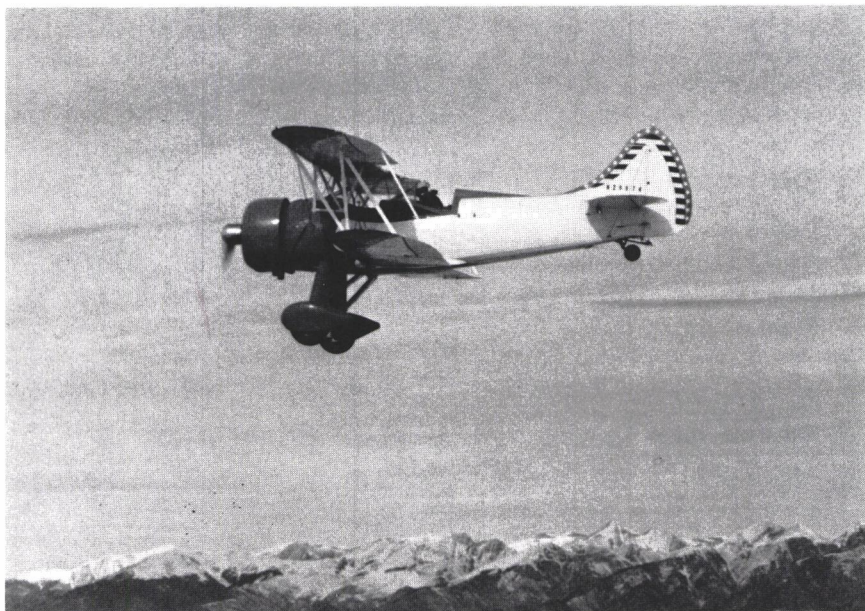


CPA FLIGHT LINES

Vol. 8, No. 4

April, 1991



CPAer Larry Bartlett of Pagosa Springs flies his newly acquired WACO UPF-7 over the San Luis Valley with the Sangre De Cristos in the background.



COLORADO PILOTS ASSOCIATION, INC.

P. O. Box 38555 Denver, CO 80238

PRESIDENT'S MESSAGE

by Bill Marshall

This message is going to be short with the hope someone will read it.

The longer I fly the more concern I have about traffic patterns at non-tower airports. Most pilots know what the traffic patterns are and fly them accordingly. They do so because they know that is the safest manner for all aircraft that are in the sometimes crowded airspace around an airport. It is in this airspace that many accidents occur. We all know this and yet some pilots fly their own personally designed flight patterns before landing.

Many times I have heard these pilots say, "There is no Federal Aviation Regulation telling how to fly the traffic pattern." Well, sorry to disappoint those people, but there are some regulations about flying the pattern at non-tower airports.

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Publication Notice

The CPA Flight Lines is published once each month. Articles for the CPA Flight Lines are sought from members and other persons or organizations. Stories and articles can include flying tips, rebuilding and restoration experiences, special trips, activities, etc.

All articles should be sent to:

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Regulation 91.127 (b,1) states, "In the case of an airplane approaching to land, make all turns of that airplane to the left unless the airport displays approved light signals or visual markings indicating the turns should be made to the right, in which case the pilot shall make all turns to the right . . ." This gives us direction but there are a few pilots who will sometimes fly in the opposite direction.

Regulation 91.103 states, "Each pilot in command shall, before beginning a flight, become familiar with all available information concerning that flight." It seems logical that the pilot in command would look somewhere for information about the airport of intended landing. all public airports that I know publish the field elevation and pattern altitude to be used when landing at that airport. This gives us altitude. However, there are a few more pilots who fly an altitude of their own choosing. I guess they have a reason for this but it is not for safety's sake.

Regulation 91.13 (1) states, "... no person may operate an aircraft in a careless or reckless manner so as to endanger the life or property of another." Someone flying an unpublished traffic pattern is flying in a careless and reckless manner. Most pilots know where to expect other they are looking. The liability for someone flying in the wrong direction and wrong altitude would probably be very great in the case of any kind of accident. I would not want to try to convince a judge an unorthodox pattern was safe.

Friends, let's all fly the recommended traffic pattern. Let's not have a pre-meditated accident.

BOARD OF DIRECTORS

MEETING REPORT

The March 4 meeting of CPA was highlighted by the announcement that two vacant positions on the Board have been filled. **Bill Standerfer** of Fort Collins will serve as vice president and **Tony Bilello** of Denver will serve as Membership Chairman.

