

# EAA MILE HIGH CHAPTER



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423-5134

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NEWSLETTER  
KIRBY WHITE  
423-5134

VOLUME 11, ISSUE 5, MAY, 1988

THIS MONTH: This month's meeting will be held on Saturday, May 14, 1988 at 7:30 P.M. in the Club Room of the Denver Air Center, which is at the junction of the two main roads leading into Jefferson County Airport. The program will be a couple of videotapes. Bob Greeno will show one on Gyrocopters from the 1920's to the 1940's. The other will be a cockpit checkout in a Corsair F-4U by Pappy Boyington.

LAST MONTH: With an excellent turnout of just over 100 members, guests, and a few Denver Air Center Flying Club members braving the snow-storm and cold weather to attend, the meeting of April 9, 1988 was called to order at 8:00 P.M. by President Kirby White at the Denver Air Center. The minutes of the March meeting were approved as published in the Newsletter.

Guests: Guests present were Pete Clinton of Erie -- who owns a Fly Baby, John Barret of Arvada, Jerry Wilson of Lafayette -- who owns a Dragonfly, Brad Miller of Denver, Chris Jacobson of Arvada, Doug McCallum of Westminster, Mike Wagenbach of Boulder, Bruce Elmquist of Arvada, Michael Martin of Broomfield, and Scott Bokond of Westminster. Also present was Jerry Wilson's Father.

Treasurer's Report: There was none given.

Old Business: Kirby quickly reminded everyone that Treasurer Cathy Sheeon was collecting the 1988 dues (and that the 1988 Roster would be coming out soon), and also that she still had plenty of EAA calendars left to sell for \$6.00 each. Bud Aumann talked about the NPRM on the 40 mile radius Mode C requirement that he has been spending a lot of time trying to defeat. He summed up what some of the politicians wrote in response to Bud's letters. He had those response letters with him for anyone interested to read during the break. He also thanked all of the Chapter 43 members who had sent letters opposing the NPRM.

New Business: Kirby thanked the four Chapter 43 members who taxied their homebuilt airplanes from their hangars to the Denver Air Center Showroom for display, despite the weather. Those four were, in alphabetical order, Dave Biesemeier -- Smyth Sidewinder, Dean Cochran -- Thorp T-18, Larry Nagele -- Vari Eze, and Mark Yelich -- "Mark's Mixture" Original Biplane. Kirby said that he had spoken with Dave Gordon recently, who is the Manager of Jefferson County Airport. Dave is very interested in looking into the possibility of having a special EAA-type area on the grounds of the airport. Dave wanted input from Chapter 43 members on what they would like to see the airport do for them. He asked if we would like anything specific for hangars, such as a large community hangar which would

New Business cont: hold a number of airplanes. If individual hangars would be wanted instead of or in addition to a large hangar, Dave was interested in whether we would like to build them ourselves or rent ones that were already built. Other questions that Dave had concerned the location of such a special area, whether tie-downs would be wanted, if a special work area outside would be usable, and if the airport should have auto fuel available for sale. Kirby said that Dave was very serious about this matter, and asked that everyone with any type of comment or suggestion talk to him (Kirby) about it so that he could report back to Dave.

