

[\[Newsletters\]](#)[\[Cozy MKIV Information\]](#)[\[Prev\]](#) [\[Next\]](#)

COZY NEWSLETTER #67

OCTOBER, 1999

Table Of Contents

- [B&C](#)
- [FEATHERLITE](#)
- [BUILDER SUPPLIED OPTIONS](#)
- [ANNUAL INSPECTIONS](#)
- [PROPELLERS](#)
- [ARLINGTON](#)
- [OSHKOSH](#)
- [COMMENTS ON PARKING AT OSHKOSH](#)
- [FIRST FLIGHTS](#)
- [PROJECTS FOR SALE](#)
- [AMERICAN AVIATOR TODAY](#)
- [THE FLYER](#)
- [PROUD OF YOUR COZY?](#)
- [AWARDS](#)
- [PLANS CORRECTIONS/CLARIFICATION](#)
- [BUILDER HINTS](#)
- [FINISHING \(Al Wick\)](#)
- [MECHANICAL PITCH TRIM](#)
- [FRETTING \(David Domeier\)](#)
- [ELECTRONIC IGNITION \(Vance Atkinson\)](#)
- [ENGINES \(Eric Westland\)](#)
- [VENTILATION AIR SCOOPS \(Nat Puffer\)](#)
- [HEADSETS \(Paul Krasa\)](#)
- [GU CANARD TRIM CHANGE \(Nick Parkyn\)](#)
- [COPPERSTATE](#)
- [LETTERS FROM BUILDERS](#)

[Newsletter Info.](#)[Subscription Info.](#)[Authorized Suppliers](#)

B&C

B & C Specialties supplies light weight alternators and starters, special sealed aircraft batteries and linear voltage regulators, and the 90 degree oil filter adapter. We have been using his products for 20 years (since 1979), and they are top of the line. We have just replaced his battery in N14CZ. It was 7 years old, and even though it was still cranking our 0-360, it had been drained completely flat 4 times, so this was a precautionary measure. 7 years of service with this kind of abuse is really extraordinary! It is a sealed recombinant gas (RG) lead-acid battery.....they ARE the wave of the future when it comes

to aircraft batteries.

FEATHERLITE

Here is a little background. The two principals at Featherlite, Michael Dilley and Larry Lombard, used to work at RAF for Burt Rutan. At that time, RAF's composite supplier was Task Research (Jim Kern). Jim Kern got the brilliant idea to sort of appropriate Burt's Solitaire fuselage design for his own "Silhouette" kit, without going to the trouble to get Burt's permission. When Burt found out, he discontinued Task as a supplier and helped to set up Michael and Larry at Featherlite. Featherlite has been RAF's composite supplier and ours since 1985. Featherlite designed our Mark IV main landing gear, patterned after the Defiant, and we financed the molds for our main gear, engine cowlings, wheel pants, turtleback, and other miscellaneous parts. When Bruce Tift was killed in an unfortunate airplane crash, Featherlite acquired his propellor and luggage pod business from Bruce's estate. Featherlite has a stellar reputation for quality and honesty. Here is their current price list for Cozy Mark IV parts:

Main landing gear strut.	\$574
Nose gear strut.	68
*Engine cowl set (top & bottom.	420
Wheel pants set.	210
*Turtleback (vacuum bagged & prepreg)	380
*Precut foam core wing & winglets	1199
Precut foam core canard.	200
Nosewheel cover.34
Nose strut cover23
Sump blisters (2 req'd per aircraft)24
Nose cone with door (forward of FS-0).75
Fuel strake leading edges (left & right)	420
Fuel strake bulkheads (left & right)	196
Arm rest kit (front and rear).	225
Rear keel cover & landing brake cover.54
Small parts kit.	360
Carburetor air filter box kit	165
Baggage pod set.	395
Rubber nose bumper10
Propellor with urethane leading edge (call for quote)	

* Items shipped by truck (we have negotiated a 40% discount)

BUILDER SUPPLIED OPTIONS

We can recommend the following builder supplied items:

1. Improved Rudder pedals for lay-down brake cylinders, adjustable both sides. Dennis Oelmann (319) 234-6109.
 2. Water tight fuel caps: Jack Wilhelmson (834) 884-5061
 3. Improved MKNG-6 and NG-6 Pivots with tapered roller bearings. Jack Wilhelmson (834) 884-5061.
 4. Electric speed brake actuator kit. Wayne Lanza (561) 664-9239.
 5. Switching and breaker panel. Wayne Lanza (561) 664-9239.
 6. Fuel sight gages. Vance Atkinson (817) 354-8064.
 7. Electric nose-lift. Steve Wright (615) 373-8764.
 8. Electric pitch trim. Alex Strong (760) 254-3692.
 9. Voice annunciated warning system. Richard Lewis (423) 376-1450.
 10. Rebuilt flight instruments. Howard Francis (not a Cozy builder) (602) 820-0405.
 11. T-shirts, etc. Bill Walsh, nogofsu@sprintmail.com.
-

ANNUAL INSPECTIONS

Even though it never seemed necessary, we have always checked engine timing at annual inspections. This year the timing on one mag was 1 degree off and on the other, 4 degrees off. We found that the drive gears on both mags were slightly loose. They are mounted on a tapered shaft that is keyed. The nuts were just loose enough that the gear could slip on the tapered shaft and bang against the key. This wore the keys down enough to allow, in the one case, 4 degrees of movement. We replaced the keys, and tightened the nuts. The nuts were castellated and we had to dress them so that they stopped with a slot in line with the cotter pin hole in the shaft.

PROPELLERS

When we tested the Sensenich 70" dia x 87" pitch reported in the previous newsletter, we couldn't get it to turn up to 2700 rpm at altitude, even though it gave us slightly better top speed than our 3-blade Performance prop. When I discussed this with Steve Boser at Sensenich, he suggested that I cut 1/2" off from each tip (reducing the diameter to 69 inches) and try it again. I did this, but it didn't seem to make any difference, so I returned the prop to Sensenich, for them to make one with less diameter and/or less pitch. But then when I did the annual on my engine, and discovered it was slightly out of time, I called Steve and asked him to send the same prop back so I could retest it. It arrived just a few days before we planned to leave for Oshkosh, so I didn't get to retest it until after returning. At altitude (8,000') and full throttle (75% power), it would still only turn 2640 rpm, so we told Steve that we think the best all-around climb-cruise prop would be a Sensenich 70" dia x 85" pitch. He agreed to send us one to evaluate. We think the Sensenich is a very good prop, reasonably priced, and (for the benefit of the foreign aviation authorities) IT IS APPROVED FOR USE ON THE COZY!! Ted's Props is now

Hendrickson - Rowbear Custom Wood Propellers at Box 997, Woodstock, IL 60098. Tel. (815) 334-1477, Fax (815) 334-1478.

ARLINGTON

The weather in the northwest was particularly rainy this year, so we decided at the last minute to skip going to Arlington this year. We were in contact with Eric Westland, whose Mark IV was finished and based at Arlington, and knew he was planning to display his airplane there. We learned that the weather turned good the last couple of days, and that his airplane received much attention.