Bill became a member less than a year ago. Since joining, he has been very active on the Flight Safety Committee and will be one of the instructors of the new CPA Mountain Flying Course - Ground School. Bill's wife, Ann, actively shares an interest in CPA. She too is a pilot. They fly a Beech Baron.

Tony Bilello is a long-time member of CPA and feels that the time is right for him to become more involved. He expects to retire from the U.S. Postal Service in the near future. This will allow more time to devote to his aviation interests. Tony expressed an interest in the formation of chapters of CPA throughout the state as well as the "New Pilot" program already in effect as two of his priorities as Membership Chairman. Tony is a Cessna owner and bases at Front Range Airport.

Welcome on "board" to both of them!

Don Vander Ploeg reported the treasury of CPA remains healthy, with a balance in excess of \$8,000.00.

Plans are firming up for the 15th Denver-to-Jackpot Air Classic on July 13. There will be a choice of rooms at various prices in different parts of Cactus Pete's this year. This seems to be an offshoot of the expansion of their facilities as evidenced by the construction going on there last year when we visited. Chairman **Vanita Gallo** has reserved a total of 65 rooms and she hopes to have the awards party at poolside this year.

Several responses had been received by **Peter Luce**, Chairman of the Education Committee, for the CPA Student Airlift now scheduled for May 11. Peter and his committee haven't left a stone unturned in their efforts to make this event a big success. Their attention to all the numerous details, as outlined by Peter, should produce just such a success. There is always room for more help and participation, so if anyone is interested Peter will be delighted to hear from you.

Robert Henley displayed a copy of the manual for the new Mountain Flying Course - Ground School. The handsome manual is evidence of how hard his Committee worked over the past several months to put this program together. They plan to hold a practice session on March 9 in preparation for Greenfield, Iowa on April 6. CPA's new audio/visual equipment had been purchased and will be given its initial tryout at that time. This can also be used for a multitude of other CPA functions. A second out-of-state session of the Ground School is scheduled for Beatrice, Nebraska on May 11. **Robert Henley, Vern Foster and Bill Standerfer** will be the instructors for these sessions.

Instrument rated pilots will be able to take advantage of the facilities at the Simulator Center of Metro State College at its Auraria campus in Denver. An IFR Refresher course will be offered on April 20 commencing at 7:00 a.m. There will be a nominal fee for this course. **Bob Doubek** of the Flight Safety Committee will take care of the arrangements.

The Memorial Day Fly-In to Laughlin, Nevada was cancelled primarily due to the fact that the hotel there wanted a commitment of a three-night stay. It was felt that most participants would not be able

to meet those requirements. Bill Marshall announced that Homer Lyle, Fly-Ins Chairman, has resigned. He is commencing a new business venture which will need his fulltime attention.

Subsequent to the Board meeting, **Benjamin Kramer** of Aurora volunteered to take over as Chairman of the Fly-In Events Committee. At this point, most events planned for the flying season are assigned to other individuals.

Confirmation hearings for the reappointment of **Lucile Bledsoe and Al Lopez** to the State Aeronautics Board are scheduled for March 7 at the state capitol. Bill Marshall will attend these hearings to support their reappointment. Both are CPA members.

Al arranged a field trip to the National Oceanic Research Center in Golden on March 1.

CPA will join forces once again with the 99s to handle the phone bank on Friday evening, March 1, for the opening night of Channel 6's annual membership drive. **Tony Miller**, Publicity Chairman, is recruiting volunteers for this project.

An Open House will be held by the Jeffco Pilots Association on April 20, according to **Walter Bell**. Becoming a chapter of CPA is an issue that they are considering.

The fuel tax issue is in the Appropriations Committee as the legislative session reaches its half-way point. The Board voted to contribute a token amount of \$200.00 towards the cost of the lobbyist hired by the Colorado Airports Operators Association to oversee this issue.

