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NOVEMBER 2008 VOLUME 35, NO. 11

# *Flyer*



The Official Membership Publication of  
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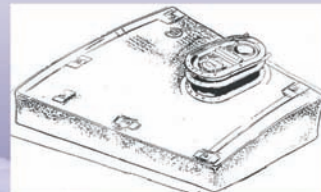
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Marvin Wade's newly refurbished 1959  
PA-24-250 Comanche.

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## CONTENTS

- 2** Letter from the President *Dave Fitzgerald*
- 4** *Cover Story: Comanche Spirit*  
The Resuscitation of N6272P –  
A 13-year Project *by Marvin Wade*
- 10** ICS Board of Directors & Tribe Chiefs  
2007-2008 ICS Standing Committees  
ICS Past Presidents
- 11** ICS Technical Directors  
ICS Tool Loan Program  
CFF-Trained CFIs
- 12** *Technically Speaking*  
Engine Longevity
- 16** *Feature*  
The Killough Manuals *by Bill Creech*
- 20** *Feature*  
21st Century Capability for a '65 Classic *by Jay Hulbert*
- 23** ICS Membership Renewal Form
- 25** ICS Items for Sale
- 26** *Feature*  
Buying a Comanche *by Dave Pyle*
- 28** *From the Logbook*  
From New York to Alaska ... and Back *by Dwight Coombe*
- 38** ICS Name Badge Order Form
- 40** From the Tribe Chiefs
- 44** *Fly-In Report*  
European Tribe Enjoys a Fly-out  
to Bergen, Norway *by Harvey Crush*
- 46** Comanche Classifieds
- 47** Advertiser's Index
- 48** *Last Laugh*  
High Flight Parody with FAA Supplement



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# Letter from the President

**O**ur oldest Comanches are now approaching 51 years, with our youngest going on 37. The availability of replacement parts is crucial to maintaining our airplanes, keeping them safe and preserving their value. Fortunately, many Comanche parts can be purchased from Piper, Lycoming or one of many vendors in the aviation industry. However, as the fleet continues to age, some parts may become increasingly difficult to find. What options do we have in the event we cannot locate a particular part or, worse yet, if it is no longer being produced?

First, let's examine the rules governing the general privileges and limitations of a maintenance technician or certified A&P mechanic to make or repair parts on your certified aircraft. Under FAR 65.81 and FAR 145.51, a technician or repair station may perform maintenance, preventive maintenance, and alterations on an aircraft or appliance for which he is rated. A maintenance technician or repair station can make patch plates or reinforcement splices and incorporate them into the repair of a part. A technician or repair station cannot, however, make new or replacement parts for a certified aircraft. Since mechanics cannot legally make parts for your plane, and assuming that a PMA, TSO, standard, or production holder replacement part is no longer available, what can you do? An option often overlooked is an "owner-produced part."

**Question One:** Who can do this work and what are the rules governing the making of an owner-produced part?

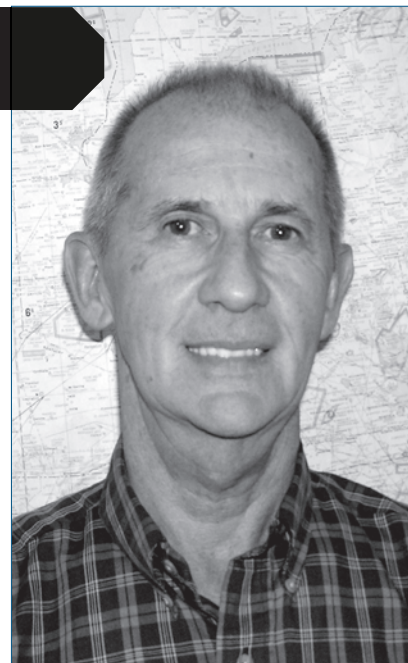
**Answer:** FAR 21.303 (b) (2) provides for an aircraft owner or operator to produce parts for maintaining or altering his or her own aircraft. Under this provision, the owner-produced part can only be installed in an aircraft owned or operated by that person, and the owner-produced part cannot be created for sale to others.

**Question Two:** Does the owner have to make the part himself?

**Answer:** The answer can be found in a FAA Memorandum dated August 5, 1993, in which the Assistant Chief Counsel for Regulation makes the following interpretation:

A part does not have to be solely produced by the owner to be considered an owner-produced part. However, the aircraft owner must participate in the manufacture of the part in at least one of five ways for it to be considered "owner produced."

1. The owner provides the manufacturer of the part with the design or performance data.
2. The owner provides the manufacturer of the part with the materials.
3. The owner provides the manufacturer with fabrication processes or assembly methods.
4. The owner provides the manufacturer of the part with quality control procedures.
5. The owner personally supervises the manufacture of the new part.



**Question Three:** Can the owner contract out the manufacture of the part and still have a part that is considered, "owner produced?"

**Answer:** Yes, as long as the owner participated in one of the five functions listed in the answer to question two.

**Question Four:** Can the owner contract out the manufacture of the part to a non-certificated person and still have a part that is considered "owner produced?"

**Answer:** Yes, as long as the owner participated in one of the five functions listed in the answer to question two.

**Question Five:** If an owner participated in one of the five functions listed, is the part considered FAA approved?

## 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 advice 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.

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

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**Answer:** Yes, if the part has all the characteristics of an approved part, is only installed on the owner's aircraft, and is not for sale, it would be considered an FAA-approved part.

**Question Six:** What is the owner responsible for, and what is the mechanic responsible for, concerning owner-produced parts?

**Answer:** The owner is responsible to see that the part meets type design and is in a condition for safe operation. The owner should also make a logbook entry that is similar to a section 43.9 maintenance entry identifying the part as an owner produced part under section 21.303 (b) (2), and that the part was manufactured in accordance with approved data. The mechanic is responsible for the correct installation of the owner-produced part, and that the installation is airworthy. The mechanic is also responsible for making a maintenance record entry for the installed part.

**Question Seven:** How does the owner or operator get the approved data to make a part if the manufacturer or other sources are no longer in business?

**Answer:** In a case where the manufacturer is no longer supporting the airworthiness of an aircraft, the owner can petition the FAA Aircraft Certification Directorate under the Freedom of Information Act for the data on how the part was made. Or, the owner can reverse engineer the part and have the data approved by a FAA engineer or FAA Designated Engineering Representative (DER).

**Question Eight:** What happens to the owner-produced part on the aircraft if the original owner sells the aircraft?

**Answer:** Unless the part is no longer airworthy, the original owner-produced part stays on the aircraft.

This commentary on owner-produced parts is only intended to make readers aware of their options in the event they cannot find a particular part for their aircraft. It is not intended to be used as an exact guideline for producing parts for your certified aircraft.

*Information for this article was gleaned from articles written by Don Dodge, FAA Airworthiness Safety Program Manager, and Bill O'Brien, FAA National Resource Specialist.*

I would like to make three suggestions to anyone considering making

an owner-produced part for their certified aircraft.

First, seek counsel from qualified people such as a DER or a knowledgeable aircraft mechanic.

Second, get a copy of section 21.303 and do some research.

Third, contact your local FSDO and ask for help or guidance so that the part you are making will meet the necessary requirements under section 21.303 (b) (2) to qualify as an FAA approved part.

In the past, ICS and CFF have and will continue in the future, to work together to make sure that the parts needed to keep our airplanes safe and airworthy are always available. It is also important to point out that ICS and CFF are not just the current officers and directors, but the entire membership. Through the years, many of our members and vendors have worked together to assure every part necessary to keep your Comanche airworthy will be available. A **"BIG THANK YOU"** goes to all who have dedicated their time and resources to keeping our Comanches flying.

#### **ICS Business**

As of this writing, we (the BOD) are working on the agendas for the Convention and Fall Board meetings. However, by the time you read this, both of these events will have already taken place. Some of the items to be discussed are: website development, ways to improve technical support, marketing efforts, ways to streamline the management of ICS and means to promote member involvement.

The ICS Convention for 2009 will be held in Dayton, Ohio, October 13-18. Dayton is known for being the birthplace of aviation and has the largest Air Force Museum in the country. Bill Schnauffer, our convention chair, and his team are working hard to make this convention one of our best ever.

#### **PPP Report**

Zach Grant wrote:

On September 12, the new CFF Comanche Pilot Proficiency Program was kicked off in Watertown, Wis. We had eight courageous aviators brave the weather to attend (okay, some drove) the three days, but it was a success all the way around.

We added several modules on advanced operations to make up for the time when the weather at Watertown was below minimums for flying, and we flew what we could. It was perfect for some good IFR work, and several took full advantage of this. We will be finishing up those that were not able to fly during the weekend and the first full class of seminar-based CPPP pilots will be out there terrorizing the skies with their Comanches.

A special thanks to all who have helped with this important program. Next year's schedule will be out soon, so stay tuned to the website, forum, and the *Flyer* for the latest information.

#### **Attention All Members**

If you change your e-mail address, please remember to change it in the pathfinder.


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*Dave Fitzgerald*

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COMANCHE

**Cover Story: Comanche Spirit**

# The Resuscitation of N6272P – A 13-year Project



*By Marvin Wade, ICS #12308*



# Spirit



*The finest detail was taken in the paint scheme, even to give Eagle One prop feathers.*



**I**n August of 1995, I bought N6272P – a 1959 PA-24-250 – in my home state of Texas. On the ferry flight home, the heater was stuck full on. Good thing I didn't have to worry about getting frost bite on the short 25 nm flight! I started to work on the airplane as soon as I got her home.

The first thing I did was a triage check, system by system, and found the landing gear was the worst safety problem. When we started to work on each system, we didn't just repair it, we updated it to the "latest and greatest" that was available. So, it was time for a single fork gear mod, gear lobe speed fairings, new brake system, toe brakes system, new tires and wheels, hub caps, new flap gear alert warning system, new gear cables, motor, transmission, switches, repaired wiring and lights, all new bushings, bearings, and all ADs were also completed.

Fuel is not supposed to come out on your head while you work on the

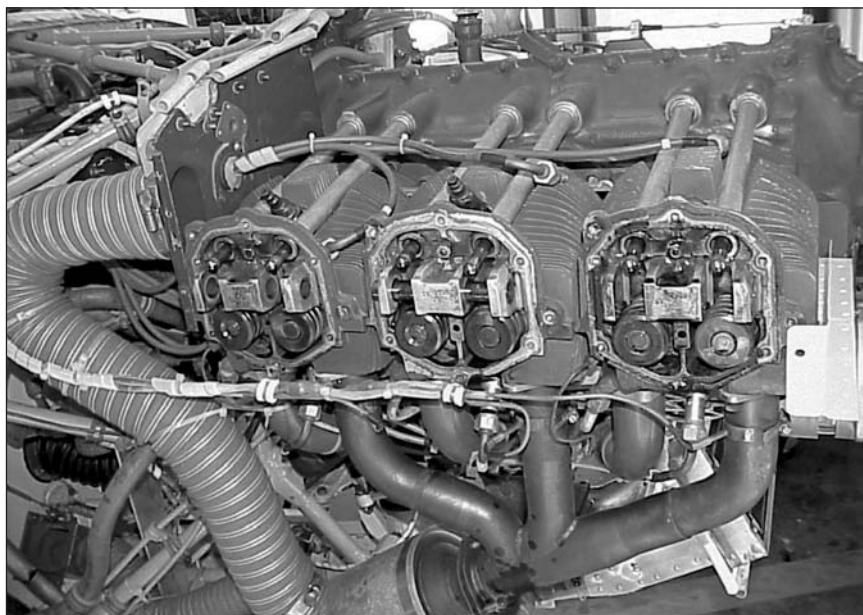
gear system, is it? It was time for all new fuel bladders and fuel system rebuild. More fuel is better, yes? Unless you're on fire, so a new aux aft baggage fuel tank STC from Merlin Simon was the ticket. When all of that was done, it was time to fly it some more. We soon discovered that frosted glass may be okay for a shower stall, but not so good for a windshield. Also, trying to talk on the old Marconi's was like trying to talk with two cans and some string; the tubes must had been getting awful weak, so it was time for some new upgrades. Bell Labs invented something called transistors.

