

CPA FLIGHT LINES

Vol 6, No. 7

July, 1989



CPAer Steve Harless from Van Aire Residential Air Park pictured at Rock Springs during the 1988 Denver-Jackpot Air Classic.



COLORADO PILOTS ASSOCIATION, INC.

P. O. Box 38555 Denver, CO 80238

PRESIDENT'S MESSAGE

by Walt Barbo

I have to wonder why ham radio & CB operators can engage in idle chitchat in their use of the air waves . . . but pilots in their use of air-to-air communication apparently can not.

The issue came to my attention during a trip over the Memorial Day weekend to Sedona, Arizona. Several aircraft were in the flight and there were the usual communications associated with keeping the flight together. And while on the air-to-air frequency, other aircraft joined in the conversation . . . including a group of Grumman American owners on a group fly-in to Durango. One of our CPA members reported leaving Durango in her Mooney on a return trip from Durango to Denver. It was a friendly sky.

That is, it was friendly, until approximately the Grand Canyon area of our trip when commercial operators told us to get off the air for the reason that the air-to-air frequency of 122.75 MHz was their primary frequency for operations in the canyon.

On returning to Denver I contacted AOPA Membership Services to find if other members were experiencing similar problems in use of the frequency. The office advised that it was a case of nobody being wrong . . . just a case of too many people on the frequency. I was told that the FCC is aware of the problem, however, and intends within the next 30 days to assign a new frequency for corporate use.

An additional call was made to the Denver Field Office of FCC to seek clarification of the issue from their perspective. Leo Cirbo of that office was unaware of plans to add the additional frequency for air-to-air communications. However, this can be a case of the national office not getting the information out to the field. Leo did confirm that 122.75 MHz is the frequency assigned to private fixed wing aircraft in air-to-air communications. Policy for use of aviation frequencies is set forth in Part 87, Aviation Services, of Title 47 CFR.

Policy provides that use of aviation frequencies be limited to aircraft communications necessary to assure the safe and efficient use of aircraft and protection of life and property in aviation. On the issue of enforcement policy, Leo said that most FCC actions stem from complaints. Typical complaints relate to use of frequencies for idle chitchat. Complaints are investigated by monitoring the

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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:

CPA FLIGHT LINES editor

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Aurora, CO 80012

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1989 CPA SCHEDULE OF EVENTS

- Sat., July 15 **13th ANNUAL CPA DENVER-TO-JACKPOT AIR CLASSIC.**
Departs from Front Range Airport on a course via Rock Springs, WY to Cactus Pete's Casino in Jackpot, Nevada. Info: **Sonny Elgin** 361-9365 or **Bruce Hulley** 344-2843.
- Fri.-Sun.,
Aug. 11-13 **WINGS PROFICIENCY PROGRAM**, Pueblo, CO. Sponsored by CPA. This is a **date change** due to conflict with State Fair. Info: **Vern Foster** 751-9421 or **Bruce Hulley** 344-2843.
- Sat.-Mon.,
Sept. 2-4 **CPA LABOR DAY FLY-IN.** Southwest Colorado: Ouray via Montrose. See article elsewhere in newsletter. Info: **Dave Burke** 989-1014.
- Fri.-Sun.,
Sept. 15-17 **WINGS PROFICIENCY PROGRAM**, Pagosa Springs, CO. sponsored by CPA. Info: **Vern Foster** 751-9421 or **Bruce Hulley** 344-2843.
- Sat., Sep. 23 **AIR FORCE ACADEMY TOUR.** Details to be announced. Info: **Tom Daly** 337-6984.
- Sat., Oct. 7 **CPA AIRCRAFT MAINTENANCE SEMINAR**, 8:00 a.m. - 4:00 p.m. Training in operation and maintenance of Beech Bonanzas. Pilot/owners of other aircraft types are also invited. Info: **Tom Daly** 337-6984.
- Sat., Oct. 21 **CPA ANNUAL MEETING.** Location and details to be announced. Info: **Tom Daly** 337-6984.
- Sat., Nov. 11 **TOUR OF AIR TRAFFIC FACILITIES.** Locations and details to be announced. Info: **Tom Daly** 337-6984.
- Sun., Dec. 17 **CPA CHRISTMAS DINNER.** Clarion Southeast at Centennial Airport. Info: **Terry or Walt Barbo** 367-0670

frequencies. When violators can be identified, pilots are cited for rule violations.

