NACA scoop in the nose floor, ducted to eyeball outlets for the front seat) has insufficient exit to generate flow. We're discussing the best location for vents. Verne told us our plane was very quiet; it will probably be less so once we get some air flowing through it.
6. The landing brake wanted to deploy whenever it was jarred. We discovered this when transporting the Cozy to the airport. We've made a longer actuating arm to get more over center in the stowed position.
7. Our canopy latch locking feature needs improvement. It worked, but some last-minute noodling around with the "canopy unlocked" warning switch put the switch wires in the way of the stick. We're going to redo it from scratch.
8. Our fuel low-level light stays on even though we have plenty of fuel— - probably a crossed wire or sensor problem.

Otherwise, our test pilot was impressed. He said it was smooth-handling, with good roll-response, and no asymmetric tendencies. He thought it was fast!— 160 kias at 2500 rpm, without wheel pants.

So, 7 years and 10 months from starting to first flight— - not exactly a record, but we got there eventually. Now to fly off the 40 hours and start enjoying it! After all, that's why we built it. Thanks for making it possible.

Liese and Mike Brown

Here is the flyer they sent us:

IT'S A TOY!!

Mike Brown and Liese Aufill are happy to announce that after a long and difficult labor (7 years, 10 months!), the newest member of their family was (air)borne at Camarillo airport, CA on 9/6/97, coincidentally, Mike's birthday.

There were no significant complications, but some minor surgeries will be performed to stabilize the general condition of little "N97PZ" (niner-seven Papa Zulu).

Vital Statistics are:

Birth weight:	1101 lb.
Length (span):	26 ft.
Horsepower:	160 (320 cu)
Race:	Anytime, baby! Just drop the flag!

Thanks to all of you who expressed your interest and concern along the way. Stop by and see the pictures.

PUBLICITY

Larry Sligar published a picture and write-up of his newly finished Cozy Mark IV in September '97 Kitplanes magazine. Satisfied builders are the best advertising a designer can get. As promised, we will renew his newsletter subscription for another year. We haven't noticed any other Cozy completions in Sport Aviation or Kitplanes recently. If we have missed anyone, please let us know. In the meantime, we encourage you to send in your pictures and receive recognition for a job well done.

Publicity Addresses

Some of our best advertising (as we said above), comes from our satisfied builders. We have been thinking of rewarding a builder who gives a ride to a friend, which results in him (or her) ordering Cozy Mark IV plans, the small sum of \$50 as a token of our appreciation. What do you think? The rule would be that the person ordering plans should acknowledge who influenced him when he places his order.

AWARDS

At Vance's suggestion (he sure thinks up a lot of ideas), we had some very nice plaques made by Cozy builder/artist Lon Cooper to honor those builders who have passed the milestones of 500 hrs. and 1000 hrs. on their Cozys. These are really attractive, and truly a work of art, suitable for mounting on the headrest of your airplane, or in your trophy case, or on the wall of your office. 500 hrs. gets you silver, and 1000 hrs. gold. Let us know when you qualify. In our own case (since we make the rules), we are going to make an exception and include our Varieze time as well as our cumulative time in 3 different Cozys, so we can display the 1000 hr. award in our Cozy Mark IV.

ENGINES

At Oshkosh, Cozy builder Don Ponciroli told us that Aero Sport Power, from British Columbia, was advertising 0-time, rebuilt 0-360 Lycomings, complete with all light-weight accessories, including mags, for \$14,000, no trade-in required. This seemed like an exceptionally good deal, so we and several other Cozy builders went over to their booth to talk to them. They seemed like they were running a first-class operation, and several of our builders ordered engines from them on the spot. They also could supply 0-320s at a slightly lower price. If any of you are interested, their phone number is (250) 376-2955.

Superior Air Parts has filed for Chapter 11 bankruptcy. They say this is to protect them from creditors while they raise more capital and reorganize, and they will continue to fill orders.

The Dyna-Cam Engine Corp. is selling common stock to raise capital. They have announced that they

have tested over 40 prototypes, and the first 200 hp production engine has shown "full performance capability". They claim 50% less parts, 50% less frontal area, lighter weight, and better fuel economy than competing aircraft engines. Sounds like a good engine to evaluate. The down-side is that they say the price will be \$25,000 (or so). Their phone is (310) 791-4642.