They put them in radios in the 20th century, and the radios only use half the gigawatts, but you lose the heating system for the back seat and all that aft ballast to hold the tail down and keep the speed under control. I guess you can't have everything, or can you? We put a S-Tec 60-2 autopilot, electric trim, GPSS, altitude selector, Garmin 300 IFR APP approved, Mark 12D+ Kns 80 IFR APP approved, KT76C, PS6000M/S, Argus 5000CE, NSD360 HSI, electric and vacuum attitude indicator, two altimeters one drum, one three hand, and much more.

*N6272P before the major overhaul began.*



*The engine before ...*



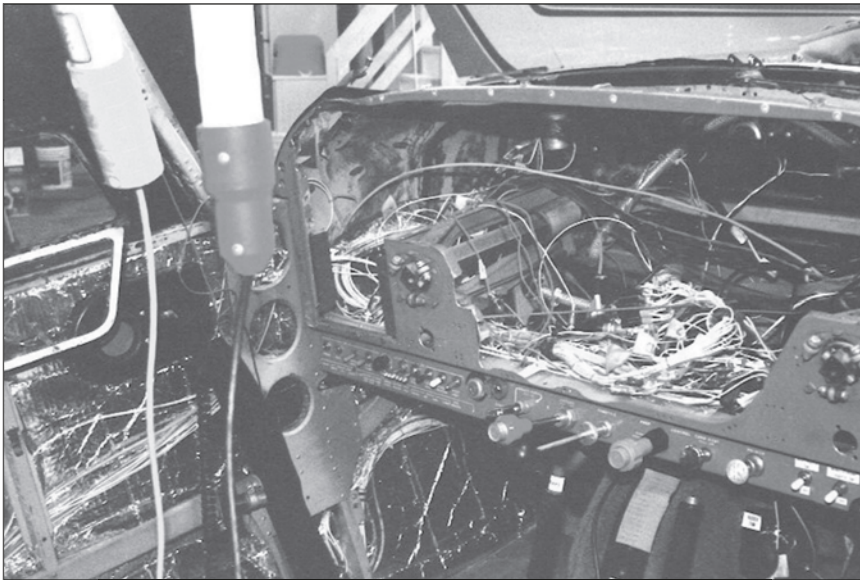
The new glass now has a gray tint – we have solar heating for all the seats now. We installed an Arapaho windshield, with side frameless vent windows on both sides. After this round of updates, we decided it was time to fly N6272P some more. We discovered the sun this time and that the airplane was hotter inside. I decided I needed help to fix this issue ... just a little something ... “I know more air flow; a great deal to make the plane go faster, speed mods?” It sounded like a good excuse to work on the other half. After gap seals, flaps, ailerons, rudder Arapaho dorsal fin, wing root fairings, wing fillets, Arapaho wing tips, windshield cowl, and slimline strobe kit – we now can go fast. There was also a lot more air flow, but it was still hot inside. I decided we must need more air flow, so I told my wife we needed to go faster. It was time to get a new cowling, Eagle XP, a new exhaust system, new gear doors and air vent system that comes with the new cowling.

We go even faster now! How will we stop? I can't put the little wheels out at this speed, it makes for a noisy landing and hard to taxi after, so I decided I better get speed brakes. Yeah, speed brakes. My new speed brakes have little lights in the panel. New lights in an old panel? I decided, it would not do, so a new Ron John panel and glareshield were installed. Now the old engine instruments will not fit in the new holes they cut. I guess, I gave the wrong size (right!). So, I must replace all the engine instruments with new EI gauges. Those little two-inch gauges are hard to read with all those pretty little lights making a distraction. You know pilots and shiny things, so I needed to get a voice annunciator to talk to me ... actually rather, yell at me. Now that we have a voice annunciator, we can put something in to holler at traffic, a Ryan TCAD system.

With the new cowling and exhaust system, the old engine looks out of place. It was time for a major overhaul and upgrades. Fuel injection, new baffling, powder coating to color coordinate (and of course make it patriotic red, white and blue), and a new three blade McCauley prop.



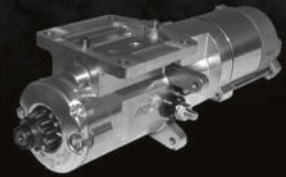
*The previous panel and all the wiring that went with it.*



*The old interior.*



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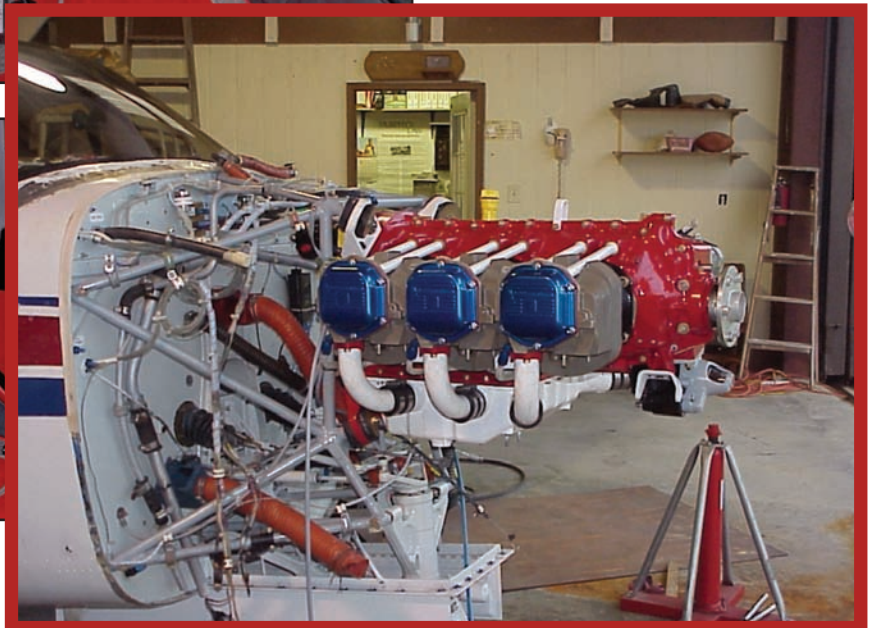
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*From old, to new and up-to-date.*



*Bright colors bring the interior back to life. (above, and top)*



*The overhauled patriotic engine.*

Everything on the engine and accessories were replaced with new and upgraded products, including a new alternator system, all new electrical wiring and circuit breaker switches, and a dual battery system like the Comanche 400. Also new HID landing lights were added, and it was time to fly some more.

While flying and enjoying my updated Comanche, I noticed that with the increased speed, the old paint had begun to burn off, even though it was painted with the best World War II surplus paint and applied with high tech mop and roller. We must remember that spray technology must not have been available back then.

After spending another one-plus year and getting input from a lot of folks, we came up with a paint scheme for "Eagle One," the name we gave the old gal. Of course, this was not your everyday paint scheme, to say the least. Now to find someone willing to paint her our way – on sight A&P/IA supervision from me, all day, every day for three weeks.

We finally got it all done and looking at the end result, I think it was worth it!





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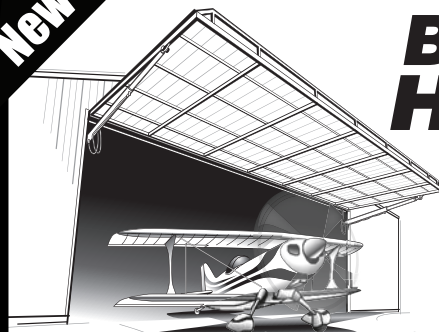
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## Technically Speaking

# Engine Longevity

*The following is from a series of online postings from the Comanche Owner's Forum. 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 the advice from an experienced, trusted source, such as your A&P or CFF-approved CFI, before applying any of the techniques or recommendations presented in these postings.*

*The postings are printed as they appeared in the Forum. Due to space considerations, we are publishing only selected posts.*

The thread on narrow deck engines got me thinking about the practical life limits of our engines. Mine have 4,000 hours TT and have been overhauled twice. I am sure that they are good for at least one more overhaul, but beyond that I don't have any data.

Who has the highest time engines in terms of TT? When should we be thinking about getting a zero time or even a new engine? Does anyone know if Lycoming retires cases and cranks at some point?

*Kristin*

About seven years ago, I spoke with a Lycoming Sales rep. I wanted a quote on a Lycoming factory overhaul (not a reman) and wanted to trade in my narrow deck for a Lycoming overhaul with a wide deck case. They said (no extra charge), we just throw away the narrow deck case. It is now my understanding that they will no longer exchange with a narrow deck.

I personally know of a friend who has a 1967 PA-30 that has over 9,000 TT hours on the same engines. [I] do

not know it well enough to know about the cranks or the case, but if the case does not have any history of (fretting), it could be original.

*Bill Wenkman*

Recently I requested a quote through Aviall on Lycoming rebuilds of IO 320 engines that were from 1965. They had been overhauled as field overhauls probably three times and were due for a fourth. Aviall called Lycoming, since the inquiry was to have them actually rebuild the existing engines, and Lycoming indicated that they would junk engines of that age and supply exchanges. I was surprised. I asked for clarification as to whether the recommendation was age or engine time and I was told age. Why, I don't know. They are wide deck engines.

Our engines are relatively low compression and are 1:7 where only three Lycomings are 1:7 and the rest are 1:8, so they go for a very long time. Since an engine rebuild only leaves the case, cam and crank as original (and the cam and crank can have metal added), there doesn't seem [to be] a lot of merit in junking an engine due to age, but the propensity for cracking does increase with engine life.

I helped with a removal of an engine from a Cessna 180 about 15 years ago and the owner said it was 2,000 [hours] since last overhaul (when he bought the plane) and that it was making heat in climb – obviously the bearings were worn and making heat. When we took the engine apart, the bearings showed so much wear that they obviously had not been replaced – they were original on this 4,000 TT engine, the seller had lied about the overhaul, yet the engine had great compressions and had flown with minimal maintenance for all of that time. He had the engine overhauled but passed away soon after, so I have

no idea how the engine performed after that.

I conclude that there is no fixed rule – if the case isn't cracked and the cam and crank are recoverable, then why not continue?

*Pat*

I was talking to an FBO friend of mine the other day about just this issue. After 25 years of paying for overhauls on 150s, 172s and Cherokees on his training and rental line, he thinks that 4,000 hours is the limit for cranks and cams, but he has no particular limit for cases. Just one person's opinion.

If I know the entire history of an engine, I feel much more comfortable about running up hours. What bothers me is an engine that "starts life" in logbook terms as a factory reman, where you don't know how many hours were on the parts to start with. I'm not sure that even the factory can answer that question.