Leo told me that enforcement actions have been taken against a number of pilots in the Denver area, including one in the week prior to this report. Typically, a first offence will draw nothing more serious than a warning. Repeat offenders can expect penalties in the amount of several hundred dollars.

Anyone who speaks into a microphone has to wonder what constitutes a violation under the

FCC policy. Leo observed that much of the air-to-air communication between aircraft was probably not necessary, but probably did not violate provisions of the regulation. He considers there to be abuse when the conversation drifts into discussion of such things as recreational activities and/or use of "offcolor" language.

Leo offered to have a FCC representative appear at meetings of pilot groups to add further clarification to the FCC policy. CPA will be accepting the offer as one of our future programs.

STATE AERONAUTICS

OFFICE UPDATE

The Colorado Aeronautical Board announced in the first week of June the selection of Dennis Roberts as director of the new Division of Aviation.

Dennis is currently aviation planner for the Denver Regional Council of Governments, a position he has held since moving to Denver in 1984. His principle responsibilities with the DRCOG related to development and implementation of an aviation system plan for the metropolitan area. In this role, he provided aviation planning services to local governments on issues related to development of their airports, assisted Denver in site selection for an airport to replace Stapleton, accomplished a number of airport planning studies (including an evaluation of Tri-County Airport as a future general aviation reliever airport in the metro area), and serviced the DRCOG Aviation Advisory Committee. He will transfer to his new role as director of state aviation in the first week of July.

His prior work experience included nearly seven years in aviation planning with consulting firms in the Kansas City area. During that time, he had the enviable opportunity to fly corporate aircraft in transportation between job sites, much of it in a company owned Cessna T-210. Dennis describes his transfer to Denver as the beginning of a long dry spell in his flying . . . one of the realities of the costs of relocation and raising a family. However, he intends to get back into flying as soon as possible after entering his new job.

Dennis earned a BS degree in Aviation Technology from Central Missouri State University. He

holds an FAA Commercial Instrument Pilot Certificate and is a member of AOPA, American Association of Airport Executives, Colorado Airport Operators Association and Colorado Pilots Association.

He admits to having no preconceived thoughts about aviation problems in Colorado. A top priority, therefore, will be to solicit concerns and recommendations from various aviation interests in the state. These will be used in developing his workload program. Consistent with this purpose, he will be attending the monthly CPA board meeting of August 3 to seek our views.

As of this writing there has been no public announcement on location for the new aeronautics office; however, we hear that space is being rehabilitated for that purpose in one of the buildings at Centennial Airport. In a way, it would be rather ironic should Centennial be the successful competitor for the new office in view of the airport's history of opposition to its creation.



**Copy Deadline for
FLIGHT LINES
1st Thursday
of the Month**

BOARD OF DIRECTORS MEETING REPORT

Our monthly Board of Directors meetings continue to be held on the first Thursday of each month at the corporate offices of Centennial Airport's Jet Center. The June meeting was slipped one week, however, to allow CPA President Walt Barbo to recover from the effects of a flu bug that grounded him on the first Thursday.

The meeting of June 8 was attended by all members of the board with the exception of Vern Foster who was tied up with last minute demands of the CPA Mountain Flying Course which was to begin the following day, and Tom Daly who was off somewhere attending to the demands of making a living.

In the committee reports, Vanita Gallo reported on a tentative plan of her Education Committee to establish a film library on aviation related topics. She noted that many of us have aviation films we would be willing to loan other members or permit the use of for education programs. If there is sufficient interest, the library would function as a distribution point. She advises that donations or loans of material to the library will be cheerfully accepted.