The Board voted to join with the 99s, Colorado Aviation Historical Society and the Boulder Chapter of the Antique Airplane Association in having Elrey Jeppesen's name entered in the Inter-

WELCOME NEW MEMBERS

Bailey, Randy
4616 Chippendale Dr.
Ft. Collins, CO 80526

Baumgartner, W. J.
P. O. Box 3506
Rapid City, SD 57709

Leinsdorf, David
Box 187
Crested Butte, CO 81224

Roark, R. Chris
11158 N. 66th Street
Longmont, CO 80501

Standerfer, Ann E. M.
5221 S. County Rd. 7
Ft. Collins, CO 80525

Stein, Neil
7862 S. Ulster Street
Englewood, CO 80112



national Forest of Friendship in Atchison, Kansas. This is a memorial to the magic of flight celebrating its 15th anniversary in July; also Atchison is the birthplace of Amelia Earhart. The Board voted to contribute \$50 toward this effort.

A Maintenance Seminar for C-172s and C-182s will be held on August 17 at Front Range Airport.

COLORADO AVIATION CALENDAR

- APR 27-28** **CPA FLY-IN TO DEADWOOD, SD.** Destination airport will be the Black Hills-Clyde Ice Airport at Spearfish. Practice your gambling skills before Colorado offers you the same opportunity. Info: Homer Lyle 303/755-3271.
- MAY 4** **ROCKY MOUNTAIN FLYING SEMINAR & WINGS SAFETY PROGRAM.** 8:30 a.m. - 4:30 p.m. Clarion Hotel at Centennial Airport. Flight portion of course on Sunday, May 5. Sponsored by Mt. Flying Enterprises & Wings West Magazine. Info: Babette Andre 303/778-7145 or Bob Rossier 303/466-1718.
- MAY 6-7** **BALLOON PILOT GROUND SCHOOL.** BFA approved for Back to Basics. Info: Mike Bundgaard, FAA Certified Ground Instructor, 303/759-3907.
- MAY 11** **CPA STUDENT AIRLIFT.** Aero Servies at Centennial Airport. Program sponsored by Education Committee of CPA to kindle teenage interest in aviation. Estimated 25 aircraft needed for the program. Anyone wishing to volunteer should contact Peter Paul Luce 303/781-1078(H) or 303/850-0600(O).
- MAY 11** **CPA MOUNTAIN FLYING COURSE - GROUND SCHOOL.** Beatrice Nebraska. Course designed to prepare out-of-state pilots for flight over mountainous terrain. Flight portion of the course to be conducted in Colorado at a later date. Info: Robert Henley 303/771-6092.
- MAY 11** **COMPANION FLYER GROUND SCHOOL COURSE.** Denver JetCenter, Centennial Airport. Nominal fee. Sponsored by Colorado Chapter Ninety-Nines. Info: Trine Jorgensen 303/989-1948 or Joyce Hilchie 303/443-0145.
- MAY 11** **SAFETY MEETING & COMPANION FLYER PROGRAM.** 9:00 a.m. Aspen Flying Club hangar at Centennial Airport. Guest speakers will be the two pilots of the UAL flight that crashed at Sioux City, Iowa in 1989. Topic: Cooperation in the Cockpit. Info: Aspen Flying Club 303/799-6794.
- MAY 14-15** **USAF THUNDERBIRDS AIRSHOW.** Pueblo, Colorado. Info: Ray Monroe 719/948-3355.
- MAY 18** **FLY-IN AND PANCAKE BREAKFAST.** Longmont Airport, 7:30 - 10:00 a.m. Info: Mary Senft 303/776-7481.
- MAY 18-19** **POW/MIA REMEMBRANCE AIRSHOW.** Ft. Collins/Loveland Airport. Sponsored by Military Heritage Command. Program will feature Navy Neptune P-2V7 Patrol bomber. Confederate Air Force demonstration with air/ground pyrotechnics display. Aerobatics and ground displays. Info: Bob Resling 303/745-0338.
- MAY 24-27** **UNITED STATES PILOTS ASSOCIATION QUARTERLY MEETING.** St. Louis, MO. Headquarters will be the Hampton Inn-St. Louis Union Station (314/241-3200). Activities include: Aviation exhibits, tours of aviation facilities and historic sites, aviation safety education seminars, and social activities. Info: Manfred Kuehnelt, 1522 Valley View, Arnold, MO 63010, phone 314/544-4000 or 314/464-8668.
- JUNE 1** **CPA VAN AIRE FLY-IN.** Hosted by Van Aire Residential Airpark Association. Fly in or Drive in. Info: Tim Morgan 303/659-2834(H).