Gene's Corner: Gene Horsman reported that the FAA granted its first certification for Honeywell's Primus 2 radio system to Arkansas Modification Center in Little Rock, Arkansas for an installation on board a British Aerospace 800A corporate jet. The system includes the industry's first Mode S transponder, a six channel scanning DME, digital cockpit audio, and centralized radio management unit. Retired Marine Corps Col. Gregory "Pappy" Boyington died on January 11, 1988 in Fresno, California at age 75. Boyington is best remembered as the flamboyant fighter pilot who commanded VMF-214, known as the Black Sheep, in the Solomon Islands in World War II. After shooting down six Japanese aircraft with the famed Flying Tigers in Burma early in the war, Boyington destroyed an additional 22 aircraft in the Pacific conflict. Boyington was awarded the Congressional Medal of Honor and the Navy Cross for his combat actions. Gene read a few sections from the NTSB's complete investigative final report on the Cerritos, California accident. Gene talked about a letter that he had received from Martha Esch, who is a writer planning to barnstorm through all 48 contiguous states in different antique aircraft with their owners. Gene said that he would be happy to take her for a ride. She wants to make the entire trip this summer, and then write a book about the experiences she had. Gene had an article on a new tandem wing aircraft designed by Burt Rutan, from which he read several paragraphs. Generally, it concerned the way that Rutan dealt with the Government on the contract for the plane. Basically, Rutan told them he was either going to do it his way or not at all. Rutan held out and things went his way. The contract turned out to be an excellent deal for the Government.

Progress Reports: There were no progress reports given.

A&P: The business portion of the meeting adjourned for coffee and to look at the airplanes on static display at 8:40 P.M. After the break, Bill Amos gave a presentation on the building of the RV-4. He apologized for not having the airplane at the meeting for all to look at, but it had been snowing at Bill's home in Conifer for a couple of days, and there was no way he could get it to Jeffco as planned. Everyone understood. He did bring the plans and an album of the construction pictures and some parts for everyone to examine, though. Bill showed two promotional videotapes on the RV designs, and then talked about his experiences in building it. He answered many questions, and everyone thanked him very much for the program. He said he would bring the airplane sometime when the weather was better.

## Statement for Amateur Built Aircraft (FAA Form 8130-12).

A one time airworthiness certification process may be conducted at the option of the certification inspector or his designee.

The passenger warning is not necessary for single place aircraft, obviously, although it is required for aircraft with two or more seats.

**EAA SUGGESTS** that the "builder's log" in common use be a three ring notebook in which a running explanation of work done and hours worked is kept in addition to occasional photographs of work accomplished and also photographs of the builder working on the aircraft. Bills of sale, etc., may also be contained in this notebook. It is recommended that upon completion of the aircraft, the last entry in this builder's log be carried forward to a small aircraft log book, such as those available from EAA, so the builder will not have to carry his large builders log book with him in the aircraft.

**NOTE:** EAA Technical Counselors still do not sign log books. The builder should note in his log book the date and name of the Technical Counselor who performed the visit.

## COUNSELOR NETWORK

by Art Bianconi, Staten Island, New York

To repeat what I suggested at the Oshkosh tent forum; there is a demonstrated need for Technical Counselors to be able to call other Technical Counselors who are more knowledgeable on specific areas. I suspect that this situation will get worse as the number of kit manufacturers increases. The less exposure I have to other types of construction, the harder I must work to stay current. With more people abandoning the more conventional construction methods (i.e. tube and fabric), "Renaissance" people with multiple skills are likely to become rare. I am speaking of really skilled people. What we need is for Technical Counselors, when they revalidate, to drop a note and tell us of those areas that they are particularly skilled in so that we can do a little better "networking" and talking among ourselves when we need a really tough question answered.

## TIPS FOR THE AIRCRAFT BUILDER

by Ben Owen

One of our Technical Counselors is

Grover Summers, Jr., who operates a Fixed Base Operation known as GATOR Aerial Enterprises in Winter Haven, Florida. Grover has been a Fixed Base Operator for the past 23 years, and is an IA and DAR. He has the following suggestions:

- 1) Please note the purpose of adding photos to your construction log book is to show the method and quality of construction.
- 2) The FAA inspector or DAR must have the hard copy of the Registration Certificate before he can issue the Airworthiness Certificate — the pink copy of the application will not do. The reason for this is obvious — the aircraft must have an N number assigned and it must be put on the aircraft. The inspector will have to see the registration certificate to confirm this.
- 3) For the same reason, get your N number early!
- 4) Log book entries regarding required inspections are to be made by and signed by the builder, not the Technical Counselor.
- 5) Be sure that you have the proper N number marking, instrument markings, placards, etc. Just because it is experimental does not mean that the instruments do not require marking.
- 6) Note when the Repairman Certificate is to be applied for and the form to be used. This Repairman Certificate is usually applied for at the same time as the prior to flight inspection. If you wait until later, the inspector will have to come back again to reapprove in your builders log book that you are the 51% builder. This can easily be done at the same time as the aircraft inspection.
- 7) Grover strongly recommends that any homebuilder comply with the Airworthiness Directives as they apply to any part of his airplane; the engine, propeller, mags, carburetor, etc. If those parts have been demonstrated to be defective, the fact that they are on a homebuilt will not cure the defect.
- 8) Grover recommends Advisory Circular 20-27C, the Certification and Operation of Amateur Built Aircraft, be obtained. This is available from Ben Owen at EAA Headquarters.
- 9) He likewise recommends that the potential repairman obtain Advisory Circular 65-23; Certification of Repairman - Experimental Aircraft Builder.

In addition, EAA does have sample copies of the operating limitations with EAA supplements that are available, and we strongly recommend that any builder ask EAA for these items. Additionally, the **CUSTOM BUILT SPORT AIRCRAFT HANDBOOK** covers this required information in detail, and it is an excellent book for any aircraft builder. It is available for \$11.50 from EAA, postage included.