Mark Meyer, Chairman of Membership, reported that he has rehabilitated the CPA information booth for use at local aviation

events. His first appearance with the booth was at the Military Heritage Command airshow at Front Range Airport on May 20. He described manning the booth as something less exciting than flying. But the hangar flying was fun, and it did offer an opportunity to increase the visibility of CPA. Look for him at future airshows. Mark encourages members to stop by and visit . . . and even spell him for a few moments if you have time.

Bruce Hulley and Don VanderPloeg reported on their trip to the annual meeting of the USPA at Las Cruces, NM on June 3. They briefed that Bob Worthington of New Mexico was selected for a second term as president. Don VanderPloeg will continue as treasurer and Bruce will continue as Chairman of the Legislation, Rules and Regulations Committee. In an interesting aside, Bruce told of a hail storm that did some minor damage to aircraft during their visit to Las Cruces, including damage to his Skylane. But to his good fortune(?), this was not the first such storm his aircraft experienced. So the damage was barely noticeable.

In other actions, the CPA Poker fly-in scheduled for July 1 and the Flight Proficiency Contest and Progressive Dinner scheduled for August 19 were scrubbed because of conflicts with other aviation events.

Have you tried the

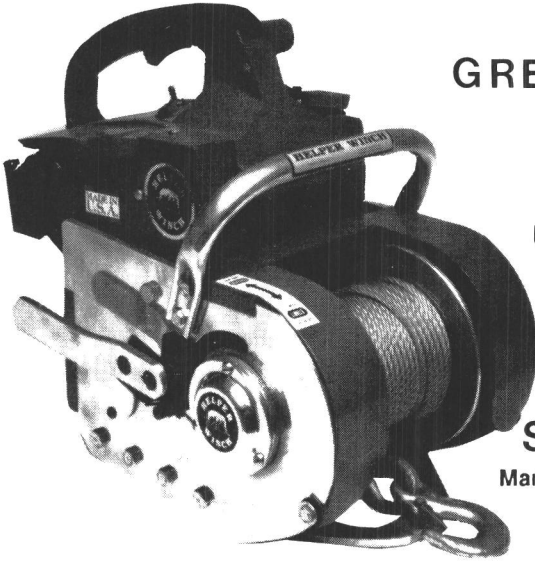
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SOMETHING NEW!

by Vanita Gallo

At long last, we have an "Aviation Education Committee" in Colorado Pilots Association! Since everything must start somewhere, we have decided to start by building a loaning library of educational, recreational, historical, informational materials to be available to our members.

It is not our intent to operate out of the CPA budget, but rather to be self-sustaining, with donations from members or friends for the most part. Frank and I are donating the first year of "ABC Wide World of Flying" videos which are extremely well done.

Your donation--not of money, but of any of the following, or something we haven't thought of--will be very much appreciated:

Aviation videos or movies;
Aviation books, any type;
Manuals--maintenance, training, etc.;

Literature--recreational, flight training, statistics, etc.

ALSO, would you be interested in helping to make this committee an asset to the organization? We need your ideas and assistance on the Committee. Following are just a few additional ideas for the future:

Youth Education;
Speakers Bureau & Resources;
Public Education re GA;
CPA History.

If you are interested in being part of the Aviation Education Committee, or you just want to share some ideas or make some inquiries, call me at 337-5864. I would like to make this fun, and it's no fun by myself, so give it your serious consideration!