So, if I had factory reman engines at TBO, I'd be thinking new engines. In my case, the engines were new from Lycoming when they went on the airplane, so I'm thinking overhaul. YMMV.

*Pat,*

I am aware that there is no fixed rule. There is likely a point of economic life, however. A cracked case at mid-time is rather expensive. Corrosion and stress increases the chance of cracking, both in the case and in the crank.

Mine will be about 5,500 TT when they come up next for an overhaul. As they are the original engines, I am more likely than not to overhaul, but that isn't really a concern at this point. I am just curious as to how long these engines will go.

*Kristin*



Jay,

You and I think alike. What is running through my mind is to run my original engines, overhauled as many times as is necessary, until such time that I begin to question the fatigue limits of the major components. Then I would pony up the big bucks for brand new, and start all over again.

That is why I am curious to see how many hours people are successfully running their engines.

*Kristin*

Bill,

My understanding is that the time on an exchange engine only applies, reliably, to the case. The rest is a mystery. I prefer knowing. Call me a control freak, but there you have it. I am inclined to wear out the set I have, and start over. But then, I use my aircraft for business, and I need some level of reliability.

*Kristin*

Kris and all,

Am I missing something here? I don't think a data plate ever wears out. You can replace EVERY component on the engine except the data plate (and you can replace that too, in some cases, as long as the information continues), and as a matter of fact, many engines are exactly that way as the crank was replaced this overhaul, the cases were replaced the next overhaul, and it has new cylinders, cam, bearings, accessories ... so as far as continuing in service, I expect that could be done this way indefinitely. The catch is that for Lycoming, or other overhaulers, to have something for their core credit, they don't want you to give them overworked junk, so they put a limit on the age of the engine, as well as saying it has to be assembled, operable, running within the last 12 months, etc. Case in point is the Zephyr overhaul with all NEW parts except the data plate that they are currently advertising in the *Flyer*.

*Zach*

Zach,

I don't think you are missing anything, but there is still probably a point at which the economics of overhaul become problematic. I would imagine that if you send an engine to the shop and they say that the case and crank are scrap, the cost of both new from Lycoming, plus the rest of the overhaul, might be a bit more than a whole new engine.

*Kristin*

Hi Matt,

For the record accuracy, I have owned and operated my PA 30 for 41-plus years. My engine experience is as follows: Bought airplane with 375 hours TT on engines and airplane; overhauled at 2,000 hours-plus by Western Skyways of Troutdale, Oregon; spun a bearing on one crankshaft about 350 hours after this overhaul, due to small pins holding bearings (later AD was issued on this problem to increase size of pins), and crank and bearings were replaced.



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These set of engines were run 2,200-plus hours and exchanged with Lycoming for factory overhauls (not remans). Lycoming exchanged the right engine for a counter-rotated engine at no extra charge. The exchange engines I received were both first overhauls. I ran these engines 2,200-plus hours and they were running well when I had them overhauled by Penn Yan one-and-a-half years ago. So I am now running the engines on their second overhaul. I had Penn Yan replace the cam shafts with new and specified Lycoming cylinders on the overhaul.

I have now run the two engines nearly 6,500 hours which means 13,000 engine hours. Engine problems encountered in 41 years are the spun bearing mentioned above, two dirty fuel injectors cleaned, two fouled spark plugs, and an engine failure in flight due to faulty gasket material in an injector that was later an AD spec change. IO 320s are great engines!

Given the lack of problems experienced with the engines, I am sure that

I could run them longer periods between overhauls, but I consider running 10% over the manufacturer's recommendation to be reasonable, and insures that I have an exchangeable core. I hope that I have the opportunity to decide if the present engines should be overhauled for the third time, or replaced with new, some 10 or 15 years down the road!

*Al Powers, ICS #2978*

Go, Al. I'm rooting for you and the engines to go to another full TBO plus 10%.

*Pat Keefer, ICS #08899*

*Our thanks to Dale Vandever for compiling this text. You can view these messages in the context of the entire discussion by going to: <http://forums.delphiforums.com/comancheflyer>*

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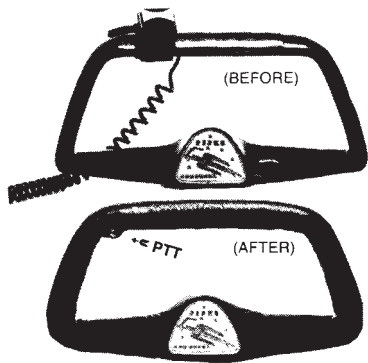
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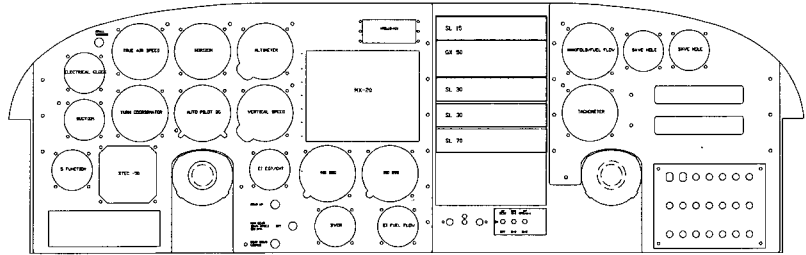


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# The Killough Manuals

by Bill Creech, ICS #3423

I was moving some “junk” in my office the other day, when I noticed that a paper had fallen from my grasp. On picking it up, I was surprised to find that it was an article about Doug Killough, dated August 15, 1991. As may be seen in the article (shown right), it was all about Doug and his Comanche Pilot Operating Instructions manuals. When I mentioned my find to Editor Kim Blonigen and Tribe Chief Bruce Thumann, they suggested that I do a bit of reminiscing.

I had met Doug a number of times at fly-ins but we weren't close friends. One day he called me. I think it was during my presidency of ICS in 1990.

He told me that he was fed up with the very incomplete and sometimes inaccurate Pilot Operating Instructions he was forced to use. He was naturally referring to the booklet that was published by Piper for all Comanches. He said that he had gathered up a lot of information about his airplane and had made his very own personal POI. His next question really intrigued me. He asked, “Bill, would you like to see what I've done?” I naturally said, “Yes, you bet!”

The manual that I received in a few days was a real eye opener. It contained all the mandatory information contained in the official POI, but was

also loaded with good, mostly general, type info that we all need for safe operation of our airplanes. Yes, as is true with most “first copy” attempts, it was a bit rough, but after all, this was HIS VERY OWN manual, for HIS Comanche 250. At this point in time, there was no talk about the scope of coverage he ended with.

Doug continued work on his manual and we talked frequently about his progress. He was insatiable about accuracy and completeness. He even contacted some of the original test pilots who did the very first flight tests on the airplane. As it progressed, it became more and more evident that copies should be made available to any Comanche owner. No, it was not to be just a general reference manual either, but a manual SPECIFICALLY written for the model of Comanche being represented. This was phase one and it goes without saying that it went over like gang-busters. He sold a lot of copies and it was gratefully received.

There was one big problem with it in Doug's eyes, however. It wasn't a legal replacement for the original Piper produced booklet. Not to be dismayed, Doug simply went to the FAA and convinced the “powers that be” that his manual was, in fact, much more complete than was the original manual. This action made his manual a legal replacement for the original and ended the requirement to possess BOTH manuals.

All of us in the ICS owe Doug's memory a tremendous vote of thanks for his untiring efforts in producing this manual. In addition, we owe a debt of thanks to Doug's heirs and to those in the ICS who were responsible for salvaging the publishing rights for our latter day Comanche pilots. This manual is a real treasure.

*Editor's Note: For more information on how to order your own copy of the Killough manuals, go to page 19.*

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Thursday, August 15, 1991 Austin American-Statesman

## North Neighbor



When Round Rock resident Doug Killough bought his Piper Comanche airplane, he found that the operating manual was smaller than a how-to

booklet for a microwave oven. Killough started gathering information about the airplanes and wound up writing a book.

Staff photo by Linda Latham Welch

## Area man writes the book on airplane

By Linda Latham Welch  
American-Statesman Staff

ROUND ROCK — He wanted to go by the book, but he didn't want to die by the book. So he wrote his own.

When Doug and Jan Killough bought their high-performance, 1963 Piper Comanche, the operating manual was smaller than the how-to booklet for their microwave oven.

All the section on emergencies told them was how to manually lower the landing gear if there was an electrical problem. The phantasm was so small it could easily slip between the seats of an aircraft, never to be seen again.

"Flying an airplane is not like riding a bicycle where you never forget how," Doug Killough said. "You need to be proficient always, and proficiency begins with having full knowledge of the aircraft."

After he bought his Comanche in 1987, he read the owner's manual with his flying instructor, said, "Golly, that's it?" and went on his own fact-finding mission for safe flying.

"A survey was done some time ago of Comanche pilots, and the typical pilot has a commercial rating, can fly multi-engine and 151 hours per year and is 51 years old," Killough said.

"With that much knowledge under his belt and experience with different types of aircraft, he wouldn't be as dependent on the

manufacturer's information as one with less experience," he said.

"For me, lacking in that knowledge and experience, it was absolutely necessary that I have every bit of information available," said Killough, who received his license in 1986.

Killough began gathering information and discovered there was no standard manual for the Comanches, so he compiled three pages of specifications on his model.

"Things got out of hand, and two-and-a-half years later it ended up being a manual for owners of all models," he said.

Since the manual was first published in 1990, more than 500 copies have been sold to pilots in 47 states, most countries in Europe, Australia, Africa, Central and South America, Canada and Mexico. About 4,000 to 5,000 Comanches remain in existence, Killough said. Requests have come from recreational pilots, commercial pilots and retired fighter

Killough's manual features 16 versions addressing all Comanche models, single and twin engines, beginning with the first plane built in 1957 and ending with the last version built in 1972.

The 100-page guide has eight chapters and sells for \$35. It complies with the General Aviation Manufacturers Association format for pilot's operating handbooks.

Killough's research included conversations with three of the original test pilots who

worked for Piper, engineers who were on hand when the planes come off the assembly line and the aeronautical engineer who converted the raw test data into finished performance graphs.

Bill Creech of El Paso, former president of the International Comanche Society, is credited with urging Killough to make his information available to other Comanche pilots.

"When he called and asked me to look at the manual he'd put together specifically for his own plane, I was so impressed I told him there was a market out there and he would be filling a need if he compiled something for owners of other Comanches," said Creech, a retired Air Force fighter pilot with 52 years of flying experience who has owned a Comanche for nearly 20 years.

"Doug has gone to every source and pulled out every bit of information available," Creech said. "He has done a really, really fantastic job and the manual is as complete as it can be."

The manual has been featured in the June issue of *Flying Magazine* and the August issue of *A/C Flyer*.

"It has been really gratifying, hearing from the old-timers who have owned their planes for 25 years," Killough said. "Whether you end up in a farmer's field and walk away or die in a fiery crash depends on how you handle an emergency. It's a matter between life and death."



