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Tim Puliz & Steven Lewis's 1963 Comanche PA-30.

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INTERNATIONAL
COMANCHE
SOCIETY, INC.

LETTER FROM THE PRESIDENT



The annual Convention will be held next month, July 25, 26 and 27. It promises to be a great event, as it is tied to AirVenture 2014, or in layman's terms **OSHKOSH**. Review the last six issues of the *Flyer* for specifics on the great venue the Midwest Tribe has in store for you. This

month's Convention article includes a list of seminars that will be conducted in the ICS tent during the show. Currently, ten vendors are participating and the list is growing—they include: maintenance, insurance, ground school systems training, flight training briefings, and equipment vendors. Be prepared for an eye-opening Comanche displayed in front of the ICS tent. Registration forms are included in the Convention News article on page 23, or you can register online at comancheflyer.com (locate the Mid States Tribe 2014 ICS Convention window and click on "Register Here").

Each year your Board of Directors select two individuals for the Golden Circle Award and the Annual Achievement Award, respectively. The Golden Circle Award is for outstanding service and contributions to ICS over a number of years. The Annual Achievement Award is for the most outstanding contribution by a member during the year

ending at the Annual Convention. If you have a candidate(s) in mind for either one of these awards, please pass them on to your Tribe Representative as soon as possible for consideration by the board for this year's awards.

Beginning soon, you will be able to access the *Comanche Flyer* through your email. It will display as "ICS Comanche Flyer"—after you click on it, the magazine will then be available to view. You will continue to receive the actual magazine; this will just be another way to access it if the paper version isn't available. Just a reminder, the electronic version has always been available on comancheflyer.com. Go to "Read the Comanche Flyer Online" window and select **CLICK HERE**.

I encourage you to spend some time on the comancheflyer.com site. Most of what you might be interested in regarding the airplane or the organization is on this site.

Comanche Flyer Submission Guidelines

All members are encouraged to submit articles for publication in the *Comanche Flyer*. If you have an article about a maintenance event, trip, piloting technique, or anything else pertinent to Comanche ownership, please share it with your fellow members.

For those with access to the Internet, please submit the article via e-mail, preferably in Microsoft Word. You may also include the article in the body of your e-mail message. Include your full name, as you would like it published, and your ICS number.

Please attach digital pictures, if applicable, in jpeg format. For best results, use the highest resolution setting your camera will allow. Photo files under 500 kb in size typically do not reproduce well.

Although submissions are reviewed for technical accuracy, the information in this magazine is meant for reference only. Any modifications, alterations, or major repairs to U.S. aircraft require FAA-approved data as a basis for beginning work, and as such should not be based solely on information contained in this magazine. The International Comanche Society does not endorse any piloting adverse to published FAA regulations.

Submissions are subject to editing and revision unless specifically requested to be published as submitted. The right is reserved to publish or not, any submission.

Deadline for all submissions is the 20th of the month, approximately 40 days prior to month of publication.

Send to: Melissa Frisbie, Managing Editor at mfrisbie8@att.net

Articles and photos may also be sent via U.S. Mail to:

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SERVICE ABOVE SELF

by *Tim Puliz, ICS #17541 & Steven Lewis, ICS #10360*

We call N7101Y our “*time machine*,” says co-owner Steve Lewis. This well preserved and re-conditioned low time 1963 PA-30 is hangared at the Carson City, Nevada airport (KCXP) and is co-owned and operated by Steve & Ginny Lewis and Tim & Vicki Puliz.

Steve & Ginny own Sterling Air, Ltd.; a full service FBO and aircraft sales and management company based at KCXP. Steve purchased “zero one yankee” in August 1994 with just 2,042 hours total time, airframe and engines. The aircraft had called Carson City home for years prior to Steve’s purchase and both engines still had compression readings above 71/80! That’s fairly common when a normally aspirated engine operates from a 4,700 foot field elevation airport and the majority of flights are at or above 10,500+ feet MSL, due in large part to the higher northern Nevada terrain.

In October 1995, the aircraft received .250 tinted glass all-around by Great Lakes Aero, a new interior, and a custom Imron paint job that still turns heads. Additionally, freshly overhauled engines and props, a few speed mods from LoPresti that have helped achieve a comfortable 170+kt cruise speed, an Ashby glare shield, custom metal panel, Century 2000 A/P w/HSI, and some earlier King & Garmin avionics all help contribute to make N7101Y as comfortable as an old pair of tennis shoes.

We recently installed a new intercom system, shoulder harnesses, Sky-Tec lightweight starters, a QRG-US-8A digital EGT/CHT monitor, a portable Garmin 796, and a mounted iPad mini running ForeFlight and Stratus ADS-B with AHARS. Today, “01Y” is approaching 3,550 hours total time and 1,500 on engines that still have compressions reading 74+/80!

Using Comanches for community service began after Steve joined the Carson City Sheriff’s Aero Squadron in 1983. He served as its Commander in 1995 and earlier that year immediately put N7101Y into active service. Over the years, “01Y” has been dispatched by the Carson City Sheriff on countless search and rescue missions as well as occasional prisoner and evidence transport missions. Tim joined the Sheriff’s Aero Squadron in 2012 and is now volunteering his time for various Squadron missions.

KCXP is located in the high desert of Nevada just 20 miles south of Reno, and three miles due east of scenic Lake Tahoe and the rugged Sierra Nevada mountain range. “Having a multi-engine aircraft while flying at night over the Sierras makes the Twin Comanche an ideal aircraft for mountain flying and it’s really very affordable to operate.”

Spirit



“zero one yankee” – on a mission

COVER STORY



Co-owners Steve & Ginny Lewis outside of their full-service FBO.



Standing with their dependable, “hard-working” PA-30 are co-owners Tim & Vicki Pulis.



In 2010, Tim & Vicki became co-owners of N7101Y. Tim received his multi-engine and IFR ratings that same year in "01Y." Tim & Vicki are Principals in family-owned and operated Puliz Moving & Storage and Puliz Records Management Services with locations in both Reno and Las Vegas, Nevada. Flying between Carson City and North Las Vegas has become quite routine for Tim ... "The speed and flexibility associated with flying myself has truly improved our quality of life."



Rotary International plays a major role in the Lewis and Puliz households. Steve is a member of the Rotary Club of Carson City. He served as Governor of District 5190 in 2010-11, and currently serves as the District's Rotary Foundation Chair. Ginny is the District's Executive Administrator. Vicki is a member of the Sparks Rotary Club and is currently serving as District Governor of this same 2,500+ member District through June 30, 2014.

(continued on page 8)



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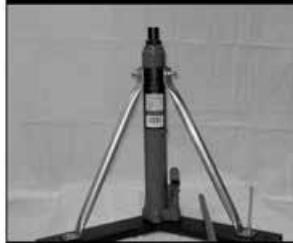
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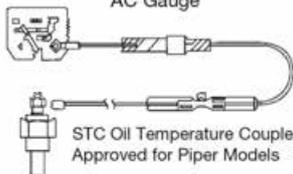
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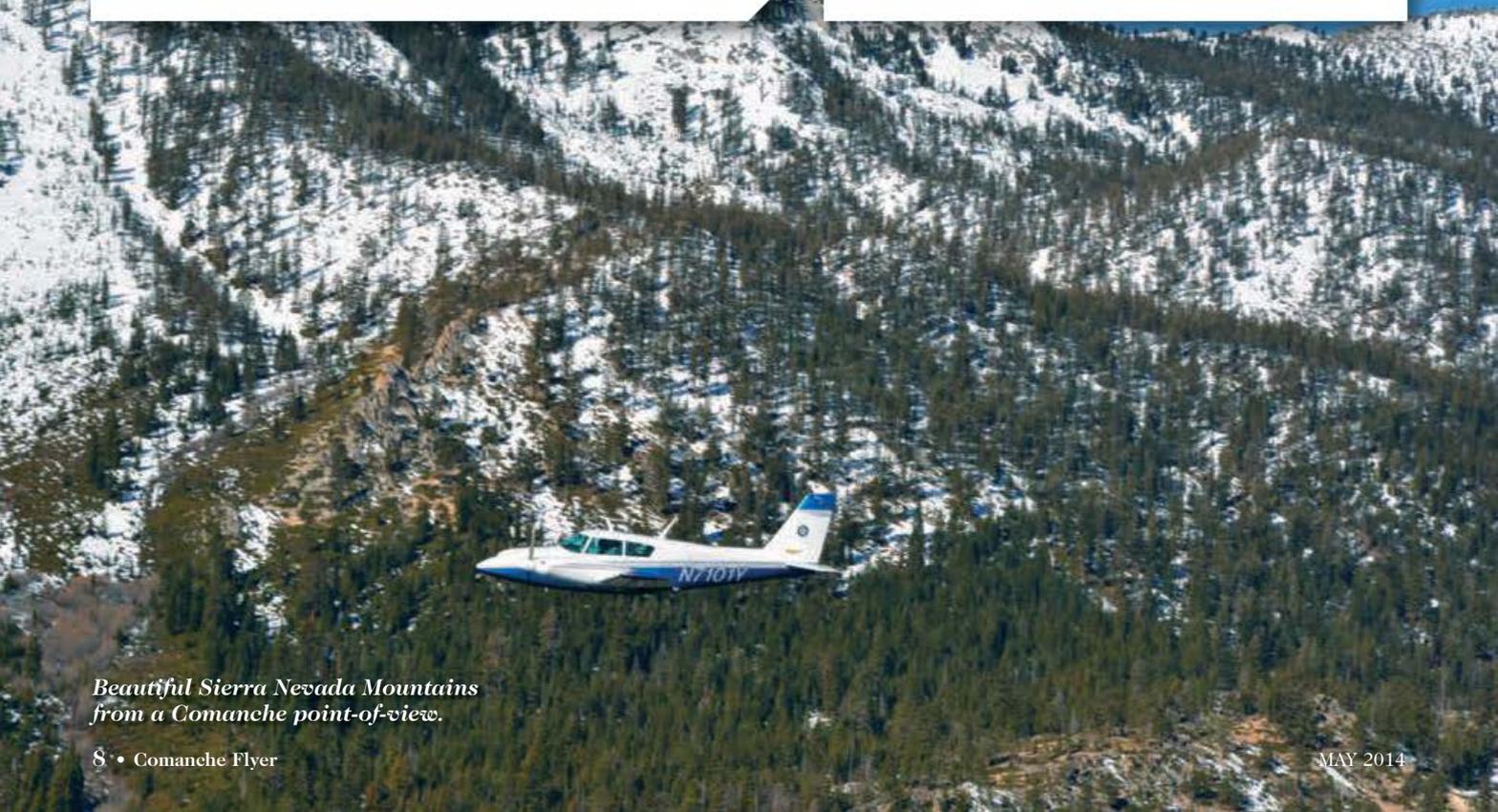


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The duties and time commitments of a Rotary District Governor are quite extensive. Visiting 58 individual Rotary clubs several times a year throughout Rotary's largest geographic district in the continental United States requires a huge investment of travel time. The district includes the vast majority of the State of Nevada (excluding the Las Vegas area), and select areas in California from Bishop to Grass Valley and then all the way north to Alturas. Vicki & Steve refer to "O1Y" as "Rotary One" when we fly to club visits. Rotary's motto is "Service Above Self" and the international service organization is primarily committed to six Areas of Focus:

- Peace and conflict prevention/resolution
- Disease prevention and treatment
- Water and sanitation
- Maternal and child health
- Basic education and literacy
- Economic and community development

Both Vicki & Steve are also members of the International Fellowship of Flying Rotarians (IFFR). This is a fellowship of Rotarians from around the world who have a passion for both flying and service to others. They have "fly-ins" all over the globe. Vicki & Tim have recently joined the group for fellowship in Bishop, California and Lisbon, Portugal. And both families look forward to visiting our flying Rotarian friends at the Rotary International convention in Sydney, Australia in June. Unfortunately, "zero one yankee" will stay in the hangar during this overseas trip!

"THIS CLOSE" – Rotary is probably most identified with its 25-year commitment to end polio from the face of the earth. To date, Rotary has donated over one billion dollars toward the eradication effort and has successfully distributed the oral vaccine to more than 2.5 billion children around the globe. As of this month, there are only three

endemic countries remaining with polio; Afghanistan, Pakistan and Nigeria. In 2014, there has only been 23 new cases of polio reported throughout the world. A promise Rotarians made to the children of the world back in 1988 means that Rotarians will continue donating money and volunteering their time until this crippling disease is eradicated. We are truly just "This Close" to our goal of total global eradication!