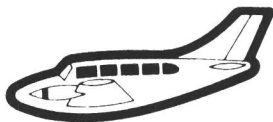
VIDEOS AVAILABLE

ABC Wide World of Flying
Volume 1, Number 1
Piper Malibu
Takeoff Technique
Loran C
B-17
Lancair
Volume 1, Number 2
Mooney 252
Argus 5000
Oshkosh ATC
Learjet

Volume 1, Number 3
Learjet Checkout
Stereo Intercom
Cessna Skylane
NDB Approach
Lasertrak
Tsunami

Volume 1, Number 4
Flying the Atlantic
Inside an AFSS
T.O.'s & LDGS
"Hot" Prop

F4U Corsair
Volume 1, Number 5
Trinidad Tobago
Aviation Video
Understanding Spins
P.I.C. Course
Hollywood Helicopters



CPA ANNUAL LABOR DAY FLY-IN

OURAY, COLORADO

Ouray, located in the southwest part of Colorado, will be the destination for this year's CPA Annual Labor Day Weekend. The area is known as "the Switzerland of Colorado" as many of the "four-teens" (those mountain peaks 14,000 feet high) are located in the immediate vicinity.

The town was established as a silver and gold mining community in the late 1800's and has managed to maintain its Victorian charm and feeling. Those deciding to make this fly-in will be treated to the most spectacular scenery that our state has to offer.

A block of rooms has been reserved at the OURAY VICTORIAN INN for Saturday and Sunday nights. We will fly in to the **Montrose Airport** on Saturday morning. Arrangements have been made for a 70-passenger bus to be available to take the group from the airport to our hotel in Ouray (about an hour's drive). The bus will depart the airport at **10:00 a.m.**, so please plan your arrival accordingly as there will be only **one** bus run. The same bus will bring us back to the airport Monday morning. It is anticipated that the cost of this transportation will be \$4-5 per person round trip depending on the number of people and will be collected upon departure.

A group dinner (chuckwagon style, probably) will be planned for Saturday evening. All other meals will be at your leisure.

The new COLORADO OFFICIAL STATE VACATION GUIDE describes Ouray as "a treasure for those who enjoy four wheel driving." With that in mind--and if you want to enjoy a tremendous day of touring and scenery--a jeep tour is planned for Sunday. Rental jeeps cost \$75.00 per day and can accommodate two couples. The tour will take the trail from Ouray to Telluride and return, and take most of the day. A picnic lunch can be purchased and enjoyed somewhere along the way amidst the splendour and majesty of the non-stop scenery.

For those who do not wish to take the jeep tour, the town of Ouray has some old mines, a museum, hot springs, a swimming pool is available, many shops, and Box Canyon Falls is only a short walk away.

In order to guarantee accommodations, it is necessary to have reservations and payment made early. Two types of rooms comprise our block: 13 with two Queen size beds and 12 with one King size bed. They will be assigned on the basis of first come, first served as your reservations/checks are received. Because the area is so attractive to visitors and particularly with the Labor Day Weekend signaling the end of the tourist season, the Inn is requiring that payment be made no later than **August 2**.

Please fill out the form below indicating your preference on a room(s), make your check payable to **OURAY VICTORIAN INN** and mail BOTH so as to reach **DAVE BURKE** no later than **JULY 31**. A mailing will be made to all participants a week or so prior to the departure containing other pertinent information not yet formalized at press time (early June).

ANNUAL CPA LABOR DAY WEEKEND FLY-IN
OURAY, COLORADO
Sept. 2, 3 & 4, 1989

NAMES: _____

ADDRESS: _____

Phone: _____

Number of Persons: _____

Aircraft: _____

ROOM RESERVATIONS:

_____ Room with 2 Queen size beds, upstairs,
@ \$62.00 plus 7.2% tax plus \$1.00
Colorado lodging tax*
\$67.47 per night dbl. occup. TOTAL: \$ 134.93

_____ Room with King size bed, \$58.00 plus
same taxes as above
\$63.18 per night dbl. occup. TOTAL: \$ 126.35

_____ Room with King size bed, single occup.
\$54.60 per night single occup. TOTAL: \$ 109.20

* Add \$4.00 per extra person in room

_____ YES or _____ NO on the Jeep Tour, Sunday, Sept. 3

Checks payable to: **OURAY VICTORIAN INN**

Mail to:

**DAVE BURKE
1814 S. Welch Circle
Lakewood, CO 80228**

**Phone: 303/989-1014
evenings**

4TH ANNUAL CPA MOUNTAIN FLYING COURSE

by Vern Foster

The 4th Annual CPA Mountain Flying Course was conducted at Centennial Airport beginning with ground school the evening of June 9.