Delta Hawk, in Racine, WI, is running a prototype 200 hp V-4 diesel engine which they claim is lighter and more fuel efficient than a Lycoming of comparable power, and has fewer parts and fewer potential problem areas. They estimate the purchase price will be \$15,000 (or so), and are targeting Velocity builders. We will be most anxious to learn if (and when) one is installed in a flying airplane, and how it performs.

Continental has a federal grant and is working on the development of a flat-4 diesel aircraft engine, which they expect to be in production before the end of the century. We have heard that Lycoming and one or more European companies are working on the same thing. Looks like diesel aircraft engines might be the wave of the future.

NEED HELP WITH YOUR PROJECT?

We discourage builders from seeking help from custom shops because there is no way of knowing whether components are built in exact conformance with plans, and we have seen some glaring examples of parts not built according to plans which were actually unairworthy (not safe). We do know of builders whom we trust who have made parts for others. To name a few, Vance Atkinson, Dennis Oelmann, Steve Russell <*text deleted per Nat Puffer*>, and Robin DuBois. Here are a couple of new ones:

8/30/97

Dear Nat,

Arrived in the Reno Area on the 17th. Had a nice visit with Brian Scott and got to see my Cozy N456DP again at Deer Valley Airport, and very much enjoyed my visit with you and Shirley. It was nice meeting you both after these many years. I Would like to reiterate my interest in assisting anyone in building either a Cozy III or Mark IV. Anyone interested should know my preference would be to assist only with the airframe construction and engine installation. With my assistance, the aforementioned could be completed in as little as 6-8 months. My experience with composit aircraft dates back to 1979, when I began construction on my first Long EZ. Another Long EZ airframe was subsequently constructed and then a Cozy III. I also assisted with final stages of a Lancair 360. I have references for anyone that may be interested. Logistics with respect to how and where construction will take place would be worked out on an individual basis. So if anyone is short on time but long on money and serious about owning a Cozy III or Mark IV, write or call me at PO Box 3285, Sparks, NV 89432. Tel (916) 546-7018.

Thanks a bunch Nat. You both take good care. Perhaps I'll see you at Copper State.

Sincerely,
Dave Petrosino

6/9/97

Dear Nat & Shirley,

This is an update on our Cozy Mark IV project #0026. As you know I have had delays with the major one becoming allergic to all the epoxys, RAE, Safety, 2427, and now EZ-Poxy. However I do like the way that the EZ-Poxy works out. Of course, as you know, we also sold our home in Globe, built a new one at Gold Canyon, and moved twice including moving our Mark IV, and sold our business. I waited till after contouring the wings to the strakes before attaching the winglets, which is my last major epoxy project. I am fortunate to have found an individual, Craig Hamm, who is offering "builder assistance". He has extensive experience with composite aircraft and has spent 4 years building Glassairs in a factory authorized facility, and completed a Lancair, EDI (Wheeler Express) and Europa aircraft as well as Ezs. He has proven to be a meticulous craftsman and very knowledgeable. With Craig's help, the winglets are now attached and we are finishing up with the rudders and starting to fill and contour the wings. While the airplane was upside down and contouring the wings to the strakes, I completed the final paint on the bottom half. This was an exciting moment to see a part of the project complete! It is strange that the painting process does not seem to bother my allergies, so that should not slow me down. I am shooting for September for first flight if all goes as planned. We are very excited to feel on the downhill portion of this long project and to begin to think of flying again! Craig has provided invaluable assistance and without going on about it, I would certainly recommend him to anyone who is considering getting some help to move their project along with in-shop help or to avoid epoxy exposure. His telephone voice mail is (602) 209-5879. I would be happy to talk to anyone with questions and I can be reached at (602) 671-7355.

Nat, you and Shirley have provided such excellent support as well as encouragement from the very beginning of this project. Carol and I have felt grateful that we chose the Cozy Mark IV for many reasons but particularly because of the builder support that you provide. See you in the air in September!!

Sincerely,
Gene Davis

MARK IV CHANGES/CORRECTIONS

LITIGATION

<Much text deleted per Nat Puffer>

We want to thank all of you who have signed license agreements and kept them.

When you pay \$500 for a set of plans, this not only covers the cost of printing our plans and

construction manuals, but also a royalty to use our design, which we have spent years and many thousands of dollars developing, testing, and perfecting, and to use it for building only one airplane.

