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# COZY NEWSLETTER #41

## April, 1993

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We are pleased with the new, 4-pipe exhaust system being built by Custom Aircraft Supply. This system will fit any pusher. has slip joints at the flanges to prevent cracking, a super heat muff and we recommended it without reservation!

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### WHAT WE HAVE BEEN DOING

We had planned for some time to take a vacation in January, which gave us an extra incentive to complete Section II of the plans, have it printed, and sent out before the end of the year. This was also an incentive to send out [newsletter #40 \(Jan. 1993\)](#) early with Christmas greetings to all of our builders.

For vacation, we had signed up with Royal Caribbean for a southern Caribbean cruise, leaving from San Juan, Puerto Rico. The intent was to combine business with pleasure and visit 3 Cozy builders in PR. We arrived in San Juan PR in the morning of Jan 10th, and were met by Cozy builder Armando Vargas and his lovely wife Rosita, who whisked us away to their annual Aero Club Christmas party, on a mountain top overlooking San Juan. The party featured a pig roast, all kinds of food and drink, and a local band. We spent a delightful afternoon with other airplane builders, and were then escorted to the harbor to embark on our cruise on the Monarch of the Seas, a brand new ship with a capacity of over 2000 passengers. We stopped at 6 different islands. It was our first cruise in 46 years of marriage, and

we thoroughly enjoyed it!

When we returned to San Juan 7 days later, we attended a local EAA chapter meeting at the Vargas, met more builders, inspected Armando's project, answered questions, etc. In the next 2 days we traveled across Puerto Rico to visit Cozy builders Barry Audain and Clyde Rutledge.

We are pleased to report that they are all doing excellent work and we had nothing but praise. Armando is an architect, and he showed us many of the buildings he designed. Barry owns an electronic shop and has installed all kinds of electronic goodies in his Cozy. Clyde is a chemist with the FDA, and has moved around the country and around the world on various assignments.

**Cowlings:** While we were away on vacation, Cozy builder Gene Davis and wife Carol combined a vacation trip to California with taking our cowlings to Feather Lite, so they could make molds. This worked out well for us and we owe the Davises a debt of gratitude. We are pleased to report that Feather Lite now has cowlings molds and can make Mark IV cowlings to order.

**Wheel Pants:** After returning from vacation, we had a few other loose ends to catch up on. First among them was wheel pants. We didn't like the store bought wheel pants we had used before. so we made our own and were very pleased with the results. They are very streamlined and low drag. They open on the inboard side, to minimize the number of screws and enhance the appearance. For checking tire pressure and inflating, we drilled 1 in. diameter. holes and installed 1 in. knockouts (from the hardware store) opposite the valves. We just line up the valve with the hole. screw on a 3 in. brass valve extension (from an auto store) and test or fill as required. Instead of drilling and tapping the axle to secure the pants on the outboard side. we purchased some nut plate brackets from Brock Mfg. (J1.25-10) and welded them on the axle nuts. This worked out very well. We have sent pictures of the wheel pants to Feather Lite to see whether they wish to make molds and supply pants to other Cozy builders.

**Propellers:** When we tried out the new wheel pants, it appeared that we picked up at least 20 mph in cruise, and our Warnke prop overspeeded, so we sent it back to Bernie to have it repitched or have a new one carved. In the meantime, Bruce Tift contacted us and asked if we would test one of his props. With the data we obtained, he was able to carve one that seems exactly right. It is 68" in diam. x 72" pitch. We are getting 2400 rpm static and 2740 rpm at 75% power cruise (full throttle at 8500 feet) and 215 mph! ROC at 1500' altitude is 2000+ fpm, and at 8000' is still 1300 fpm To get a spread of only 340 rpm going from 0 to 215 mph is a real accomplishment, and we are very pleased. We still have to send it back for finishing and installing a urethane leading edge, at which time Bruce will make a permanent pattern so he can make duplicates for other Cozy builders. Bruce says his cost for hardware has increased, and he had to raise his price to \$475.