There were 17 pilot participants. Out-of-state pilots were John Phillip, Cambridge, MS; Craig Casler, Wichita, KS; Bob Jenkins, Olathe, KS; Ernie Pulley, Oklahoma City, OK; and Craig Carlson, Scottsbluff, NE.

Colorado pilots attending were Walt Giffin, Pueblo; Tom Bein, Berthoud, Rob Dyer III and Don Vanderploeg, Denver; Oliver Leconte, Colorado Springs; Bill Marshall and Traver Metcalf, Aurora; Selene Hall, Longmont; Roman Hought, Boulder; Dave Vick, Thornton; Paul Glaser, Westminster; and Carl Coates, Lakewood.

Bruce Hulley and I extend thanks to CPAers Mark Meyer, Bob

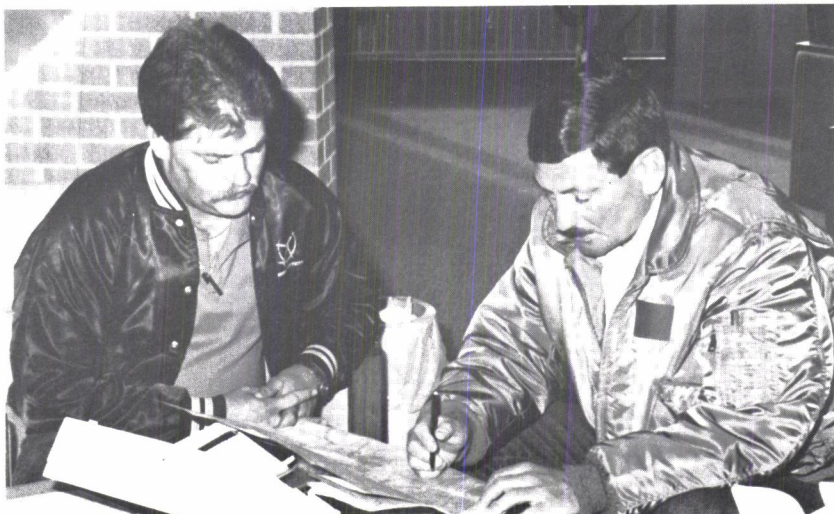
Akers and Walt Barbo for their assistance.

Aero Service, Inc. at APA was the host FBO and DENFSS gave the weather briefing Saturday morning. The Bamboo Airstrip Pilot Shop and Clarion Southeast Hotel extended many services and courtesies.

There were a total of 14 flight instructors and the aircraft varied from Walt Giffin's home-built Thorp T-18 to a pair of Cessna 206's owned by Bob Dyer III and Don Vanderploeg.

It was a great time to introduce newcomers to safe operations through the high country and to do some hangar flying with old and new friends.

We look forward to doing this program again next summer. Plan to join us at that time and bring another pilot.



Bob Jenkins of Olathe, KS plans his flight with instructor Bill Gibson at CPA Annual Mountain Flying Course on June 10.



Flight instructor and CPAer Kim Makower with Oliver Lecompte of Colorado Springs. Aircraft is Oliver's Piper Comanche 250.



CPAer Bruce Hulley congratulates Ernie Pulley, Oklahoma City, OK on his successful completion of CPA Mountain Flying Course on June 10.

FLIGHT PLANNING WITH SPREADSHEETS

by Tony Miller

You've probably noticed the availability of lots of computer-assisted flight planning aids in aviation publications recently. If you aren't inclined to purchase one and you have a spreadsheet program on your personal computer, you can develop some pretty worthwhile flight planning aids yourself. If you're unfamiliar with spreadsheet programs, they are basically computerized tables in which each slot contains a number you type in, a formula specifying some calculation to be done using the numbers in the table, or just some text labels. This article will discuss a spreadsheet that can be used to perform aircraft weight and balance computations.