<Much text deleted per Nat Puffer>

.....Also, if you have noticed, there are not many "plans-built" designs available to home builders. We happen to have the most popular one. The risk of frivolous lawsuits was one of the factors we considered when making our decision to develop and publish plans for our Cozy Mark IV. To the extent that designers are "ripped off" or sued, there will be fewer plans-built designs available to homebuilders. And to the extent that people support this type of activity, they are hastening the demise of "plans-built" designs. The time and money Burt Rutan, one of the most famous designers of all time, had to spend in court defending himself against frivolous lawsuits was one of the factors he considered in his decision to stop designing airplanes for and selling plans to homebuilders. It's no secret that he hates lawyers.

<text deleted per Nat Puffer>

ACCIDENTS/INCIDENTS

We have always stated that the purpose in investigating accidents and reporting our findings is to help other builders to avoid a similar occurrence. Sometimes it is painful to the builder involved, to review in detail what went wrong; and sometimes they get upset with us. However, we feel justified when other builders confide in us that our accident analyses have prevented them from having a similar accident.

At Sun'n Fun the Leon brothers from Venezuela thanked us for our analysis of the deep stall accident in Pueblo. They said that when they double checked their canard incidence, they found that it was wrong, and they corrected it before their first flight. We hope that builders will also make sure their c.g. calculations are correct.

We want to set the record straight -- the accident earlier this year in Florida, in which a canard aircraft ended up in the drink, was not a Cozy, even though the invitation for salvage bids reported it to be. It was actually the AeroCanard RG which was featured on the cover of Kitplanes Magazine in May of this year, and which had also been advertised for sale as a Cozy in Trade-a-Plane.

FAA AMATEUR-BUILT SAFETY & INVESTIGATION COURSE

This is the course that the EAA is sponsoring in partnership with the FAA and NTSB. The reason for the course is that experimental airplanes are getting to be a larger and larger percentage of the general aviation fleet each year, so the FAA and the NTSB will become more involved in accident investigation of homebuilts, need to know more about them, need to know what to look for, and how to prevent them.

We have already helped to investigate several accidents, and participated in this course last year. We have been asked to be a speaker at the November 3 - 7 course, representing canard designs, particularly those built from plans. We hope to attend.

EXPERIMENTAL AIRCRAFT ASSOCIATION

The EAA has been a major positive influence in general aviation since the 50s, especially for those of us who wish to build and fly experimental aircraft. We joined the EAA in 1973 when we started building our first airplane, and have been active supporters ever since. As a matter of fact, we haven't missed an Oshkosh in 24 years, and have been exhibiting airplanes there that we have built ever since 1978. We encourage all of our builders to join both the national organization and also a local chapter. Exhibiting an airplane at Oshkosh is a must for all builders.

The EAA has had a Technical Counselor organization for many years. These are experienced builders who have volunteered to help first-time builders by visiting their projects, critiquing their work and offering suggestions where appropriate. The Avemco Insurance Co. acknowledges the value of this program by offering a 10% reduction in insurance premiums if a builder has logged at least 3 official visits by a Tech Counselor. Avemco also offers another 10% reduction if the builder is an active member of a local EAA chapter. A more recent EAA program is the Flight Advisor. This is an experienced builder/pilot who is qualified by the EAA to assist a new builder in preparing for his first flight. Most homebuilt accidents occur during the first few hours of flight, and most insurance companies are reluctant to provide coverage during this period. This can pose a problem because some states will not allow you to make your first flight until you have insurance coverage. If a builder avails himself of the services of a Flight Advisor, Avemco will provide insurance coverage during the first 10 hours of flight.

UNAPPROVED DESIGN CHANGES

We referred earlier to design changes which we haven't approved, which we think are ill-advised, and which in some cases may even be dangerous. Here are design changes to avoid:

1. **Do not** change the way the elevators are constructed or installed. The top surface of the elevators must be reflexed, as we show in the plans, as for example in the cross sections we show in Chapter 11, pages 5 & 6. If yours have not been built this way, scrap them and start over. A false rumor has been circulated that there is a "dead spot" in elevator response. This is not true if built according to plans, and we have proved it and can demonstrate it with our "plans-built" Cozy Mark IV. It has been reported that the same person circulating this rumor has a problem with pitch trim. This could be a symptom that there is something more seriously wrong with his airplane, if not the shape of his elevators, it could be that his canard is not set at the correct angle of incidence, and his airplane is unstable in pitch. Our flight tests apply only to a Mark IV built

according to our plans. You should be aware that the fuselage is a lifting body, and the canard span and incidence needs to be adjusted for the amount of lift contributed by the fuselage. If you change the shape of the fuselage, either by making it wider, higher, or using a different canopy, or you change the angle of incidence on the main wing, there is only one way to determine whether you have a safe airplane, and that is to install a traveling 135 lb. weight, like we did, and go up to 11,000 ft. with a parachute, and determine whether the point of neutral stability is well aft of the aft c.g. limit, and whether the c.g. range is safe at the aft c.g. limit and at least 1.2 inches beyond.

2. **Do not** limit elevator trailing edge up (nose down) travel to 11 degrees rather than the 15 degrees we specify. If you should ever remove your vortilons, or miscalculate your c.g., or set the canard at too low an angle of incidence, or change the fuselage, and do stall tests and find the main wing start to sink at the same time the airspeed starts to fall, you will want as much nose down authority as you can muster to keep from becoming a statistic. The plans say 15 degrees trailing edge up, and that is what you should have.
3. **Do not** use "hard shelling". This results in a poorer bond between the fiberglass and the core. On airfoils, the top surface is usually in compression. A poorer bond means that the airfoil (canard or wing) skin can delaminate, buckle and fail sooner, that is, fail at a lower g-loading, than an airfoil built according to plans.
4. **Do not** use "tri-ax" cloth. We are not aware of any static load testing that has been done with Cozy or Long EZ wings to prove that it has as much torsional, tensile, and compressive strength as the individual layups specified by Burt Rutan, and which we use. Furthermore, it is much harder to work with because it does not conform as well to curved surfaces and can cause air bubbles (poor lamination), and it has a tendency for one or more layers to wrinkle when squeegeed, which it is not possible to correct. Also, our plans call for one less layer of glass where the ailerons will be cut out. You can't do that if you are using tri-ax. Ailerons covered with tri-ax cloth will not balance leading edge down, with the very likely possibility of "flutter" which can cause catastrophic failure of an airframe, unless you sand off at least one layer of glass, which is more work than if you had used the correct glass cloth layups in the first place.
5. **Do not** increase the chord length of the ailerons. There is no possible justification for doing this. It not only makes it much more difficult to balance the ailerons, but it reduces the wing cross section at the point where the bending load is the greatest. In other words it weakens your wings both in drag and in bending loads.
6. **Do not** increase the span of the ailerons. Our 3-place Cozy has excellent roll response. The Mark IV has even greater roll response because the 2 ft. greater wingspan puts the ailerons farther outboard which results in a greater roll moment, and also farther outboard of the downwash from the canard. There is no possible justification for this change.
7. **Do not** buy "fast build" wing kits where the foam cores have been cut for wider chord and greater span ailerons, and the "kink" in the trailing edge of the wing has been eliminated. The latter changes the angle of incidence of the airfoil, which makes it different from the airplane we have tested, and causes problems in fitting the cowlings.
8. **Do not** eliminate the extra layups on the top of the wing which we show in Chapter 19, page 6, Fig. 32. These provide added strength to the wing where the bending and drag loads are the greatest.
9. **Do not** increase the span of the rudders. They are even more effective on the Mark IV than on our 3-place because of the increased wingspan. Very little rudder input is required in flying a Mark IV. Furthermore, it was discovered on the Varieze that too much rudder authority could cause a Varieze to lose control. You wouldn't want this to happen on base or on final.
10. **Do not** leave the lower winglets off or make them smaller. We found in our very thorough aft c. g. flight test program that the lower winglets shown in our plans give you a ½" c.g. safety margin

protection against a main wing stall. They also provide more roll stability at slow speeds and high angles of attack. Again, something that is important on base or on final.