**Cabin Heat:** Cabin heat isn't much of a problem in Arizona, but it is very important to builders in colder climates. We wanted to avoid recommending blowers at all cost, because of the extra cost, weight, and complexity but most importantly because we couldn't find one that was suitable. We were hoping that if we eliminated cold air drafts in the nose, insulated the nosewheel well, and designed a decent heat muff, a blower wouldn't be necessary.

We were able to eliminate the cold air draft in the nose by designing torque tube offsets for the Roncz canard. The offsets eliminate the wobble where the torque tube passes through the side of the fuselage, so we only needed a small, round hole.

We insulated the wheel well by building our own out of 1/4 thick low density Clark foam and glassing it inside and out.

To get a decent heat muff, we had to design a new 4-pipe exhaust system and find a supplier who could do a good job in building them (see pictures in newsletter #37). The idea was to collect heat from the two longest pipes, #2 and #4 on the right side. The pipes have to be free to move with respect to each other, so the pipes are supplied with only a partial muff welded to pipe #4. The builder completes the muff by wrapping a .016" aluminum shroud around both pipes. The one heat muff can supply heat to either the carburetor or the cabin, if a tee is installed in the line.

We didn't have a chance to test the system until just recently. I hooked up the cabin heat temporarily without a shut-off valve or blower and went for a ride. During the take off roll I could feel the heat pouring out, and after getting airborne. it was darned uncomfortable, even with full fresh air though the vents. I was satisfied I wouldn't need a blower, and made the installation permanent by installing a on/off valve ahead of the firewall, between the back seats. It is operated by a auto choke cable mounted just above the fuel selector valve. I ordered a carbon monoxide detector, to monitor and make sure no carbon monoxide finds its way into the cockpit. The hot air system. when it is in use, gives off some heat to the air going to the oil cooler, with a resulting increase in oil temperature. Since cabin heat is only needed in cold weather, this might turn out to be an advantage in keeping the oil temperature from getting too low. Needless to say, we are much relieved to know that the cabin heat system works well if installed the way described above.

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## OWNERS MANUAL

Our big remaining obligation is to prepare an owner's manual. This will involve a considerable amount of testing and compiling of data. If there are any Mark IV builders ready to fly before we are finished, please contact us and we will supply you with a 3 place manual, which should be a big help. The most important test we need to make is to explore aft c.g.s. We were not too concerned when we did these tests on the 3-place, because it performed very much like the Long EZ, which had been exhaustively tested with no indication that it would be possible to main the main wing stall. Since then, however, there has been much publicity about the main wing stalls experienced by the Velocity, and that it was not possible to recover. Even though the Mark IV bears a much closer resemblance to the Cozy and the Long EZ than to the Velocity, we consider the experience with the latter to be a reason for caution. We do not wish to risk the airplane and/or pilot by inadvertently getting into an unrecoverable main wing stall at extreme aft c.g's.

With the help of friend Tom McNeilly, we have built and bench tested a mechanism for moving the c.g. in flight. It consists of a 135 lb. weight which can be driven back and forth in a 8 ft. long 6" diam. PVC pipe. Installing it in the Mark IV will be a big job and put it out of service for any other use for awhile. We hope to tackle this job either later in the spring (after Sun & Fun) or in the fall after Oshkosh. When ready, we hope to obtain the services of an experienced test pilot. In the meantime, we are restricting the aft c.g. to F.S. 101.5, the aft-most position we have tested to date.

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## SUN AND FUN

We are planning to attend Sun and Fun this year. We will be leaving early to stop at Alexander Aeroplane, so that Dianne Davidson can install an interior kit which we hope will make the Mark IV look especially nice at Sun and Fun. We may also meet with Jim Campbell on the way, so he can make a test flight report for U.S. Aviator.

Cozy builder [Bill Walsh](#) has made arrangements for a Cozy builders get together at the Barn steak house on Sunday evening, April 18th, at 6:30 PM. It is about 2 miles from the airport. He has reserved for 50 people on a first-come, first-serve basis. Let's not disappoint him! For more details, you can contact him at (407) 695-3543.