## CHANGES IN THE AMATEUR BUILT AIRCRAFT CERTIFICATION

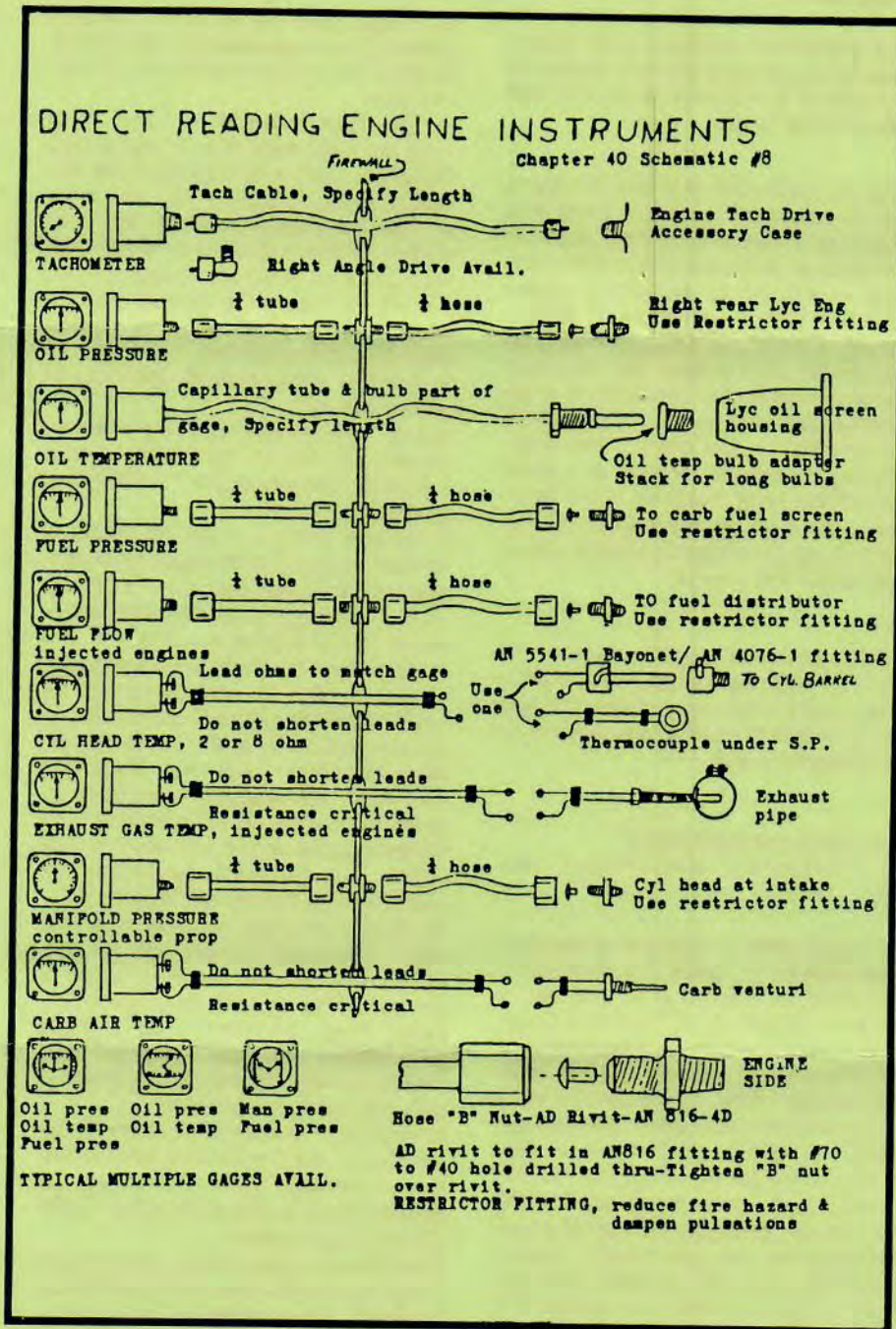
by Ben Owen

The following changes have been made by the FAA to amateur built certification and documentation by the builder. The "major portion" definition is now more than 50% of the fabrication **AND MORE THAN 51%** of the assembly. The FAA is asking for specific evidence, particularly so for those aircraft built from kits. Each application will be handled on a case by case basis. Recommendations are that in process inspections should be conducted by knowledgeable persons (i.e. EAA Technical Counselors, certificated mechanics, etc.) The record should indicate what was inspected by whom and the date of the inspection. Builders should document construction using photographs taken at appropriate times prior to covering or finishing. The photographs should clearly show the methods of construction and quality of workmanship. Such photographic records should be included with the builders log or other construction records.

The FAA **WILL NOT** perform any progressive inspections during the construction of the aircraft. Those FAA offices that had done progressive inspections may no longer do so.

When the prospective builder contacts the district office to advise the FAA of the construction project, the inspector should provide the administration requirements that are to be met by the builder at the time of airworthiness certification. In addition, the prospective builder **should submit to the FAA a three view sketch, drawing or photograph** of the proposed aircraft project and a **tentative completion date** for the project. The usual forms will have to be submitted: The Registration Application AC Form 8050-1, the Application for Airworthiness Certificate (FAA form 8130-6) and a new form - Eligibility

# Design



## PROPELLER AERODYNAMICS ARE FUN!

From EAA Chapter 324 Newsletter, Simsbury, Connecticut.

Aerodynamics of the propeller is something we all see - or do we? We recognize a propeller as just an air screw bor-

ing its way into the sky. We even know the tips of the blades fly faster than the airplane. On a big turboprop like a Lockheed Electra II or Grumman E-2, cruising at 400 MPH at about 1000 RPM, the blade tips travel in a helical (screw) path at 625 MPH at an angle of 40 degrees to their plane of rotation. At this rate, a non-stop flight of 800 miles from New York to Chicago would have each of those blade tips travel 1,252 miles. Did you think it would be farther? After all, those tips go so fast they are invisible, but the airplane is not always so hard to see. Now take a Cessna 150 with a 69 in prop running 2,500 RPM while the airplane goes 110 MPH. That propeller has tips flying at 413 MPH along their curved paths, at an angle of only 12 degrees. That is a pretty flat angle because the C-150 goes so slow, but the tips are only 113 MPH slower than those on the 400 MPH turboprop. How far do the Cessna's blade tips travel on the way to Chicago? That will be 3,818 miles! So, you were right, they do go a long way around to get to Chicago. Some 150's never get to Chicago!