Whether its business trips to Las Vegas, hunting trips in Wyoming, 4th of July celebrations in Montana, visiting grandkids in Camarillo, California or just flying in for a special lunch at Half Moon Bay, California, "O1Y" has been our aircraft of choice. Our 1963 Piper Twin Comanche has played a unique role in helping us to better achieve our personal goal of "Service Above Self" while also providing both families the opportunity to meet new friends, whom like ourselves, have the love and passion of flying our own aircraft on our own schedule. ✈️



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COMANCHE FLYER FOUNDATION, INC.

Coming to the 2015 Annual Voting of Members

At the Spring Board Meeting in Nashville on March 29, 2014, the Board approved the following changes in the ICS Bylaws for presentation to the Membership during the 2014 Annual Voting of Members. *Deletions are shown with strikethroughs. Additions are shown with underlining.* A current copy of the present Bylaws is available on the website.

Article II, Management, Section 1. (There are no changes in Sections 2-4, 6-9.)

This revision clarifies that a Past President only serves a single one year term on the ICS Board of Directors, even when the current President is serving a second consecutive term, and removes the prohibition that no director may have an interest in a general aviation aircraft manufacturer.

Section 1. The Society shall be governed and all its offices, business and property shall be managed between its business meetings by the ICS Board of Directors (Board) subject to the direction of the Society. The Board shall consist of the four current elected officers: the Immediate Past President except in years when the current President is elected to a second consecutive term, the Tribe Representatives of the various Tribes; and the President of the Comanche Flyer Foundation, Inc. as an ex officio member with seat and voice but no vote and whose presence or absence does not affect the determination of the presence of a quorum or the number of votes required for passage of a vote. The newly elected officers of the Society shall take office as of the adjournment date and time of the Annual General Meeting (AGM) that next follows the Annual Voting of Members at which they are elected.

- A. The term of office of the Immediate Past President shall be for one year.
- B. All Directors and Officers shall be members in good standing of the Society.

Section 5.

- a. ~~No officer or member of the Board shall be an employee or agent, directly or indirectly, of an entity conducting the business of manufacturing aircraft sold to the general aviation trade.~~
- b. All members of the Board shall individually disclose to the Board any potential conflict of interest, of themselves and of other Board members, as is reasonably determinable according to rules of the Internal Revenue Service.

Article VIII, Nominations and Voting, Sections 1, 2, 3, 5, 7, 8, and 9. (There are no changes to sections 4, 6, 10-12.)

These revisions amend this Article to accommodate the change from expensive and time consuming voting by paper ballots and postal mail, to the voting on the ICS website as introduced 2 years ago. It shortens most time requirements for notifications, and in section 9 gives the Board flexibility to adjust to situations requiring it.

Section 1. On all questions brought before the Members of the Society, each member in good standing as of the closing date of the membership rolls for that vote shall be entitled to one vote. A member in good standing is a member whose dues are currently paid according to the Pathfinder. ~~The membership rolls shall close on the last 21st day of the month immediately preceding the beginning of the any~~ voting period.

Section 2. ~~Within 90 days following each Annual General Meeting During the Fall Board Meeting,~~ the Board shall select a Nominating Committee of three or more persons to nominate candidates for officers to be voted upon at the next Annual Voting of Members. Not more than one member of the Nominating Committee shall be a member of the Board, and the President may not appoint to nor serve on the Nominating Committee. No Board member may nominate more than one person to the Nominating Committee, and no Tribe shall be represented on the committee by more than one tribe member. The Nominating Committee is to nominate one or more members in good standing for each office, and no member of the Nominating Committee may be nominated by the committee for any of the offices to be filled at the succeeding election.

Section 3. The names and contact information for the Chairperson and members of the Nominating Committee, and a call for nominations, shall be published in the *Comanche Flyer magazine and website* in each issue not past deadline from the appointment of the committee until nominations are closed.

Section 5. Nominations for the election of officers and the closing time for placing on the ballot for all questions to be brought before the membership in a Voting of Members shall end no sooner than 5-PM 2000 ZULU at the address of the Society ~~Secretary office~~ 90 45 days prior to the beginning of the voting period.

Section 7. Except as provided in Section 9 below, all AH voting on all questions brought before the membership shall be by ballot sent electronic voting on the ICS *comancheflyer.com* website, and shall be open to all members in good standing of the Society. Ballots for the Voting of Members will be disseminated by inclusion with the issue of the *Comanche Flyer* in which the voting period begins, or by first class or airmail where the Board determines that such is necessary.

Notice of the nominees for election and all ballot issues shall be published in the Comanche Flyer magazine issue immediately preceding the period of voting, and shall be continuously posted on the ICS website for a period of not less than thirty (30) days preceding the start of the voting period, and shall continue throughout that period.

Section 8. If any closing day falls on a Saturday, Sunday, or holiday recognized by the governmental postal service serving the recipient, the closing shall be delayed until the next day not a Saturday, Sunday or holiday. All items not delivered by 2000 ZULU on the respective closing time dates (including ballots, letters of candidacy or nomination and attestation, and requests for other items to be included on the ballot) are not valid.

Section 9. Use of other electronic or nontraditional means to accomplish the intent of this Article is expressly permitted, but only within and after the adoption of guidelines and rules to be adopted by the Board to govern the usage of such means.

Article X, Tribes, Sections 2, 5 and 7. (There are no changes to sections 1, 3-4, and 6.)

These revisions clarify that a Tribe Representative to the ICS Board of Directors is an elected position, that Tribes must notify the ICS Secretary of the election, and defines the period of the one year term.

Section 2. TRIBE REPRESENTATIVES: Each Tribe shall have a Tribe Representative to serve on the ICS Board of Directors. The Tribe Chief shall serve as the Tribe Representative, unless the Tribe chooses to elect a different Tribe member as Tribe Representative, and such election shall become effective upon written notice of same from the Tribe Secretary to the ICS Secretary.

Section 5. ELECTIONS: The election of each Tribe Chief, and any other officers of the Tribe, and the Tribe Representative will be conducted annually preceding the ICS AGM. The term of these elected officers positions shall be for one year shall commence immediately following the ICS AGM and end at the close of the subsequent ICS AGM, or until a successor is elected, commencing immediately following the ICS AGM.

Section 7. VACANCIES: Upon resignation any vacancy for any reason of any Tribe Officer position, the remaining term of that office shall be filled by election of the Tribe Council. A vacant Tribe Representative position shall be filled by a Tribe membership election, and such election shall become effective upon written notice of same from the Tribe Secretary to the ICS Secretary.

ICS Bylaw Committee
Henry Spellman, Chair
Don W. Nelson and Scott Myers, Members

PROPOSED 2015 ICS BUDGET

The 2015 ICS budget, as approved by the Board of Directors, is to be voted upon and approved by the members as part of our annual voting process. Account 635111 Member Enhancement has been added and funded with \$15,000. The specifics of the “enhancement” are still being defined, but are expected to include, but not be limited to: digital *Comanche Flyer* available for members and website enhancements. The overall projected loss will deplete our capital reserves by \$18,041.

Respectively submitted, *Pat Donovan* – Treasurer

Income						
40100 · Membership Income			60005 · Postage/International	6,300	Total 62000 · Bank Charges	3,100
40102 · Membership income	147,000		60006 · Flyer Advertising Commission	11,000	63000 · Insurance & Bonds	
40106 · Deferred Membership Income Adj	0.00		60007 · Managing Classified Ads	0.00	63001 · Treasurer Bond	187
Total 40100 · Membership Income	147,000		60009 · Adv. Invoicing & Postage	2,950	63002 · D & O Insurance	1,312
40190 · Donations			60011 · Freight	775	Total 63000 · Insurance & Bond	1,499
40191 · CFF Donations from Members	0.00		60015 · Technical Articles	5,000	63400 · Events	
40193 · Donations to ICS	0.00		Total 60000 · Flyer Magazine	179,625	63401 · Oshkosh AirVenture	
Total 40190 · Donations	0.00		60100 · Village Press Mgmt Expense		634011 · Tent & Space	4,841
40199 · CFF Grant/Oshkosh	0.00		60101 · Monthly Management	3,100	634012 · Marketing Materials	250
40200 · Advertising Income			60102 · Marketing	0.00	634013 · Refreshments	130
40201 · Display Ad	72,000		601021 · New Member Kits	1,100	634014 · Misc	130
40202 · Classified Adv.	2,500		601022 · FAA Promotional Mailings	1,500	634015 · Shipping	140
Total 40200 · Advertising Income	74,500		Total 60102 · Marketing	2,600	Total 63401 · Oshkosh AirVenture	5,491
40300 · Inventory Sales			60103 · Other Printing	0.00	Total 63400 · Events	5,491
40301 · V.P. Sale of Tips Manuals	1,200		60105 · Fulfillment Mgmt Services	7,100	63500 · Special Expense	
40302 · V.P. Sale of Inventory Items	2,500		60107 · Mgmt - Admin item replacements/s	900	63501 · Awards/Memorials	150
40303 · V.P. Sale of Creech Manuals	600		60109 · Phone		63502 · Board Meeting Expense	400
40304 · V.P. Sale of Flyer Magazines	300		601091 · Phone Line	600	63505 · Tool Loan Program	150
40305 · V.P. Sale of Neubert Gear DVD	500		601092 · Phone call charges	2,400	63509 · Outgoing Presidents Gift	150
Total 40300 · Inventory Sales	5,100		Total 60109 · Phone	3,000	63510 · President's Travel Expense	1,000
40400 · Inv. Shipping & Handling Incm	800		60110 · Weekly Synchronization	2,640	63511 · Member Enhancement	15,000
40600 · Interest Income			60111 · Classified Ad Processing	720	Total 63500 · Special Expense	16,850
40601 · Fifth Third/Money Market	0.00		60112 · Bank Deposit Processing	500	63600 · Tech Support Projects	
40602 · C.D. Interest	800		60113 · Bookkeeping	2,700	63601 · Aging Aircraft	0.00
40604 · Savings Account	20		60114 · Postage	3,430	Total 63600 · Tech Support Projects	0.00
Total 40600 · Interest Income	820		60115 · Fulfillment/Admin Storage	800	67000 · Web Site Operation	
41000 · Special Projects			60116 · Remote Log In Fee	70	67001 · Website General Operations	480
41001 · Aging Aircraft Income	0.00		Total 60100 · Village Press Mgmt Expense	27,560	67002 · Website Consultant	2,300
41002 · Sale of Killough Manuals	2,500		60200 · Tribe Dues Rebates	4,500	Total 67000 · Web Site Operation	2,780
Total 41000 · Special Projects	2,500		60300 · Cost of Items Sold		68000 · Bad Debts	
Total Income	230,720		60301 · Inventory Items Cost	3,000	68001 · Bad Debts	900
Gross Profit	230,720		60302 · Cost of Tips	325	Total 68000 · Bad Debts	900
Expense			60304 · Cost of Creech Manual	200	69000 · Other Business Expense	
60000 · Flyer Magazine			60305 · Storage	396	69001 · Misc. Business Expense	1,000
60001 · Editor	34,200		60306 · Product Shipping and Handling	960	69002 · Licenses & Fees	40
60002 · Design & Printing	110,000		60307 · Neubert Gear DVD	360	69003 · Officer Administrative Expense	175
60003 · Postage/Domestic	8,400		Total 60300 · Cost of Items Sold	5,241	69004 · Teleconference	0
60004 · Postage/ Canada	1,000		62000 · Bank Charges		Total 69000 · Other Business Expense	1,215
			62001 · Service Charges	0.00	Total Expense	248,761
			62002 · Credit Card Fees	1,400	Net Income	-18,041
			62003 · Pay Pal Fees	1,700		

FISCAL YEAR 2013 YEAR END REPORT

Financially 2013 was a very good year for ICS with a profit of just \$9,354 and an increase in our net worth of \$2,827 to \$247,136. This profit was the result of: 1) increased efficiencies (read this as reduced cost) in the “front office” and printing, 2) dues increase, 3) our web master Dave Fitzgerald’s tight wad operation, and 4) the generous contributions of some of our members. The financial gain was in spite of the continued slide in membership from 2261 at the beginning of January 2013 to 2173 in January 2014 — a reduction of 88 precious members.

The specifics are shown in the attached tables. Some of the reasons for the differences between 2012 and 2013 Profit & Loss Statements are:

- Membership income is lower due to reduced membership.
- Advertising income is down principally in the member’s classified due to the reduction of the number of ads. The price was recently halved for members in an attempt to gain more use by members.
- Inventory profits are up due to sales at AirVenture and the addition of Hans Neubert’s new landing gear DVD.
- Interest income continued its decline as higher earning CDs are rolled into lower interest rates.
- *Flyer* magazine decreased due mainly to the 13 issues reflected in 2012 versus the 12 issues in 2013. Some cost-saving measures were masked by the cost of the additional issue.
- Village Press Management Expense reductions are due to many incremental changes in our effort to reduce cost without sacrificing service to the membership.
- Cost of items sold increased due to the increase in sales.