OSHKOSH

We normally visit family in Minnesota between Arlington and Oshkosh, so when we gave up on Arlington, we headed to Minnesota instead. We started out on Saturday, July 10th. Flight Service said the weather was marginal in northern Arizona and New Mexico, but thought we could get through. When we got to Gallup, NM, we ran into a solid wall of heavy rain. We headed east, hoping to get into Santa Fe, but that didn't work. We tried to get into Albuquerque, but couldn't get there either, so we did a 180 (that is a good maneuver to practice) and returned to Mesa. The next day we tried again, and this time we got through, and the weather (after Gallup) was great all the way to Duluth. We visited children, grandchildren, and relatives in Duluth, St. Paul, and New Prague, and then departed early for Oshkosh. We set up our commercial display (south entrance of exhibition bldg "A") and had a couple of days to relax before the show started. We checked out the new parking area next to the warbirds that was reserved for canard airplanes. We believe most builders appreciated the new location. There was a concrete taxiway into the area, and it was well away from the flight line crowds. Carl Denk (who complained the loudest about crowds around his airplane last year) would have appreciated it, but alas, he didn't come. It was very hot, at least for the first few days, and we, along with many of our builders, appreciated the shade provided by Steve Wright. We enjoyed seeing many builder friends that we get to see only once a year, and also meeting new friends. There continues to be a lot of interest in the Mark IV, and we ran out of plans and information kits after the first 2 days. We sold plans serial #800 at Oshkosh this year. This was a milestone for us. Mark IV plans sales have now exceeded the Cozy III. The Leon brothers, Carlos and Rueben, arrived in their twin engine Cozy before the show. For those who aren't familiar, they have two 100 hp Suzukis under what looks like a standard cowling, driving two counter rotating props. They flew directly across the Caribbean and Gulf, with a stop at Haiti on their way from Venezuela to Miami. Our Cozy forum on Friday was well attended. Gary Hunter spoke about epoxy resins and answered questions. There were about 90 people at the Cozy banquet. The Leon brothers were the guest speakers. They explained the many modifications they made on their engine installation in the last year, and then talked about their trip. They were very enjoyable speakers. Awards were presented to Rex & Barbara Pershing, for 500 hours on their Cozy, and to Walt & Helen Suminski, for 1000 hours on their Cozy. The Suminskis volunteer their services welcoming homebuilders every year at Oshkosh. Darrel and Kim Lueck (recently married) arranged for a number of door prizes, and

did an excellent job arranging for the banquet again this year----we all owe them many thanks. There were between 10 and 15 Cozys at Oshkosh. Besides ours and the Leon Bros., the Atkinsons, Francises, Bibbees, Misterkas, Mallias, David Domeier, Beduhns, Oelmanns, Doug Koster(?), and a few others. We were all saddened by the collision between a F4U Corsair and an F8F Bearcat on their takeoff run. I know from personal experience that the F4U has very poor visibility ahead on the ground over the big engine, and we all should be very appreciative of the excellent forward visibility of the Cozy.

COMMENTS ON PARKING AT OSHKOSH

8/6/99

Builders, From one of the people who has been vocal to the point that Alan Shackleton told me to get off my high horse, I think the location for canard parking was perfect. Nobody's airplane got hurt that I know of, and it was away from the runway so the the "tourists" were not around the airplanes when the airshow was going on. I say to the EAA, "Good choice on the parking! With this change, I will bring my airplane next year." Paul Krasa Hi Everyone, I just got back from a family trip to Wisconsin. I managed to break away on Monday and visit Oshkosh for 6 hours. As luck would have it, I entered at the gate where the canards were parked and got to see David Dormeier's VERY nice looking project and Nat's plane at his commercial exhibit. Not much else left by that time (Tuesday was the last day). My wife and I tried on every ANR headset that we could find and a unanimous decision as to the most comfortable led to the purchase of two sets for my future plane. I also almost bought a stepladder, but.... Gregg Perry

FIRST FLIGHTS

It is difficult to keep track of first flights, because there are many that we don't hear of until after the fact, and some not at all.

1. Richard LaCourse writes: 6/26/99

Dear Nat and Co., Well, I finally got the Cozy off the ground after 5 years of intense building (but I lost a year to the winters of Wyoming). Everything went as advertised. It was a short flight, and uneventful, except that I flew about 12:30 pm after a small airshow finished at our airport. Flying at this time made the air very angry, and the thermals gave me an interesting ride. I did 2 high speed taxi tests up and down the runway to get a feel of the aircraft and to check out any shimmying that might be there. I found some shimmy, but at about 65 kts it went away and the aircraft rode straight. When you taxi test, make sure you do not skip the high speed taxi. This will give you a feel for the whole plane. After the 2nd taxi test I was ready for the "big one". I taxied out to the centerline, applied power and was off. At about 80 kts I lifted the nose and started to fly, and after the customary bob I established an ascent rate of about 110 kts and started downwind. Having previously flown a Cessna 172 for a biennial, it was interesting to see a 140 mph at the start of my downwind. Before I could plan anything, I was in position to start my

landing. I trimmed out the plane for 85 kts (thank goodness for the Strong elevator trim), proceeded to get back on the centerline (this thing moves fast) lower the belly board and set up the landing. When my spotter on the ground told me I was about 10 ft in the air, I started a gentle flare and Bingo!, I was on the ground. I lifted the nose for better braking and proceeded to the hangar, where the first one to greet me was my DOG (people are scarce here in Wyoming!). Rick LaCourse

Worland WY

2. Rick Cahill writes: Hi again Nat, Sorry I dropped out of sight for so long (he hasn't taken newsletters for 2-1/2 years), but I have been diligent in working out what little problems I've had with my Cozy. I have a good friend who is helping and I should be done quickly and back in the air. I have 13 hours on her now and hope to be at the BIG O this year (He didn't make it!). Thanks for a great bird, Nat. She is everything and then some in comparison to the 150 I have flown for over 10 years now. Rick Cahill

Columbus, OH

3. We have a note in our files that Malcom Hart, in Santa Fe, NM soloed his 3-place Cozy N296MH on Thursday, June 24th for the first time. We are waiting for a more detailed report.
4. We read on the internet that Glenn Murray has 8 hours on his Cozy and is having some cooling problems. He is not on our mailing list so we asked him if he is flying a Cosy Classic, but have not heard back from him yet.
5. Eric Westland writes: 9/4/99

Hi Nat and Shirley, Well, it was brief, but I finally soloed our Cozy Mark IV today. I never would have guessed it would have taken this long, but it's just the way things worked out. I've not been in a huge hurry since the airplane was ready before I was, so I took some time to get some instruction, took time to re-inspect and re-inspect again, took time to analyze a "backfire" that occasionally happened, sat out lousy weather, got ready for the school year....it all took up time. Never the less, everything fell together for this morning and I just went for it. My flight with Ken Murphy was the most helpful thing I did and I knew well enough to go around on the first attempt and made a nice landing on the second. The plane flew great in between. Eric Westland

Mulkiteo, WA 9/6/99

Hi Nat, Went flying again this morning - I'm loving it. Here's the newsletter article I cobbled together. After 7 years and 5 months of some of the most enjoyable work I have ever done, our Cozy Mark IV made it's first and second flight June 23 at Arlington Municipal Airport. N325PD is built almost true to plans. The engine is a Lyc IO-360 A1A with a C series sump to accommodate the Bendix fuel servo on the accessory case end of the engine. It's pretty much stock as well with the exception of a Jeff Rose electronic ignition on one side. The prop is by Props, Inc. in Newport OR, a 2-blade wood prop with a urethane leading edge and fiberglass reinforced tips. Inside, I added to the VFR instrumentation a Navaid wing leveler, Jeff Rose's electronic tach, and an AV-10 engine monitor with the fuel flow function. I purchased my flight instruments from Howard Francis - I highly recommend him. The radios are a II Morrow SL40 com, a Garmin transponder and a Lowrance GPS. I have been fortunate to have some good friends help me along the way. One of them is an aero engineer whose business is fixing airplanes that don't quite fly as they should. He's consulted and fixed many of the planes you see daily, both in the certified market and "kitplane" companies. He set me up with Len Fox, a professional test pilot that has flown just about everything in the Navy and since retiring a few years ago, has flown on many projects - he is highly respected and the person that Vans and Stoddard Hamilton have called when they need flight test data. Len arrived Sunday evening for a week's worth of flying on a King Air that my friend is consulting on. When the King Air developed a fuel leak and could not come to Arlington, Len asked me how soon I could be ready.