Now look again. How close is the air a blade tip passes through to the spot in the air ahead that it bites the next time around? On the big turboprop, this is quite a ways. It is 33 feet, but on the Cessna, it is only 3.9 feet. There are more blades to bite the air in between, of course, so on the 4-blade turboprop, the blade cuts twisted shavings of air about 8 feet thick. The Cessna prop grabs the air all over again every 2 feet. In either case, the prop is pulling a column of air into itself and pushing it out behind. The prop is still doing that while it is traveling along with the airplane at cruising speed. The airplane travels one way, while the slipstream actually travels through the sky in the opposite direction. That is a jet stream so to speak, and it makes thrust. If slip is 10%, the slipstream is moving about 40 MPH in the direction opposite the Electra. If slip is 20%, the slipstream behind the 150 is moving 22 MPH or so back toward the last airport.

## Congressional Report

The Reagan Administration's final Department of Transportation budget proposal contains mixed news for general aviation.

The overall DOT budget for Fiscal Year 1989 is five percent lower than the 1988 budget. Within that budget the FAA did very well, receiving a 13 percent increase over Fiscal Year 1988. DOT Secretary James H. Burnley proposes to spend \$3.45 billion for operations (with \$1.48 billion of that to come from the aviation trust fund), \$1.6 billion for facilities and equipment, \$1.2 billion for airport grants, and \$155 million for research, engineering and development.

Among the good news for general aviation is the fact that the FAA proposes to hire 900 more controllers and 300 more maintenance specialists. In addition, the agency is channeling funds for airport capacity simulations, and \$10 million for new ILS installations.

The bad news for general aviation is that the FAA plans to spend \$500 million less on airports than Congress authorized. This is in spite of the fact that the Airport and Airways Trust Fund Reauthorization has made more airports entitled to grants than ever before. The FAA plans to budget \$30 million for its ill-fated Microwave Landing System.

Secretary Burnley will again ask for a waiver on the two-for-one penalty provision that reduces trust fund withdrawals by the FAA for operations if it fails to meet spending levels for airport and airway improvements. He has also said he will send legislation to the Hill which would repeal the "trigger" tax that would interrupt user tax collection if trust fund monies are not spent as authorized.

Hearings have begun on the Fiscal Year 1989 transportation budget. AOPA will work closely with legislators to redirect FAA priorities into more realistic proposals, and to help protect the FAA's budget from cuts due to other agencies' requests.

### Other News in Congress

Rep. Hal Daub (R-Neb.), principal congressional author of the aviation trust fund "trigger" tax, responded to Secretary Burnley's call for its repeal. In a letter also signed by the chairman of the House Public Works and Transportation Committee, James J. Howard (D-N.J.), and the chairman and ranking Republican on the House Aviation Sub-

committee, Norman Y. Mineta (D-Calif.), and Newt Gingrich (R-Ga.), Daub stated: "Although the Administration has professed to understand the lack of truth in budgeting, this proposal appears to be motivated by nothing other than a desire to continue hiding the true nature of the deficit by maintaining a large surplus in the Airport and Airways Trust Fund. ... We urge the Administration to manage the trust fund in a manner that best serves the flying public and to cease its efforts to repeal the trigger tax provision."

H.R.2238, the General Aviation Standards Act of 1987 that deals with product liability, passed the House Aviation Subcommittee by voice vote. In addition, a number of AOPA-supported amendments offered by Rep. Peter J. Visclosky (D-Ind.) and Subcommittee Chairman Rep. Norman Y. Mineta (D-Calif.) would bring the bill into agreement with its Senate counterpart. Rep. Mineta's amendment would mean that manufacturers could offer as a defense in lawsuits involving aircraft defects the fact that compliance with an airworthiness directive (AD) issued by the FAA would have corrected the aircraft defect. The way the bill read previously made it possible for manufacturers also to offer service bulletins as a defense, which could result in their papering the world with service bulletins in order to escape liability.