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## OSHKOSH '93

Oshkosh '93 will start a day earlier this year, on Thursday, July 29th. As has been our custom, we will try to arrive early to reserve a row on the flight line for Cozys. We already have 5 or 6 Mark IV builders who are nearing completion, and it would sure be nice if one or more of them could make Oshkosh.

We have reserved a dining room at Robbins again this year for a Cozy builders' dinner, but on Saturday night, July 31, at 6:00 PM. We can accommodate 50 or so on a first-come, first-serve basis. Hope to see you all!

We have also scheduled a Cozy builders' forum for Saturday, July 31st, 1:00 PM, Tent #3. We have been told that builders like especially to hear about the experiences of other builders, so we will have an open mic and encourage participation. Polish up your tall tales and speaking skills!

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## COZY HOSPITALITY CLUB?

The following letter was received from the Pershings:

March 1, 1993

Dear Nat and Shirley,

At the Cozy banquet last August in Oshkosh, we volunteered to type up a list of Cozy builders who attended the dinner and mail each person a copy. We included a letter in the last newsletter thinking that perhaps there were others who would like to be included on this list so they can correspond with fellow Cozy builders or visit when traveling. Our address didn't get included with the letter in the newsletter, so call or write if you wish to have your name included. The list is typed and ready but we thought we would wait until the next issue of the newsletter comes out in case there are others interested in being included. We will include additional names and address's if we are sent the following information: Name, address, phone number, which Cozy you are building or flying, would you be interested in a Cozy builder/flyer visiting you, and include \$1.00 to cover copying and postage.

Sincerely,

## **Rex & Barbara Pershing**

8134 Buckridge  
Cedar Falls, IA 50613  
(319) 987-2235

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## **CENTRAL STATES**

Terry Schubert, editor of Central States newsletter, asked if we would advise everyone that the Third National gathering of Canard type Airplanes would be held June 11, 12, 13, 1993 at Johnson County Industrial Airport (KIXD, Olathe, Kansas.) Guest speaker will be astronaut/long-ez builder, Jim Voss. Contact [Terry Yake](#), 8904 West 116th Terrace, Overland, KS 66210-1963, (913) 451-8904.

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## **PUBLICITY**

Both Kitplane and Sport Aviation reserve space each month for pictures and short write-ups on completed projects. They (and we) encourage builders to send in a good quality color picture and short description of their completed airplanes. To encourage participation, each year Bendix-King will hold a drawing at Oshkosh and award one of the contributors to Kitplanes a brand new KX 99 Nav/com radio! Although not as impressive, we will award every contributor a one-year subscription to our newsletter. Get busy now, ya-hear!

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## **FIRST FLIGHTS**

We would like to hear about first flights of our builders. In the last newsletter, we mistakenly reported the [Ken Brimmer](#) made his first flight. We have since been told that he first flew on Sunday, Feb. 28th, after being checked out by [Dewey Davis](#). Other reports:

1. Marvin Jordan, who took over Art Simon's project writes:

Nat,

Cozy N86CZ received FAA approval on Feb. 16, 1993. First flight was on Feb. 27th. Weight was 974 lbs., full panel, 0-235 L2C with light weight alternator and starter. Thanks to a check out by Cozy builder Bill Owen in Mississippi, my first flight was by the numbers. Everything works just like the owner's manual says.

Regards,  
Marvin Jordan

2. Alex Strong called to say that he first flew his Cozy N306AN on March 21, 1993, after a check-

out by [Keith Spreuer](#). He said that everything went well, but that he had a high oil temperature. partly due to having to wait for take-off clearance. He believes he can reduce oil temperature by mounting the cooler at the top of the firewall.

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## ALLERGIES

In response to our column on allergies, we have heard from several builders who have recounted their experience. A couple admitted that they had a reason because they had worked too long without stopping to clean up and reapply barrier cream. After being more careful, the problem disappeared. A couple have resorted to wearing cotton gloves under vinyl or butyl gloves. One has further resorted to wearing a respirator. We should emphasize again that latex gloves are not recommended' Many people are allergic to latex gloves.

We received a long letter from Cozy builder [Dr. Kevin Funk](#). He said that he is interested in dermatology, and has had a lot of experience treating skin rashes caused by allergies.