ALTITUDE CHART FOR GENERAL AVIATION

FAR	ALTITUDE-AGL (in feet)	
91.119	0+	Minimum safe altitude over open water or sparsely populated areas is no closer than 500 ft. to any person, vessel, vehicle, or structure
91.119	500	Minimum safe altitude above the surface in uncongested area
91.169	600	Ceiling criterion, IFR alternate (precision approach)
71.13	700	Floor of "magenta" controlled airspace (transition area)
91.169	800	Ceiling criterion, IFR alternate (non-precision approach)
91.119	1000	Minimum safe alt. above highest obstacle within a horizontal radius of 2000 feet of the aircraft in a congested area
91.155	1000	Lowest ceiling in a Control Zone to operate VFR
91.177	1000	IFR minimum altitude above highest obstacle within a horizontal distance of 4 nautical miles from the course to be flown (except mtns)
71.5	1200	Floor of airways (unless marked otherwise)
71.13	1200	Floor of "blue" controlled airspace (transition or control area)
71.14	1200	Floor of ARSA's outer circle (5 to 10 NM from airport)
91.303	1500	Minimum for aerobatic flight
71.9	1500	Continental control area does not extend below
91.169	2000	Minimum ceiling needed (1 hour before and 1 hour after ETA) for not filing an alternate airport on an IFR flight plan
91.177	2000	IFR minimum altitude above highest obstacle within a horizontal distance of 4 nautical miles from the course to be flown in mountainous area
91.215	2500	Mode C transponder not needed at this altitude even if at or above 10,000 ft. MSL
1.1	3000	Airport Traffic Area up to but not including this altitude
91.159	3000	Floor for VFR cruising altitude rules
71.14	4000	Height of ARSA

FAR	ALTITUDE-MSL (in feet)	
91.117	10,000	Below this altitude the indicated air speed must not be greater than 250 knots (288 m.p.h.)
91.215	10,000	Mode C transponder required above this altitude
91.211	12,500	Oxygen required by minimum flight crew if between this altitude and 14,000 for 30 minutes
91.211	14,000	Above this altitude, the minimum flight crew must use oxygen
71.9	14,500	Floor of Continental Control Area
71.11	14,500	Ceiling of Control Zone under Continental Control Area
91.211	15,000	Above this altitude, oxygen must be provided for each occupant
71.5	18,000	Up to but not including this altitude is the ceiling of the Federal Airways
71.5	18,000	Floor of Jet Routes
71.15	18,000	Floor of Positive Control Area
91.121	18,000	Above this altitude, set altimeter to 29.92
91.205	24,000	Above this altitude, DME required



State Representative Lewis Entz

Lew Entz has been a pilot a heck of a lot longer than he has been a state representative, but these two pre-occupations work well together, as Lew flies his T-206 back and forth to the Capitol from his farm in the San Luis Valley. Now in this fifth term as a state representative, Lew has represented aviation interests well, as the chief sponsor of the recent bill that created the Division of Aviation and as the primary sponsor of the aviation fuel bill now pending in the legislature.

The Entz roots in the San Luis Valley go back to 1919, when grandparents settled in the Monte Vista area, perhaps enticed by the plentiful water in a wide valley that was bordered to the east by the Sangre de Cristo range and its "fourteeners," and the La Garita mountains to the west. The family business was

farming, and Lew allows that he was farming before he got out of high school.

After high school, the Korean War led Lew to become a marine, serving in Hawaii as an ordnanceman with a Corsair-equipped Marine Fighter Squadron. True to form, Lew still considers himself a marine.

Lew had his first flying lesson at the age of nine, receiving it from his older brother Irvin "Dutch" Entz, in a 40 horsepower J-2. Dutch, by the way, is still active in aviation. In 1954 Lew started flying lessons in earnest, and soloed in 1954 in a 1941 Taylorcraft, that he and Dutch co-owned. Since that time Lew has owned a 1946 J-3 Cub and now a more practical brown, orange, and white T-210 for his business trips to the Front Range.

Mike Entz, Lew's son, manages the

family farm as a partner, with potatoes and grain as the major crops. Mike is a highly qualified pilot in his own right, with a CFI and many aerobatic performances to his credit in both a Pitt's and Laser. Many CPAers have seen him at the Monte Vista Fly-in and Airshow that is held annually in the Valley. Lorie Entz, Lew's wife, holds down the fort at their home in Hooper.