AOPA's senior vice president for government and technical affairs, Webster B. Todd, Jr., testified before a House Appropriations Committee field hearing in Chicago on the airport situation in the Chicago area. In his testimony Todd stated, "... the role and value of general aviation is increasingly being trampled by airport operators or local governments who attempt to impose excessive fees which they hope will exclude all but the largest aircraft, or by misguided actions of the federal government. This shortsighted and narrow view ignores the impact on the efficiency of the national air transportation system."

Senate Aviation Subcommittee Chairman Sen. Wendell H. Ford (D-Ky.) has publically supported general aviation on both the Massport controversy (page 3) and the FAA proposal for increasing Mode C requirements and lowering controlled airspace (page 1). In a recent speech

Ford stated that aviation must find new ways to deal with overcrowding at airports and, "The answer does not lie in new high-density airports or restrictions on general aviation." In a Senate Aviation Subcommittee hearing the next day, Ford told FAA Administrator T. Allan McArdor that the FAA went beyond the intent of the Congress in its transponder rulemaking. He further warned McArdor that if the FAA didn't change the transponder rulemaking, the Senate would "make other arrangements if necessary."

— William R. Deere

## Course Calendar

### AOPA Air Safety Foundation Courses and Seminars

#### Flight Training Clinics

Course Code: (1) PINCH-HITTER @ Flight Course; (3) Instrument Procedures; (4) Survival Training; (5) Instrument Refresher; (6) Mountain Flying.

May 13-15	Meriden, Conn.	1,3,5
20-22	Ft. Myers, Fla.	1,3,5
June 10-12	Frederick, Md.	1,3,5
24-26	Sacramento, Calif.	1,3,5,6

#### AOPA 3-Day Pilot Ground Schools

Private/Commercial Written Exam and Instrument/CFII Written Exam Courses offered at each location.

Apr. 22-24	Philadelphia, Pa.
22-24	Portland, Ore.
May 6-8	Houston, Tex.
6-8	Los Angeles, Calif.
6-8	New York, N.Y.
13-15	Cincinnati, Ohio
13-15	Meriden, Conn.
20-22	Manchester, N.H.
20-22	Atlanta, Ga.
20-22	Memphis, Tenn.
20-22	Ft. Myers, Fla.
27-29	Dallas/Ft. Worth, Tex.
27-29	San Francisco, Calif.
27-29	San Diego, Calif.

#### Flight Instructor Refresher Courses

Apr. 22-24	Sarasota, Fla.
22-24	Frederick, Md.
May 6-8	Kansas City, Mo.
13-15	Ft. Lauderdale, Fla.
13-15	Houston, Tex.
13-15	Frankfurt, Germany
20-22	Albany, N.Y.
20-22	Pensacola, Fla.
20-22	Frederick, Md.

June 3-5	San Francisco, Calif.
10-12	Columbus, Ohio
17-19	Minneapolis, Minn.
24-26	Frederick, Md.

For additional information or to register, call 800-638-3101. Toll Call in MD & AK 301-696-2190.

#### Safety Seminars

Apr. 19	Portland, Me.
19	Phoenix, Ariz.
20	Manchester, N.H.
20	Las Vegas, Nev.
20	Lafayette, Ind.
21	Burlington, Vt.
21	Reno, Nev.
25	Milwaukee, Wisc.
26	Madison, Wisc.
27	Eau Claire, Wisc.
27	Indianapolis, Ind.
28	Green Bay, Wisc.
30	Racine, Wisc.

Pilots living in local metropolitan areas will receive flyers by mail giving details about time and location. For additional information write to the AOPA ASF at 421 Aviation Way, Frederick, MD 21701.