He says that the skin is responsible for defending the body from invaders. The body has the ability to "recognize" a huge variety of chemicals which penetrate the skin, and if there has been enough exposure, the immune cells will attempt to destroy the invaders. He says that repeated exposure (penetration of the skin), sensitizes the body and increases the reaction many-fold. Obviously, the best solution is to protect the skin from the penetration of the offending chemicals.

He said that the immune reaction can be modulated by certain hormones in the corticosteroid class. The best choice is a cream or ointment which can be applied where the problem is, or will be later. The creams come in different strengths, and he usually starts patients out on the mildest ones, which penetrate the skin the least. The strongest creams are usually fluorinated, and more likely to produce side effects over time. He says his favorite cream is Elocon, which is strong but not florinated and therefore less likely to produce side effects.

He says that everyone should protect the skin against all chemicals at all times, and it's a good incentive to finish the airplane as quickly as possible. because cured epoxy is too large a molecule to penetrate the skin and cause a reaction. Lastly, he says that if a builder had a problem, he should see a dermatologist who is familiar with allergies.

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## SAFETY-POXY - SAFETY BULLETIN

OSHA (Occupational Safety & Health Administration) has identified 4,4-methylene dianilen (MDA), which is an ingredient in Safety-Poxy catalyst, as a chemical which is toxic to the liver and is a suspected carcinogen. OSHA has established standards for the safe handling of this material in industry. This has been published in 29CFR and 1910.1050, which can be obtained by calling OSHA's national office on (202) 523-9667. Fully cured items made from MDA are non-toxic and exempt from regulation.

Although Safety-Poxy may continue to be available, and can be used safely if the proper precautions are



taken, our licensor. the Rutan Aircraft Factory, considered it advisable to qualify an alternate epoxy resins. After testing 70 different candidates, they selected one which satisfies all of the structural, pot life, wet out and temperature resistance requirements. It contains no MDA and all of the chemical ingredients meet or exceed current OSHA requirements for safe use. Incidentally, the original RAE epoxy system contains no MDA and also meets OSHA requirements for safe use. The new resin is PR2032 and the catalyst is PH3660-2, and is in stock at all of our suppliers. The mix ratio by weight is 100:27 and by volume 100:31. This is a different ratio than either Safety-poxy or RAE, so to use it, you will have to change your metering pump, or balance, as the case may be.

For instructions on converting your metering pump from SafetyPox to PR2032, send your request and a SASE to Michael Engineering, 4997 S. Crawford Rd. Mt. Pleasant, MI 48858. They can also advise how to convert from RAE to PR2032.

To convert a balance from Safety-Poxy to PR2032, position the hardener cup 3.7 in. from the pivot (dimension B) and the resin cup 13.7 in. from the pivot (dimension A). This will give you a 100:27 ratio by weight (you can check this by putting 100 nails in the resin cup and 27 nails in the hardener cup and making sure the arm balances).

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## TRANSPONDER ANTENNA - SAFETY BULLETIN

Cozy builder Glenn Bickerstaff wrote to us about shielding pilot, co-pilot and passengers from the microwave energy emitted by the transponder antenna. Glenn is employed by IBM and has had experience shielding computer equipment and operators from this energy at TCAs. He says that a transponder antenna radiates as much as 250 watts of microwave energy and that microwaves have the unique ability to cook flesh if the power density is high enough. Ten milliwatts per square centimeter is considered a safe level for human exposure. He says that with the antenna located in the nose, the pilot, copilot, and passengers could be radiated with as much as 18 to 20 watts per square centimeter.

Glenn's suggested solution was to locate the transponder antenna on the fuselage centerline at F.S. 66, and install a grounded shield on the fuselage bottom of sufficient area to shield pilot, co-pilot, and passengers from line of sight radiation from the antenna. We prefer a nose location, but will still take his recommendation seriously and see whether we can install an adequate shield for protection of the body from line of sight radiation.