2013 ICS Profit & Loss Statement

	Jan - Dec 13	Jan - Dec 12	\$ Change	% Change
Income				
40100 · Membership Income				
40102 · Membership income	0.00	155,599.00	-155,599.00	-100.0%
40106 · Deferred Membership Income Adj	149,488.00	-5,207.00	154,695.00	-2,970.91%
Total 40100 · Membership Income	149,488.00	150,392.00	-904.00	-0.6%
40190 · Donations				
40191 · CFF Donations from Members	1,217.00	889.00	328.00	36.9%
40193 · Donations to ICS	1,264.00	0.00	1,264.00	100.0%
Total 40190 · Donations	2,481.00	889.00	1,592.00	179.08%
40200 · Advertising Income				
40201 · Display Ad	72,373.90	72,778.65	-404.75	-0.56%
40202 · Classified Adv.	2,302.80	3,904.45	-1,601.65	-41.02%
Total 40200 · Advertising Income	74,676.70	76,683.10	-2,006.40	-2.62%
40300 · Inventory Sales				
40301 · V.P. Sale of Tips Manuals	1,180.00	1,275.00	-95.00	-7.45%
40302 · V.P. Sale of Inventory Items	3,681.60	2,731.25	950.35	34.8%
40303 · V.P. Sale of Creech Manuals	550.00	830.00	-280.00	-33.74%
40304 · V.P. Sale of Flyer Magazines	314.00	1,021.00	-707.00	-69.25%
40305 · V.P. Sale of Neubert Gear DVD	525.00	0.00	525.00	100.0%
Total 40300 · Inventory Sales	6,250.60	5,857.25	393.35	6.72%
40400 · Inv. Shipping & Handling Incom	1,158.42	1,227.21	-68.79	-5.61%
40600 · Interest Income				
40601 · Fifth Third/Money Market	16.28	33.44	-17.16	-51.32%
40602 · C.D. Interest				
406021 · Education Set-aside	0.00	2,179.00	-2,179.00	-100.0%
40602 · C.D. Interest - Other	1,918.58	966.82	951.76	98.44%
Total 40602 · C.D. Interest	1,918.58	3,145.82	-1,227.24	-39.01%
40604 · Savings Account	19.96	0.00	19.96	100.0%
Total 40600 · Interest Income	1,954.82	3,179.26	-1,224.44	-38.51%
40900 · Convention Income	300.00	0.00	300.00	100.0%
41000 · Special Projects				
41002 · Sale of Killough Manuals	2,528.94	2,801.00	-272.06	-9.71%
41006 · Neubert Gear DVD	0.00	300.00	-300.00	-100.0%
Total 41000 · Special Projects	2,528.94	3,101.00	-572.06	-18.45%
42500 · Miscellaneous Income	7.02	500.00	-492.98	-98.6%
Total Income	238,845.50	241,828.82	-2,983.32	-1.23%
Gross Profit				
	238,845.50	241,828.82	-2,983.32	-1.23%
Expense				
60000 · Flyer Magazine				
60001 · Editor	34,200.00	36,450.00	-2,250.00	-6.17%
60002 · Design & Printing	112,805.00	119,250.00	-6,445.00	-5.41%
60003 · Postage/Domestic	9,177.91	10,011.58	-833.67	-8.33%
60004 · Postage/ Canada	1,146.47	1,033.81	112.66	10.9%
60005 · Postage/International	7,509.17	8,664.53	-1,155.36	-13.33%
60006 · Flyer Advertising Commission	10,858.92	12,698.42	-1,839.50	-14.49%
60007 · Managing Classified Ads	0.00	617.00	-617.00	-100.0%
60009 · Adv. Invoicing & Postage	2,880.35	2,972.08	-91.73	-3.09%
60011 · Freight	702.28	731.62	-29.34	-4.01%
60015 · Technical Articles	300.00	0.00	300.00	100.0%
Total 60000 · Flyer Magazine	179,580.10	192,429.04	-12,848.94	-6.68%
60100 · Village Press Mgmt Expense				
60101 · Monthly Management	2,969.24	9,642.44	-6,673.20	-69.21%
60102 · Marketing				
601021 · New Member Kits	1,044.00	1,380.00	-336.00	-24.35%
601022 · FAA Promotional Mailings	1,452.00	1,662.00	-210.00	-12.64%
Total 60102 · Marketing	2,496.00	3,042.00	-546.00	-17.95%
60103 · Other Printing	294.00	1,167.00	-873.00	-74.81%
60105 · Fulfillment Mgmt Services	6,947.20	0.00	6,947.20	100.0%
60107 · Mgmt - Admin item replacement/s	0.00	805.45	-805.45	-100.0%
60109 · Phone				
601091 · Phone Line	588.00	588.00	0.00	0.0%
601092 · Phone call charges	2,360.50	2,356.50	4.00	0.17%
Total 60109 · Phone	2,948.50	2,944.50	4.00	0.14%
60110 · Weekly Synchronization	2,640.00	3,520.00	-880.00	-25.0%
60111 · Classified Ad Processing	691.00	656.00	35.00	5.34%
60112 · Bank Deposit Processing	480.00	480.00	0.00	0.0%

- Oshkosh AirVenture expenses were up since there was no cost sharing by CFF as in the past.
- Web site operation continued to be very frugal.
- Federal taxes were not paid as the necessary “non-relevant” (interest) income was properly segregated.

Some of the reasons for the differences between 2012 and 2013 Balance Sheet Statements are:

- Checking/Savings increased as income was more than outgo. New CDs were opened at a different institution (United Credit Union) in order to take advantage of higher

	Jan - Dec 13	Jan - Dec 12	\$ Change	% Change
60113 · Bookkeeping	2,700.00	3,600.00	-900.00	-25.0%
60114 · Postage	3,331.76	4,448.85	-1,117.09	-25.11%
60115 · Fulfillment/Admin Storage	786.75	945.00	-158.25	-16.75%
60116 · Remote Log In Fee	69.95	69.95	0.00	0.0%
60100 · Village Press Mgmt Expense - Other	0.00	220.00	-220.00	-100.0%
Total 60100 · Village Press Mgmt Expense	26,354.40	31,541.19	-5,186.79	-16.44%
60200 · Tribe Dues Rebates	4,635.00	4,937.00	-302.00	-6.12%
60250 · Member Donations				
60251 · CFF Donations	1,247.00	889.00	358.00	40.27%
Total 60250 · Member Donations	1,247.00	889.00	358.00	40.27%
60300 · Cost of Items Sold				
60301 · Inventory Items Cost	2,927.17	2,690.93	236.24	8.78%
60302 · Cost of Tips	311.50	491.19	-179.69	-36.58%
60304 · Cost of Creech Manual	107.32	193.38	-86.06	-44.5%
60305 · Storage	421.25	374.00	47.25	12.63%
60306 · Product Shipping and Handling	920.81	822.48	98.33	11.96%
60307 · Neubert Gear DVD	700.00	240.00	460.00	191.67%
Total 60300 · Cost of Items Sold	5,388.05	4,811.98	576.07	11.97%
62000 · Bank Charges				
62001 · Service Charges	15.50	15.50	0.00	0.0%
62002 · Credit Card Fees	1,280.50	1,449.64	-169.14	-11.67%
62003 · Pay Pal Fees	1,600.48	1,852.39	-251.91	-13.6%
Total 62000 · Bank Charges	2,896.48	3,317.53	-421.05	-12.69%
63000 · Insurance & Bonds				
63001 · Treasurer Bond	0.00	187.00	-187.00	-100.0%
63002 · D & O Insurance	1,312.00	1,312.00	0.00	0.0%
Total 63000 · Insurance & Bonds	1,312.00	1,499.00	-187.00	-12.48%
63400 · Events				
63401 · Oshkosh AirVenture				
634011 · Tent & Space	4,710.80	4,594.94	115.86	2.52%
634012 · Marketing Materials	10.83	962.16	-951.33	-98.87%
634013 · Refreshments	91.74	111.77	-20.03	-17.92%
634014 · Misc	338.53	130.64	207.89	159.13%
634015 · Shipping	0.00	140.25	-140.25	-100.0%
63401 · Oshkosh AirVenture - Other	0.00	-3,000.00	3,000.00	100.0%
Total 63401 · Oshkosh AirVenture	5,151.90	2,939.76	2,212.14	75.25%
63409 · ICS Convention Loss Sharing	0.00	4,956.32	-4,956.32	-100.0%
Total 63400 · Events	5,151.90	7,896.08	-2,744.18	-34.75%
63500 · Special Expense				
63501 · Awards/Memorials	342.08	133.15	208.93	156.91%
63502 · Board Meeting Expense	921.03	333.75	587.28	175.96%
63505 · Tool Loan Program	-241.22	554.18	-795.40	-143.53%
Total 63500 · Special Expense	1,021.89	1,021.08	0.81	0.08%
66900 · Reconciliation Discrepancies	0.00	0.00	0.00	0.0%
67000 · Web Site Operation				
67001 · Website General Operations	294.00	352.13	-58.13	-16.51%
67002 · Website Consultant	1,229.71	2,389.80	-1,160.09	-48.54%
Total 67000 · Web Site Operation	1,523.71	2,741.93	-1,218.22	-44.43%
68000 · Bad Debts				
68001 · Bad Debts	0.00	1,417.54	-1,417.54	-100.0%
68002 · Non Performing Debts	0.00	0.00	0.00	0.0%
Total 68000 · Bad Debts	0.00	1,417.54	-1,417.54	-100.0%
69000 · Other Business Expense				
69001 · Misc. Business Expense	171.17	242.33	-71.16	-29.37%
69002 · Licenses & Fees	40.00	40.00	0.00	0.0%
69003 · Officer Administrative Expense	169.49	79.65	89.84	112.79%
Total 69000 · Other Business Expense	380.66	361.98	18.68	5.16%
69600 · Taxes				
69601 · Federal Income Tax	0.00	1,958.87	-1,958.87	-100.0%
Total 69600 · Taxes	0.00	1,958.87	-1,958.87	-100.0%
69700 · ICS Charitable Donations				
69702 · ICS Other Donations	0.00	44.22	-44.22	-100.0%
Total 69700 · ICS Charitable Donations	0.00	44.22	-44.22	-100.0%
Total Expense	229,491.19	254,866.44	-25,375.25	-9.96%
Net Income	9,354.31	-13,037.62	22,391.93	-171.75%

- Undeposited PayPal should be treated like cash since it reflects funds that haven't been transferred over to our Checking account. A lot of people renewed in December and I didn't transfer until January.
- Inventory assets are down which is another good thing as we try to reduce the items on-hand in storage.
- Current Deferred Membership reflects the remaining services ICS owes the membership for the next twelve months. The reduction is a reflection of the fewer members.
- LT (long-term) deferred membership reflects the remaining services ICS owes the members for the next thirteen to twenty-four months. As before the reduction is a reflection of the fewer members.
- Net income reflects the bottom line from the Profit & Loss which, when added to the previous year's total equity (retained earnings), generates the new total equity.

Bottom line – this year was a good one for ICS. The next few years will be increasingly difficult as we are forced to make changes due to the reduced Comanche airframes along with corresponding reduction in ICS membership, aging airframes, the *Flyer* cost per capita, and the transition to a more digitally-oriented membership.

Respectfully submitted,
Patrick Donovan
Treasurer



interest rates. The 53 securities account is shown at a level amount (\$35K), but is actually an FDIC-insured Barclay's CD invested in 10 stocks, which like most of the stock market are doing well. As of December 31, the market value of this CD was just over \$37K and will

mature in December 2016. Since this amount will fluctuate with the stock market and has no bearing on our other financial positions, a level amount is reflected.

- Accounts receivable is significantly down which is a good thing. It means people are paying the bill.

From the Comanche Website Maintenance Forum

GEAR-POPPING CIRCUITBREAKER

I am a frustrated new owner of a 260C turbo. I purchased the plane in December and have been like a kid who gets water skis for Christmas. I have not been able to fly much due to a horrible winter in upstate New York. Now that I have had a chance to fly it the gear is giving me fits. I am popping the circuit breaker on both extends and retracts. Each time, after the circuit breaker is reset, the cycle completes properly. I am also getting a low bus voltage light, but have still not confirmed when it comes on during this process as I have only had time and weather to fly the plane a few times.

History – the gear was entirely rebuilt a few years back including the motor and transmission. I flew the plane extensively prior to buying with no gear issues and the prior owner had no issues. The plane was put on jacks and cycled repeatedly with no issues at all. It was cycled close together to see if gear motor temp could be an issue.