Figure 1 shows a weight and balance spreadsheet for a Cessna 182. We will step through its development as an example of how you can set one up for your own airplane. It was produced using the Saturn-Calc spreadsheet program; the formulas mentioned below may have to be modified slightly for another type of spreadsheet.

Row 1 and column A of the spreadsheet just contain labels for the figures in the table. Slots A3 through A8 list the loads involved in the C.G. computation. The empty weight of the aircraft has been entered in slot B3. In slots D3 through D8, the arms associated with each item in slots A3 through A8 have been typed; these were obtained from the operating handbook. If your handbook lists C.G. information in terms of moments instead of arms, you can determine the arm value by taking any point along the appropriate weight/moment line and dividing the moment value by the weight.

Slots C3 through C8 contain formulas to compute the moment resulting from each weight and arm; each formula is simply the weight times the arm. For example, slot C3 contains the formula "B3 * D3;" C4 contains "B4 * D4," etc. Note that the slot in the spreadsheet doesn't actually show the formula; it shows the result of the calculation. In the Totals line, slot B10 contains a formula to compute

	(A)	(B)	(C)	(D)
	Item	Weight	Moment	Arm
(1)				
(2)				
(3)	Empty plane and oil	1801	63575.3	35.3
(4)	Front passengers	390	14430.0	37.0
(5)	Rear passengers	360	26640.0	74.0
(6)	Luggage area 1	50	4850.0	97.0
(7)	Luggage area 2	0	.0	115.0
(8)	Fuel	336	16094.4	47.9
(9)				
(10)	Totals	2937	125589.7	42.8
(11)				
(12)				
(13)	Within limits	1		
(14)	(1=yes, 0=no)			

Figure 1: Example Weight and Balance Spreadsheet

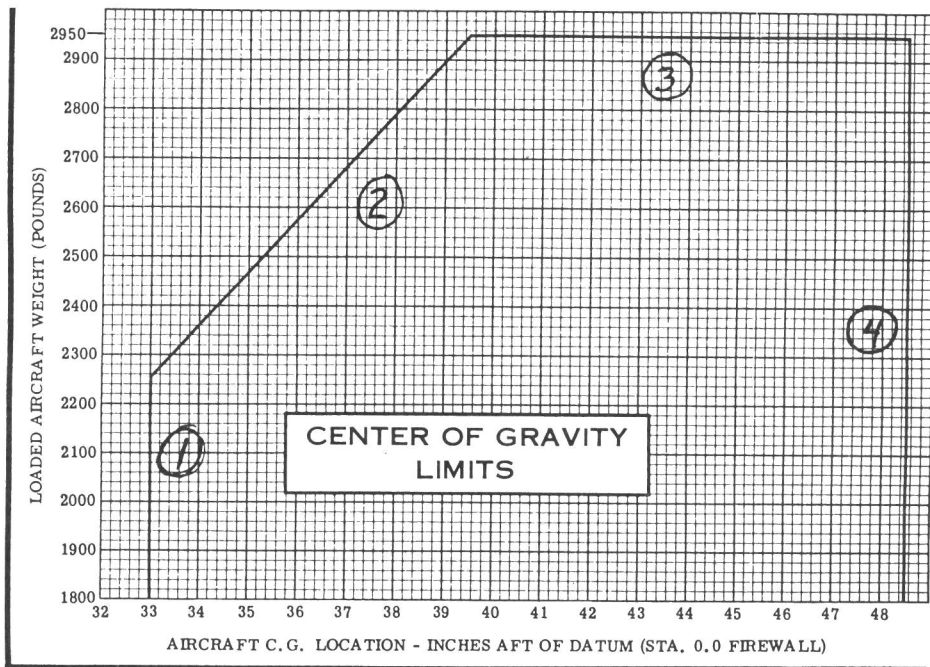


Figure 2: Center of Gravity Limits for Cessna 182P

the total weight, "SUM(B3..B8)," and similarly slot C10 computes the sum of the moments, "SUM(C3..C8)." The formula in slot D10 computes the number we're interested in, the C.G. of the aircraft. It is simply the sum of the moments divided by the sum of the weights, "C10 / B10."