11. **Do not** eliminate the NACA scoop in the fuselage bottom and use arm pit scoops instead. The NACA scoop gives better cooling of the engine when parked nose down, and probably also in flight. Better cooling of the carburetor or throttle body means fewer problems (if any) with hot starts. Also, if you notice, the Cozy Mark IV is quite clean underneath. We believe this (and better cowling contour) contributes to the extra 20 mph we get as compared to another aircraft with arm pit scoops, fixed gear and the same horsepower.
12. **Do not** cover the top of the canopy. The compliment we receive most often on the Cozy and Cozy Mark IV is its wonderful visibility. If we had gull-wing doors, we couldn't have a full bubble, but with a side-hinged canopy it is a wonderful feature. Install the full bubble first. Then, if sun bothers you (it helps to keep you warm at high altitudes in the winter), you can always wear a baseball cap. Then, if you are still bothered by the sun, you could use cling-type plastic shades, which are moveable, over your head. If you really like reduced visibility, you can always paint part of the bubble. The latest pictures we have seen of the Velocity show that they removed most of the cover over the top of their canopy. We consider this to be a safety consideration.
13. **Do not** hook your fuel tanks together. Having two separate tanks is a safety feature. If you lose one fuel cap with both tanks hooked together, all of your fuel will be siphoned out, and you will become a statistic.
14. **Do not** eliminate the sumps under each tank. They make all of your fuel useable, and allow you to fly for a little while after the gauge shows empty. Although not recommended, you can run one tank completely dry, switch, and keep on trucking. We have done this (accidentally) twice in the last 12 years.
15. **Do not** locate your fuel selector valve remotely. Experience with the Varieze was that the remote location of the fuel valve was the cause for more than one emergency landing.
16. **Do not** buy components from custom shops without calling us first. Custom shops are in business to make money. They may use unskilled labor and take shortcuts, and sometimes their parts don't fit or are unairworthy. They will probably claim their parts are better, but then ask you to sign a waiver relieving them of any product responsibility or liability, and will not guarantee the airworthiness of parts they supply. We have heard of some very bad experiences some builders have had with custom shops. If you are not willing to build the parts yourself per plans, you would be better advised to build a Velocity. The Swings have a pretty good record.
17. **Do not** install retractable main gear. Our airplane was not designed for it. Most people agree the benefit (if any) isn't worth the cost (and we aren't just talking about dollars).
18. **Do not** change the size or shape of the engine cowlings (in other words, use the cowlings we approved from Feather Lite). Our cowlings were contoured to have nice clean airflow back to the prop, to avoid a vacuum or reverse airflow at the prop. It was interesting to hear that one 4-place canard aircraft (we won't mention the name), which has been highly advertised, and which has a very blunt rear end, has not yet been able to meet its performance goals of useful load and speed because it cannot generate enough thrust after becoming airborne. We suspect that it is because the prop is spinning in reverse airflow or a vacuum (you know, like behind a semi).

These are examples of some of the design changes many first time builders are being exposed to. If you still think they are "neat", we have some swamp land in Florida we would like to sell you. We shouldn't have to be expected to run down and expose every false rumor or bad idea. If you had enough confidence in the reputation of the design and the designer to buy plans, you should give the design and designer a little more credibility than someone who has no responsibility whatsoever for the safety and performance of the airplane. Before you fall for any of these "neat ideas", you should ask whether the person recommending them has ever even built a Cozy Mark IV according to plans, and has any proof

that the changes being recommended are an improvement, and don't create some other problem. If he does not have proof of an improvement, then you can only conclude that he is trying to fix something that ain't broken, and probably made it worse in the process. I am sure that there are some of you who will say that you are building an experimental airplane, and should be free to make any changes you want to. That's true. But remember, you are not only going to make a big investment in time and money in your airplane, but its your life you are putting on the line. Others might say, "That Nat Puffer is just prejudiced, and if it isn't his idea, it isn't any good". Well, we have dealt with a lot of builders over the last 15 years and you can believe us or not, but it seems that the builders who are happiest with their airplanes and the way they perform are those who follow the plans. We are not interested in trying to impress anyone with our credentials; our record of a career in engineering R & D and in aviation and the reputation of our airplanes will speak for themselves. Let's just say that some people learn from the experiences of others, and some only learn from their own. Unfortunately, it costs more to learn from your own experience. We are not trying to keep you from having fun. We are trying to help people build good airplanes, build safe airplanes, and operate them safely. If there were some way to know ahead of time who the good builders were and who the good pilots were, those would be the only ones we would sell plans to. One of our authorized propellor suppliers has told us that Cozy Mark IV builders who build according to plans are more satisfied with their performance than builders who make modifications or builders of other designs.

If you are thinking of deviating from the plans, please consult with us. There aren't too many new ideas. Most of them have already been tried. If we have or know of experience which will help you, we will supply it, and we will try to do so as diplomatically as possible.