For fourteen years Lew served as an Alamosa County Commissioner, and concurrently as the commissioner representative on the Alamosa Airport Board of Control. He has also been a member of the CAP for many years, and formed the first legislative CAP unit in the country. He acts as the Commander of the Colorado unit, and says that in that capacity he is really the commander of the Governor-pilot, with just a little bit of tongue in cheek.

Colorado aviation is fortunate to have Lew Entz in the legislature. There are very few legislators who are pilots, and less than a handful who are active pilots. Lew not only watches out for bills that would harm aviation, he is also proactive in sponsoring bills that would benefit aviation, and wisely consults the various aviation groups around the state. He is accessible, which is most important for his constituents but also for those of us who work with him on aviation issues. Lew has been a CPAer for many years, and the Association is justly proud of him.

IN THE SPOTLIGHT is a special feature of FLIGHT LINES which profiles a pilot who has had a significant involvement in aviation in Colorado. If you know someone whose accomplishments you consider noteworthy, please contact the Editor.



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HEARD ALONG THE FLIGHTLINE

Must be a lot of sick people out there . . . this according to CPA and Colorado Chapter of 99s members who took funding pledges by telephone in TV Channel 6 fund raising activities on Friday, March 1. More than half of incoming callers hung up when the telephone was answered. And many callers used the telephone to unload with a stream of obscenities and verbal abuse. Considering that TV cameras often zoom in on phone bank participants and beam the event out to the viewing audience, it leaves a delicate situation in how to hang up on these crazies. Station personnel told us a couple of years ago the situation got so bad the station avoided televising the phone bank.

But a lot of the calls were a heart-warming experience. Like the one from a preschooler named Josh, calling under the encouragement of an attentive parent, to pledged \$30 in the fund raising event. And Josh's mother, who came on the line when Josh had finished, to explain she wanted him to feel the experience of giving to a charitable cause, and to increase the contribution from \$30 to \$120.

CPAers helping out with the phone bank were: *Tony Miller, James Rowe, Joan Drage, Ray Hawkins, Brenda Bowdish, Lucy Walker, Walt Barbo, Terry Barbo, Roger Crawford, Karen Crawford, Everett Aden, Carrie Aden, and Susan Zvacek.* *Gretchen Jahn* coordinated the effort. She is a member of both CPA and the 99s.

Weather is responsible for 70% of air carrier delays, 25% of air carrier accidents, and 40% of general aviation accidents. These were part of the introductory

remarks by a team of briefers from the new Aviation Division of NOAA at a briefing to a few lucky CPA visitors at the NOAA Environmental Research Laboratories in Boulder on March 1. These sobering observations also gave understanding to NOAA efforts to develop improved weather forecasting techniques.

The Aviation Division was created only last October. It is currently staffed by nine research scientists. By mid-summer, this will double. Much of the division's effort is currently concentrated on an experimental wind profiler network. When completed (in about 6 months), it will consist of 30 vertical pointing doppler radars with a capability to give an accurate profile of winds up to 25,000 ft. . . . and an acceptable profile up to 50,000 ft. The network extends over several states in the central part of the country. If successful, within 5 years, the network will be expanded to approximately 100 stations to provide a nationwide network.

For aviation, the new profiler system will enable users to see wind systems on a CRT similar to the way TV weather forecasters presently show satellite pictures of cloud cover. Flight altitudes can be selected to avoid turbulence and strong headwinds . . . and to take advantage of tailwinds? Imagine what the new profiler system could do for contestants in the annual Denver-Jackpot Air Classic.

NOAA will be looking for pilot input to review and comment on R&D efforts of the new aviation division. Expect 12-15 people from throughout the state to be named to a user group for this purpose.

CPA Member **TOM PIERCE**, owner and manager of Tri County Airport, won an interesting round with the FDIC after the group failed to pay airport access fees for the T-hangar development adjacent to the airport. (The hangar development was another one of those Silverado S&L projects.) Tom isolated the development by ditching across the access point, and the court supported Tom's right to do so. Needless to say, access fees are now being paid.

•

The Longmont Airport Users Association, headed by CPA member **MARY SENFT**, has scheduled a Fly-In Breakfast at the airport starting at 7 a.m. on May 18. It is cosponsored by EAA Chapter #648. Expect a country air fair environment with ultralights, antique aircraft, choppers, and hot air balloons. Looks like a fun way to start the weekend, particularly for those enroute to the POW/MIA Remembrance Airshow later in the day at the Fort Collins-Loveland Airport.