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## BUILDER HINTS

### 1. Spray Booths

It is not necessary to use a spray booth to paint an airplane and get a good finish. You can spray the finish coat in a garage or outside. After cure, wet sand with 1000 and then 1500 grit, and then buff with 3M Finess-it II. This will remove orange peel, overspray, dust, and other imperfections and result in a very flat surface with high sheen. This works well with Ditzler Deltron (acrylic urethane) which is the finish we recommend.

## 2. Primer

We recommend use of a high-build epoxy primer. Cozy builder [Nick Parkyn](#) in Western Australia says that he has used the new System Three water reducible Epoxy Primer and Polyurethane paints and is impressed with the performance. We are not familiar with these products and have asked him for more information. We would welcome other builders input.

## 3. Dispensing Paint

Have you ever tried to pour paint from a full 1 gallon can and had it run down the side? Try this. Wrap a strip of masking tape (2- wide works the best) around the top of the can, and punch a hole in the groove around the rim. You should be able to pour without spilling, and the excess paint should drain through the hole back into the can. The hole will be sealed after the cover is reinstalled.

## 4. Source of Material in Africa

Rego Burger, in South Africa, says he has located local sources in South Africa for glass, foam, and resin. We cannot vouch for these being the correct, specified materials. If builders in South Africa are interested, contact Rego at 18 LeNome St., Woodlands, Port Elizabeth, South Africa.

## 5. Ballast

We hope that all Cozy pilots ballast their airplanes to keep the c.g. in mid-range when flying solo. Lead is the most effective ballast. Plumbing shops used to sell lead in 5 lb. cakes for caulking cast iron soil pipes. Most gun shops sell lead shot in 25 lb. bags Many- Tire stores are willing to sell used balance weights quite reasonably. We purchased a 5 gal. bucket full of used balance weights for \$20 to make the 135 lb. weight mentioned previously. We melted the lead with a torch in a can on top of our barbecue grill, skimmed off the debris, and poured it into a container. We poured the excess into a couple of empty aluminum soda cans, which resulted in some very handy 8-1/2 lb. weights. Be careful though, because melting and handling hot lead is slightly dangerous!

## 6. Canard

[Keith Spreuer](#) cautions that care be taken when installing the torque tube into the foam elevator core using the NC-7s (Roncz canard) to make sure the NC-7s and the foam core are firmly against the table top so that the top of the torque tube is rotated aft to the proper point. Improper alignment of these parts will result in insufficient T.E. up elevator travel. In the same vein, he suggests that the NC-3s should be installed no deeper in the canard than level (contrary to cross section shown on M-11), so that elevator travel will not be limited.

7. Keith also points out that the trailing edge of the canard, when installed, ends up at F.S. 28.23, slightly aft of the forward face of F-28. Although not really a problem, he suggest locating F-28 at F.S. 28.23 (6.13" aft of the aft face of F-22).

## 8. Canopy gas spring for 3-place



Pardon us! The SPD-5150-40 gas spring we recommended in newsletter #37 fits our Mark IV perfectly, but Cozy builder [Bob Misterka](#) discovered that it wouldn't fit in the 3-place, which is 2" narrow. He found that the SPD-5100-30, which compresses to 8.5" rather than 9.5" fits just fine. It has a force of 30 lbs., rather than 40 lbs., which should be okay since the canopy on the 3-place is smaller and lighter than on the Mark IV.

9. In Chapter 13, after mounting the nosewheel, a small amount of material might have to be ground off the corner of the steel, hat-shaped MKNG-2, to eliminate an interference with the tire.

## 10. Nose wheel Door

Larry Sligar reports that the nosewheel doors shown on drawing M-19 will not allow the wheel to swivel 360 deg. but that by shaping them slightly differently, the wheel will swivel.

## 11. Engines

We have heard from about 6 Mark IV builders now who have acquired rebuilt or mid-time O-360 engines. One paid less than \$6,000, four paid \$6,000 to \$7,000, and one paid \$8,000. One other builder bought all of the parts, yellow tagged (equivalent of new), required to assemble an O-360 for just over \$700, and when assembled will be a 0 time, 2000 hr. engine!