I told him I was, so he gave me a list of things to check that day and if it all checked out, we would go over it together Tuesday morning and conduct the test flight that afternoon. It took about 12 hours to go through the list, but it all checked out and he was ready to go after lunch on Tuesday. Unfortunately, the weather wasn't. The weather in the Pacific Northwest has been pretty much constant overcast/rain since last fall. Tuesday was no exception, but by 5 PM Len thought the weather was looking acceptable and was in the run up area ready to go. However, after looking to the South one final time, he decided to wait another hour. Sadly, after another hour the weather closed in, so we decided to wait until the next day. We woke up Wednesday to rain and 1,600 ft ceilings, which continued until 3 PM, when Len came to me to say he thought it was breaking and wanted to give it a go. The first flight test card he prepared was for a 20 minute flight to check the controls, nose gear, engine temps and pressures and landing characteristics. Max speed would not exceed 140 knots. By 3:30 PM he was in the air running through the flight test card and 20 minutes later he landed and gave me a big thumbs up as he passed me by on the way back to my hangar. There we pulled the cowlings to check everything out. Other than a very small oil leak, all was great, so we buttoned it all back up for the second flight. Included on this test card was flight up to VNE (190 kts) to test all the controls for effectiveness and flutter, slow speed to check controllability and stall speed, checking to see how it would handle in a runaway trim event. Once again he would also record all the engine functions and do a bunch of other checks related to it's flying qualities. This flight was to last 90 minutes. By this time, a patch of blue sky opened up east of the airport, which allowed Len to climb up to 9,000 ft. Being well away from local traffic this time, he would report back to me by radio as he ran through all the tests. I was thrilled to hear him tell me it performed great at VNE, and was fully controllable at 55 kts and flew hands-off straight. Other than a couple of alternator trips, the flight was uneventful and Len was very happy with all of it's flying qualities. Since the first flight series, I've been working on my flying skills. I took additional instruction, was oriented in many friends' Long Ezs (back seat) and received some fantastic dual time with Ken Murphy in his Mark IV. When it came time to take it up myself, all went very well. Much of this still hasn't sunk in. When I think about it, it's all really quite amazing. You order plans (which are excellent), you get a bunch of raw materials and start making parts. One year you make a wing and the next you make another. Then you put them all together, wipe micro all over the parts and start sanding. One day you step back and it looks like an airplane, but will it fly? Not a day went by that I did not wonder that. After all, I'm not an engineer and I've never built a plane before. When it actually happens and the answer is a firm yes, to me it's most amazing. The great people you meet along the way make it all the more enjoyable. What a Deal! Best regards and a HUGE thank you to you both! Eric, Vicky, Paul & David Westland

PROJECTS FOR SALE

7/20/99

Hello Nat, With heavy heart I am putting up for sale my Cozy Project #0497. I have backed into a business that has consumed all of my spare time. I do not want this project to sit around until I can find time to finish it. That may be a long time off. Please place the following ad in you next newsletter: Cozy Project #0497 for sale. Completed through Chapter 12. Chapter 9 is missing wheels and brakes. Chapter 13, fiberglass nose strut complete, no hardware. Top & bottom nose skin ready for painting. Chapter 14,

centersection spar is complete. Project includes canopy latch system by Al Wick, rudder pedals by Dennis Oelmann and a Sticky-stuff epoxy dispenser. \$15,000 or best offer. For more information and pictures contact me at (623)561-5202 home, or (602)272-1768 work. Edward E Taylor
Glendale, AZ 8/6/99

Folks, Due to the expected arrival of a fourth member to my family, my 3-place project is being replaced with a 4-place project. I am offering my 3-place project for sale. This would jump start a builder to about the 45% point. My \$18,000 asking price includes plans and newsletters, completed wings with winglets, rudders and ailerons, GU canard and elevators, fuselage built about halfway thru Chap 13, completed centersection spar, strakes ready for assembly, canopy, turtleback, engine cowlings, Cleveland heavy duty brakes, wheels & laydown masters, and mid-time 0-320 with logs. Contact me at (413) 549-6491 or Jvance@javanet.com. John Vance,
Hadley, MA

AMERICAN AVIATOR TODAY

The "American Aviator Today" is a brand new aviation magazine. They elected to use the Cozy Mark IV on the cover of their first issue (September 99) and feature it in their magazine. We are proud that they chose the Cozy, and hope you will look for it and buy a copy at your newstand.

THE FLYER

The "Flyer" is the magazine company that publishes the "EAA Today" every day at Oshkosh. In one of their papers at Oshkosh, David Sakrison referred to the Cozy, but used some erroneous information. David has published a correction, along with a nice background article in the September 3 issue of the Flyer. Thank you, David.

PROUD OF YOUR COZY?

Readers of Sport Aviation and Kitplanes magazines love to read about what other builders are building and flying. We have a lot of builders who are flying, but never sent in pictures to any of the magazines. Maybe they didn't think it was worth the effort. So we decided to increase the ante. We offer builders a free "Strong" electric pitch trim, or, if they have already purchased one, \$100.00, for any pictures and descriptions or articles published in Sport Aviation or Kitplanes Magazines. In addition, Kitplanes will enter your name in a drawing for a free GPS.

Publicity Addresses

AWARDS

1. Bruce and Debbie Elkind (Hawthorne, CA) published an article and picture of their Cozy Mark IV in April '99 Kitplanes.
 2. Bob Misterka (Grafton, MA) published an article and picture of his Cozy III in May '99 Kitplanes
-

PLANS CORRECTIONS/CLARIFICATION

BUILDER HINTS

1. Several builders who are installing Wayne Lanza's electric actuated landing brake have asked how far the brake is supposed to extend. If you refer to drawing M-28, you will find two views of the landing brake extended. The angle measures to be 65 deg.
2. 8/12/99
Kent Ashton writes: For the strainers in the strakes, I bought a couple of 5" wide stainless steel tea strainers at a kitchen shop, cut off the rim and floxed the screen in the tank. Pretty sturdy and easier than trying to get a piece of flat screen to stay in place. Kent Ashton
3. 8/12/99
Jim White writes: Having just completed my second strake, I thought I would pass on a few tips I learned from others and some I added myself:
 1. Attach the wing before working on the stake and bond a 1/4" or so thick template to the end of the main spar that matches the contour of the wing. This is needed so that the strake matches up to the leading edge.
 2. When cutting out the top and bottom PVC foam pieces, finish one (top or bottom). The top is the same as the bottom except it is 0.2" longer. All the angles are the same. Use the top or bottom strake as a template by simply shifting it up or down 0.2" accordingly. You might as well make all four top and bottom skins at once. GET THE FIRST ON RIGHT, OR YOU WILL HAVE 4 WRONG ONES.
 3. I placed blocks under the ends of the landing gear struts to level the airplane perfectly and give it a solid foundation. I supported the jig table with two saw horses, and four pieces of 2x4's individually clamped to the saw horses. The jig table simply rests on the ends of the 2x4's that are adjusted up or down.