Slot B13 contains a big formula to determine whether the aircraft is within allowable weight/C.G. limits. The formula is an algebraic representation of the weight/C.G. envelope. It utilizes the ability of Saturn-Calc and most other spreadsheet packages to determine whether a mathematical statement is true or false. Referring to the C.G. envelope in Figure 2, each straight-line segment of the envelope can be specified as a

mathematical expression that must be true if the plane is correctly loaded. Segment 1 specifies that the C.G. must always be greater than or equal to 33, so we begin the formula with the expression "(D10>=33)." Segment 4 specifies that the C.G. must be less than or equal to 48.5, and segment 3 says that the weight must always be less than or equal to 2950, so we continue our formula with the expressions "AND (D10<=48.5) AND (B10<=2950)."

Segment 2 requires us to recall a little high school algebra, namely, that the equation for a straight line is of the form " $y = mx + b$." The symbol " m " represents the slope of the line, which we can compute by dividing the change in weight along the line by the change in arm, i.e.

(2950-2260)/(39.5-33) = 106.154.
 Now that we know that $y = 106.154 * x + b$, we can pick any point along the line (we'll use the top one, weight $y = 2950$, arm $x = 39.5$), substitute the arm and weight values for x and y respectively, and compute the value of b as $2950 - (106.154 * 39.5)$, or -1243. Since the weight must fall below this line, we can now append the expression " $B10 <= 106.154 * D10 - 1243$ " to our formula.

Finally, we can add any other appropriate conditions to the formula in slot B13. The 182 has limitations of 80 pounds in baggage area 2, 120 pounds in baggage area 1, and a fuel capacity of 336 pounds. When we include these conditions in the formula, the final result is " $(D10 >= 33)$ AND $(D10 <= 48.5)$ AND $(B10 <= 2950)$ AND $(B10 <= 106.154 * D10 - 1243)$ AND $(B7 <= 80)$ AND $(B6 <= 120)$ AND $(B8 <= 336)$."

All the information we've entered so far is constant for every flight, so now is a good time to save the spreadsheet on the disk. To use the spreadsheet, recall it to the screen, enter the weight values for your planned flight in slots B4 through B8, and run the spreadsheet computation. The value that appears in slot B13 tells you whether your configuration is okay (Saturn-Calc displays a 1; other spreadsheets may vary).

If you develop your own weight and balance spreadsheet, be sure to test it thoroughly against example problems worked out by hand. I certainly wouldn't risk MY neck against my ability to get an algebraic equation right the first try.

In a future issue we will show a cross-country planning spreadsheet to compute headings, groundspeeds, flight times, fuel burned, and other parameters.

WELCOME NEW MEMBERS

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 Brighton, CO 80601

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 Evergreen, CO 80439

Dysart, Richard M.D.
 2016 I-50 Rd.
 Austin, CO 81410

Hinkins, Dave
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 P. O. Box 1688
 Arvada, CO 80005

Husted, Robert P.
 2591 S. Naples Way
 Aurora, CO 80013

Lorimer, John E.
 6109 Ryan Ave. So.
 Edina, MN 55424

Mackie, Trevor D.
 5489 S. Rifle St.
 Aurora, CO 80015-2828

Schnuerle, Karen S.
 4838 S. Zang Ct.
 Morrison, CO 80465

Stevens, Glen
 7249 S. Ireland Way
 Aurora, CO 80016

Vick, Dave
 1305 E. 9th Pl.
 Thornton, CO 80229

Wiant, Chris
 10316 E. Weaver Cr.
 Englewood, CO 80111

HEARD ALONG THE FLIGHTLINE

Members of the CESSNA PILOTS ASSOCIATION have to be somewhat curious at not receiving copies of the association's monthly magazine subsequent to the February issue. A call to their office on June 13 provided information that an issue will be mailed in the next 4-5 days and that another issue is at the printers. We were told that the reason for the delay was due to personnel changes . . . and they just got behind. But it makes one wonder if the association is heading in the same direction as the production of Cessna piston engined aircraft.