## FEATHER LITE PRE-FAB

Feather Lite sent us a list of their current pricing for 3 place and Mark IV components:

Item ----	Cozy ----	Mark IV -----
Main Landing Gear	349	560
Nose Gear	63	63
Strut Cover	20	21
Nosewheel Well	20	28
NG30 Cover	21	21
Nose Cone w/Door	---	70
Engine Cowling Set	327	399
Kevlar Cowling Set	407	---
Turtleback	259	334
Pre-cut Wing Cores	1249	1299
Pre-cut Canard Core	180	190
Strake L.E. Kit w/bulkheads	524	540
Sump Blisters	20/ea	22/ea
Arm Rest Kit (front/back)	---	196
Keel & Landing Brake Covers	---	44
Wheel Paint set	180	---
Carb Filter Box	---	---

Discount Available on some combinations.

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## NOSE GEAR RATCHET

Cozy builder [Dr. Curtis Smith](#) invented a little gem of a ratchet which locks the nose gear up or down. It is still available for \$38, which includes postage and packaging. No need to call, just send check or money order. This little device should be considered a must by all 3 and 4-place Cozy builder/flyers. Once you have flown with it you will wonder how you ever did without it. Contact:

### [Dr. Curtis Smith](#)

1846 Sextant Dr.  
Worden, IL 62097  
(618) 656-5120

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## FOR SALE

1. Gas spring for Mark IV. SPD-5150-40 with ball joints and angle bracket as recommended in newsletter #37. \$30.00 including shipping. Contact: [Bob Misterka](#), 11 Cheryl Dr., Grafton. MA 01519. (508) 839-2030.
  2. Electric gyro horizon, blue sky, brown earth. Requires an inverter to go from 12 VDC to 400HZ AC. \$400. (602) 981-6401.
  3. New, improved fuel sight gauges. Use with auto fuel or Avgas. Clear bubble with white background. Fit both 3 and 4 place Cozy. \$30 per set. Contact: Vance Atkinson. 3604 Willomet Ct., Bedford, TX 76021-2431 (817) 354-8064.
  4. Electric speed brake actuator. Compact. All parts needed for installation. with instructions. \$250. Contact: [Wayne Lanza](#). 9425 Honeysuckle Dr. Sebastian, FL 32976. (407) 664-9239.
  5. Cozy project complete through Chapter 8. including landing gear brakes. tires, original plans and Owner's Manual. Selling because I have changed to the Mark IV. \$1,200 OBO. Contact: Kevin T. Reilly, (804) 851-0852.
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## WANTED BUY

1. Looking for a Cozy 3 or 4 place! Complete or near completion. Ted I. Weitz (612) 926-5689.
2. Looking for a completed Cozy 3 or 4 place! Brian Scott, (602) 867-8238.

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## MARK IV CHANGES/CORRECTIONS

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### LETTERS FROM BUILDERS

1/28/93

Dear Nat & Shirley,

Enclosed is a check to renew our subscription. Our Cozy is now 3 years old and we are still having a wonderful time flying around with it.

April is only a couple months away now so we are already making plans to attend Sun-N-Fun. Hope you guys can make it this year.

Best regards.

Greg Fowler

12/30/92

Dear Nat,

I just received Section II and am thrilled. I want you to know I think that you have done a great job in producing these plans. Thanks for taking the Time and putting in the effort. Please find enclosed a check to extend my newsletter for 2 year.

Thank you again,

James Petro #0044

1/22/93

Dear Nat,

We have found an in line fuel filter that has fine filtration, a re-useable cartridge, and sufficient flow capacity at a reasonable cost. The part is manufactured by: Flow Ezy Filters, PO Box 1749, Ann Arbor, MI 48106, (313) 665-8777. The part number is 6IL-03-25-F3. The filter has a 25 micron rating. Could you ask Aircraft Spruce, Wicks, and Alexander to stock them? I think many of our customers would be interested in them. Enclosed is a data sheet for the filter. Please call if you have any questions.