Comment – it has been a cold winter and all of the flying has been in very cold weather. The airplane was always slowed down well below the gear operating speed limit. The gear test on jacks was in a 50 degree heated hangar where the plane is currently stored.

I guess I am looking for ideas. Is it temperature related, perhaps caused by grease issues that may be impacted by severe cold? Perhaps a weak circuit breaker, again impacted by the extra demands of cold temps?

Also - is the low bus voltage a cause, effect or unrelated?

Thanks for any ideas. I can't wait to start flying my airplane more, but this gear issue is making it tough!

Do you have the new Webco conduits? When I replaced mine last year, the old ones worked really hard and in the cold Minnesota temps they were taxing the motor. I flew last week at -20F and no problems.

Probably time to order new conduits from Webco or Piper. Both have long lead times.

You might also want to have the gear motor and transmission handled by Matt Kurke (*comanchegear.com*). Trust him with my plane and therefore my life.

IIRC Piper suggests changing the circuit breaker if it has been popped.

Probably not the way you wanted to start your Comanche ownership – after 44 years, I still find our twin great fun to fly.

I would take the plane to a highly experienced Comanche shop for this work, as adjustment after work like this takes patience. After a shop claiming this experience installed the Twin's and I noticed a discrepancy according to the Service manual – you can find under Tech Tab on the main page (I am not a mechanic so it had to be blatant), I flew Matt to Texas and he removed and re-installed with the finishing being done by Clifton Aero. Matt may not do this anymore but it was worth it. He found multiple other discrepancies.

I would second the suggestion to involve Comanche Gear in solving your problem. I brought my Twin Comanche from Wisconsin last November, and have popped the gear CB. On jacks, we cycled the gear too many times too quickly, and I burned up the motor. Piper says to wait 10-15 min after cycling once, so be careful. Lesson learned ... I am using grease liberally, and not doing touch & goes.

1. Talk to Matt at Comanche Gear
2. Talk to Matt at Comanche Gear
3. Talk to Matt at Comanche Gear

Your gear may have been serviced recently, but that does not mean that it was properly rigged ... I'm guessing that "many if not most" servicings are done incorrectly.

Matt has a test stand that can evaluate your gear and tranny assembly ... it is not that difficult to pull that assembly and you can send it to him and have him do a thorough evaluation. You may have a Dura tranny that is worn ... fairly common.

Matt is the man on this issue.

Not to be argumentative, but could you please provide a reference to your statement that Piper says to wait 10-15 minutes after each gear cycle before cycling again? The only "limit" I know of is that of the electromagnet on the transmission brake (this is not a published limit in any POH but is a duty rating of the particular part). It is rated at 90 seconds of duty every 30 min. So if the average in transit time is 8 sec for the gear, and it takes you 5 minutes per circuit, you can do 5 touch and goes without exceeding that duty cycle on the brake. If all else is good with the system, the motor should be good for many more cycles than that before getting hot. If anyone smells "Hot" electrical smells, from your transmission, check the brake as it is the first thing to go.

I also did many touch and goes with my ex PA-30 and out of curiosity, in the summer time, after the last landing [I] took off the gear extension cover and felt the motor, it was warm to [the] touch, but nowhere near hot. In college, way back when, when we used the twin Comanche extensively for multi training, the gear would go up and down like a yoyo all day long with no known adverse effects. Of course like everything, the key is proper maintenance which includes new grease every other year or more if used as a trainer.

So for those that have hot motors after a couple of cycles, that indicates binding in the gear somewhere

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(conduits), or the motor/transmission needs service.

I had a similar problem with my 180 a few months ago. For me during one retraction cycle the breaker popped with the gear half way up. Before the breaker popped the load was so large that it tripped the alternator off line and caused a low voltage alert (JPI930).

I waited 5 mins, reset the breaker and lowered the gear using the manual

handle to assist. It took two tries of this procedure to get the gear completely down and locked.

Back in the hangar the gear motor was warm to the touch and there was an electrical smell. Long story short I had blown the gear motor due to excessive load in the gear system, most likely from stiff conduits. I have since replaced the gear motor and I am waiting on new conduits from Webco.

(continued on next page)

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A good test to perform is to place your aircraft on jacks and perform the manual gear disconnect procedure. Make sure you have someone or something under the aircraft to prevent the gear slamming down. BUT, if your gear falls slowly to the mid-extended position like mine does then I think you could strongly suspect that your conduits need replacing.

While I am waiting for my new conduits I have limited gear cycles to one per flight. If I fly circuits then I do it with the gear down. If I fly instrument approaches for practice then I do it with the gear up. I will also continue to assist the gear cycle with the manual handle (old style -180) until I have my new conduits installed. I also watch the load and voltage like a hawk during each gear cycle.

Had similar issues on first flight after purchasing my 260B, did pretty much as other; took to shop, cycled

gear etc. but failed again once in the air. In the end good lubrication proved to be the cure, coincidentally also changed battery to address other issues. It does get one's attention when the gear fails to come down. 

These postings are provided for informational purposes only. The views expressed in these postings represent the opinions of individual Comanche owners and have not been vetted by the ICS technical committee.

As a responsible pilot and aircraft owner, you should always seek advice from an experienced, trusted source, such as your A&P or CFF-trained CFI, before applying any of the techniques or recommendations presented in these postings.

The postings are printed as they appeared. Due to space considerations, sometimes only selected posts have been published.

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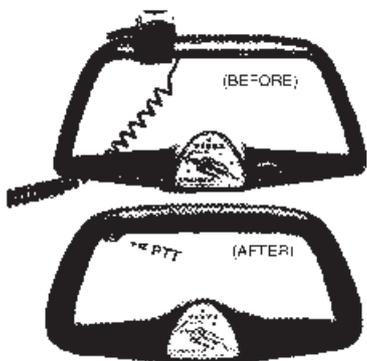
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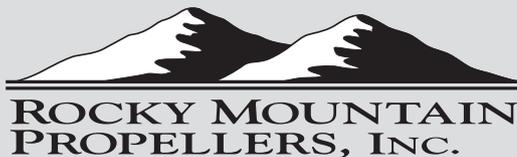
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2014 ICS Convention at EAA's AIRVENTURE in Oshkosh, Wisconsin July 25-27, 2014



2014 Convention – Update

by Pat Donovan

This is the eleventh article written about the upcoming ICS convention. By now I hope you have made the important decisions for your trip and everything is falling into place. The winter weather is leaving us and it's time to start thinking about getting your flying skills at their peak so you don't embarrass yourself getting in or out of AirVenture. Formation skills are not required as there will be no mass Comanche arrival. Around the time you receive this issue of the *Flyer*, the FAA will have published the special procedures for arriving and departing at AirVenture

(www.airventure.org/flying/). **It is critical that you obtain these procedures even if you are going to Fond du Lac instead of Oshkosh.** You will find the information necessary to efficiently and safely operate in that type of environment. Look up the specific procedures; practice the speeds and altitudes appropriate to your aircraft. Become skilled at spot landings that aren't necessarily on the numbers. Controllers at Oshkosh will assign a colored dot to land on when you are on final, and the color may change depending on traffic at the time. This means you could suddenly be landing short or long. It isn't hard ...

you just need to be comfortable with your airplane. Departures are fairly straightforward, but the key is to avoid the arrival paths. I generally stay low and fast until I'm out of the immediate area before climbing to altitude.

I forgot to mention previously there is an "emergency aircraft repair" center available for people flying in. If you suddenly have the need for a mechanic or require a part due to minor repair, both are available. Also, there are enough vendors on site that most parts can be obtained immediately or sent overnight, as necessary.

(continued on next page)

AirVenture • 2014 ICS Hospitality Tent Schedule

Date	Time	Topic or Activity	Presenter
Sunday, July 27	12:00 p.m. - 1:00 p.m.	Airport Day Lunch	Mid States Tribe
	1:00 p.m. - 2:00 p.m.	Comanche Pilot Training Program (CPTP) Topic 1	Carew, Richmond
Monday, July 28	10:00 p.m. - 11:00 p.m.	CPTP Topic 2	Carew, Richmond
	11:00 p.m. - 12:00 p.m.	Comanche Maintenance Discussion	Wilewski
Tuesday, July 29	10:00 p.m. - 11:00 p.m.	CPTP Topic 3	Carew, Richmond
	11:00 p.m. - 12:00 p.m.	The Five Most Misunderstood Things About Aircraft Insurance	Myers
Wednesday, July 30	10:00 p.m. - 11:00 p.m.	CPTP Topic 4	Carew, Richmond
	11:00 p.m. - 12:00 p.m.	CFF Comanche Pilot Proficiency Program (CPPP) Overview	TBD
Thursday, July 31	10:00 p.m. - 11:00 p.m.	CPTP Topic 5	Carew, Richmond
	11:00 p.m. - 12:00 p.m.		
Friday, August 1	10:00 p.m. - 11:00 p.m.		
	11:00 p.m. - 12:00 p.m.		
Saturday, August 2	10:00 p.m. - 11:00 p.m.		
	11:00 p.m. - 12:00 p.m.		

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The latest featured activities at AirVenture include a visit by a USMC MV-22 Osprey; demonstrations of *really* short takeoff and landings by some of the annual Valdez competitors (check out YouTube for some amazing pictures); a Zenith CH-701 being built from a raw kit to taxi tests in seven (not a typo) days; and the commemoration of the centennial of World War I by showcasing WWI-era aircraft, replicas, and reproductions. For the latest news go to www.airventure.org.

Last month's convention article recapped time-critical decisions depending on your plans. I will continue with this theme — April 31 has passed and it's too late to take advantage of the "early bird" registration fee of \$210 per adult and \$70 per child under 18. Starting May 1, the fee increased to \$250 per adult and \$90 per child. Full or partial refunds will be given for cancellations made after June 1 as finances permit, so why wait?

(continued on page 25)

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Spouse:		Spouse ICS #	
Guests:		Guest ICS #	
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Anticipated Arrival Information	Date	Year Built	Registration Number	180	250	260	PA30	PA39
By Comanche at KOSH								
By Comanche at KFDL								
By commercial airline			Flagship Competition (Y/N)?					
By personal vehicle								
Anticipated Departure Date								

Note: Transportation is provided by Retlaw Hotel between KFDL and the hotel. Transportation is provided by ICS shuttle between KOSH and the Retlaw Hotel, Camp Scholler, or the UWO dorms only on Fri-Sun, 25-28 July.

		Number	Price	Total
Registration by 31 April 2014	Per Adult		\$ 210	
	Per child age 18 or less		\$ 70	
Registration on/after 01 May 2014	Per Adult		\$ 250	
	Per child age 18 or less		\$ 90	
Friday, 25 July 2014	Registration Available 1200-1700		included	
Saturday, 26 July 2014	Registration Available 0900-1700		included	
	Old Board Meeting (Retlaw Hotel)		included	
	Hospitality Room		included	
	Day Excursion (per person)		\$ 27	
	Annual General Meeting/Dinner (Retlaw)		included	
Sunday, 27 July 2014	Airport Day (KOSH)		included	
	Lunch (ICS Hospitality Tent)		included	
	New Board Meeting (ICS Hospitality Tent)		included	
	Banquet and Flagship Awards (EAA Museum)		included	
	Day Excursion (per person)		\$ 32	
	Convention T-shirt size(s): S M L XL XXL		included	
Monday - Sunday	Airventure, seminars		on your own	
			Total	

Note: Full or partial refunds after June 1 will be made as finances permit.

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Mail payment to: Richard Frick, 1559 Ave. P, Nekoma KS 76559 or register online. Checks should be made out to Mid States Comanche Tribe.

Accommodations:

Retlaw Plaza Hotel, 1 North Main St, Fond du Lac, WI; (920) 923-3000; identify yourself as with ICS

All nights prior to Sunday, July 27th, the rate is \$79 plus tax.

All nights after Saturday, July 26th, the rate is \$149 plus tax.

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Dormitory or private home rental: http://www.airventure.org/planning/where_to_stay.html

AirVenture Admission: <http://airventure.org/planning/admission.html> for current information

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Students ages 6-18 \$18/day or \$60/week

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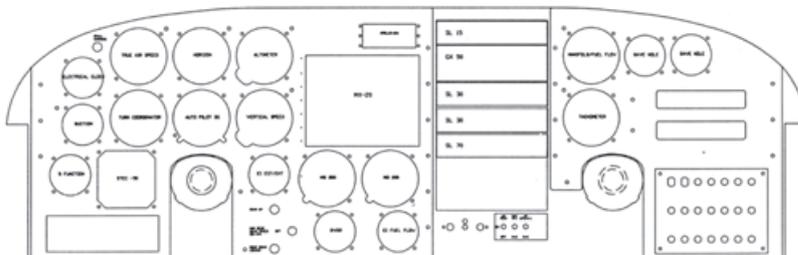
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You can, however, save money by buying your AirVenture tickets online before June 16. The savings include \$2 per daily ticket or \$5 per weekly ticket — see www.airventure.org/planning/advance.html for details.