## **CHAPTER 72 POKER RALLEY!**

WHEN: SATURDAY, 14 MAY 88, 1400 MDT  
WHERE: EAA MOBILE CONDO, MEADOW LAKE AIRPORT  
HOW MUCH: \$5.00 PLUS A COVERED DISH

**We will have a poker ralley with a Fly-Out to Springs East and Calhan Airports. You will be dealt 2 Cards before take-off from Meadow Lake. Everyone will fly to Springs East to receive their third card. Next, everyone will fly to Calhan to receive the fourth card. Finally, you will return to Meadow Lake. The person with the best poker hand will win! Second and third place prizes will also be awarded.**

**A cookout at the EAA trailer will follow the Poker Ralley with the Hot Dogs & Hamburgers provided. Please bring a covered dish and a lawn chair.**

**Let's have a great turnout for this fun event!  
(Pray for Nice Weather Too!)**

**Contact Randy Brooks, 472-6075 for Details!**

EAA CHAPTER 840 PRESENTS A



# FLYIN PANCAKE BREAKFAST LA JUNTA AIRPORT

MAY 21, 1988  
7:00 TO 10:30  
FLY IN IT'S

FREE

DRIVE IN IT'S

\$2.00

THERE WILL BE NO FLYING ACTIVITIES  
COVERED BY OUR INSURANCE

THE FOLLOWING CLUBS HAVE BEEN INVITED--  
DENVER AEROBATIC CLUB  
ANTIQUE AIRCRAFT ASSOCIATION  
STORMING PIPER CLUB  
FLYING FARMERS  
EAA CHAPTERS IN COLORADO & KANSAS

SOME REMOTE CONTROL AIRCRAFT  
WILL BE ON DISPLAY



THERE WILL BE NO RAIN DATE



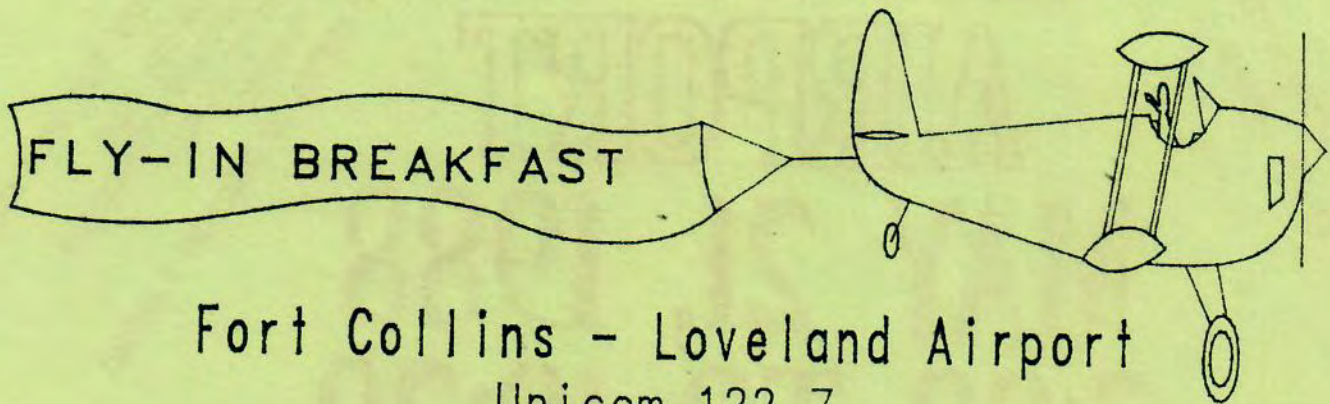
Fly on over ...