4. INSTALL THE RELEASE TAPE ON THE BACK OF THE JIG TABLE BEFORE ATTACHING IT TO THE MAIN SPAR.
5. Use long clamps from the top of the spar to the jig table beneath to firmly attach the plane to the jig table, inboard and outboard on the spar. I did not use any bondo and the jig table never moved relative to the plane, even when getting in and out of it repeatedly to cut out the openings and tape the inside joints.
6. I believe the strainer inspection hole in B33 is marked wrong in the plans. The inspection hole should start 6" from the spar, not 3".
7. For B33 bulkhead reference I clamped a straight edge to the canard bulkhead and strung a string back to a mark on the top of the spar. For the B57 bulkhead I simply used a plumb bob hung over the edge of the jig table at BL 57 and attached the other end to a mark at 57" from centerline on the spar.
8. The B.L. dimensions are to the INBOARD face of the bulkhead. Carve the outboard to get the contours of the bulkheads to match the sweep of the strake. DO NOT CARVE THE INSIDE EDGES.
9. String a line from the leading edge of the template you made in step 1 above to the fuselage using the leading edge of the bulkheads as a guide. This will ensure the leading edges of the wing and strake come together.
10. 1 inch spacing is fine for the scoring of the bottom foam to bend around the ribs.
11. On the top foam, 1/2 inch cuts minimize the flat spots which occur on the top of the curved part of the strake between the two bulkheads. Make the cuts just after the 1 ply layup has cured. If you can make the cuts while the fiberglass is hard but still pliable, you can bend it over the ribs and let it finally cure in its final shape.
12. I fully trimmed the strake openings into the fuselage before putting the top on permanently. If you jig the top foam sufficiently, it will match up repeatedly to the same place on the fuselage.
13. I wanted to make sure my upper skin was firmly attached to the ribs so I made a flange to go on the bulkheads instead of simply stacking flox on the bulkheads. The flox method probably works just fine, but I have heard of some Cozys developing fuel leaks after time and thought this might minimize the possibility of this occurring. This modification added several days work to the process! When the top foam is all ready to flox to the bulkheads, I carefully marked the location of the bulkheads on the bottom of the top strake skin. I then turned the top foam over. You only need to do this for the interior fuel tank edges. Do not extend the flanges into the storage area. You can tape those areas like normal. Do the leading edge, but not the trailing edge along the main spar. On top of each bulkhead marking I put a wide layer of box sealing tape, followed by a layer of peel ply, one layer of bid tape 2" wide, and peel ply on the outer edges of the 2" bid tape. On this second layer of peel ply, DO NOT PUT THE PEEL PLY WHERE THE BULKHEAD OR RIB WILL SIT. Err on the cautious side when putting on this peel ply. You can always sand the area not peel plied, but it is difficult to remove peel ply between the flange and bulkhead. Place a thin layer of flox on the bulkheads and place the top on to cure. Let it fully cure for at least a day or the one layer of bid will sag after you pull the top back off. Pop the top off and remove all the peel ply. Glass the interior corner of the new flange with one layer of bid tape, let cure, trim with dremel, and "voila", flanges that perfectly match your strake skin.
14. When you place the top skin to the bulkheads and ribs, realize that it is a ton of work to tape all the inside edges. But doing the top skin placement and inside tapes in one sitting will save lots of sanding while upside down in the back of your airplane. Good luck! Jim White

N44QT Heavy airplanes are ugly, even if they look pretty!

FINISHING (Al Wick)

I just completed painting the bottom of my plane. I've used the new poly fiber system. All water based. Very impressed. Pin holes are a total non-issue. Particularly when you use the Superfil instead of normal microballoons. Superfil is substantially better than micro. Trapped voids are rare. Sands easy, mixes easy. Areas where I used micro have more pinholes, but using the Smoothprime primer is highly effective at filling pinholes. It really does flow into holes. Must have low surface tension or something. I also elected to use their water based "topgloss" top coat (polyurethane). So far, I really like it, but I have yet to color sand and buff the paint, so the verdict is still out. I haven't done adhesion tests yet. On my second coat (of three) of topgloss, I got too aggressive and had quite a few runs on corner radius. I elected to sand the entire coat before applying my last coat. Final coat looks good, although areas have a matt appearance (too lean). No runs. The top coat appearance is quite sensitive to spray quantity. More is better unless you develop runs. I had no problems with vertical surfaces. I learned that I don't need to use finer than 120 grit when sanding micro or superfil. The primer fills all those scratches fully. I used a sanding stick only to achieve straightness, then I used an electric random orbit sander with 220 grit. I was willing to sand the primer completely off to achieve uniform appearance. I mixed paint and primers 1 cup at a time to avoid splatter. I've heard people describe sanding and painting as the worst part of the process, but I enjoy it. It's great to see objects finally transformed into airplane like appearance. Just wanted you to know more about these new products. My superficial conclusions: Superfil micro replacement is way better. Smoothprime primer is way better. Topgloss top coat may not be better (lotta work)....we'll see when I'm further along.

MECHANICAL PITCH TRIM

Cozy builder Marc Pichot, in France, designed a mechanical pitch trim which is very innovative. He said it is very easy to use, and gives very precise adjustments. He got the idea (wouldn't you know) from a wine corkscrew, after drinking some of the Grenache. His description and drawings are too lengthy to publish here, but if anyone is interested, send a SASE for a copy.

FRETTING (David Domeier)

I must admit, I was a bit skeptical of the CSA newsletter #55 article on prop flange/extension fretting. Those lines sure look like and feel like oil in the real world, but I am no more. I removed my prop and

extension for exploration because the starter ring was showing ever so tiny lines after each flight. My bolts were very tight and not bottomed out. What I found was a small build up of crushed paint and dirt between the extension and starter ring. It looked, from the impression on the ring, like the extension was contacting the ring surface on about 70% of the area. There were several shades of gray and black in the contact area and also a little white around the lugs. I wet sanded both surfaces to remove all paint and dirt, reinstalled everything, torqued the extension to 60-65 foot pounds (Piper torque numbers) and blasted off for a test hop. After 30 minutes of flight, there were no lines on the starter ring. I am a believer. What looked and felt like oil in this scenario is probably very fine metal coming from the 2 parts that are moving against each other ever so slightly. A friend who is pulling an annual on his twin Comanche next door has lots of lines of the same material on his right starter ring. How serious this is, we don't know. I'm sure his IA will have something to say about it. How many of you guys flying have a clean starter ring?

ELECTRONIC IGNITION (Vance Atkinson)

The answer is YES! Electronic ignition gives 10% more fuel efficiency. It may be + 1 or 2%, but I documented mine at about .8 of a gallon. It is easy to do. Since I have one of Rose's first units out, Jeff helped me put in a variable spark advance in the cockpit, and a digital read out of the advance. To prove the effect of advancing the spark, fly the plane at altitude all trimmed up and in a cruising state. Note speed, RPM, MP and Fuel Flow. Then simply turn the electronic advance off and see what happens. Notice I said ADVANCE, not the electronic unit itself. The advance is what gives you the power, smoothness and mileage. Any doubting Thomas is welcome to fly in my aircraft to observe this change, providing he is willing to bet a tankful of gas that there is no savings of fuel vs a standard setting. Saving fuel is one of the perks of using an advance (at 10,000' it is advanced about 38 to 40 degrees). Using a solid state electronic device to trigger all this wonderful stuff gives you peace of mind as there are NO moving parts to wear out. I would suspect if you could physically advance an aircraft mag the same amount of degrees in flight, you would get the same spectacular results. By the way, I haven't run any mags since 1991 and I have had one failure of a pickup coil in all that time. I seriously doubt a mag would go that distance.