Rooms at the Retlaw Hotel are going fast — **over half** of the ICS blocked rooms have been spoken for. We reserved all of the double queen-size bedrooms in anticipation you will be bringing company. Retlaw requires a four-night minimum with Friday & Saturday (and before) at \$79; Sunday and Monday (and beyond) at \$149 due to the AirVenture crunch. The only convention event at the hotel is the Saturday Board of Director Meeting and evening ICS general meeting/dinner; everything else will be at Oshkosh.

Saturday Day Trip

- Union Star Cheese Factory
www.unionstarcheese.com
- Paper Baron Mansions
www.bergstrom-mahlermuseum.com
- Lunch on the Fox River
- Paper Discovery Center
www.paperdiscoverycenter.org
- History Museum at the Castle
www.myhistorymuseum.org

Sunday Day Trip

- Paine Art Center & Gardens
www.thepaine.org
- Lunch on the Fox River
- Oshkosh Public Museum
www.oshkoshmuseum.org

Aircraft camping at Oshkosh is obviously the cheapest option at \$25 per night and no reservations are required. Aircraft campers will be parked together to enhance the camaraderie and put you front and center with the action. Aircraft departures can be done at any time except during the airshows. Driving campers can be together or separate as desired. The airport is closed to aircraft operations from sundown to 7am due to safety concerns — with it being dark, it's too easy to end up somewhere

(continued on next page)

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I have a suggestion for each Tribe ... have your members travel together from their respective areas. I'm not referring to a formation flight, but a group loosely traveling together. Stopping at similar en route or overnight points for additional enjoyment, and support would be appreciated by our members.

Schedule of events:

Friday, July 25

- Arrive at your convenience
- Check in with Convention registration
- Dinner with your Tribe and friends on your own

Saturday, July 26

- Day Trip via bus from both Retlaw and Oshkosh Airport
- "Old" Board of Directors meeting at Retlaw (8am-5pm)
- Dinner at Retlaw (7pm)
- Annual General Meeting at Retlaw (8pm)

Sunday, July 27

- Day Trip via bus from both Retlaw and Oshkosh Airport
- "Airport Day – Flagship Competition" at Oshkosh (9am-noon)
- Lunch at ICS AirVenture Hospitality Tent at Oshkosh (noon)
- CPTP seminar (1-2pm)
- "New" Board of Directors meeting (afternoon)
- Awards Banquet at EAA Museum (7pm)

Monday-Sunday, July 28 – August 3

- Comanche-specific operations and maintenance seminars in the ICS AirVenture Hospitality Tent (see seminar schedule for particulars).

- AirVenture forums on many topics
- Visit the Seaplane Base
- Planes, Planes, & more Planes
- Afternoon Airshow
- Night airshow on Thursday and Saturday
- KidVenture
- Explore the local area
- Seamstresses enjoy the Thursday Sewing Guild/Quilt Show in Oshkosh.
- Go home when you have had enough planes, education, bought all the goodies, and/or ran out of money!

For reference, the below topics were covered in previous issues of the *Flyer*. You can locate them by accessing your own archives or by looking at the online archive at www.comancheflyer.com. After logging in, look under the left-hand "Members" menu where you will find issues going back to January 2004.

- July 2013 – Convention announcement and general information
- August 2013 – Accommodations
- September 2013 – AirVenture
- October 2013 – KidVenture
- November 2013 – Education
- December 2013 – Day Trips
- January 2014 – Registration and general update
- February 2014 – Reminder why Oshkosh was chosen
- March 2014 – Planning Update
- April 2014 – Planning update and en route Wisconsin travel stops to consider. 

Editor's Note:

The following is a new column based on a Q&A format to answer your electrical and general avionics questions. ICS member, Corey Kroll, will use his 40-plus years of experience as an electronics engineer to find an answer or make recommendations to solve those nagging electrical gremlins. Corey has been a member of ICS since 1981 and has owned his Comanche 260, N8699P, for nearly 32 years. If you have a question, for example, about weak transmit/receive, noise/interference, circuit breakers popping, etc., or need advice on tools, test equipment and troubleshooting techniques, send Corey an e-mail at CoreyKroll@msn.com.

Ask Sparky

Solutions for electrical & avionics issues

Here is a sample Q & A

Q: On my first night flight after installing new avionics, the dimmer in my 260 Comanche no longer works to dim the panel and overhead light, but when switched off all the panel lights are full on. What happened?

A: This is a common problem [not just in Comanche's] in airplanes which utilize automotive type resistance wire "rheostat" dimmer controls. These controls are very similar to the volume controls used on all your radios however, being of a higher power rating, are meant to operate the panel lamps.

The problem likely came from the addition of your new radios which provide backlighting in the panel unit(s) and the indicator(s) which has exceeded the current and power ratings of the Piper P/N 484-582 rheostat assembly resistance element. Using the stock 260 as an example, the overhead light and glare-ban lighting draw a total of 2.2 amps. The rheostat element is rated at 50 watts (3.62 amps). In flight with the alternator supplying 13.8 volts to the panel lighting there is a 1.4 amp margin for the rheostat. That margin is easily exceeded once additional lighting is spliced into the dimmer circuit. Upon removal

you'll note that the resistance element is burned out right at its full-on end of travel. This is where the most current is being run through the rheostat. Since the circuit is protected by a 5 amp circuit breaker, the rheostat element burns out before the circuit breaker can be tripped.

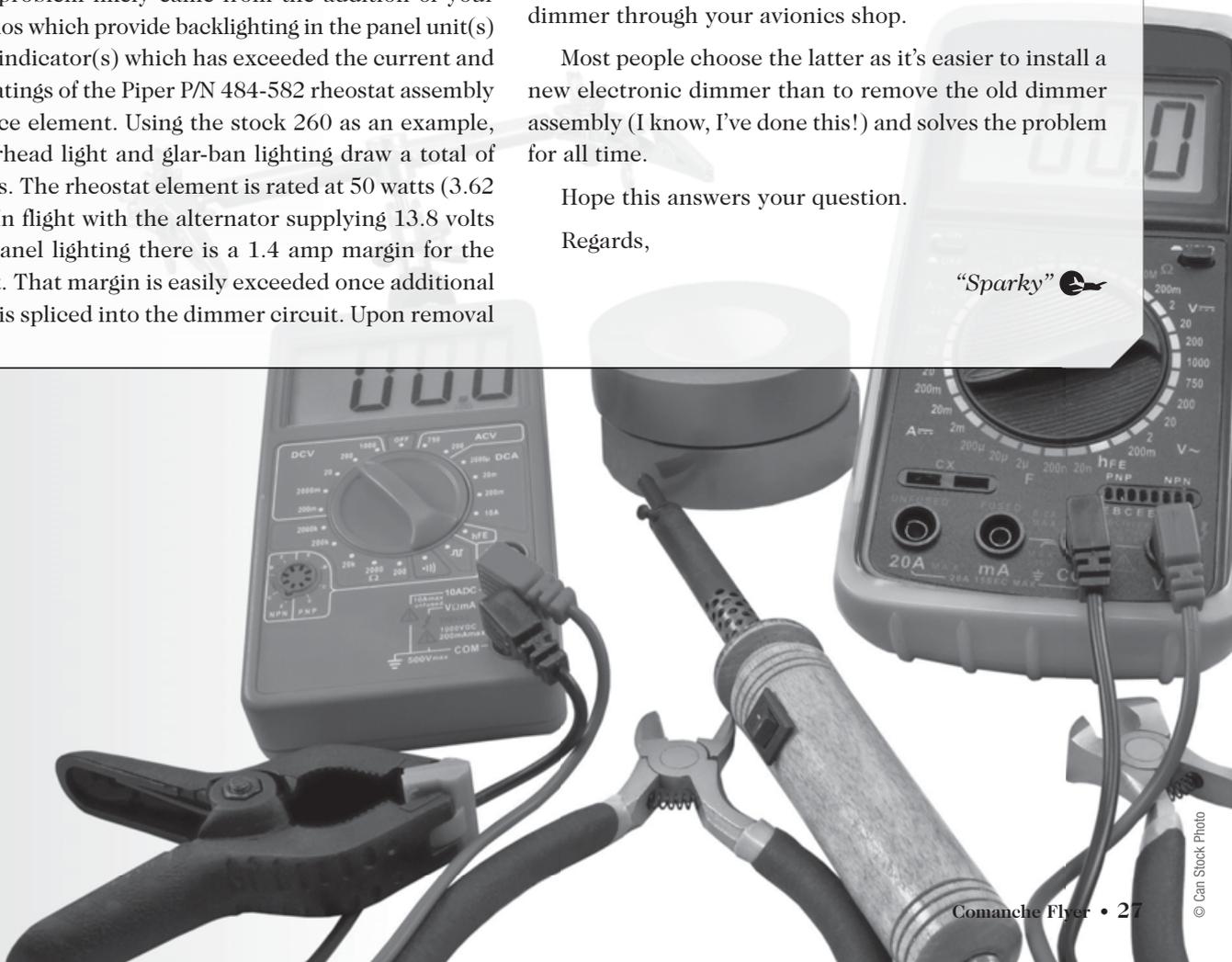
Repair and replacement options consist of replacing the burned out rheostat element with Piper P/N 484-398, buying the replacement rheostat element through an industrial electronics distributor (Like Newark or Allied Electronics) and transplanting the custom Piper shaft from the old to the new – an easy task, or removing the dimmer entirely and replacing it with a modern electronic dimmer through your avionics shop.

Most people choose the latter as it's easier to install a new electronic dimmer than to remove the old dimmer assembly (I know, I've done this!) and solves the problem for all time.

Hope this answers your question.

Regards,

"Sparky" 



Landing Gear Refurb

by Charles Schefer #17855

A year ago I put in a new Dukes transmission and motor from Comanche Gear, Webeo Teflon push-pull conduits, and Comanche Gear wiring kits and microswitches. Cliff and his team at Heritage Aero did a great job installing all of it ... rigging the gear and taking care of AD 77-13-21. We didn't do AD 79-01-01 R1 at the time, since it had 500+ hours to go (but we are currently redoing all the gear ADs).

(continued on next page)



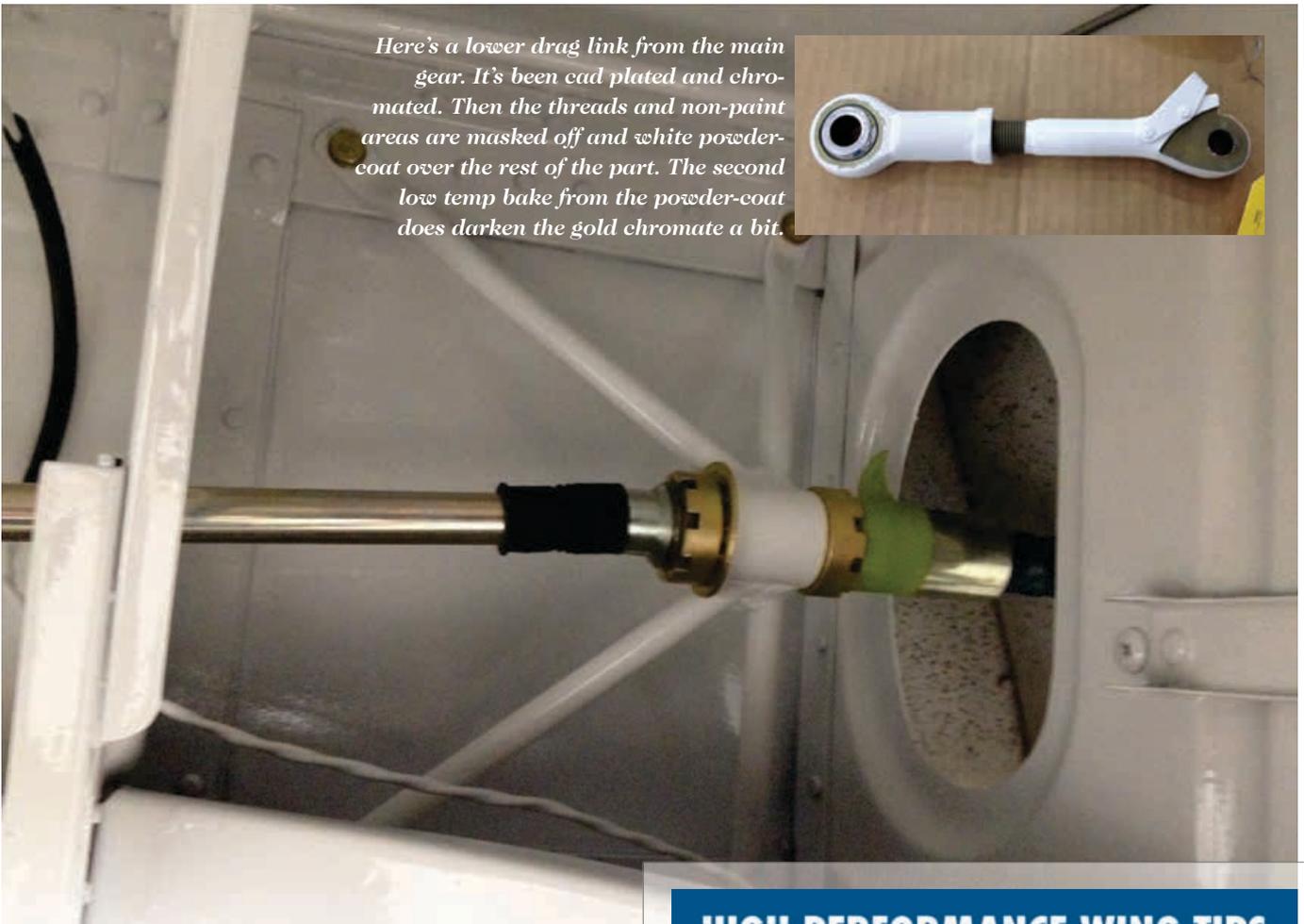
Picture of empty painted gear well.