Yours truly,

Chuck Simmons

Ellison Fluid Systems

350 Airport Way

Renton, WA 98055

(206) 271-3220

*Editor- Chuck sent us a sample of this filter and we concur that it is the best fuel filter design we have*

*seen to date. by a copy of Chucks letter, we are asking Aircraft Spruce, Wicks, and Alexander to stock it.*

12/19/92

Dear Nat,

A progress report on MK IV N140CZ. My wife, Alma and a friend, Tom Morgan and I started building in May '92 and it looks like a completion & first flight this spring, '93.

We had a major set back on June 28 here in Big Bear... a 6.6 earthquake! The only aircraft casualty was the landing brake. we never did find it in the mess we had to clean up in the one car garage we are using as a workroom. Everything fell all around the Cozy fuselage, but nothing struck it. We have given a lot of attention to building the plane; every day we try to do something on it. As of Christmas, we had completed the fuselage, canard, wings, winglets & rudders, gear & brakes, & have an O-360 Lycoming which we bought for \$8K through Trade-a-Plane.

Living at almost 7,000' elevation taxes our ingenuity, also, when temperatures dropped to 10 deg. F & snow started falling. To continue, we insulated the garage, then draped large sheets of clear plastic below the rafters and enclosed the 8' x 12' workspace. Last week we found ourselves glassing the 2nd wing in 78 deg. F temp. inside and outside a storm was dumping a foot of snow! A 2nd 12' x 15' x 6' plastic enclosure was built inside our hangar using 1~ PVC pipe as the structure. At both locations, heat is provided by two small space heaters. This arrangement has allowed us to continue work, day or evening, no matter what the weather outside.

In any case, I find myself dreaming about the day, soon, I'll finally take off at Big Bear City Airport in N140CZ.

Sincerely,  
Gary Buscombe

Dear Nat,

Hello again. After much thought to building or buying a factory airplane, I made the decision without any reservation that the MK IV is the bird for me. There just isn't anything on the market or aircraft plan that can compare with the MK IV.

My wife and I are looking for a project that we can work on together and be able to, after built, go to some of those far away places many people just dream about.

Thanks again Nat for providing plans for those of us that love to fly, but don't want to go bankrupt to do so. Best of luck to you and your wife, and hope to meet you in near future.

Respectfully,  
Kip & Donna Davis

Dear Nat,

Have 400 hours on the Cozy now. She continues; to impress all who get a ride or ever see her fly. I can't

really believe I built it!

Thanks,  
[Ron Kidd](#)

9/24/92

Dear Nat,

Sorry I haven't gotten back to you sooner. The engine development is coming along slowly. We are shooting for 200 hp, which requires some fairly significant changes to the 13B housing, as well as the induction system. I have also managed to get access to a shop with a dynamometer a few miles up the road from my shop, which will help in substantiating what we're building. This may take a few more months. The EFIS is done, and I have enclosed a few pictures of the screen displays. If another Cozy fan would like to build one, they are welcome to the software - the equipment they will still have to build. I'll keep you posted on the project, which should fly by spring (about a year late). I'm also still looking for a checkout in a Cozy. Could you publish this letter, or perhaps supply me with the names of people flying in my area?

Sincerely,  
Greg Richter  
Atlanta, GA  
(404) 998 0087

1/13/93

Dear Nat.

Please find enclosed, a check for the newsletter. Thank you for your efforts in supporting all the Cozy builders. I haven't got too far along on my plane. Most of the construction has been trouble free. I found a way to make the spars, canard and wing construction go fast effectively--Aero Cad, Greg & Jeff Russell their workmanship is the best I've seen in composite aircraft. I bought winglets pre-cut, canard ends pre-made. The spar saves so many hours of scary work, it's pre-drilled and ready to go. These guys are honest, smart, and willing to help. Your plane is designed for people who are patient, ambitious. and drive: but I lack the patience. Greg and Jeff support Cozy builders with my characteristics.

I went for a ride in the Russell plane, a Cozy flies great. the performance was outstanding! Pitch and roll and climb--WOW! I thought that the take-offs and landing were much like anything else (no scare factor). It's a nice stable plane.

Thanks Nat.  
Tom Carneron

12/14/92

Dear Nat,

I have included a sketch of the heat shield I used on my Cozy Mark IV. I thought you might want to share it with the other Cozy builders in your newsletter. It does not protect the strut below the axle, but that area does not appear critical, and should be partly cooled by the air at the tire opening on the bottom

of the wheel pants.