ENGINES (Eric Westland)

To get my engine, I looked everywhere - I mean everywhere. A 360 cubic inch Lycoming is really tough to find. My goal was to find one that had some time left on it before overhaul so I would not have to test the airframe and break in new cylinders at the same time. Many have done this successfully of course, and since I have found mine, many have reported Bart at Aero Sport Power in B.C. as an excellent choice for a rebuilt engine. He doesn't do it for free, but then again, I don't think I'll end up doing it my way for any less - as a matter of fact it could end up costing me more once I split the case. We'll see. I found Trade-A-Plane almost a total waste of time and money. The market was just too hot while I was looking. I also joined the insurance company salvage bid lists, but never found a plane/

engine that I could even bid on. The internet at the time gave me the most promising leads, searching various aviation for sale sections. I joined the RV and Mooney e-mail lists amongst others to learn where others were getting theirs. While reading the Mooney list, I discovered that occasionally someone would be converting their perfectly good Mooney's IO-360 to a bigger engine to go faster. That led me to some private parties and some companies that do conversions - Rocket Engineering in Spokane, WA and Mod Works in FL. I ended up getting a good IO-360 from Mod Works. Since then they have started advertising in Sport Aviation, so the "secret" may be out. You must continually call places back. If you leave your name and number for when an engine becomes available, they will probably sell it to the next person who happens to call. You really, really need to educate yourself on engines if you buy a used one. The word, "overhaul", is probably the most loosely defined word in aviation. You need to know what someone is selling you. Find all the AD's, get a copy of the logs, call the mechanics, determine how often it's been flown annually, search the internet for accidents by tail number. Any of the above ways can work and there are probably others. Mine has 2100 hours total time, but the compression is still great, so I hope to get the hours flown off and then finish overhauling what I haven't done already. All the AD's have been complied with including the one for oil pump gears. The ignition system has been done (new mag stuff and electronic ignition), new mechanical fuel pump, vacuum pump, alternator and starter. Don Rivera did the OH on all the Bendix fuel injection parts - he has been great to work with. So that basically leaves the crank, case and cylinders and I'm not sure where I'll have that done yet.

VENTILATION AIR SCOOPS (Nat Puffer)

On our 3-place Cozy, we located a single NACA air scoop under the nose because we wanted dry air for defogging and to cool the avionics without using a blower to recirculate cabin air. But this required Aeroquip tubing, a distribution box, and separate lines to the canopy, avionics and eye-ball vents. We found out we didn't need defogging, and when we built the 4-place prototype, avionics had progressed to the point where cooling air wasn't required, so all we needed was scoops for ventilation. In the fly-market, I discovered some 90 degree eye-ball vents which were really neat, so I located the NACA scoops in the canopy frame that opens. These worked really great. But when we built the plans model 4-place, I couldn't find a source for the 90 degree eye-balls, so we located the NACA scoops in the fuselage sides, directing the air to eye ball vents in the upper corners of the instrument panel. These work very well. Some builders expressed concerns about flying in the rain. We have flown through rain a number of times, but not enough rain comes through the NACA scoops in any of these locations to talk about. It isn't really a problem.

HEADSETS (Paul Krasa)

I have two different types of ANC headsets in my flight bag. Two headsets were converted using the kits advertised in Sport Aviation. The other one is a Lightspeed 20K. The Lightspeed is superior in noise canceling and comfort to the converted headsets, but not by much. I borrowed friends' noise

canceling headsets (Bose, David Clark, Telex, and Lightspeed). I chose the Lightspeed because it was the most comfortable and had as good noise canceling as the others. My non-calibrated ears could find little difference in the quality of the noise canceling, but I could tell the difference between a 15db ANC headset and a 20db ANC while flying. Another issue to consider is headset clearance to the canopy. If you are tall like me, the one inch of head clearance will be the foam pad at the top of some of the new headsets. That was one reason I bought the Lightspeed instead of the Bose. If you already have a headset you like, convert it over to ANC. The conversion takes less than an hour per headset. I have converted a number of friends headsets, and can now do one in about a half hour. The difference between my converted headset and my Lightspeed 20K is comfort.

GU CANARD TRIM CHANGE (Nick Parkyn)

"It is proven and accepted that a trim change occurs in rain or when condensation forms on a canard which uses the GU airfoil (used on early Rutan Canards). There are accepted solutions to the problem, including the replacement of the canard with one using the Roncz-designed airfoil. The paper A review of low Reynolds Number research at Glasgow University by Galbraith and Cotton of the Department of Aerospace Engineering at Glasgow, suggests that, when they became aware of the real world problems with the GU airfoil-based canard, further research was done. The reduced performance in rain was primarily a result of water droplet formation on the high gloss surface of the canard. If the surface finish had been matt, the associated modification in surface tension effects would have ensured a more even distribution of water over the surface of the airfoil, so retaining its original shape and performance. If you apply this concept by removing the high gloss finish from the surface of the GU canard with very fine wet and dry sandpaper, using only a chord-wise rubbing action, you will achieve the suggested matt finish without destroying the potential for laminar flow."

COPPERSTATE

Copperstate this year is scheduled from October 7 through the 10th . It will again be at Williams Gateway airport, a mere 10 miles from our home. We have room for a couple of couples at our home, on a first come first serve basis. We have scheduled a builders forum, which should be either Friday or Saturday morning. We usually get together with builders on the Friday night and go out for dinner. This year we will try a barbeque at our house, but it will be RSVP, so we know how many to prepare for.

LETTERS FROM BUILDERS

7/22/99

Dear Nat, No trip to the USA for the Pichots this year. An unexpected trip to "my good friend" the surgeon and too long a recovery time was on the menu. The interesting thing coming now is that I use on F-PFMP a new trim. I enjoy it so much that I tell you the story of the marriage of a Chinese corkscrew with a European PCV cap (see Mechanical Pitch Trim, above)..... For the moment, the real flying canard nest is still in Montpellier. As of 6/4/99, 16 Cozys are registered as flying in France in the amateur F-P category, 37 Long Ezs, and 31 Variezes, for a total of 84 Rutan canards. This is the count of aircraft, not owners, because some aircraft have 3 owners. There are additional aircraft registered F-W something, that will become F-P when they are completed and flying successfully. Some F-W are today beginning their flying life. I don't know where they are located, but I can investigate.

Marc Pichot

Pont l'Abbe, France 8/13/99

Dear Nat, The French Cozy corner called Mont Air Park near the Gulf of Morbihan is progressing every day. We probably will begin the building of houses/hangars during the month of October. Bernard Cannac

Paris, France 5/11/99

Nat, I am happy to report that I have my Cozy on all 3 wheels now. Side to side level is perfect, and it was this worry that had me postpone this task for so long. At this stage the nose is 1" low, and I assume that when I install the wings and engine the plane will sit level or nose positive. Reading the plans makes all the difference and one should never get discouraged when obstacles arise. Following the plans will get even the most inexperienced builder on his way. Thanks Nat for a good easy design to build.

Jannie Versfeld

Kugersdorp, S.Africa 3/24/99

Hi Nat and Shirley, There was another first flight of a non-Cozy (I don't think it was registered as a "Cozy") built from YOUR plans here at Camarillo Airport several weeks ago. The owner is Stan Magill. I spoke with him briefly about the flights. Seem to be going fine. I don't think you report first flights of "other" aircraft in the newsletter, but thought you would like to know. Darryl and I will be at Sun-n-Fun for the first time this year. We are flying commercial though. I would have loved to fly the Cozy, but our schedule won't permit it. We will arrive after the banquet, but look forward to seeing you and Shirley sometime during the week. We will be staying in the Orlando/Disney World area for the week as our vacation, and plan at least one day at the fly-in. Chuck Wolcott

Camarillo Airport 7/15/99

Dear Nat and Shirley, Last weekend we attended the Arlington fly-in. The highlight was Eric Westland's beautiful Cozy Mark IV. His Cozy was the only one there and it sure got a lot of attention. We had been hoping our Cozy would have been there, however we still have a small amount of sanding and painting left to do. We intend to keep our plane at Paine Field in Everett, WA, about 30 minutes north of Seattle.