This is a shot inside the LH gear well looking outward. The rear-side strut-trunnion mount is back in place on the rear wall of the gear well and the LH door is hanging in place. We discovered the MLG doors did not fit perfectly flush, but Matt Kurke has a nice piece on his website on how to deal with this. In terms of fitment we discovered the LH door had a slightly bent hinge causing the rear of the door to close before the forward leading edge. We took the hinge apart and used a metal break to straighten the hinge; we now have both gear doors closing perfectly flush with no undue pressure. Leading and trailing edges of both doors now close simultaneously. Also in this picture you can see the inside reinforcement doubler I had put on the door along the hinge to strengthen it, since this is a common crack point. I did this on my existing LH door (also pictured here) and the brand new RH door — partly so they would match in appearance and partly so they'd both be stronger.

Here's the reassembled LH side-brace stud and the housing mounted back in the gear well. The stud itself was sent to Aircraft Specialties to be magna-fluxed (for the 1000hr side-brace stud AD). Once I got them back, they went to the refinishing facility for cad-plating. Since the housing was aluminum it was stripped, etched, alodined, primed, and painted. All the mounting hardware was cad-plated.

Here's a lower drag link from the main gear. It's been cad plated and chromated. Then the threads and non-paint areas are masked off and white powder-coat over the rest of the part. The second low temp bake from the powder-coat does darken the gold chromate a bit.



Reinstalled push-pull conduit. The "spider" mounting bracket was cad-plated and powder-coated white. The bolts that hold it to the main spar were cad-plated, and mounting hardware that holds the push-pull conduit in place in the "spider" was also cad-plated. (On the inside of the conduit is a piece of green tape used for initial alignment.)



Finally here are some of the nose gear components partly reassembled.

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All nose gear parts back from refinishing (steel and aluminum).



All main gear parts back from refinishing (steel and aluminum).

Fast forward to this January when my IA and I started the annual together. We've been doing a number of upgrades including Airwolf remote oil filter kits, some LED panel lighting and LED landing lights. When it came to the gear, it was mechanically in great shape but aesthetically it wasn't up to standard with the rest of the plane so I decided to refurbish it.

At first I thought I'd just take it apart enough to more easily paint it in place. However, the more I got into it, the more I wanted to take it apart. I finally got to the point where I knew I wouldn't be happy unless I completely disassembled and refurbished everything. A big influence for me was watching Matt Kurke's YouTube video of the process refurbishing his Comanche 400 landing gear. I confess ... I watched it more than just a few times, and for a year I've pined to have my gear look like Matt's. I also saw pictures of the gear wells on Bill Schnauffer's beautiful "Miss Scarlet" (*Comanche Flyer*, Oct 2013). Then, as I was getting into my gear project, Cliff sent me photos of George Ahlsten's awesome PA-30 gear refurb and that just pushed me over the edge to total commitment.

We (my IA and I) pulled the gear completely apart ... and I do mean completely. I separated all aluminum and steel parts—every part was tagged and part numbered in accordance with the IPC. Every nut, bolt, washer, and bushing was measured for size, thread-pitch, thickness, etc., and cataloged in a database showing where it came from.

Detailed photos were taken of all parts as they came apart (thank goodness for digital photography). The left main gear, right main gear, and nose gear parts were kept in separate groups. I then started glass beading everything to bare metal.

I took all of the aluminum parts to Royal Aircraft Services (RAS) in Hagerstown, Maryland (HGR) www.royalaircraft.com. RAS is a 145 Repair Station with fabrication and paint facilities. They fabricated new gear well liners for me and trimmed them with new rubber (by the way, don't do this—I just learned that Webco carries new liners ready for paint and I had spent much more money fabricating them from scratch). Matt Kurke supplied me with a brand new, never-been-used RH main gear door. My left one was in fairly good shape but had a small patch at the top near the hinge. Since these doors commonly crack near the hinge and near the point where the door rod connects, I had both doors reinforced with flush doublers on these specific points and flush riveting on the doubler where the door rod connects. They did a great job. Both doors are now stronger, look great, and match. And if you didn't know otherwise, you would think they came from the factory that way! All these aluminum parts were stripped, acid-etched, alodine-tanked, and primed with Dupont® two-part epoxy. They were then top coated with Dupont Imron Matterhorn White.

I sent the side-brace studs to Aircraft Specialties for magnaflux inspection. When they returned I took all

the steel parts to Advanced Finishing Systems, Inc. in Hayes, Virginia (www.afinishingsystems.com/index.htm), where they were stripped and cadmium plated. It's getting hard to find cadmium plating due to the stringent EPA filtration requirements involved with the cyanide-cadmium plating process. After cad plating, the parts were chromated which gives hardware that nice gold finish. Like the cyanide-cadmium the chromate is nasty stuff to work with. It contains a heavy dose of hexavalent chromium (a.k.a., Chromium-6 or Chrome 6), the subject of the movie "Erin Brockovich." Finally, after cad and chromate, for any parts that are easily visible or are brackets (basically most things besides nuts and bolts) I had them powder-coated white over the cad plating. While I like the look of the gold chromate, I didn't want the gear to look too "bling-bling."

For the gear wells themselves I spent countless days and nights (sometimes till 4 a.m.) stripping, cleaning, and prepping them for paint. It's an arduous process and there are so many "nooks and crannies" in those gear wells; it took a very long time to get all the old grease and grime out. After several weeks of diligent work they were very clean. I hired a painter to come to the hangar to help me as I thought it would be a bit difficult to fly the plane to the paint shop with no landing gear, of course. We alodined the bare aluminum of the gear wells (warning: alodine also contains Chrome 6) and did the same two-part epoxy

primer and DuPont Imron paint as was used on the individual aluminum parts.

I drove almost 700 miles in two days to pick up all the finished parts. We've started reassembling the nose gear and, over the coming week or two, I hope we will have it all back together. We are doing things slowly, checking and rigging everything by the Service Manual. When it comes to torque we are using a dial torque indicator to check the nut turning torque first (before torquing with a regular torque wrench). With this process, we get the proper final torque factoring in the resistance of the lock nuts on the bolts. In addition to the refinished parts, many new parts are going in—brake disks, linings, various hardware, and a new nose gear wheel from Matt Kurke (stripping mine revealed it was too pitted to reuse).

Thanks to all the ICS members that have helped me, and continue to help me with this project including: Cliff Wilewski, Matt Kurke, Zach Grant, George Ahlesten and others. ✈️



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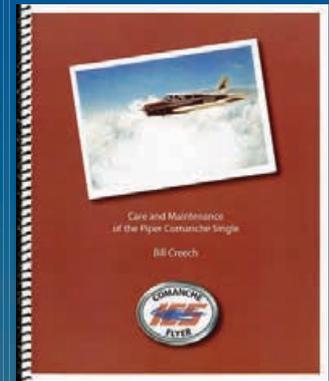


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Time Between Overhaul – Recent Changes

by Richard Koehler

You would think that TBO or Time Between Overhaul would have a firm definition somewhere, but it doesn't ... at least not that I have found in the FAA regs. So let's kick this concept around a bit this month. In my experience it is one of the most misunderstood numbers in aviation.

There is no formula or mathematical model that is used to determine an engine's TBO, but rather the TBO is recommended by the manufacturer based on the results of testing and is approved by the FAA. So, much like airframe fatigue life prediction, it is really a statistical number based on a certain test profile that may or may not really simulate the actual operating environment of the engine. Let's look at it another way—if you consider the classic failure rate of most any system, you can expect a few early failures (usually called infant mortality) followed by an extended period of very few failures. Then, as the system continues to be used and “ages,” one will see a steadily increasing rate of failures due to component wear and age. The established TBO should ideally occur just as the “old age” failure rate starts to significantly increase. Key words here are “starts” and “significantly.” Again, there is no strict definition.

The initial TBO is recommended by the manufacturer based on block testing, and then, ideally, is modified up or down based on actual operational experience. Within a manufacturer there are at least two forces tugging at the TBO

number: (1) marketing would like to see a high number, and (2) they would sell more engines if they lasted forever! On the other hand, the maintenance, support and legal departments would like to see a low TBO number, so as to minimize the chances of a field failure and maximize overhaul repair purchases. The number is a compromise. It is accepted that most engines will make it to TBO, but that some will not. Infant mortality risk is minimized by a “run-in” of the engine so that the first hour or two of engine operation is not in flight. Part manufacture and assembly errors are hopefully found before the engine actually flies. Also, remember that after the first few hours the failure rate should be very low until getting near the TBO time. There will be failures, but not very many. How many or what rate is not defined. Some engines have reputations for getting to TBO with virtually no failures, while others do not. These rates may be affected by which airframes the engine is operating on. For example, the relatively reliable Continental IO-520 series engine had a horrible reputation in its turbocharged version on the early Malibu. So, Piper substituted the highly reliable Lycoming IO-540, and it also had reliability issues on the Malibu. The problem was the highly stressful environment in the turbocharged and high-flying Malibu. Again, remember that TBO is based initially on test cell running to some usage profile, and it is then modified, hopefully, by fleet experience. Your individual experience may be different.

Why should you care about the stated TBO for an engine? Most people use it as a measure of the expected service life of the engine. Obviously, an aircraft whose engine only has 500 hours on it should be worth more than an identical aircraft with an engine having 1500 hours. But, what if the 500-hour engine had been used for air racing with its 500 hours at maximum power; whereas the 1500 engine has been used almost exclusively for long-range cross-countries at 55% power? Both engines may be ready for overhaul, or not. Also, how long has it been since the engine was overhauled? Most of us only talk about hours since overhaul, but Lycoming also has a time limit of 12 years! If the engine is 25 years since overhaul, its chances of getting to TBO are seriously diminished.

Last summer Lycoming revised its Service Instruction that covers TBOs, and significantly rewrote the wording of all the caveats and exceptions. For instance, the 12-year overhaul requirement was emphasized in bold print. It also states that the engine must be preserved if it will not be operated for more than 30 consecutive days. It also emphasizes that the TBO only applies if the entire engine has only genuine Lycoming parts! Supposedly the TBOs do not apply to engines that contain other than parts supplied by Lycoming. This is an interesting FAA issue that was probably written by the lawyers at Lycoming to limit their liability issue, since almost all field overhauled engines will have PMA'd (FAA approved) parts in them. Lastly, the SI states that due to variations in the manner in which engines are operated and maintained, Lycoming cannot give assurance that any individual operator will achieve the TBOs identified in the SI! TCM has similar caveats in their TBO listing.

So, where are we with TBOs? I think the best thing to remember is that they are a guide, not a guarantee. The TBO should be adjusted based on how and where the plane is operated and maintained.

It should be remembered that commercial operators must follow the manufacturer's TBO, but we not-for-hire Part 91 operators do not have to. You can legally fly beyond the TBO, if the engine is otherwise airworthy. Beyond the question of airworthiness, let me offer two arguments why you may not want to fly beyond TBO. First, many mechanics feel that running the engine significantly beyond TBO is a false economy because the high-time engine will have accelerated wear so much that additional damage will occur, significantly increasing the cost of the overhaul beyond what was saved by extending the TBO. This argument cannot be proven conclusively, but it is obvious that if you run the engine until it "fails," depending on what that failure is, the repair will be more expensive. For instance, I know of a TCM O-470 on a C-182 that was run 400 hours (25%) over TBO. It was finally overhauled when it stopped making power. It turns out the cam had been badly worn and was putting large amounts of metal in the oil. These metal filings damaged and scored every bearing surface, so at the overhaul everything with a bearing surface had to be reworked or replaced, including

all the gears and crankshaft—items that normally can be reused with minimum rework. An \$8000 crankshaft costs way more than the extra 400 hours saved beyond TBO.