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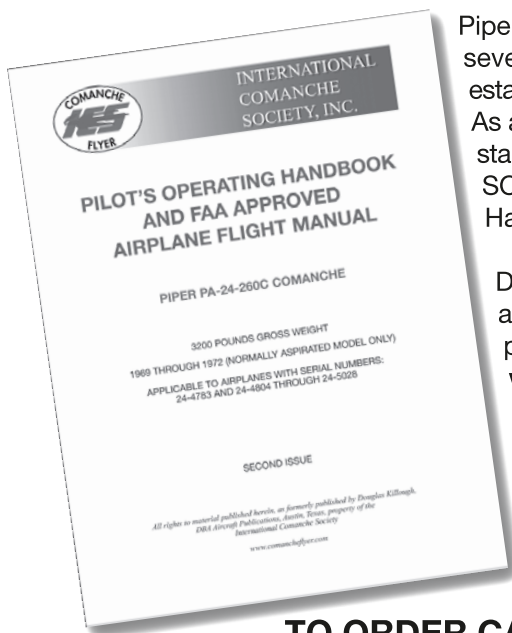
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# 21st Century Capability for a '65 Classic

by Jay Hulbert, ICS #15334

When I bought my Twin Comanche (02Y) in 2004, the airplane had beautiful paint, a great interior, and an okay panel of mid-90s vintage centered around a KLN 90B GPS with King Silver Crown radios and a Century 2000 autopilot. The 89B served our purposes admirably for quite a while.

I fly a lot for business, which inevitably means coming home after dark. With our Pacific Northwest climate, that also means coming home after dark in bad weather. For about a year I've been based at Aurora airport, which has a localizer approach including an approach lighting system, but no glideslope. I was resigning myself to doing "dive and drive" arrivals when I realized that the Aurora GPS approaches had been upgraded to WAAS approaches with LPV (Localizer Performance with Vertical Guidance). The FAA considers this to be a

have the same minimums as Category I ILS approaches. So, while the Runway 17 Localizer offers minimums of 380 and 1, the Runway 35 RNAV/GPS is good for 301 and 1 with prospects for it to be 200 and one-half within a year or so. It was time to update the panel to WAAS capability.

John van Bladeren of Ron and John's Comanche Service was my consultant on picking new avionics. For those who haven't had the pleasure, John runs a consulting engineering firm for his "day job." Selling custom laser cut panels and doing avionics installations mainly in Comanches is a sideline job and, I think it's fair to say, John's passion. John has seen the inside of more Comanche panels than anyone alive and has installed every kind of avionics equipment that exists. For anyone even THINKING about a panel upgrade, call John first!

cross country and approach with John in his magnificently equipped PA30, I decided that the GNS 480 was the unit with the best IFR cross-country capability, and that was the unit I bought. This actually took place just as Garmin was discontinuing the 480, but I figure that by the time they discontinue support years from now we'll all be on to new technology anyhow.

## The Upgrade Process

Given my limited budget, we decided on a two-step upgrade process. Step one would be to pull out the KLN 89B and my number one comm, a KY 97, out of the existing panel and replace them both with the 480. A Century GPS Steering unit would be added that would allow the 480 to drive the autopilot through complete flight plans and approaches. We'd hold off on a new laser cut panel and a multifunction display until I could re-charge my finances. John thought this would be a simple, one weekend job and generously made time in his schedule.

However, as we got into the job, things got to be a bit more complex, as they tend to sometimes do. We found that the previous owner, when installing the KLN 89B and the KN 53 Nav, had used an unbelievably complex system of relays in order for the KN 53 to be able to drive both the number 2 nav display and the HSI (when the HSI was switched to "nav"). Some 20 relays were installed on a custom-built circuit board in the nose that talked to the panel through a pair of cannon plugs that would have been at home on a Boeing airplane! The radios were wired individually, using, as our Australian friends would say, a dog's breakfast of different wires, connectors and relays. Not a good thing for reliability, and a real challenge to try to put a new GPS/Comm into such a messy system.

*John with the relay board. All this for one Nav! (opposite page)*

*02Y's new panel (below)*



*02Y's old panel*

non-precision approach, but in practice it is flown pretty much exactly like an ILS. The intention is (once sufficient operating experience is gained by the feds and pilots) for LPV approaches to

I had three choices – a 530W, a 430W or a GNS 480. I played with the simulators of all three, flew or observed approaches with all three, and flew a simulator equipped with a 430. After a





John and I had a late evening consultation in my hangar, with O2Y's panel opened up and wiring and avionics literally spread out all over the hangar floor. There was only one thing to do – strip out the old wiring and relays, put in a new harness and replace the KN 53 and second KY 197 with a Garmin SL30. This would allow me to have true backup Nav capability on the second indicator and vastly improve the reliability of the avionics in O2Y. The decision was iced by the fact that John knew where I could buy a used SL30 at a good price. Done deal!

John re-did his wiring harness, and we reconvened to work on O2Y over a couple of weekends and late evenings. We had some delays getting parts from Century (Side note: I've never had any trouble getting airframe parts for an airplane that has been out of production for 35 years, but getting parts for new avionics can be challenging. Go figure). The project was finished up in May during the airplanes annual, and shortly thereafter I flew my first WAAS approach in actual instrument conditions at the end of an 800-mile cross-country trip from Bakersfield (KBFL) to Aurora.

### The Result

So, what's it like?

WAAS approaches are great. Are they as solid as an ILS? No, not at all. They are, in fact, much more solid. While the GPS drives your CDI or HSI in exactly the same manner as an ILS would, there is no scalloping, no false glideslopes. I tested this flying into KBFL. I flew the RNAV GPS 30R approach on my HSI while monitoring the ILS DME 30R approach on my number two. When there were twitches on the ILS, the GPS stayed solid. I won't get into the technical issues that make this true, it really doesn't matter to a pilot. What does matter to an instrument pilot is that we now have the capability to fly LPV or LNAV/VNAV approaches instead of "dive and drive" VOR, NDB or Localizer approaches at most instrument airports. Nearly every approach can be flown in a stabilized descent, which I think will ultimately be a huge safety improvement.

GPS steering is just amazing. Once you have your complete flight plan loaded into the 480 the GPS drives the autopilot though the entire flight plan, including departure procedures, all course changes en route, any holding patterns or procedure turns, and the approach itself.

Now, I take pride in my instrument skills. I do Instrument Proficiency Checks twice a year, and work hard to be able to hand fly anything without over reliance on the autopilot. But with GPSS and a WAAS GPS, I have to be honest, I am not as precise a pilot as my Century 2000/Garmin GPS combination. In fact, no human is. The unit simply does not stray from the center of the course line. Even in severe crosswinds, I never see more than a needles width of deviation. Sure, I can fly that well for a while, but not every single time throughout the entire procedure. I'll continue to do my IPCs and hand fly approaches, but it's nice to know that when I need to copy a clearance, look up an alternate, pour a cup of coffee, or whatever, the airplane is doing exactly what I've told it to do. Don't believe in autopilots? That's fine, a WAAS GPS will keep track of course changes for you and suggest holding pattern entries while you hand fly the airplane.

On the radio front, the 480 and SL30 are great. Both radios have all the features you'd expect in a good comm., including flip-flop frequency selection, memory of recently used frequencies, and automatic lookup for your departure and destination airports. The SL30 automatically picks up information from the 480's database so when you press the "select" button after you fire up, the frequencies for the airport you are at are shown.

On the Nav side, it's much the same. Even though I usually navigate by GPS, I'm a compulsive VOR tuner. I know that GPS units can fail, satellites can go off line, and in some parts of the country, the signal can get jammed by military exercises (that last is shown in NOTAMS). Once I have the flight plan loaded in the GPS, I can automatically load frequencies

into the Nav radios as I cruise along. I don't much look at charts anymore!

There are some bonuses. I have a JPI EDM 760 Engine Analyzer with fuel flow. This unit "talks" to the 480 (as well as most other GPS boxes) and the combination gives me a running update on both my current fuel status and the projected amount of fuel that I have remaining at my destination. It is extremely accurate, and makes flight fuel planning a snap.

So, thanks to John, my '65 Comanche now has state-of-the-art satellite navigation. Now, if I can just squirrel away a little more money, an Aspen EFIS and MX200 would be really cool...



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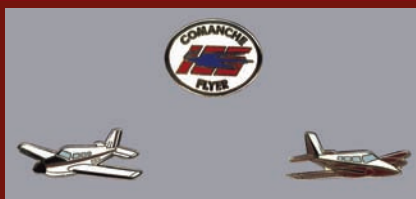
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## Feature

# BUYING COMANCHE

By Dave Pyle, ICS #730

While this experience may not be typical, it shows that when a serious buyer and willing seller come together with a very good airplane, there is a happy ending.

We'll not identify the buyer except that he is a new pilot and this is his first airplane. Likewise the seller is a serious pilot who has taken very good care of his 1967 PA24 260 (B) in the six years he has owned and flown it.

My role was to help the buyer find the airplane that best suited his interest and proposed use. That search actually started with Bellanca Vikings; led to a (rejected) offer on a Meyers 200D, and jelled when the subject Comanche was listed for sale. I follow the market for the later model Comanches, and this one was posted on the *Trade-A-Plane* website. It looked good, the specs met our criteria and the price reflected the current market. (These days this is not always the case.)

Without hesitation we traveled four hundred miles to see the Comanche. To my practiced eye, it was better than advertised. The test flight confirmed that it was smooth and quiet. Everything worked. Perhaps not perfect, but a forty-year airplane rarely can be no matter how well cared for. A review of the logbooks and secondary records uncovered a few anomalies, but again some of that background was now ancient history. Importantly the last 20 years included well-documented improvements. The recent annual was comprehensive by a well-respected shop. We discussed it with the shop and got a copy of the work order.

Let's take a minute to say why this late model Comanche won top spot in the sweepstakes. The 1966-72 260s are truly modern airplanes. I consider them the most versatile of all complex older airplane choices ... stable, comfortable, great payload, long range with 90 gallons of fuel, and reasonable maintenance. Performance matches newer airplanes at far more affordable prices.

We drafted a sales agreement with conditions that included a prop overhaul, pre-buy inspection and two-week closing. The reason for the prop overhaul is that it was the only item that didn't meet our criteria of 1,000 hours or 10 years since overhaul. We might have let that go and paid a lower sales price. However, as it turned out, the overhaul required new blades (2) that cost the owner \$5,000 instead of \$2,500. Buying lesson learned. Don't compromise.

As expected following our due diligence, the pre-buy was routine supporting our belief this was a fine airplane and a good value. Still no matter the history, an inspection is good insurance.