Lastly, if you do not build your airplane according to plans, the Cozy Mark IV Owner's Manual does not apply, and we ask that you not register or insure it as a Cozy Mark IV!

COPPER STATE FLY-IN

The EAA Copper State fly-in is scheduled for Williams Gateway airport in Mesa, AZ for October 9 thru the 12th. We will be exhibiting our Cozy Mark IV in the same spot as for the past several years, and we hope you all will come if possible and we will have a good turn out of Cozys. We have space in our home for 3 couples (more if you bring sleeping bags) to accommodate builders on a "first-come"(or first request) first-serve basis. We also have a van and a 2-door for ground transportation. The last couple of years we have had a banquet at the Red Mountain Steak House. This year we have a different idea. There is a real good Italian restaurant on Falcon Field, 10 miles away from Williams, alongside the runway and with a nice parking ramp in front of the picture windows. We thought it would really be neat if a bunch of us could fly our Cozys over there after the airshow and park right in front of the restaurant. We would either have to fly back later in the evening (those who abstain) or the next morning. Last year the banquet was on Friday night, and we would do the same thing this year, unless we have a bunch of requests for Saturday nite. Let's hear from you.

FOR SALE

1. Cozy builder, Bill Walsh, has arranged a source of tee shirts (sweatshirts available on request) which come in various colors but only adult sizes. They have a detailed picture of the Cozy or Cozy Mk IV. The Cozy name is printed above. Bill is also working on other Cozy items, such as jackets, caps, pins, and cups. The shirts are available at \$9.95 plus \$1.50 shipping and handling. Orders for 2 or more are sent 2-day priority. Make checks out to Linda Walsh, PO Box 160884, Altamonte Springs FL 32716. (407) 695-3543.
2. Wayne Lanza makes a number of very nice goodies for the 3 and 4-place Cozys. He has an electric speed brake actuator kit with all the parts needed for installation, with instructions for \$275. His latest creation is a switching and breaker panel for the Mark IV. It is similar, but not identical to the one we had made for our plans model. It is located at the top of the panel, which is the best location for appearance and access to the electrical system. Wayne is using the highest quality DC switches (they are hard to locate) and circuit breakers, and pre-wires the panels, making the rest of the electrical system installation very EZ. Cost is \$425. We really appreciate Wayne's contribution, and heartily recommend his products to you. Contact him at: 9425 Honeysuckle Dr., Sebastian, FL 32976 (561)664-9239.
3. We believe that the 4-pipe stainless steel exhaust system we designed and is being manufactured by Custom Aircraft Parts (see "Authorized Suppliers") is far superior to anything else available or advertised for the 3 and 4 place Cozy (or Long EZ, or any other pusher, for that matter). Cost is \$500, which includes shipping and handling.
4. New, improved fuel sight gauges. Clear bubble with white background. \$35 per set. Vance Atkinson, 3604 Willomet Ct., Bedford, TX 76021-2431 (817) 354-8064.
5. Dr. Curtis Smith's nosegear ratchet (which we recommend) is now priced at \$40. Dr. Smith's new address is 1846 Sextant Drive, Worden, IL 62907-9631 (618) 656-8209.
6. Steve Wright is making electric nose-lifts for the Cozy III and Cozy Mark IV aircraft. It has been up-dated with improvements suggested by Vance Atkinson and by ourselves as a result of our recent installation. It will raise the nose with full fuel and baggage and at least one person sitting in the front seat. Check with Steve on (615) 373-8764 for most recent pricing.
7. Cozy builder Alex Strong is making a neat electric trim system for \$175 which we are currently evaluating. You can reach Alex on (619) 254-3692.
8. B & C, in addition to their light weight starters, alternators and linear regulators, has just introduced a neat right-angle spin-on oil filter adaptor for Lycoming engines. We ordered one ourselves for our Lycoming, and it looks like a work of art. Contact Bill Brainbridge on (316) 283-8662.
9. Our authorized supplier, Featherlite, whose parts we have tested and approved, has many pre-fab parts available for the Mark IV. We printed the list of parts and prices in the last newsletter. Featherlite has also taken over the manufacture of propellers from Bruce Tift's estate. The B & T propellers were good propellers, with a urethane leading edge, and we are pleased to see that they are available again.