•

Speaking of the POW/MIA Airshow, we received a nice note from CPA member **BOB RESLING**, who is the airshow director, informing us that he was activated with his Air Force Reserve unit in support of Desert Storm. But with the end of the Persian Gulf conflict, he hopes to be deactivated soon and return to Colorado prior to the airshow.

•

CPA member **JON GALLO**, who is Director of Operations at Front Range Airport, explained the reason for not sponsoring unlimited air races at the airport this year. The money otherwise used to sponsor the races will this year be used for airport development. Expect the races back again next year.

•

The March edition of the Front Range Airport Newsletter suggests a number of safety tips for operations from the airport. The suggestions are consistent

with observations made by CPA President Bill Marshall in this issue of FLIGHT LINES. WE share them since they are also applicable to safe flight from any uncontrolled airport.

- Aircraft should have landing light on when within ten miles of the airport to aid in "see and avoid".
 - Aircraft departing the traffic pattern should continue straight out, or exit with a 45 degree left turn after reaching pattern altitude.
 - Likewise, aircraft remaining in the pattern after takeoff or go-around should continue straight ahead and not turn to crosswind until beyond the departure end of the runway and within 300 feet of pattern altitude.
 - Departing aircraft should announce both direction of turn (right/left) and direction of heading (north/south/etc.).
-

CPA member **RAY HAWKINS**, Project Manager at Buckley ANGB, again cautions on the hazard of flying over the Lowery Control Firing Range. The area is located approximately four miles southeast of the airport . . . and is not marked on aeronautical charts. When in use, debris/shrapnel can extend to 3,000 ft. AGL. Our own little "Desert Storm!" Ray has been unsuccessful in efforts to have the area identified on the charts. Apparently the Feds think it would only clutter up the charts. Looks like an issue worth looking at by our State Aero Office.

•

Looks like revenues from the 3% tax on jet fuel sales in the state will not be available for aviation purposes anytime soon. At a meeting with the Colorado Aeronautical Board on March 7, **State Representative Lewis Entz** briefed on the current status of the issue in the state legislature. He noted that a new GC opinion will be asked on the provision of the State Constitution which states: "Any taxes imposed on aviation fuel shall be

used exclusively for aviation purposes." An opinion by the prior attorney general was favorable to aviation interests. It will be worth watching to see if the new attorney general yields to political pressure. Don't be surprised to see the opinion reversed. In the interim, H.B. 1028, which would dedicate revenue from the sales tax on jet fuel to aviation purposes, is expected to be tabled. Expect the state to procrastinate forever on this issue. Revenues from the tax currently go into the general fund. Big bucks are involved. The state will likely do anything to prevent disruption of this source of funds.

•

AOPA members in the state received an AOPA PILOT ACTION ALERT on the fuel tax issue. It provided a background summary of the issue and urged that members help by writing to our local legislators in support of H.B. 1028. Nice to have AOPA's support on this issue.

•

The change in appearance of FLIGHT LINES in this issue is an experimentation with the use of a laser printer and scaleable fonts on WP51 word processing software. Trust you find it more readable than prior issues.

The Fly Mart

Stick and Tail Dragger Type Flying Club forming at Centennial or Jeffco. Nick 303/321-7532.

MEMBERS: PLEASE NOTE . .

As you are aware, the mailing labels contain the expiration date of your membership. This line is highlighted in yellow to call to your attention when your dues are payable.

Dues are \$20 for one year; \$38 for two years; or \$55 for three years. A membership renewal form is provided for your convenience inside the back cover of *FLIGHT LINES*. Reminder: You will need to indicate on the renewal form if you wish to exercise the option of subscribing to *Flying Review* magazine at the special rate of \$5.50 per year.

It is also important that you notify CPA if you change your address. CPA has to pay first class postage on any returned undeliverable newsletters; then pay first class postage again to remail them. So for each newsletter returned the total cost of postage is well in excess of \$1.00.

ALSO, if you subscribe to *Flying Review* magazine, you will need to inform them of your change of address:

FLYING REVIEW
4801 Charlotte Ct. NE
Albuquerque, NM 87109



CO₂ IS A GAS -- BUT I DON'T MEAN FUN

by Joan Drage

Ever had one of "THOSE" days while flying? Nothing goes quite right? A perfectly set up landing jars off your headsets? You almost run out of runway where before you had enough room to land six times? Your clam, quiet flight instructor turns into a screaming maniac? You get a slight headache—a sudden case of the flu? You get the picture.