### Happy Ending

The seller and buyer made the three-hour flight to bring the "new" Comanche to Houston, its new home. The process took just over two weeks, from start to finish ... good people and a good airplane. ✈️



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From the Logbook

# From New York to Alaska ... and Back

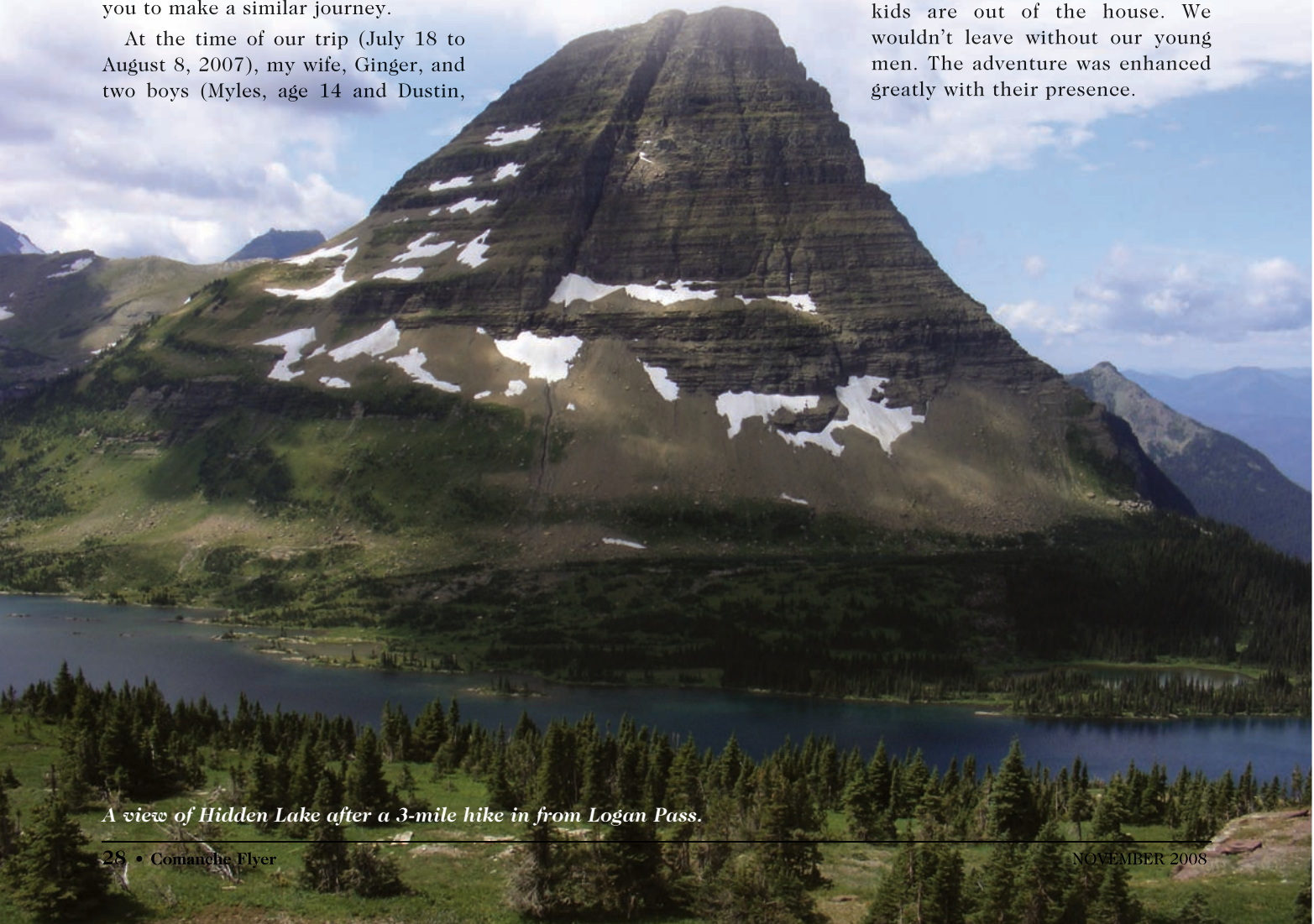
by Dwight Coombe, ICS #10702

I think we all dream of flying our airplanes on long vacations with great sites and exciting things to do. After ten years of discussing the possibility and then careful planning, my family and I finally enjoyed a trip we will always remember. I hope this account of what we did on our vacation inspires you to make a similar journey.

At the time of our trip (July 18 to August 8, 2007), my wife, Ginger, and two boys (Myles, age 14 and Dustin,

age 10) were finally ready for this “once-in-a-lifetime” adventure. We had waited a couple years to make sure Dustin was mature enough to cooperate on this type of vacation; and we didn’t want to wait any longer as Myles was getting to where he wanted to stay home with friends.

If you were to ask either one of them about this vacation, their faces would light up as they shared their favorite parts. I am confident that if asked, either of them would tell you that they are looking forward to going on similar trips again. Some folks would wait until the kids are out of the house. We wouldn’t leave without our young men. The adventure was enhanced greatly with their presence.



*A view of Hidden Lake after a 3-mile hike in from Logan Pass.*

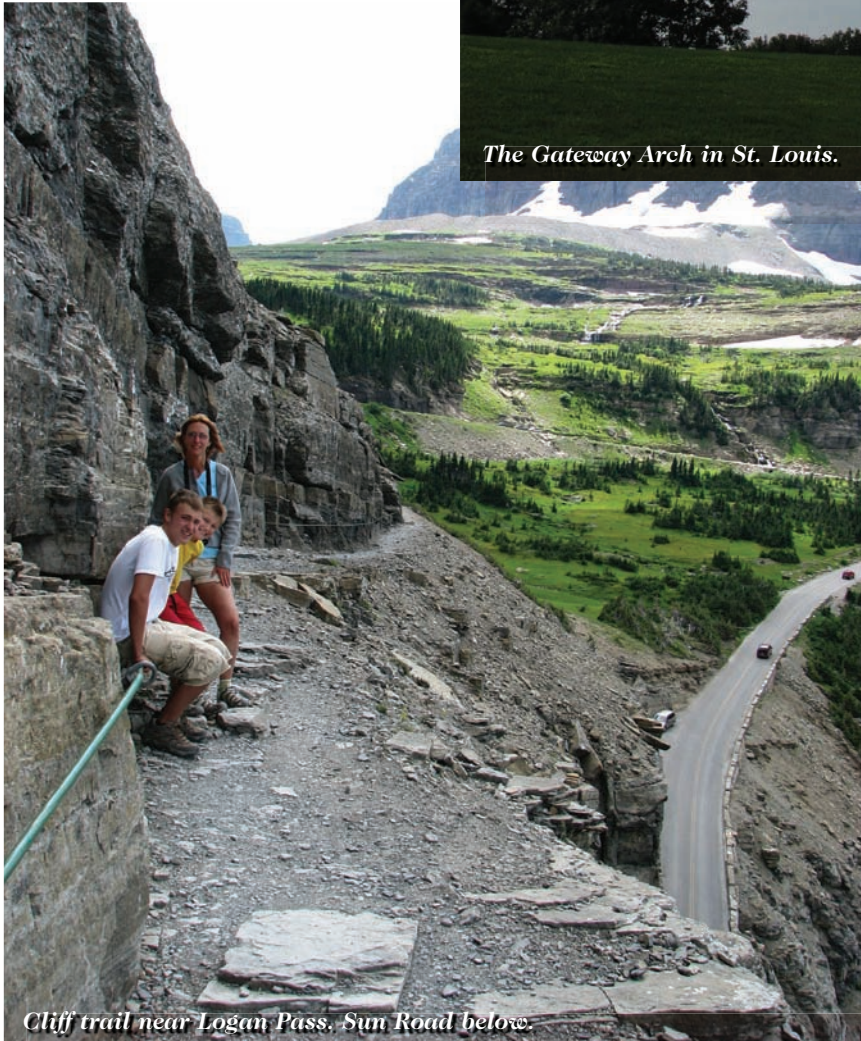


## Trip Summary

Our plans were narrowed to visiting the following sites: the Gateway Arch and museum in St. Louis, Mo.; Mt. Rushmore in Rapid City, S.D.; hiking and white water rafting at Glacier National Park in western Montana; two days in Valemount, BC for hiking, four-wheeling, fishing and garnet prospecting; and one afternoon in Ketchikan, AK to learn about the history and visit the many shops. The primary focus of our vacation was in Gustavus, AK, which was our longest stay with many activities and great sites. From Gustavus, we flew over glaciers and mountains to Fairbanks to visit friends and visit the sights, and Denali National Park. From Fairbanks, we headed home, back to New York, with great sites over Anchorage, Valdez and the Rockies with overnights in Sitka, Valemount, and Bismarek on the way.



*The Gateway Arch in St. Louis.*

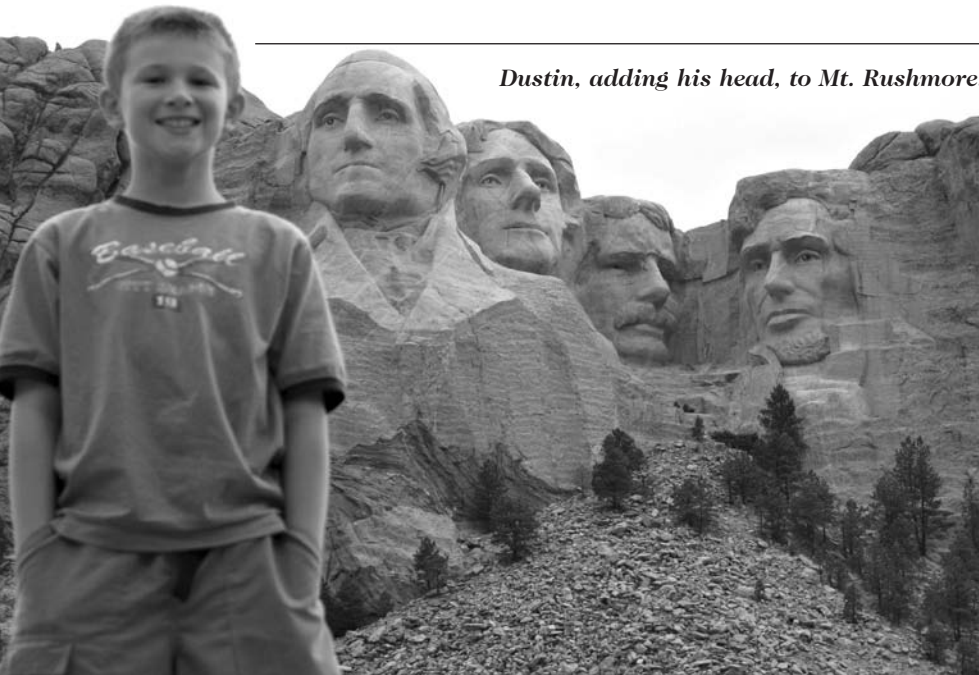


*Cliff trail near Logan Pass. Sun Road below.*

## St. Louis

St. Louis is a great city. The Gateway Arch is something everyone should experience. From the museum, to taking the elevator to the top, this is a special piece of American history. The building of the arch was clearly an exciting project for St. Louis and our great country. No, we did not fly under the arch like my sons requested. Keeping my pilot's license is still more important than doing everything my kids ask. I am sure that flying under the arch would be fun ... once.

While in St. Louis, I visited my good friends at Travers Associates. Working with them throughout the year writing aviation insurance is a real pleasure. These high quality, professional people help me better take care of my client's aircraft and aviation business insurance. A visit while in town to express my thanks for their exceptional work ethic and communication was imperative.



*Dustin, adding his head, to Mt. Rushmore.*

### **Mt. Rushmore**

After landing at Rapid City on one of the hottest days of the year, our plan was to just check into the hotel and hit Mt. Rushmore in the morning. However as we drove around town, we quickly found ourselves

headed toward this great monument. The approaching evening light was very pretty and further enhanced with a passing rain shower. Pictures of the monument from every angle were spectacular, especially with

rainbows in the area. The rain and the following breeze thankfully took the edge off the heat, so we decided to stick around. As the evening progressed, light was tastefully projected on the monument and there was a wonderful display of fireworks.

The next morning we departed Rapid City before the heat became too unbearable, and flew to Glacier Park International Airport (GPI) in Kalispell, Mont. Our visit to Glacier National Park in western Montana was magnificent. Driving up Going to the Sun Road is incredible. Hiking for miles to Hidden Lake, and other trails, is breathtaking. Everyone needs to make this trip. The mountains, the valleys, the wildlife, and the snow are all awe-inspiring in this natural, rugged country setting. There is no way to describe and no pictures that due justice to this incredible place in our great country. Go hike, go white water rafting, or just drive through it, and you will have memories that will put a smile on your face for a lifetime.