Mara Liston & Giles Sydnor

Redmond, WA 8/6/99

Builders, I am so pleased with the flight instruments I received from Howard Francis that I wanted to pass along my experience. Nat Puffer mentions Howard in his newsletter, and if you need any of the six basic flight instruments, you should check him out. Two years ago I bought a used attitude indicator, DG, altimeter, VSI, electric turn and bank, airspeed indicator (he paints in the arcs to your specs) and a vacuum gauge. I saved about \$1,000 from what I would have paid for new. All of his stuff is used, but rebuilt. He is retired from this profession. I and two other local builders have bought from him, and the instruments look like new. You tell him what you want, he sends them when they are ready, and you either can send him a check or return them. Last month I discovered that my attitude indicator was sticking (after having it for 2 years) so I called Howard to see if he had a replacement he could send me. He did not at the time, but told me to send mine to him for repair. I didn't get to it very fast, so last week he called me to find out what the status was. I sent it off and had it back right away as good as new. He

even paid for the return shipping. Contact him at (480) 820-0405 in Tempe, AZ. Eric Westland Mulkiteo, WA 7/6/99

Nat, I installed an 0-320 in my Cozy III (after taking out the 0-235) and as most people, had a number of adjustments to make. 1) I had to put in long ramps on the inside of my bottom cowl in order to get #3 and #4 CHTs down. They are now the coolest. 2) In a darkened hangar I was able to use a flashlight to discover all the gaps in the baffling that I was so sure were closed. 3) Finally, I found that I was not able to lean at all either at idle or at high altitude cruise. My EGTs were running over 1600 deg. All indicating that I was in a constant state of lean. I talked to "Gary" at Precision Air, and he said the short stacks we EZ pilots have, along with ram air directly into the carb air box makes the engine run very lean. He also said that my MS 10-5009 carb with a 47813 fuel nozzle was the leanest of all. He sent me a 47828 nozzle that was .003" larger. This was an improvement. I called him again and he said this was the largest nozzle he could recommend. I asked about drilling the nozzle out another .003. He said it probably wouldn't hurt to try. It solved the problem. I used a #41 bit to drill it to .096. My CHT's have dropped 200 degrees and I can now rich and lean to my hearts content. I was probably flying close to detonation on climb outs. Now it runs great and I am very happy with my 200 mph cruise. Ken Brimmer 6/26/99

Builders, I received my MKNG-15/16 nose gear assembly from Brock this week. What a nice looking job! Rather than putting it on the plane, I'm thinking of putting it in a glass display case on my desk. Parts like this remind me why I became an engineer. It really is a thing of beauty. Good job Brock! Neil Clayton

Oveido, FL 6/26/99

Nat, I'm sometimes embarrassed to admit that despite having such a low serial number (#0003), I'm not done yet. I was at Oshkosh the year you announced that you would provide plans for the Mark IV. I had already bought plans for the 3-place, but when you started talking about the 4-place, I held off to see how that developed. I ordered Mark IV plans from you immediately after Oshkosh in 1990, but between working more than full-time at Boeing and being heavily involved in the Navy Reserve (P-3 squadron C. O.), I didn't actually get started on construction until after I retired from the Reserves in 1995. At Christmas that year I ordered some foam and glass from Wicks, built my construction table and started making bulkheads. I was able to keep at it fairly steadily since then, except for losing about 6 months moving the project here to England 2-1/2 years ago, and getting a new shop established here. I still work a 6-day, 60-hour week at Boeing which has been pretty much the pattern for several years, in project engineering, where schedule and technical challenges are the steady-state situation. I'm only able to put in a bit of work in the evening, and then a few hours on weekends. I just finished the canard and elevators a week ago, and though it was a bit fiddly in spots, everything came out fine. The elevators move very freely on their hinges, achieve full travel, and clunk solidly against the counter-weight stops, so I guess I won't have a problem with elevator balance after painting. Have to put in less hours at work and more hours on my Cozy. I started on the centersection spar, since there isn't room in my garage to mount the canard on the fuselage. So far, everything is going exactly according to the plans, though I do pick up a useful tip now and then from the Cozy builders' e-mail group. Sure have to wade through a lot of bad information to find the usefull bits, though. Look forward to seeing you and Shirley again. Paul Kuntz

Lancashire, UK 6/17/99

Hello Nat, I'm flying LN-USA (that's my call sign) serial #112, a Cozy MKIII built originally by Rune Rostrup and first flown in Dec '89. I live in Norway and have accumulated some winter operating experience. I bought it from Rune in '96, and 2 months later my friend crashed it (an ex F-16 instructor and Airline Chief Pilot) and removed the landing gear, scrubbed winglets, etc. I have spent 1600 hrs rebuilding it and had my first flight 3/25/98. Accumulated flying hours now passing 150, and only minor squawks. It flies great and guess what? The plane ended up 40 lbs. lighter after rebuilding! 20 lbs was oversized electrical connections, extra battery cables, etc. Empty weight is now 880 lbs.! I'm 35 yrs

old and from the "old school" - keep it light and simple and 100% strictly by the drawings! I have an O-235 but still get a max cruise of 148 kts (172mph) without wheelpants. I will upgrade the plane with an O-320 engine, since I'm operating mostly out of 800 meter (2600ft) runways. I took my license in 1984 and put a lot of time flight testing LN-USA. The best flight testing program ever performed in Norway, the EAA folks told me. The test program was built around NASA documents and Test Flight Cards, etc. Have a lot of info if anyone is interested. I do agree 100% on your attitude on changing the specs, as people tend to do in the US. Here, it is not tolerated by CAA. Some of the builders worry too much and should complete their babies per drawings and not incorporate all the smart-brain changes they can come up with. LN-USA is a 100% built Cozy III as per plans. It is warm in the winter and oil cooling has never been an issue. Some tips to other Cozy / canard flyers: Never takeoff with the plane if there are any remains of snow, water, etc on the wings. I have the GU canard. Rain increases takeoff distance by 10%. Canards do not accumulate ice as easy as C-172s and the like, BUT never ever fly in icing conditions. You will experience pitch down trim changes (GU) even after minimal ice accumulation. Ice builds on the canard first. Oil cooler mounted low and aft in the cowling always give good cooling. Battery should be mounted on the centersection spar, BUT I recommend the sealed battery type to avoid acid leaks. Cabin heat is provided from a muff around the exhaust pipes. Works great and never cold on my feet even in -25 deg. Cent. Oil vent should not come out in clear air during cold weather operations. It will ice and finally be closed due to ice. This is a well known problem with arctic flyers. Make a small hole in top of the oil vent line to secure for this. Then you will not have a problem losing you crankshaft oil seal, and all your oil. Forget all electric trim gadgets. Electrical trim is a waste of money. The plans manual type is 100% sufficient. One million thanks for your conservative attitude toward changes, from the only Cozy driver in Scandinavia, so far..... Morten Brandtzaeg