5th Annual E.A.A. Chapter #515

# Friendly Fly-In

SUNDAY JUNE 5, 1988



Fort Collins - Loveland Airport  
Unicom 122.7

NO CONTESTS - Just Friendship and Fun

Breakfast served from 7 to 11 a.m. - \$3 per person

**EVERYONE IS WELCOME !!**





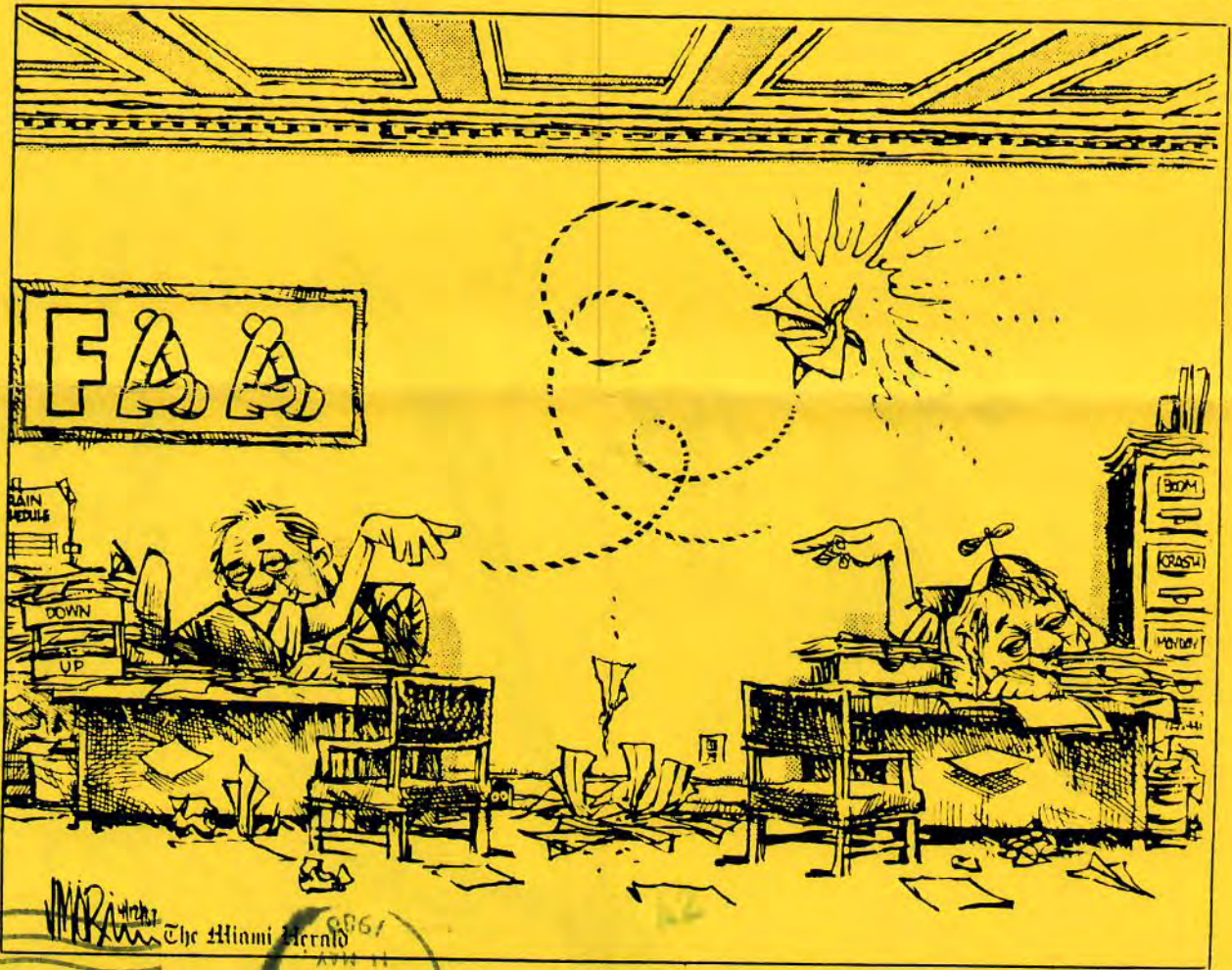
Hey! Look, another one  
of those little airplanes  
without an electrical system!  
Let's make the SKIES SAFER,  
arm the **MODE C** missiles!

Done! Who does that  
guy think he is anyway?  
Flying his OWN airplane!  
**LET'S GET  
HIM!**



# Midair

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