The other issue with exceeding TBO is liability. Although there is no TBO requirement in most insurance policies, if you have an accident due to an engine problem, and your engine was beyond TBO, the plaintiff's attorney may focus on that issue as a cause for the loss and try to establish a lack of care on your part. Your insurance carrier may be forced to settle for more than you would like, or worse, a judgment in excess of your policy limits could be ordered by the court that would threaten your assets. The difference may depend on how well you have documented the process of monitoring and maintaining the engine past the recommended TBO, remembering that TBO has both an operating hours and calendar time limit!

I hope this little discussion helps with your decisions on how you operate and maintain your bird. 

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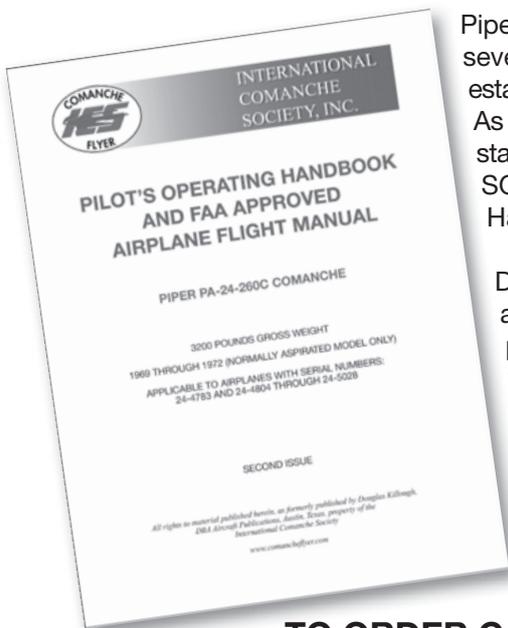
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DATE	TRIBE	EVENT/LOCATION	INFO SOURCE/HOST
May 31	NC	AOPA Regional Fly-in Indianapolis Regional Airport Indianapolis, Indiana	Bob Williams
July 25-27	ICS	2014 ICS Convention/ Oshkosh, Wis.	Mid-States Tribe
July 28-Aug 3	ICS	AirVenture/Oshkosh, Wis.	
Aug 14-17	WC	3-day fly-in/Drumheller, Alberta, Canada	Don & Carol Ostergard (403) 823-0405 (Don cell) (403) 823-8813 (res) c-flhv@magtech.ca
Nov. 16	NE	Lunch/Georgetown, Del.	Ron and Lynn Ward – To register: ronandlynn22@gmail.com
Dec. 16	NE	Lunch/Cambridge, Md.	Ron and Lynn Ward – To register: ronandlynn22@gmail.com

* The following Sunday is the rainedate.

Editor's Note:
Tribe Chiefs and Fly-In Coordinators, remember to send in your calendar of fly-ins and more detailed information, as it becomes available, so it can be published in the Flyer.

MID-STATES TRIBE

Saturday Lunch Fly-Ins

Saturday Lunch Fly-Ins will be posted in our new *Comanche Winds* newsletter which will come out every other month.

SOUTH CENTRAL TRIBE

Saturday Lunch Fly-Ins

If it is difficult for you to make a full weekend fly-in, you may find the Saturday lunch gatherings with Comanche camaraderie, sharing of flying

stories, maintenance talk and lunch, to your liking. You should be able to find a schedule of the lunch fly-ins on the South Central Tribe website at <http://groups.msn.com/SouthCentralTribeICS/welcome.msnw> and in the South Central Tribe newsletter *Smoke Trails*. (If you wish to organize a lunch fly-in, please contact Bruce Thumann at bruce@contractbuilderssupply.com or (713) 875-3056.)

Tribe E-mail Updates

If you are not receiving the South Central Tribe's *Smoke Trails* Newsletter and would like to, please e-mail Bruce Thumann at bruce@contractbuilderssupply.com, and he will make sure to amend the list to include your e-mail address.

NORTHCENTRAL TRIBE

May 31 AOPA Regional Fly-In Indianapolis, In. (KMQJ)

In case you didn't see it, one of the AOPA regional fly-ins for this year will be in Indianapolis at KMQJ. I think this would be a great event to have a large Comanche presence at. AOPA has supported our events in the past

and we should reciprocate ... besides it sounds like a fun day. It's in our tribe area and AOPA is doing all the planning and setup. It's an opportunity for us to make a strong showing for the best plane ever "Comanche." Hope to see many of you there.

Happy Flying

Bob Williams

W. CANADA TRIBE

Aug 14-17 Fly-in – The Great Dinosaur Valley Drumheller, Alberta, Canada

Drumheller is known as "The Dinosaur Capital of the World." Specimens from Drumheller's Dinosaur Valley are on display in most of the world's great museums. Drumheller's Royal Museum of Paleontology is recognized as the largest and finest museum of Ancient Life in the world.

Drumheller also has a rich coal mining heritage. Long ago when coal was king, there were over 50 underground coal mines in the valley. Though lots of coal is still available, economics brought Drumheller's commercial mining industry to a close a number of years ago.

We'll also visit a Hutterite Colony in which members of this pacifist sect live in large communal farming colonies. They operate huge state-of-the-art farming enterprises while maintaining their traditional garb and living a non-ostentatious lifestyle with deeply faith-based values. (No, they are NOT Amish!)

We'll host a barbecue at Ostergard's Seed Farm.

We've got a few other adventures in mind, too.

Bring the kids!

(continued on next page)

We've set aside a block of rooms at the Drumheller Ramada. Call 1-877-807-2800, mention "Comanche Flyers" to get the group rate of CAN\$175.49 per night. Drumheller fills up fast in the summer months, so be forewarned.

Don & Carol Ostergard, ICS 3263 Box 2550
Drumheller AB T0J 0Y0
Tel (403) 823-0405 (Don, cell)
Tel (403) 823-8813 (res)
c-flhv@magtech.ca

EUROPEAN TRIBE

May 29 - June 2

Fly-in

Koblenz, Germany

The preparations for the fly-in to Koblenz are coming to the final stages. We are trying to establish the number of people wishing to attend so Annette can finalise details with the restaurants, transportation, and other venues we will be visiting. In the next few days, the registration form will be sent out,

but until then please contact Annette at afehlhaber@aol.com or Kate kate-burrows340@gmail.com to let them know you will be coming to the fly-in.

Hotel information:

Mercure Hotel Koblenz
<http://accor.com/en.html>

Mention the code: "Fly-In Koblenz-Winningen" to get the special price which is €128 – includes breakfast. These rooms will be released back to the hotel on April 17, so please make sure you have booked your reservation before then.

July 3-7

Fly-in

The Channel Islands

The basic program will be flying into Jersey, going for a coastal Ice-Age walk, visiting a castle, taking a guided tour of the Island, participating in a wine-blending session, spending a day visiting Sark to attend a folk festival or just walk around (there are no cars or motorbikes on Sark), or simply get

away from it all! The itinerary is being finalized and will be published in the EU Newsletter. Contact Alan Burrows at alan@alan-burrows.com.

September 4-8

Fly-in

Graz, Austria

The basic program will be in the city of Graz with the best places to see and be at. It will include a guided tour through the city taking part of it with an old tram. Travel by cable car up to the Schlossberg, enjoy a view over Graz, get a bit of history, visit a knight museum (the biggest one in Europe), and have a guided tour through the canals below the city. Also, take a trip up a mountain in a cable car, see a lovely view over Styria Region with lunch at the top, and enjoy the evening gala dinner in the old university. Finally, a trip to the vineyards in the south of Graz, visiting different vineyards with lunch at one of them. Contact Titica von Roschka at tigeyo@yahoo.com. 

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Remember the Basics and Leave the “Foggles” at Home

I briefed my CFII copilot as we rolled down the taxiway, “This will be a zero-zero departure. In the event of engine failure before rotation, we stop on the remaining runway; engine failure less than 500, we’ll land straight ahead; and above 500, I’ll fly and you do the checklist while I start a 180 with my airplane; and at all times confirm changes.” He was an experienced 135 pilot and I had flown as a 135 copilot, so I was used to using cockpit resource management and multi-pilot operations.

I started what should have been a routine 20 nm training flight from a small country airport back to the Comanche’s home base. It was a beautiful, sunny South Carolina afternoon with not a cloud in the sky. What an excuse to fly! Oh yea, I needed to top all the tanks in the Comanche and fuel was 70 cents cheaper at this little airport a few miles from the city. Grabbing my CFII friend, a set of “foggles,” and my beautiful girlfriend, we started on our adventure.

A standard instrument departure and uneventful flight and landing found us at the little country airstrip. Upon landing the attendant greeted

us and smiled as Vickie climbed out of the plane ... she always somehow manages to gets smiles from the line guys. I asked him for a top off on all four tanks. I always watch line guys fuel the Comanche as they tend to short each tank a few gallons due to the design of the tabs, and my goal was to take on as much fuel as possible. Starting on the right wing, I explained the fill holes and supervised. Satisfied that he was doing a good job after the first two tanks, we went into the FBO for some water and air conditioning.

The attendant returned and I choked down the nearly \$250 fuel bill. Well, it could always be worse, I thought. Among some laughing and running around on the ramp, we gave the Comanche a good push back and I climbed on board and helped Vickie onto the wing. A quick glance at the wings and we started to buckle in.

The airplane rotated sluggishly, which was to be expected with a nearly max gross weight takeoff in 100-degree heat. I always smile when taking off at max gross weight as the nose lifts and then that few seconds pass before the airplane slowly lumbers off the runway like a large transport category jet.

I immediately retracted the gear, pulled power to 25 squared and pitched for Vy. Climbing about 500 feet per minute through 1,000 agl, I turned on course, pitched for a cruise climb at 120 mph, flipped the electric fuel pump off, announced our departure on the CTAF, tuned the approach frequency and called the controller to get clearance and vectors for the ILS back home.

The controller was moderately busy and I was just preparing to level at 3,000 feet, when I felt a frantic tapping on my shoulder. Vickie had on a headset, but she knows when is a good time to chat and when isn’t. Since David and I had been talking about the approach and I had been talking to the controllers, she had been quiet and enjoying the flight. Why would she be tapping so urgently, I wondered? “What babe?” I said into the intercom still busily working in the cockpit. That resulted in a tug on my shirt. I looked over my shoulder to see a horrified look on her face and she pointed to the left wing. I turned around and looked to see what she was talking about. To my surprise, the auxiliary fuel door was open and fuel was trailing out! “Oh

shoot!” I blurted. David looked over to see what was going on.

A brief period of confusion in the cockpit ensued. I was 40 degrees off course and 400 feet off altitude and climbing. Realizing I was still under the “foggles,” I pulled them off, switched tanks to the outboard one that was leaking – a gut instinct to try to save the fuel because goodness it had been expensive – and answered the controller who was now on his third call for me and becoming annoyed. I debated asking for an immediate 180 to land, but then realizing we were almost halfway home, I decided to press on. I nosed us over and tromped on the rudder, and got us pointed back where we were supposed to be. We discussed transferring fuel, but I explained the fuel system to David and about that time noticed the fuel pressure was VERY low. I immediately hit the electric fuel pump and switched back to one of the main tanks. I surmised that the siphoning effect that was pulling fuel out of the wing was also creating opposite pressure inside the tank and making it difficult for the mechanical pump to maintain pressure to the engine. Switching tanks solved this problem.

Finally a peep from the back seat! Vickie, who had been silent throughout all the commotion, innocently asked if everything was going to be okay. I reassured her that it wasn't a huge deal and that everything would be fine minus some lost fuel. She smiled and gave me that trusting look she always gives me when she is scared to death and won't admit it!

The flight quickly terminated with radar vectors to an uneventful ILS approach to minimums. After taxiing to my parking spot, I quickly inspected the fuel door and checked to see if



the cap was still in place. The cap was there and the door was undamaged. I breathed a sigh of relief. As much as I hated losing \$45 in fuel, I surmised that replacing the cap would cost five times that amount! I noted the fuel door latch was rusted and required a little finesse to fully lock it in place. It would easily fall into a half-locked position and appear to be properly closed. This is no doubt what had befallen the line guy fueling my airplane.