LETTERS FROM BUILDERS

9/3/97

Dear Nat,

I am sending a note of thanks for the help you've given me so far on #548. Chapters 4 & 5 are complete and 6 will be soon.

I asked the advice of an EAA Technical Counselor in Columbia and he has visited my shop once. He gave much needed encouragement (he has a Long EZ he finished 10 yrs. ago and has 1800 hours on it). Joining the sides and bulkheads was a great celebration!

One of my pictures shows how I set up my bandsaw to accurately cut the 30 degree spacers on the sides and fuselage bottom. I tilted the bandsaw to 30 degrees and then clamped a 2 x 4 to the table on edge lengthwise. It just touches the saw blade. After cutting 2 in. wide foam strips, I carefully feed them through the bandsaw with the 2 in. side against the 2 x 4. This made perfect spacers, and no dust. I have taken your advice and use peel ply on every layup, even the large ones. It helps to even out the epoxy and results in a very professional looking finish.

I refer often to the newsletter, especially the builder hints for clarification and help. Again, thanks for your patience in answering my questions.

Kevin Short
Columbia, SC

9/2/97

Dear Nat,

About 6 months ago my husband and I decided to build a home-built airplane. After careful planning and consideration, we agreed on the Coy Mark IV. We are sure with our motivation and your technical support, we will prevail.

Enthusiastically,
Tim & Patti Cullen
Everett, WA

7/30/97

Dear Nat & Shirley,

While you're at Oshkosh, I'm working on my N612L. That's OK because I went to Sun 'n Fun. My goal for the year is to get it on the gear.

I'm finished with the turtleback for my 3-place. We built a more substantial jig for it than you show in the plans. Rick Cahill, Ron Kidd and I have used it to build turtlebacks and it is good for several more. If there is anyone willing to drive to Columbus OH to pick it up, it will save them a lot of hours. It is taking up valuable space, but I'm reluctant to send it to the dump. It will fit in a Van, mini-pickup, etc. It is free, complete with aluminum strips and duct tape, to any Coy builder who will haul it away. Hope you are both well, and that I will see you at Sun 'n Fun '98.

Steve Overly,
(614) 871-0710

6/9/97
Dear Nat,

I am building my Cozy according to your directions because it is a proven design and like my dad told me "If it's not broke, don't fix it". I have my bulkheads done & fuselage sides, and because it is still cold up here I have started my canard, and to this point have the cores cut, shear web done, spar cap layed up and am getting ready to do my bottom skin. We have just formed a new EAA chapter up here and I think it's the first International chapter. I would like to invite anyone flying up here or to Canada to stop in Houlton. We have a big house and would be more than happy to accommodate anyone. We are also a point of entry.

Before I close, I have to admit that when I started this project I felt overwhelmed and did not think I was going to continue, but GOD has calmed me down with a lot of prayers and now I feel confident that it will turn out fine.

Wesley Tidd
Houlton, ME
(207) 532-2646

8/11/97
Dear Nat,

I wanted to follow up on our discussion regarding the backlighting of Cozy fuel gauges (like Vance's) with our fiberoptic ribbons. A 1.2" wide ribbon adhered to the backside of the white translucent plastic produces a nice warm glow which can be seen through the front side of the fuel gauge. Each fiber-optic ribbon comes with a 30" long lead which is plugged into the 8 port light source. The light bulb is a 12V bulb drawing .37mA with a 2000 hr average life. I can offer two 1/2" wide ribbons with 30" leads enclosed in heat shrink tubing, connectors and an 8-port light source and bulb for \$49. This is a special price for Cozy builders.

I have also designed a system to illuminate instrument panels with fiber-optics, which will be written up in September Sport Aviation.

I again wish you continued success with the Cozy.

Ken Whitaker
(562) 923-9230

9/21/97
Dear Folks,

A trucker stopped at a truck stop to eat. He was sitting there eating, when 4 bikers, you know, the kind with black leather jackets, walked in. They surveyed the restaurant, and then this big burley one walked over to the trucker and asked him to move because they wanted his table.

The trucker said, "I'm not finished yet". The burley guy picked up a glass of water and poured it on his food. He said, "Now you are." The trucker quietly left. When the waitress came up, the burley guy said, "He wasn't much of a man, was he"? The waitress said, "He isn't much of a truck driver either. He just drove over 4 motorcycles".

Larry Kassebaum

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