When I received my main gear strut from Feather Lite, I carefully measured it and cut it exactly as you described in the plans and newsletters. The 13 deg. angle at the strut ends did not result in a horizontal surface after the strut was mounted. Another Mark IV builder stated his did not turn out horizontal either. An 8 deg angle should work better and avoid some confusion when the axle is mounted 1/2" from the end of the strut.

Another suggestion, do not permanently mount the front fork on the strut until after the strut and retract mechanism have been fully installed. The fork can then be installed at the proper castor angle.

(Imagine a graphic of the heat shield here)

I'm thrilled to finally have the fuselage up on all three wheels. Except for substituting an aluminum plate instead of plywood beneath the nose puck everything has been built exactly to plans. It's hard to improve on perfection!

Sincerely,  
[Jim White](#)

3/17/93  
Hi Nat.

Hope all is fine with you and your family. The Mark IV project is going well. Have completed the fuselage and most of the pitch and roll controls, the seats and armrests. Also done are the center-section spar and canard. Am anxious to get started on the wings. I have decided to go with Wayne Lanza's brake actuator kit.

I am continually amazed how all the parts and pieces all fit. Selected your plans 10 months ago and would make the same decision today. Many thanks for a great set of plans, your efforts in editing the Cozy Newsletter, and you time and trouble to answer builder questions.

Fly safe,  
[Charlie Wolcott](#)

3/11/93  
Dear Nat,

Confirming our telcom Monday, I'm enclosing some info. regarding my interest in buying a Cozy. I've been considering building the long EZ or Cozy (was hoping to find a high quality project already underway) but have decided that with teenagers and family activities, my timing is not very good right now. I've been researching and learning about both aircraft for nearly 3 years while searching for a project and feel I know quite a bit about the aircraft and the commitment required to build and/or maintain one. I have also decided that the Cozy is by far the better aircraft for me and that purchasing a finished plane is more realistic at this time.

I'm also dying for a Cozy ride. I've had a back seat ride in the Long EZ, which is a major reason for



favoring the Cozy. It would be great if you could include a note in your newsletter. I would also like to know more about your prototype.

**Brian Scott**

4366 E. Redfield Rd.  
Phoenix, AZ 85032  
(602) 867-8238 (home)

2/28/93

Dear Nat,

I am interested in buying a completed or nearly completed Cozy. Since (unfortunately) I do not have much time to devote to building, I thought that this will be a way for me to enjoy your great design. The Mark IV looks great, but if I will find a good deal on the 3-place Cozy, I may go for it.

I will truly appreciate it if you can let me know of such projects that are looking for a new home. Please put a note in your newsletter. Thank you very much for creating this aircraft. I saw it in Oshkosh last year and I was truly impressed.

Ted I. Weitz, Apt. 226  
4401 Park Glen Rd.  
St. Louis Park, MN 55416  
(612) 926-5689

9/17/92

Dear Nat.

Please transfer ownership of Tom Carver's Cozy #602 from Tom Carver to me. I have been a fan of the Cozy since a friend of mine completed his Long EZ in 1985 and I realized that at 6' 1" I would not be comfortable in it for an extended period of time, and my wife indicated that she was less than thrilled with riding in a back seat. When I heard about the Cozy I was hooked. An EZ with leg room, panel space, baggage space, and a cozy wife space.

I followed the progress of the airplane for years and my respect for it continued to grow the more I read and talked to people. Things are right now for me to begin the dream in earnest. I was fortunate to find Tom's project through Cozy Development, and appreciate the continued support you are giving the airplane and "second hand" builders like me.

I am also fortunate that a close friend of mine here in Altus, OK will be building his Mark IV right beside me in a hanger we share and have turned into a workshop. Bob Cummings is his name and he just a couple weeks ago received his plans, and first working chapter of materials promptly from Wicks. Thank you for pursuing the Cozy, proving it, and making plans available to us.

Sincerely,  
Mike Polhemus

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