Later that evening, as I pondered the events of the day a few important things came to mind. First, the importance of supervising fueling, or any other operation being performed on your aircraft. I, like most pilots, am quick to take advantage of full service – after all if you're paying for it, you might as well use it, right? Secondly, you should ALWAYS do a thorough preflight, even after a quick fuel stop. Recalling my preflight, I had quickly looked to make sure the doors were closed, but not inspected them to

ensure they were closed properly. Next, you have to know your aircraft systems. It is critical to understand how things work when dealing with an abnormality. Lastly, and most importantly, my primary instructor's words rang true in the back of my head, “First and foremost ALWAYS FLY THE PLANE.” A minor problem could have easily become a serious issue had the two pilots up front become so engrossed with the fuel leak that they forgot to fly the plane (Note to Self: Order STEC 55X, ASAP!). Along with that, comes good crisis management skills; if you think they are not important in a light airplane, you are wrong!

I hope this gives all pilots pause to think. Remember the basics, always take care of your airplane, perform a thorough preflight each and every time, be knowledgeable about the workings of the aircraft's systems, and always remember to fly the plane no matter what! 

South Central Tribe Fly-in to Fredericksburg, Texas



niroworld / 123RF Stock Photo

by *Rusty Hall*

Once again, the South Central tribe sponsored a fun and informative weekend for Comanche drivers. Most of us arrived on Friday and stayed at the Hangar Hotel on the field at Gillespie County airport. The O Club provided a spacious area for registration, meeting friends and “Hangar flying” while enjoying libations of your choice. The hotel

accommodations and staff were friendly and helped everyone get settled in.

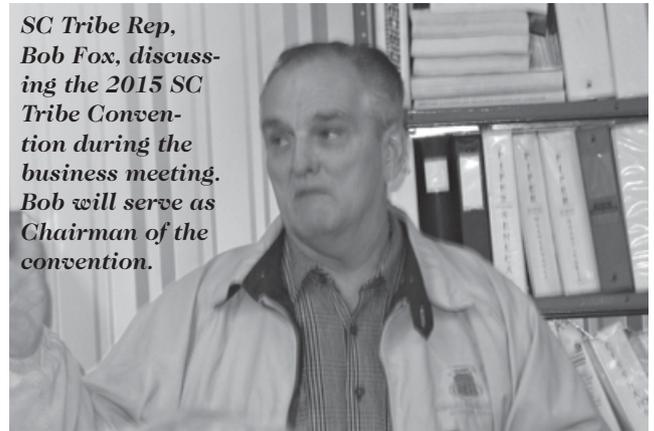
The seminar presenters started with Tim Talley of Clifton Aero fame, accompanied by one of his five mechanics, David Everett. They have “Worked together for 30 years,” remarked Tim. Both demonstrated the “auzzie Horn” installation, its nuances, and the errors many unknowing mechanics have made

by NOT following designers’ recommendations on the install; costing their Comanche owners thousands of dollars. When asked how many they had installed, Tim replied, “I think about 13-15.” (Pretty good *specific* experience compared to most shops.)

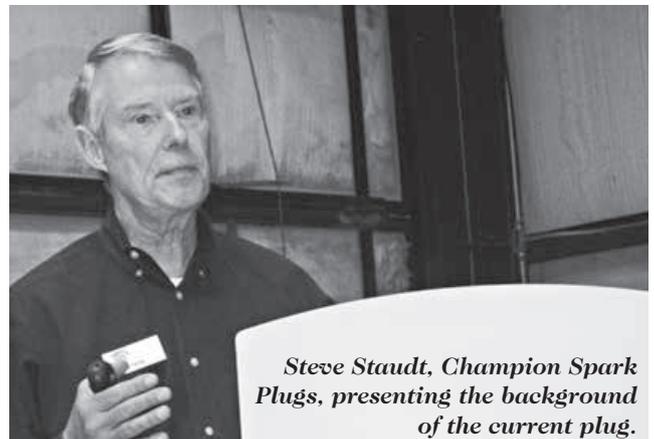
Daman Berry, from Plane-Power, explained how an electrical system works, including the starters and generators of



Now that's a fine looking group of Comanche members!



SC Tribe Rep, Bob Fox, discussing the 2015 SC Tribe Convention during the business meeting. Bob will serve as Chairman of the convention.



Steve Staudt, Champion Spark Plugs, presenting the background of the current plug.

old models versus the new “high tech” electrical components (now available to Comanche owners at Sky-Tec and Plane-Power). He described efficient owner “trouble-shooting techniques” and encouraged *all* aircraft owners (whether customers of Plane-Power or not) with electrical starting and charging issues to call Plane-Power for help in diagnosing the problem areas. They are experts who are willing to help anyone before dollars are spent “chasing the culprit.”

Professor Don Grunke of Concorde Battery Corp. followed with slides and complete explanations as to why “Concorde has NO true competitors.” His engineering experience became apparent as he delineated the design and construction of current aviation batteries, and the differences between the “other” options available to Comanche owners and Concorde Battery. Maintenance and battery tenders responded to many questions from the attendees. Concorde also provided ten Aviation Maintenance Technician Handbooks - 6th Edition (by Dale Crane) which were passed out as door prizes to some lucky seminar attendees. (Thanks!)

Steve Staudt from Champion Spark Plugs presented the background of the current plug and discussed the new iridium plug differences. Of all maintenance issues, leaning and altitude was a popular topic with all the lean of peak controversies.

Bruce Thurmann and Mark & Pam Bouchard taking a “convenience” break during the trip.





Lucky Louque, FAA and NTSB aviation accident investigator, demonstrating the carelessness of aircraft pilotage and maintenance.

All of the vendors distributed handouts and brochures to attendees as well as helped the seminar financially. With that in mind, please support these businesses when you're making product choices. (I'm ordering my alternator conversion and iridium spark plugs shortly; I already have a good Concorde battery!)

Lucky Louque, FAA and NTSB aviation accident investigator, and always a superb speaker regarding aviation accidents, had many slides demonstrating the carelessness of aircraft pilotage and maintenance (whether mechanics or owners) and their tragic consequences.

Bob Cretney discussed tribal business and the decisions we will face in the near future as a tribe.

Mike Foster, the new president of CFF, closed our seminar with reports on pilot proficiency training and current CFF activities.

While the guys were soaking up the maintenance knowledge, the ladies were busy visiting local sights in Fredericksburg: Wine tasting tours, shopping in the many stores willing to "swap for cash" goods and services, touring the National Museum of the Pacific War – Home of Admiral Nimitz Museum, visiting garden fairs, and many other opportunities to enjoy themselves.

The entertainment for Saturday evening was a costume contest and sock hop starring Johnny Rogers, an impersonator of Buddy Holly, Elvis, Roy Orbison and many more. It was a fun-filled evening of dancing, laughing, "hangar flying," relaxing, and enjoying each other's company for some 50-60 Comanche supporters and friends.

One group of Comanche enthusiasts and friends drove from the Dallas area (nearly 300 miles) decked out in period clothing that included poodle skirts. From my vantage point, they thoroughly enjoyed themselves with favorite songs like "La Bamba." Due to their large number (and not flying their Comanches), I'm sure they chartered a bus. In fact, one of them won the costume contest ... ain't it great!

It seems like all attendees had a great time "letting their hair down," though some of us don't have much hair left. The co-hosts, Larry and Patsy Hauptrief (#15599); and Rusty and Sandy Hall (#2365), enjoyed organizing the flying and wish everyone "tailwinds and smooth air." 🛩️



Daman Berry, Plane-Power, explaining how an electrical system works.





Professor Don Grunke of Concorde Battery Corp. spoke about the design and construction of current aviation batteries.



Mike Foster, the new president of CFF, reported on pilot proficiency training and current CFF activities.



Bob Cretney, along with Rusty Hall, discussed tribal business.



Tim Talley of Clifton Aero fame (on the left), accompanied by one of his five mechanics, David Everett.

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PA30

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- **YEAR**, Model Year of Aircraft
- **MODEL**, PA 24-180, 250, 260, 400
- **SERIAL NUMBER**, Serial Number of Aircraft
- **N-NUMBER**, Registration Number of Aircraft
- **TOTAL AIRFRAME TIME**, Total Hours On Airframe
- **AIRFRAME DAMAGE HISTORY**, Any Damage History e.g. Gear Up Landing
- **TOTAL ENGINE TIME**, Total Hours On Engine Since Factory New or Remanufactured
- **ENGINE TIME SINCE TOP OR MAJOR OVERHAUL**
- **PROPELLER TIME**, Total Time On Prop Since New or Overhaul
- **ANNUAL INSPECTION DATE**
- **FLIGHT INSTRUMENTS**, Standard Gyro Panel, Electronic Flight Instrument System
- **RADIO / NAVIGATION EQUIPMENT LISTING**, Communications & Navigation Equipment Listing e.g. GPS, ILS, VORs
- **WEATHER AVOIDANCE EQUIPMENT**, Stormscope, Radar,
- **SPECIAL EQUIPMENT LISTING**, Engine Monitor (EGT, CHT, Fuel Flow, etc.)
- **AUTOPILOT**, Type & Make of Autopilot
- **INTERCOM**
- **INTERIOR CONDITION & NUMBER OF SEATS**
- **EXTERIOR MODIFICATIONS**, Gap Seals, Wing Tips, Speed Mods, Windshield
- **PAINT CONDITION**
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ABBREVIATION KEY

A/C	Air Conditioning	FGP	Full Gyro Panel	OH	Overhaul
AD's	Airworthiness Directives	FWF	Firewall Forward	PET	Piper Electric Trim
ADF	Automatic Direction Finder	GPS	Global Positioning System	RB	Rotating Beacon
AH	Artificial Horizon	G/S	Glide Slope	R/C	Rate of Climb
A&P	Airframe & Powerplant Mechanic	GSP	Ground Service Plug	RE	Right Engine
AI	Aircraft Inspector	H/P	Heated Pitot	RG	Retractable Landing Gear
A/P	Audio Panel	HP	Horsepower	RNAV	Area Navigation
AP	Autopilot	HSI	Horizontal Situation Indicator	SB's	Service Bulletins
CDI	Course Deviation Indicator	IFR	Instrument Flight Rules	SCMOH	Since Chrome Major Overhaul
CHT	Cylinder Head Temperature	IMC	Instrument Meteorological Conditions	SFN	Since Factory New
COM	Communication	ILS	Instrument Landing System	SFRM	Since Factory Remanufacture
C/R	Counter Rotating	LE	Left Engine	SMOH	Since Major Overhaul
C/T	Carburetor Temperature	LOC	Localizer (Runway Centerline Guidance)	SOH	Since Overhaul
DF	Direction Finder	LORAN	Long Range Navigation System	S/N	Serial Number
DG	Directional Gyro	M/B	Marker Beacon	SPOH	Since Propeller Overhaul
DME	Distance Measuring Equipment	MDH	Major Damage History	STOH	Since Top Overhaul
EFIS	Electronic Flight Instrument System	NDH	No Damage History	TBO	Time Between Overhauls
EGT	Exhaust Gas Temperature	NM	Nautical Miles	TT	Total Time
ELT	Emergency Locator Transmitter	NAV	Navigation Radio Receiver	TTAE	Total Time Airframe and Engine
E/P	External Power Plug	OAT	Outside Air Temperature	TTSN	Total Time Since New
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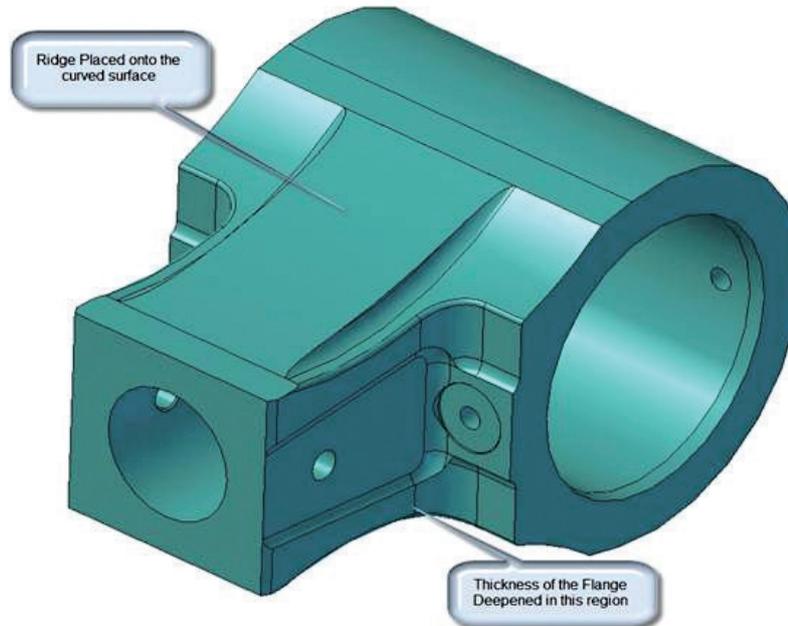
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