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We really enjoyed the hiking. At one point (as was the case more often than Ginger would have liked) the boys and I hiked off the trail and found a valley with a great deal of snow, still un-melted, spanning well up the side of the steep mountain. It was too good to pass by without getting on the snow – up the boys went. The fairly hard snow wasn't bad for climbing; however when it came time to slide back down, they quickly learned that the scalloped firm surface of the snow was not too kind.

### **GPI to Valemount, BC Leg**

We departed Glacier Park International Airport and proceeded up over the mountains within Glacier National Park. Above the mountains, we took pictures of the amazing peaks and valleys with their different color rocks, snow and vegetation. What was amazing was the color of the lakes amongst the mountains. The aqua blues were not what we would have expected. As will be mentioned throughout this trip, the

descriptions I can offer and the pictures we took do not come close to how exceptionally incredible these sites were. We circled some areas for more pictures, then eventually flew north over the Canadian border and into Cranbrook, BC for our scheduled customs time.

From Cranbrook, we proceeded north and enjoyed more amazing Canadian Rockies. We liked what we saw so much that we decided to stay a few days in the area. So out came our

tablet computer with the lodging information and on with the phone calls. I accidentally scrolled down our alphabetical list for the Valemount area and the first call I made was to Stonehaven Inn. A fine young man (Clint) answered the phone. I let him know our intentions and asked if there were rooms available and if someone could pick us up at the airport. It turns out that Clint was watching his mother's Bed & Breakfast while she was on vacation and that week was very quiet.

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*Black Bear at Gustavus Cabin.*



*Myles and Dustin, waiting at Customs in BC, Canada.*



He gladly agreed to pick us up and within an hour of the phone call, we were tossing suitcases into his vehicle. He dropped us off at a nice restaurant for dinner, picked us up afterward, and took us to a delightful spot with very comfortable accommodations. We had a four-bedroom suite to ourselves. We went fishing, hiking and enjoyed meals with Clint and his girlfriend. Clint also took us into town to rent four wheelers and we had a day of seeing the valley from the off-road trails. What a beautiful place with the lush valley all the way up to snow-capped mountains. Everyone was nice and helpful, especially Clint. I got a message on my cell phone a few days after leaving Valemount from Clint's mom Nadine expressing her excitement about what a great time Clint had sharing and adding to our adventure.

From Valemount, we flew on to Ketchikan which is quite the tourist spot and commercial port. I have never seen so many jewelry stores in my life. The cruise ships dock at Ketchikan and unload folks that apparently like to buy. From what we

could see in the limited time we were there, Ketchikan has a lot of history, interesting old buildings, and a large number of shops. The seaplanes coming and going were also very interesting. "This is a good VFR day in Alaska," I heard several times. I would see airplanes disappear into the fog and think, "Yup, a little different from the VFR I am used to."

The best part of our vacation was Gustavus, AK. It is about 20 NM west of Juneau, has no roads leading to it, and had remarkably better weather than Juneau. As the winds blow from the west, it pushes most of the clouds and weather past Gustavus, over to the mountains at Juneau. We enjoyed sunny weather almost everyday we were there.

Gustavus is a small community (about 500 year-round residents) that is isolated from the rest of Alaska except for the almost daily commercial flight during the summer months, chartered aircraft, or the occasional boat. A few times a year a barge will be brought in with cars the residents arranged to have delivered, supplies,

equipment, and the like. The only paved roads connected the airport to the national park and about in the middle, one road is paved out to the pier to the south. Otherwise all other roads were dirt, and there were not many of them. The only gas station in town was at the corner of the two paved roads. It had restored gas pumps from the 1940s and a modern credit card swipe panel off to the side. The electric power for this community consisted of three diesel generators in a shack between the gas station and the airport. Everyone waved or said hello as we passed on the road or in the only store in town. It was like a different world.

Relaxation was abundant in the Gustavus air, yet there was work going on. A new pipeline was being built to bring water off a mountain for a hydroelectric facility. The small lumberyard had customers surely constructing or improving some buildings in the community. It was like a special Mayberry. Everyone knows one another and they love visitors. We felt very welcome there.

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*Loading up the Comanche for another adventure*



We stayed at the Blue Heron Bed & Breakfast. This is the place we booked many months earlier. Deb and Charlie, the owners, keep a real nice place and served, by far, the best breakfasts of any B&B on the planet. Each morning was something different; we had everything from omelets to pancakes, and there was always coffee, cereal, fruit and juices. The

orange juice was always fresh squeezed that morning. The accommodations were excellent; our cabin had a porch, kitchen area, refrigerator, full bathroom and two queen beds.

One afternoon our son, Myles, was in the cabin when he heard someone say “bear” outside. He grabbed the camera and went out on the porch. He looked left into the field of fireweed

and up came the head of a black bear about 20 yards away. Myles got some priceless shots of this guy rummaging through the area. Another afternoon Ginger was walking on the paved road toward the pier when out from the brush on the side of the road shot out a mother moose with her calf. Bald Eagles were everywhere. What a beautiful site to see these awesome birds soaring around or eating fish on the shore during low tide.

One day we went to the national park where we took their small cruise ship up Glacier Bay. On the way we saw whales, sea lions, starfish, puffins, eagles and grizzly bears. There were more mountains towering out of the water and so many glaciers than we could get pictures of, but we tried. Hearing the popcorn-like noises of the chunks of glacial ice in the water and seeing the varying colors of the ice was alone worth the trip. The staff on the boat were very nice and they provided lunch for everyone. We stopped to let off campers and pick up others. The brave souls – if you saw where they got off, you would think twice about camping, but like anything, if you prepare and know what you are doing, it can be a lot of fun, I’m sure. *(continued)*

*The Canadian Rockies*





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# GOVERNORS

The following day we went out kayaking. Two of us to a sea kayak in a guided tour with a stop for lunch. This was a good chance to see more wildlife and learn more about the area from our guide. The amazing part was the lunch. We were out in the middle of nowhere, on a shore of various size rocks, and this young lady pulls out of her kayak a folding table, smoked salmon, and all the fixings for great sandwiches and snacks!

The next morning we got a ride out to the pier where we met up with Mike Halbert for a day of fishing off his boat. This was the only other thing we had to book early. Mike is excellent at his work of finding good places to fish, helping us with the equipment, and sharing information about the area. He is a friendly, professional fisherman and guide. With the way he treated us, we felt at home on his boat. Mike worked in getting us in good places to watch hump back whales making it unnecessary to take that trip separately.

Myles and Dustin each caught halibut among other strange creatures like a basket star fish and a sculpin. Ginger had something heavy on the line and when we finally got it in, it was a five-foot octopus! It stayed on the boat with us for a little while, and then we put him back. That was exciting!

Upon our return from fishing, we met up with everyone that was fishing that day at 4:00 p.m. on the pier. This was the time that local girl Pep (Laura) Coby comes to pick up any fish for cutting, packing and freezing. Pep's Packing also shipped our frozen fish home to us. What great people!

One afternoon we biked down to the Great Alaskan Husky Ranch where the boys were able to run their own dog sled with trained sled dogs. This turned out to be a highlight of the trip for both of them.

We rode bikes and walked the area enjoying the spectacular views in every direction. During the afternoons, the boys would walk or bike out to fish off the pier. Sunsets were

often indescribably beautiful amongst the various clouds and mountain peaks. Each evening we would eat at a different place. Several of the B&Bs also had small restaurants. If we got back early enough we would walk or bike to the local hot spot for ice cream. We could have stayed in Gustavus for the rest of the summer and been really happy. You have to go!

#### **Fairbanks**

After a week at Gustavus, we flew north over beautiful mountains and glaciers and stopped for fuel in the awesome valley of Gulkana on our way to Fairbanks. The morning after getting to Fairbanks, we flew to Denali for flight seeing. We did it that morning because the weather predictions for the following day were not good. As it was, clouds shrouded the peak of Mt. McKinley. The views around the area were still amazing – we were able to see just about everything north and west of the mountains. Glaciers and high mountain snow pack were beautiful with the varying sunlight as we flew around the park.

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One of the glaciers at Glacier Bay.



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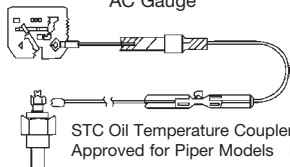
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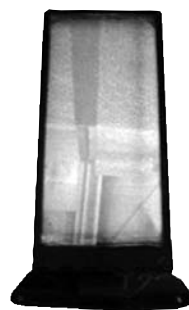
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Fairbanks reminded us of other small cities in the lower 48. It just so happened that the county fair was going while we were there. If it wasn't for the native Alaskan venter tents and products, it could have been any county fair in the U.S. People of all walks of life, rides, concessions and a complete agricultural exhibit made for a great county fair.

We visited the new Museum of Alaskan history. This building was shaped to look like glaciers and snowdrifts – very interesting architecture. Inside were high quality exhibits clearly showing the great history of Alaska. We could have spent a whole day and still not learned everything this place had to offer. It is definitely a must-see in Fairbanks.

We also spent some time in Pioneer Village – a park-like setup with old buildings with shops like that of Fairbanks during the gold rush and trapping heyday. There were several antique earthmovers and tractors on display. There's also a nice little aviation museum packed with great things to see.

**GPI**

After a few days in Fairbanks, we loaded up and flew an IFR flight plan to Sitka by way of Anchorage and Valdez. Passing Denali again, as the clouds started to break up, gave us more opportunities for pictures. We stayed one night in Sitka and flew out the next morning to Prince George, BC for fuel and Canadian customs. We spent one night with our new friends at Stone Haven Inn in Valemount, BC before flying to Glacier Park International in Montana. We borrowed the courtesy car at GPI and went out for lunch and to retrieve some souvenirs that the boys had eyed earlier during our visit. A final trip to the UPS store and everything was shipped home.

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After lunch, we departed GPI for Bismarck, N.D. for a night. The following morning we completed our return trip home with one stop for fuel and to check weather movement.

This writing is of the “vacation” of our trip. However I would encourage you to check a future issue of this magazine for the planning and preparation we did to make this trip happen. Following that will be another article accounting for the flight experience we enjoyed including trip statistics.

We all know how fast life passes by. We all know friends who passed their best flying years without fulfilling their dreams of experiencing the many natural wonders of our great country. All it takes is proper planning. With some good flight experience, respectable equipment and good preparation, anyone can make these trips. Even if no one at your local airport has done it, you can be the first.

*Flight seeing in Denali. The weather was not ideal, but at least we could see some of the mountains.*

Don't let this be something you could have done, but didn't. Maybe start out with trips to some of the many national parks in the lower 48. Before you know it, you will be craving the awe-inspiring beauty and vastness of Alaska. Make a commitment to yourself, put the date on the calendar and get it done! ✈️

*Dwight Coombe is a private instrument rated pilot who has been flying his 1967 Comanche 260 B since 1994 and has accumulated over 2,500 hours in Comanches. Dwight and his wife, Ginger, are the proud owners of Sprague & Killeen, Inc.,*

*a 140-year-old insurance firm offering insurance for everything from aircraft to flight schools, from home & auto to boats and commercial buildings to workers compensation. They use their Comanche to meet clients throughout the northeast and as far south as South Carolina. Dwight grew up in a farm family where he did most of the mechanical work on equipment and has an engineering degree from Cornell University. Needless to say he is very involved with the maintenance and upgrades of his Comanche – which you may read about in a future article in the Flyer.*

*The view flying over Glacier National Park.*



# From the Tribe Chiefs

## NORTHEAST TRIBE

### Notice regarding E-mail Addresses

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Hosted by Bruce and Tina Thumann. Co-hosted by Tim Talley, of Clifton Aero, in conjunction with CFF.