*

J. Mac McClellan wrote a very favorable article about the new Mobile 1 aviation oil in the June issue of Flying Magazine. It is the "all synthetic" oil that was used in the Voyager's around-the-world flight. McClellan claims AV 1 reduced oil consumption on the 1600 hour engine of his personal aircraft to 15 hours per quart from 6 hours per quart. He said the new oil is both FAA and engine-manufacturer approved for use in all Continental and Lycoming engines (except radials). He also said the FAA has approved AV 1 for a 200 hour oil-change interval, the first time it has specified a life for an engine oil. A few local calls found it available at American West Oil Company at 5125 York Street in Denver for \$68.57/case (equivalent to \$5.72/qt). For comparison, Aeroshell 15W50 is available locally for approximately \$35/case.

*

The same issue of Flying Magazine contains an article on losses in the pilot population.

It notes an FAA report of 540,921 "active" pilots with private and commercial certificates in 1980. Six years later this declined by 87,387, or 16%. Meanwhile student starts went from 139,032 in 1979 to 88,126 in 1986, a drop of more than one-third.

*

DJP rather than DVX would be the 3-letter designator for the new Denver airport if the Silver Wings Fraternity is successful in its campaign effort. It is an attempt to gain recognition for Aviation Pioneer ELREY JEPPESON. The group hopes to have the new airport named after Jeppeson but failing that will accept the designator. Silver Wings would welcome support in their effort.

THE FLY MART

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Bruce McMillan, Boulder
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CPAer Professor George McCrillis shares a laugh with Metropolitan State College Precision Flight Team contestants at the National Intercollegiate Flying Association competition hosted by the University of North Dakota at Grand Forks, ND this spring.



MEMBERS: PLEASE NOTE...

Our new computer program for generating address labels permits us to show membership expiration dates.

This information is provided as a reminder in planning your membership renewal. 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. Thanks for your help

"FLIGHT LINES" ADVERTISING RATES

Listed below are the rates for placing paid advertisements in "FLIGHT LINES." Your CPA Board encourages use of your newsletter to publicize your business or services while at the same time helping your organization offset production costs.

Rates:

1 full page	\$50
$\frac{1}{2}$ page	25
$\frac{1}{4}$ page	15
Business Card Size	7

These rates are per issue. Mailing list is over 300, with an additional 200 distributed at random. There are 11 issues published per year. Rates are payable in advance of publication.

Mechanical requirements:

Full page	7" x 4 $\frac{1}{2}$ "
$\frac{1}{2}$ page	4 $\frac{1}{2}$ " x 4 $\frac{1}{2}$ "
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Advertising copy should be camera ready. If any typesetting is needed, that cost will be charged to the advertiser. Your message can also be processed similar to this type.

Deadline for receiving advertising copy is the first Thursday of the month preceding publication. Copy may be changed for dated or seasonal material.

For additional information, contact:

Terry Barbo, Editor
303 367-0670

Copy may be mailed to: COLORADO PILOTS ASSOCIATION
P. O. Box 38555
Denver, CO 80238

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Colorado Pilots Association

APPLICATION FOR INDIVIDUAL MEMBERSHIP/RENEWAL

Name _____ Spouse _____

Mailing Address _____

City _____ State _____ Zip _____

Phone (Home) _____ (Bus.) _____

Pilot Rated? ☐ Yes ☐ No Profession _____

A/C Owned (Make) _____ (Model) _____ N _____

Check enclosed in amount of:☐ \$20 for 1 year membership☐ \$38 for 2 year membership☐ \$55 for 3 year membership**Applying for: (Indicate)**☐ Renewal or☐ New membershipPlease complete form and mail to: **Colorado Pilots Association • P.O. Box 38555
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