We all have incidents every once in a while. However, if oddities become commonplace, you might have a problem. It's one you can't smell, see or taste. It can radically alter your mood and judgment. It doesn't discriminate where it attacks: in homes, or cars, or aircraft. Nor whom or what it disables: adults, pets, children. It's carbon monoxide and it can kill you.

Carbon Monoxide (CO₂) is a molecule that attaches itself to red blood cells and won't let oxygen do its thing. Consequently, several things might begin to happen: headaches, dizziness, nausea, flue-like symptoms, lack of concentration (not fun on landings), a short temper. There is a probability that people exposed continually to the gas (i.e. flying a defective aircraft day after day) are affected by smaller quantities.

My experiences with it were in aircraft. First, a slight headache. However, since I was taking a lesson, I knew my instructor thought I was trying to give him a headache. Sure, he seemed a little out of sorts, but then, my flying was less than by-the-book.

An odd noise in the engine prompted the owners to have a mechanic look at the plane. During the inspection, he found a crack in the manifold, allowing carbon monoxide into the cabin.

There are several different types of CO₂ indicators which can be used in planes. My least favorite is a \$2.00 "tab" type device. The brand new one in the aircraft we were flying when a friend of mine became severely ill indicated there was ZERO carbon monoxide in the cabin. We had the plane tested the next day with a sophisticated device identical to the ones used by a large public service company. We found 50 parts per million --35 is lethal. Tabs are cheap and everyone I've spoken to does not know if they are affected by heat, cold, humidity, dryness, exposure to sun, age, etc. Yet pilots are willing, even anxious (due to the cheap price tag), to trust their lives, and the lives of their friends and family, to them.

Another device is an electronic CO₂ detector (costing approximately \$65). The faster it beeps, the higher the CO₂ concentration in the area being tested.

My favorite, the one now used by a major state public service company, and the one all the pilots I've spoken with said they would prefer, is a constant digital readout. They run from \$500 on up. These models eliminate all guesswork.

These last two devices get rid of not just headaches, but prevent heartaches.

SPIN CONTROL

by Bill Marshall

Recently there has been some discussions about the use of parachutes during spin training for CFI applicants. Not is it the wise thing to do but is it required by regulation? After listening to some of these discussions I really did not know for sure if I must wear a parachute during spin training for my CFI. After a few phone calls and reading Part 61 and Part 91 of the Federal Aviation Regulations, I have perhaps come to an answer to the question. I will try to relate my findings with the following points.

1. A parachute must be worn by each occupant of an aircraft if that aircraft exceeds a bank angle of 60 degrees or a nose up or down attitude of 30 degrees. (91.307 c)

2. A parachute is not required if spins and other flight maneuvers are required by regulations for any certificate or rating when given by a certified flight instructor. (91.307 d)

3. However, since no where in the regulations is spin training a specific requirement, point 2 above does not give relief from wearing a parachute during spin training which is required by point 1 above.

4. Why must an applicant for a CFI be prepared to demonstrate a spin in accordance with the Practical test Standards if it is not required by regulations? (Log-

book entries of satisfactory spin training is also acceptable.) The Practical Test Standards is written based on Regulation 61.187. A qualified flight instructor must certify that the applicant is competent to pass a practical test on certain subjects. One of these subjects is "the effective analysis and correction of common student pilot flight errors." (61.187 a 5) The FAA considers the spin a common student error, thus they have written spins into the Practical Test Standards.

5. Therefore, the above logic dictates from the FAA that parachutes be worn during spin training in preparation for the flight instructor practical test.

Even the FAA realizes that this answer is not what was intended and is in the process of reviewing the regulation to allow instructor training without the use of a parachute for spin training. Before Part 61 was revised in November 1973, relief was given to CFI spin training in the use of parachutes. When this relief will come again, I could not discover. If you do not understand the above confusion, call your Flight Standards Office, not me.

Information for this article was gathered from the FAR's, conversations with the Denver Flight Standards Office and a letter from the Assistant Chief Counsel for the Aeronautical Center.



RENEWALS

Roger Hughes, Arvada
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