Norway 6/17/99

Nat, I received you info pack just prior to leaving on a week long business trip. I have been re-reading it every chance I get. The Cozy looks like a great aircraft, and one that I will enjoy building. Everything I read on the internet about your commitment to customer support is great. My life in the military has kept me moving every 12 to 14 months for 15 years. Now that I am in the Air National Guard and have a real job, I am finally in a position to pursue my dream of building and flying my own aircraft. We are completing a new house and I anticipate starting construction of my Mark IV just after the first of the year. I need about 6 months to complete some honey-dos and prep my shop and family for the adventure ahead. Maj. Bob "Boomer" Hart 6/21/99

Dear Nat and Shirley, Glad Sensenich is interested in selling props to Cozy builders. I planned on using a 3-bladed prop, but realize that a 2-bladed prop is more efficient. A 1-bladed prop would be even better, but nobody offers one, and I ain't about to build one. I hope you keep testing the Sensenich and can recommend one for my 150 hp 3-place. I have primed my Cozy with the Polyfiber Smoothprime, and am very comfortable using their water-based polyurethane. My last active duty Navy squadron is having a reunion over the July 31st weekend, with a bus load of interested EAAers coming up from Milwaukee. I plan on visiting with both of you. I also want to visit the group doing the work on the Stirling cycle replacement for gasoline engines for general aviation. Looks like another year before taxi tests. George Krosse

Newport Beach CA 6/22/99

Dear Nat, I am currently about 2-1/2 years into my Mark IV, and it is proceeding well. I am completed thru chap. 20, however with a complete house renovation coming up this summer, I'll be slowing down a bit. I have had very few problems so far, and would like to thank and commend you for a very clear and thorough set of plans. I would like to share some tips with other builders. First, to create templates, I run blueprints of the full scale drawings. They will blueprint very clearly if they are run at slow speeds. I then adhere them to masonite, using a spray adhesive, and cut them out. This is more accurate than trying to trace them or by xerox, and it doesn't damage the originals. You can run the same drawing through upside down to create a mirror image, when only half of the part is shown. You can have this

done at any blueprint shop. Another tip is to use a router with a straight cutting bit to contour foam. The depth can be set very accurately, and cuts so easily that micro joints are not a problem. I did this for the recesses in the fuselage sides at the sticks, the 1/16" recesses where plies overlap, etc. I have found it to be simple and precise. You can do this when filling voids with micro. Fill the void, leaving the micro slightly high, set the cutter flush with the router base, and then run the router over the filled area. It cannot gouge your work or overcut. A power planer is extremely helpful when carving. I use a DeWalt planer which has a depth setting graduated in 1/128" increments. It is so powerful and clean cutting that it doesn't matter whether you are going through foam, wood, or fiberglass. This was helpful when carving the corners of the fuselage sides and bottom, which contained a combination of the three. Once again I would like to thank you for your plans and assistance. Robert Heymach

Holbrook, NY 8/10/99

Nat, I don't know if you've heard yet, but Jeff Mallia, builder of a 3-place Cozy N46WM from Ballston, Spa, NY (near Saratoga) won an Outstanding Workmanship Award at Oshkosh 99. His email address is Devocoach@aol.com. I gave Jeff an orientation in my 3-place Cozy just prior to his first flight. Bob Misterka

Grafton, MA 8/18/99

Dear Nat, Thank you for giving my aircraft enunciator alarm system a write up in your newsletter. It is obvious, by the sales, people understand the real need for this device. If you happen to recall, when I spoke at the Cozy dinner I made the comment, after I sell enough units I will be able to buy the components in larger quantities and lower the price of each. Well, that time has come. The new price for the kit is only \$175, assembled and tested is \$225. I have already returned money to all those that had to buy the initial units at the higher price. I guess that came as a shock to them, but I'm not out to join the high price aircraft parts club. My main goal is to offer reliable electronic goodies for our homebuilts at a reasonable cost. Many thanks to those that bought the initial units. Richard Lewis

Philadelphia TN 7/20/99

Dear Nat, After reading the Cozy performance evaluation in the April '99 Sport Aviation, I had to sit down and write you. The CAF• Foundation test results more or less confirmed beyond a reasonable doubt that the performance and flight characteristics of the Cozy MK IV are the same as you advertise. I was very skeptical when I started looking at kit/plans built planes. It took me over a year to decide on the Cozy. During that time I talked to several builder/flyers and all of them had positive things to say about their building experience. When investing so much time and money into such a large project it helps to be continuously assured that my decision to build a Cozy is a wise one. I will start building this summer and feel confident that this will be both a challenging and rewarding experience. I want to thank you for your integrity and the never-ending support that you have dedicated to your builders. I would also like to thank Mark Beduhn for so generously allowing the CAF• Foundation the use of his plane for evaluation. David A. Harms

Huntington Bay NY 8/17/99

Dear Nat, I was thinking about my project the other night. Never in my life have I had such a self rewarding project (except my two boys). I have a very stressful job and when I am working on this project I forget everything. I have an intellectual type job and for once I do something with my hands - something with 3 dimensions - something that grows every Saturday. I am a IFR rated pilot and I own a very nice Mooney 201, but I was starting to find aviation, in general, boring. This project has revived my passion for aviation. So thank you very much Mr. Puffer and all of you who share your skill with me!! Denis Thomassin

Montreal Canada 8/1/99

Hi Nat and Shirley, On our way to Israel we had the privilege of visiting some of the French Cozy builders. Benoit Lecoq very graciously arranged everything for us including picking us up from the airport and a personal tour of Paris by car. We went to his beautiful house which is south of Paris and had a lovely dinner with the Lecoqs and also Yves Pranal and his wife. Of course we had much

discussion over Benoit's very nice airplane which is almost ready to do what airplanes do, FLY! The next morning Benoit was glad to pick us up for the return to the airport because he also had to be on the same flight with us from Paris to Tel Aviv. As you probably know, he is an Air France Captain and also a flight instructor. He invited my wife Sarah to the cockpit for the takeoff and first hour or so of the flight. From there she had quite an impressive view of Paris and the French countryside. Benoit, the flight instructor, also gave her a guided tour of his office, an Airbus A320! I rode in the jumpseat for the last of the flight and for the visual approach and landing at Ben Gurion airport in Tel Aviv. It was very interesting, to make a huge understatement. THANK YOU BENOIT! Although we have only been gone from home for a short time, I already miss building terribly. I can't wait for my plane to start sprouting appendages. I will let you know when we return. Thank you, and we hope that all is well with you in the heat there. Jeb & Sarah Butler

Chandler, AZ (Editor: Jeb is our tallest builder at 6 ft. 5 inches. His wife, Sarah, bought him plans as Christmas present.) 7/13/99