We are going to start the 2009 Fly-In season off with a bang, right smack dab in the middle of the Texas Hill Country. *Flyer* advertiser Tim Talley, of Clifton Aero, has agreed to host a general maintenance seminar at his facility in the vicinity of late March to early April. The details are being ironed out now and presenters are being selected. Our own long-time expert, friend, and supporter of ICS and the Comanche, Larry Larkin, has also agreed to join us for this event.

Pencil it in on your calendar now. By the next *Flyer* edition, we should have finalized all the details. For the non-pilots in the group, we will be arranging other group activities. So bring your spouse and the kids. We will have something to keep everyone entertained throughout the weekend.

### 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

## EVENT CALENDAR SUMMARY

Date	Tribe	Event/Location	Info Source/Host
Dec 6	SW	Chino Air Museum (KCNO)	Sandy Moore, e-mail: <a href="mailto:misedith@aol.com">misedith@aol.com</a>
Dec 31- Jan 1, 2009	SE	Annual New Year's Fly-in/ Ocala, Florida (OCF)	Doris Click, e-mail: <a href="mailto:Dorisclick@aol.com">Dorisclick@aol.com</a>
Jan 11, 2009	SW	Annual Brunch at Furnace Creek (L06)	Craig Varga, e-mail: <a href="mailto:cvara1@cox.net">cvara1@cox.net</a>
Feb 6-8, 2009	SW	Laughlin/Bullhead (IFP) Maintenance Seminar	Lorne Harmon e-mail: <a href="mailto:flying@cablone.net">flying@cablone.net</a>
Mar/Apr 2009	SC	Fly-In/Maintenance Seminar, Clifton, Texas	Bruce Thumann at <a href="mailto:bruce@contractbuilderssupply.com">bruce@contractbuilderssupply.com</a>

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 Pat Andrews at [pandrews3@satx.rr.com](mailto:pandrews3@satx.rr.com).)

### Tribe E-mail Updates

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

## SOUTHEAST TRIBE

### New Year's Fly-in Ocala, Florida December 30-31, 2008 – January 1, 2009

The Southeast Tribe will host their annual New Year's Fly-in at the Hilton-Ocala in Ocala, Fla.

#### Tuesday, December 30

Fly in to the Ocala International Airport (Jim Taylor Field) (OCF) to the FBO, Landmark Aviation (open 7 a.m. to 9 p.m.). Landmark's telephone number is (352) 237-3444. Tie-down fee each night, with fuel purchase, is \$10 for single and \$15 for twin. There is a café at the airport, if you care to have lunch before having the ICS van transport you to the Hilton.

If you arrive after 6:00 p.m., the FBO may be able to drive you to the Hilton; if not, you will need to take a taxi to the hotel, which is only three miles from the airport. If you plan on extending your visit and need a car, car rentals are available at the airport:

Enterprise (352) 861-2528 or Avis (352) 237-2714. If driving to our event, use exit 350, highway 200, off I-75. After check-in, come relax in the hospitality room on the third floor. At 6:00 p.m., we will meet for dinner, either at Buddy's Barbeque (hosted by the hotel) or Arthur's Restaurant at the hotel.

#### Wednesday, December 31

We will visit Silver Springs, which is open from 10:00 a.m. to 5:00 p.m. Discounted tickets (adult \$32.00, children \$22.00) will be available at the hotel front desk (for more information, see sidebar). After a day of fun, we will return to the Hilton to get ready for our New Year's Eve celebration.

**7:00-8:00 p.m.** Welcome cocktail party, open bar, with hors d'oeuvres.

**8:00-10:30 p.m.** The New Year's Eve buffet dinner and show.

**10:30 p.m.-12:30 a.m.** Dance with a DJ and 60's music, party favors and champagne at midnight.

**12:30-1:00 a.m.** Continental breakfast.

#### Thursday, January 1

Depart at your leisure after enjoying breakfast.

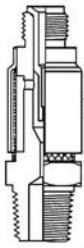
Note: Breakfast will be available each day at Arthur's Restaurant at hotel starting at 6:30 a.m.

ICS has a block of 15 rooms until 12/09/08. Deluxe rooms are \$99, plus tax per night, for one king or two double beds. To reserve your room, contact the Hilton-Ocala directly at 1 (352) 854-1400 or 1 (877) 602-4023, you must state you are with ICS for the above rate. To ensure your reservation, a credit card is needed. Reservations must be made by 12/09/08. After this date our rooms will go back to the general public at a higher rate. For information on the hotel, read sidebar and go to [www.hiltonocala.com](http://www.hiltonocala.com).





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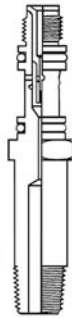
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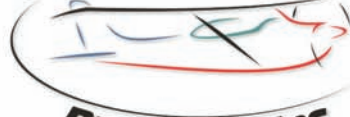
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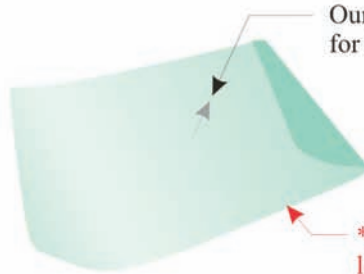
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**REGISTRATION FORM**  
**NEW YEAR'S FLY-IN — OCALA, FLORIDA**  
**DECEMBER 30-31, 2008 – JANUARY 1, 2009**  
*Price includes tax and gratuity*

**Registration Fee:**

\$15.00 per person (X) \_\_\_\_\_ participants = \_\_\_\_\_

**New Year's Dinner/Show & Dance:**

\$210.85 per couple, 105.43 single = \_\_\_\_\_


**CHECK TOTAL**

Name: \_\_\_\_\_

The ICS room rate will be valid prior and after the function, if available. But members must contact Christine Dewey (Coordinator) at 1 (352) 873-6447, for any extra days. Cancellations can be made up to 24 hours before. If you cancel after 24 hours, or are a no show, you will be liable for one night on your credit card. Check-in time is 3:00 p.m. If you require an earlier check-in time, please advise/request when making reservations. If your room is not available before 3:00 p.m., come to

the hospitality room on the third floor. The hotel is going to try to put all of our rooms together on the third floor.

The Southeast Tribe sends an open invitation to all ICS Members to come join us in beautiful horse country.

Mail checks, made out to ICS, Southeast Tribe with registration form (above) to Doris Click, 228 Doolittle Street, Orlando, FL 32839, by December 24, 2008. Please register with the hotel direct for rooms. Remember to state ICS for rate. 

**Hilton-Ocala:**

Hilton-Ocala hotel is located in the heart of Marion County's famous horse farms on a six acre tract, offering a resort-like atmosphere. The Hilton-Ocala extends a personal greeting and invitation to ICS travel partners to stay in their new totally renovated decorated rooms. Each guest will enjoy the Hilton pillow-top mattresses, exquisite linens, and plush, downy soft pillows. We are 100% non smoking, pet-friendly, and offer free parking. As the premier property in the area, the Hilton-Ocala features the following on site:

- Complimentary evening carriage rides with Buddy, a retired Clydesdale Horse
- Feeding horses in backyard of hotel
- Two beach sand volleyball courts
- Two outdoor lighted tennis courts
- Basketball Courts
- Putting Green
- Large outdoor heated pool and whirlpool
- Outdoor dining and patio area
- Full service restaurant, lounge & room service
- Complete Business Center
- Wireless high-speed access

**Ocala's Other Attractions:**

**Silver Springs:** Florida's original attraction, a national landmark 350-acre nature theme park that features glass-bottom boats, jungle cruises, jeep safaris and a variety of shows, attractions and concerts. A day of fun for the whole family.

**Horse riding, Young's Paso Fino Farm:** Enjoy a scenic ride through the heart of horse country on a gentle Paso Fino horse.

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**The Appleton Museum:** A fine art museum of collection of the artwork from Arthur Appleton reflecting over 5,000 years of cultural history.

**The Silver River Museum and Environmental Education Center**

**World Famous Breeders Horse Farms**

**Ocala Civic Theatre**

**Don Garlits Museum of Drag Racing**

**Ocala National Forest**

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## SOUTHWEST TRIBE

### One Day Fly-in to Planes of Fame Museum Chino, Calif. (KCNO) Saturday, December 6

Fly into Chino's airport (KCNO) for breakfast at Flo's Airport Café at 8:30 a.m., and then take a tour of their famous aviation "living history" museum. Its collection spans the history of manned flight to the space age. Thirty of the museum's 150 historical aircraft are flyable, and on Saturdays you might see anything in the air from a P-51 to a B-25 Mitchell Bomber, to a Grumman F6F Hellcat.

In addition, you may wish to display your Comanche. They are asking that pilots planning to do so, taxi to the base of the tower or to the adjacent ramp area. Display coordinators are there from 8:00 a.m. to 12:00 p.m.


The first Saturday of the month is Event Day at the museum, where they have guest speakers and fly an aircraft from the museum that matches the theme for the month. December's theme is:

#### **GUADALCANAL – featuring the JAPANESE ZERO**

Both the museum and Flo's Airport Cafe are just a short walk from the base of the tower. According to one of our members based at Chino, it is not just an airport, it's a "happening."

Planes of Fame Air Museum is an independently operated, non-profit aviation museum dedicated to collecting, restoring, displaying, and preserving aircraft and memorabilia for the educational benefit of current and future generations. They house their over 150 aircraft at two locations, the main facility at Chino Airport in California and a satellite museum near the Grand Canyon at Valle Airport in Arizona.

General admission is \$11, youngsters who are 11 years old and under are admitted for \$4, and admission is free for accompanied children under five.

If you'd like more information about the museum, go to [www.planesoffame.org](http://www.planesoffame.org). For more information or questions about the fly-in, please e-mail Sandy Moore at [msedith@aol.com](mailto:msedith@aol.com). 



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**Comanche Specialists**

# European Tribe Enjoys a Fly-out to Bergen, Norway

by Harvey Crush, ICS #15835

Faces were serious in the briefing room at Biggin Hill on the morning of Thursday 3 July as the group, led by the European Tribe Chief and treasurer, considered the weather. IFR flight plans had been filed for the comforting route across to the Netherlands and Germany, then up the Jutland peninsula to Esbjerg in Denmark to refuel before following more coastlines to our destination. Low pressure over the North Sea and an occluded front on our chosen route changed all that and the decision was to go direct in company straight across, leaving England from the VOR at Ottringham in Yorkshire. Flight plans were cancelled and we re-filed VFR. The route involved various changes in altitude to avoid controlled airspace as we headed north but particularly over

the North Sea which, for those who did not know, is a minefield of restricted areas reserved for air-to-air refuelling, combat practice, and so on. Thus your scribe, who was driving as directed by the treasurer, saw little of the sea, being pinned down below 5,000 feet in the clag most of the way. We tend to think of Scandinavia as being to the east but a heading of 022 degrees was taking us to a place where it was light 24 hours a day. Not only that, as soon as we were near Norwegian airspace, we found ourselves in hot sunshine which continued for three days.

Sweltering in unaccustomed heat, we were glad of the generous hospitality of the local ICS and Bergen Flying Club in plying us with refreshments during the long wait for the bowser to fuel 15 aircraft before taking us in their own cars to our hotel by the World Heritage Site of Bryggen. That

evening, after a barbecue supper in the old part of the city, we were left to explore on Friday. Most took our hosts' advice and rode the funicular to the top of Mount Fløyen which overlooks Bergen; another fascinating experience was the Hanseatic Museum, restored as a 17th century Hansard merchant's house where we had a conducted tour and explanation of the way the League had operated. The highlight of the day was a conducted tour of the city's aquarium, where we were served a fine dinner.

The 100-year old steamer, *Oster*, had been reserved for us two years in advance and was our transport for all of Saturday, taking us on inland seas so sheltered that the ride was smoother than a train, while we sat in sun and enjoyed a plentiful supply of waffles and other refreshments all day long. Our first stop was Herdla, an island where the Nazis had an




airfield. We toured the museum and saw a Focke-Wolf 190 which had been salvaged from the sea, and was in course of a lengthy restoration. Later we visited Fortress Fjell, a Nazi gun emplacement, built into a hill. It was ironic that the Nazis, loathed by the Norwegians for their occupation, had provided us with an itinerary for a great day out.

Sunday was the time for “Norway in a Nutshell,” beginning with a scenic climb by rail to the ski resort of Voss; then by narrow gauge railway down to Flåm at the head of the Aurlandsfjord, where our hosts gave us a picnic before we boarded our boat for a cruise down to the Naeroyfjorden, a World Heritage Site, narrow and exceptionally beautiful, with many waterfalls cascading down. It was on this part of our journey that the weather broke and most on board crowded into the saloon for tea or coffee. Luckily

things cleared up for the day’s finale when we rode by coach back to the airport near Voss for a skydiving display followed by supper.

Departure on Monday saw cool conditions and Bergen was the only place with occasional sun. Poor conditions over Britain were a great deterrent, but seeing a possibility of avoiding most of it, we filed IFR to Esbjerg and thence to Biggin. This worked well enough until across the

North Sea 70-knot headwinds had our ground speed down to double figures and the Tribe Chief commanded a diversion to Southend, which took less fuel and involved a dainty bit of dancing round a thunderstorm which swept across the airport just as we approached.

One of the Tribe commented on the last day that our fly-ins are anything but a €100 hamburger and Bergen proved no exception. 



# Trading Post

Trading Post is a non-commercial, member to member service provided free of charge, one time per member, per year. The sale of aircraft is not permitted in the Trading Post.

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- First 25 words are free.
- Extra words are \$0.40 per word.

**Fax: (231) 946-9588**  
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For Sale: Tail fairing 21786-03 (upper) like new \$100; left rear baffle 21596-09 (260 injected) like new \$75; voltage reg. 450-392 (Delco 9000590) NEW! \$80; Delco starter, great shape \$50; Nose gear drag link cross brace 26807-00 NEW! \$50; OAT 99479-02 \$30. Don (248) 625-6118. 2/2

For Sale: Two blade spinner assemblies, standard \$150, chrome \$200, from 1959 250 Comanche. Converted to three blade. Ted (217)355-3484, tedg@comcast.net 2/2

Piper Kit 760 914 complete to eliminate AD #77-08-01 aileron outboard hinge replacement \$250. Wanted STec single axis autopilot for PA24-250. Contact Tom (775)250-8462 or t\_hegge@op-dundas.com. 1/2

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Renewals may be made by telephone, but initial ad must be in writing.

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1961 PA24-250, N7621P, TTAF 5500, 370 SMOH w/new cylinders, 370 since new McCauley 3-blade. Too many upgrades to list. Hangared, excellent condition. Contact John or Sharon (951)203-7333. 1/2

1958 Comanche PA250 in excellent condition. New engine with 150 hours, new 3 blade prop with 17 hours, tip tanks, natural wood instrument panel, GPS, leather seats, hangared, and very well maintained. Asking \$65,000. Call Scott at (650) 996-0869 or email sbull1@prdus.jnj.com for pictures. 1/2



### PA24-260

1965 NIICV PA24-260, 3646TT, SMOH new limits 546, 240 on new 3-blade McCauley, HSI, auto pilot, encoding alt, King 155, DME, ADF, NDH, always hangared, Lansing Illinois, IGO. \$76,500.00. Call Bob (773) 233-4827 or Jim (219) 836-8071. 2/2

1965 PA24-260, N8816P. Call (916) 726-6438 & Cell (916) 425-2846. See details & pictures at web site: www.N8816P-PA24.com. 2/2

1970 Comanche 260-C. TTAF 5467. TSMOH 1053 by LYCOM. Annualized 2/08. 2- KX155's w/GS., KTT6A transponder, KN64 DME, ARNAV R-50 Loran, Genave MB, Piper Autocontrol III. Same owner since 1985. Mechanically very sound. (408) 804-3591. markstar@garlic.com. 2/2

1972 PA24-260C, S/N 5023 (4th from last). 3450 TT, 1500 SMOH. 20 yr 2nd owner. NDH. all ADs. Always hangared. May annual. All logs. IFR equipped. KNS-80, Narco NAV, 2 KY 197 COMS, new GYRO, Stormscope, ADF, Piper

Autocontrol III, GRMN GPS 396, intercom, oxygen. 4 headsets. 1 PC wndshld. 5 seats. White w/gold trim, 8/8 paint/interior. Montana. \$119,000 SVSTARR@AOL.COM (406) 652-2500. 1/2



### PA30

1963 PA-30, TT 4300, RT 250 SMOH, LT 375 SMOH by Lycoming. over \$100,000. spent in complete refurbishing including new R & J panel, S-Tec 50, Garmin 430, King HSI, WX-10a storm scope, IFR, Shadin fuel computer, new fuel pumps and many other mods and equipment. E-mail and will send a list with pictures. Asking \$99,500.00, OBO. Email at e-mail comadco@aol.com, phone (941) 360-9282. 2/2

PA-30 TTAF 5550, LE/RE 96/755 SFRM, L/R 96 SPOH, new Giotto interior, good paint, always hangared, King Silver Crown stack, same owner since '85, medical issues. \$74K Pilot@oxygenfire.com, (858) 722-2735 2/2

1966 PA30T,w/ tips, 3400tt, 200s Mattituck OH, new Knots2U props, new Garmin Pkg, 530 TCAS, new interior. Spent \$220,000. In annual now. Make reasonable offer. www.DubeAir.com (914) 523-3618. 2/2





# PLACING AN AD?

Use this list as a guideline for the information you may want to provide and the order in which to do so.

- **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**
- **HANGERED OR TIED DOWN**
- **AD NOTE COMPLIANCE**
- **GENERAL COMMENTS**
- **ASKING PRICE**
- **CONTACT PHONE NUMBER**
- **CONTACT E-MAIL**

## Abbreviation Key:

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

## Advertising Index

Ada Aircraft Painting.....	43
Aero Tech Services .....	30
Aerotech Publications .....	42
Aerox .....	27
Air Parts of Lock Haven .....	37
Aircraft Engineering.....	33
Aircraft Specialties Services.....	9
Aircraft Spruce and Specialty .....	18,C3
Alpha Aviation Inc. ....	27
Aviation Performance Products ...	14,31
B&C Specialty Products Inc.....	15
Bogert Aviation.....	27
Bruce's Custom Covers .....	30
Comanche Flyer Foundation .....	11
Comanche Gear .....	18
DAC International, Inc.....	16
Eagle Fuel Cells .....	C2
Electronics International .....	C2
General Aviation Modifications.....	41
Great Lakes Aero Products .....	41
Hartwig Fuel Cell Repair .....	C3
Hartzell Propeller, Inc. ....	24
ILIFF Aircraft Repair & Service .....	35
J.L. Osborne, Inc.....	27
Johnston Aircraft Services .....	C4
Knots 2U, Ltd. ....	C2
Kosola & Associates .....	31
LoPresti Speed Merchants.....	15
Met-Co-Aire .....	C3
Mike's Upholstery.....	41
Oilamatic, Inc.....	18
Park West Tours.....	C3
Paul Bowen.....	24,41
Plane Power.....	9
Poplar Grove Airmotive .....	13
Precision Propeller .....	13
Questair.....	35
Rocky Mountain Propellers, Inc.....	35
Ron & John's Comanche Service.....	15
Schweiss Bi-Fold Doors .....	9
Sky-Tec Partners.....	7
Sound Ex Products .....	14
Tsuniah Lake Lodge .....	24
Village Press, Inc. ....	18,22,24
Warren Gregoire & Associates .....	15
Webeo.....	43
William Creech.....	3
Zephyr Aircraft Engines .....	36


# High Flight Parody with FAA Supplement

Oh, I have slipped the surly bonds of earth(1),  
And danced(2) the skies on laughter silvered wings;  
Sunward I've climbed(3) and joined the tumbling mirth(4)  
Of sun-split clouds(5) and done a hundred things(6).

You have not dreamed of – wheeled and soared and swung(7),  
High in the sunlit silence(8). Hov'ring there(9)  
I've chased the shouting wind(10) along and flung(11)  
My eager craft through footless halls of air.

Up, up the long delirious(12), burning blue  
I've topped the wind-swept heights(13) with easy grace,  
Where never lark, or even eagle(14) flew;  
And, while with silent, lifting mind I've trod  
The high untrespassed sanctity of space(15),  
Put out my hand(16), and touched the face of God.

### NOTES:

1. Pilots must insure that all surly bonds have been slipped entirely before aircraft taxi or flight is attempted.
2. During periods of severe sky dancing, crew and passengers must keep seatbelts fastened. Crew should wear shoulder belts, as provided.
3. Sunward climbs must not exceed the maximum permitted aircraft ceiling.
4. Passenger aircraft are prohibited from joining the tumbling mirth.
5. Pilots flying through sun-split clouds under VFR conditions must comply with all applicable minimum clearances.
6. Do not perform these hundred things in front of Federal Aviation Administration inspectors.
7. Wheeling, soaring, and swinging will not be attempted except in aircraft rated for such activities and within utility class weight limits.
8. Be advised that sunlit silence will occur only when a major engine malfunction has occurred.
9. "Hov'ring there" will constitute a highly reliable signal that a flight emergency is imminent.
10. Forecasts of shouting winds are available from the local FSS. Encounters with unexpected shouting winds should be reported by pilots.
11. Pilots flinging eager craft through footless halls of air are reminded that they alone are responsible for maintaining separation from other eager craft.
12. Should any crewmember or passenger experience delirium while in the burning blue, submit an irregularity report upon flight termination.
13. Windswept heights will be topped by a minimum of 1,000 feet to maintain VFR minimum separations.
14. Aircraft engine ingestion of, or impact with, larks or eagles should be reported to the FAA and the appropriate aircraft maintenance facility.
15. Aircraft operating in the high untrespassed sanctity of space must remain in IFR flight regardless of meteorological conditions and visibility.
16. Pilots and passengers are reminded that opening doors or windows in order to touch the face of God may result in loss of cabin pressure. 



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