Dear Nat and Shirley, So far this year, I've had my 3-place Cozy to both the Kanab and Jackpot R.A.C.E. events. In both cases, mine was the only Cozy there. In both races, my Cozy turned out a respectable speed, we had a wonderful time, and the fun meter was pegged! It would be nice to see more Cozys at these events. If some think all we do is race - listen up - there is much more. At Kanab, we went on a sunset hike on a nearby bluff. Once the stars came out, Shirl Dickey gave us a sky tour, then we hiked back down by moonlight. The next day was racing, spot landing, and ribbon cutting. There were some fly-bys, flightseeing tours of Lake Powell and Bryce Canyon, and a missing man formation in memory of Gus Sabo. Later, we toured a historic 19th century frontier settlement. Add to this the usual ramp activity as builders study each other's aircraft, and an evening poolside hangar flying session, you can see it was an enjoyable weekend. At Jackpot were an estimated 40 to 45 Ezs, and one Cozy - mine. Jackpot is a town in the middle of nowhere, that is, extreme NE Nevada. The airport is bigger than the town, which consists of 5 casinos, 2 gas stations, an RV park, and a general store. Again there was racing, hangar flying, ribbon cutting, pool-side chats, good food, 4th of July fireworks, and a lot of beautiful canard aircraft. So what is R.A.C.E? Rutan And Canard Enthusiasts. For almost 20 years, Ezs have been flocking to the open spaces of the Nevada desert to race and enjoy the company of other builders. Shirl Dickey coordinates the events and establishes safety standards. It is all professionally run and safety is top priority. I fly in a professional environment for a living, and was pleased to see high standards applied to R.A.C.E. events. One does not have to race. Not all who attend do. Once in a race, you determine for yourself how to run. I find it wise to keep the temps well in the green and the RPM to reasonable limits. I fly a safe altitude, manage my fuel and follow the rules. The result is good clean fun. You'll find that a Cozy can race favorably with Long Ezs. My Cozy has a low compression 0-320 with 1300 hour cylinders, a basic B & T prop (now Featherlite), an early model of Klaus Xavier's ignition (his new model increases power), and an Ellison. I raced at 206 mph at Kanab and 208 at Jackpot. In both races I had Longs behind me - even some with fancy props. Shirl said if we get enough Cozys to attend, he would create a special class just for Cozys. The next R.A.C.E. fly-in is October 30-31 in Mesquite, NV. The final event for 1999 is November 27-28 in Jean NV. For more details, contact me at (916)635-5544. Brian Heinitz

Gold River, CA 7/20/99

Dear Mr. Nat, I have enclosed pictures of my Cozy. You can see in the pictures an elaborate jig for the fuselage bottom. I wanted a little flexibility from forward to aft and rigidity in the width direction so I could obtain a very flat bottom, and the result was achieved. I would like to know your opinion. Oreste Muccilli

Boiano Italy (Editor: Oreste, your jigs are beautiful. A work of art!) 9/3/99

Dear Nat, I am now in the middle of Chapter 6 and have found the plans to be excellent in every detail. When I first started Cozy #720, a fellow builder said that, "Whatever you do, follow the plans exactly." I now have a fuselage and can attest to his statement. Using the plans and builder hints provided through

the years, I am confident that the end result will be a quality airplane. Thanks again for an airplane that I thoroughly enjoy building. Brad Doppelt

San Antonio, TX 9/29/99

Builders, My building partner and I decided to build the strakes per plans except to incorporate Featherlite leading edges. The thought was to get a perfect leading edge and save time. We fabricated the strakes and even pressure tested them while waiting for the leading edges to arrive. Today the shipment arrived from Featherlite and the revelation began. Featherlite leading edges are a work of art. They are very true, excellent workmanship, and what more can I say? If you plan to use the leading edge kit, order them before starting on the plans built strakes. Their leading edges eliminate the need for the leading edge baffles and actually wrap several inches back onto the ribs. This is no problem if you have them in advance. You can just follow their plan, forget TLE and BLE, modify the nose of your ribs and shorten the top and bottom skins. FYI, this is my second Mark IV. I built my first Cozy per plans without the leading edge kit. It can be done, but in Featherlite's defense, they are better at it than I ever will be. My leading edges required just a little contour fill. Featherlite's require no filling. The intent is to save those of you that are getting to this point some work. I hope that I have not discouraged anyone from purchasing Featherlite's strake or leading edge kits. Mike Davis

Lietchfield, KY 8/5/99

Hi Nat, My wife Mary and I were disappointed that we missed both the Cozy forum and the dinner this year. We initially had planned on leaving Oshkosh on Saturday morning because of other commitments. We were watching the weather quite closely and when the forecast started calling for thunderstorms Friday night and Saturday, we decided to depart on Friday morning. We had a nice flight from Osh to Dunkirk NY, where we stopped for fuel. My GPS was showing about 210 mph over the ground on that leg. We ran into a line of large thunderstorms west of Dunkirk near Williamsport PA. We opted to land in Lockhaven PA and spend the night. It turned out to be a good decision and we enjoyed our stay. The Cozy III drew quite a bit of attention and we had several people waiting Saturday morning to see us depart. Each time I make a long trip in the COZY I am thoroughly impressed with the comfort and performance of that little airplane. On the way out to OSH we cruised along smoothly and comfortably at 10,500 enjoying the natural air conditioning. Destite about a 50 mph headwind we went from just north of Providence RI to Saginaw MI (about 550 nm) in about 4 hrs 20 min. We stopped at Browne Field (3SG) in Saginaw to take advantage of their special OSH fuel price of \$1.63 per gallon. We enjoyed chatting with you and Shirley. We spent quite a bit of time at our airplane talking to builders and potential builders. They seemed to appreciate it because with the canard planes parked out back in the north 40 as it were, there didn't seem to be too many pilots hanging out near their planes. Once again, thanks to you and Burt Rutan for such a capable and truly delightful traveling airplane. Hopefully we'll get to go to Sun n Fun. Bob Misterka

Cozy N342RM 7/23/99

Nat, Your offer of \$100 to send Kitplanes a picture and write up of my Cozy finally got me moving. Is 12 years a little late? My Cozy has never been in a magazine before. If they publish my picture, I'd go for the \$100 instead of the electric kit. I like my plans trim just fine! Jack Grandman

Englewood, CO 8/10/99

Dear Nat, I'm glad I had the opportunity to talk with you at Oshkosh. As I mentioned, it really is a thrill every time I get near that Cozy! I can't thank you enough for being there for your builders. A great design, great plans, and great support. Being a former Naval Aviator as well, I guess I should have expected that from you! My 11 year old son and I left Oshkosh with two other Cozy III's Friday morning; we taxied out as a three plane formation past the crowd, and I'm sure we looked pretty good. The flight home was uneventful. Took 4.1 hours to Saratoga County Airport, NY. At 11,500' we were clocking a steady 220 mph over the ground. I just got back from a trip to Boston and found a box on the front porch. I opened it and found a plaque and letter from Tom Poberezney commending me on my Outstanding Workmanship Award - Plans Built, for my airplane. What a great finish to Airventure 99!!

Another accolade for the Cozy crowd! Once again, thanks a million. Jeff Mallia

Cozy N46WM 8/25/99

Hello Nat! After a long time, I finally made it back to Germany. I just wanted to thank you for the invitation to the Cozy Builders Forum and dinner. It was interesting to meet these people and I really enjoyed it. I did not have the opportunity to thank you the same night, as you had gone and I did not notice. My intention was and is, to be of any assistance for your builders if they need it. So if you get approached by someone who needs assistance, remember that I might have the possibility to do some testing in the lab which sometimes gives an easy answer to their problems. Best regards from Germany.

Johannes Meunier

MGS Epoxies 8/25/99

Builders, I just installed a set of Jack Wilhelmson fuel caps (they retain the Brock filler neck, but replace the Brock caps) on my Long EZ and I am very happy with them. Leaks are a thing of the past.

Contact Jack: Wilhelmson@scra.org. Curt Smith

Worden IL 9/13/99

Dear Nat, Hope this gets to you in time for the newsletter. I have a severe medical problem and have to sell my Cozy III project. Fuselage tub, wings, canard, elevators, all finished. Most parts needed to complete plane except prop. Includes 1000 SMOH Lyc 0-320E2D from Clydesdale, 2 King 175s, King 209 GS and King xponder. Over \$25K invested and years of work. Asking 20K. (614) 871-0710. Steve Overly

Grove City, OH

[\[Prev\]](#)[\[Next\]](#)

[\[Newsletters\]](#)

[\[Cozy MKIV Information\]](#)