

The

AUGUST 2018

TWIN CESSNA

Flyer



FEATURING:

340A RESTORATION DOWN UNDER
MEMBER SURVEY RESULTS
SPECIAL 310 SIGHTINGS
TRADING CRUSADERS
READERS WRITE AND MUCH MORE...

Supporting Twin Cessna Owners Worldwide since 1988

ENGINES • PARTS • PROPS • STCs

MORE POWER

Performance Upgrades for your Twin Cessna:

RAM Series VII (335hp, more efficiently scoops, larger turbo & intercooler)

Winglets

Vortex Generators

High-Efficiency Camshaft

STC Propellers

Increased:

- Gross Weight
- Cruise Speed
- Climb Performance
- Single Engine Performance
- Airframe Value

RAM Makes Your Twin Cessna BETTER.

Call today to find out what upgrades we have available for your airplane.

Legendary
ENGINES

New Customer Discount

DISCOVER THE RAM ADVANTAGE

SAVE **\$2,000**

OFF EACH RAM ENGINE PURCHASE

KEEP YOUR RAM A RAM

OWNER LOYALTY REWARDS

SAVE **\$3,000**

OFF EACH RAM ENGINE PURCHASE

Conditions: All discounts are available on in-stock engines only. These discounts and rewards are available on engine(s) shipped to your FBO worldwide for local installation or replacement engine(s) installed at RAM in Waco, Texas. To qualify for the engine discounts & rewards the customer agrees to make payment within 15 days of signed purchase order. Owner loyalty rewards are for returning Cessna 340/A, 414, 414A & Beechcraft 58P/TC, A36TC & B36TC airplanes with RAM overhauled engines. New customer discounts are for Cessna 340/A, 414, 414A & Beechcraft 58P/TC, A36TC & B36TC airplanes that do not have RAM overhauled engines.

Call for details!

www.ramaircraft.com
facebook.com/ramaircraft

E-Mail: info@ramaircraft.com | Repair Station: VA1R551K



(254) 752-8381

Engine Fax: (254) 752-3307 | Parts Fax: (254) 756-0640

©2018 RAM Aircraft, LP TCF070318

The TWIN CESSNASM Flyer

FEATURES

THE TWIN CESSNA FLYERSM

P.O. Box 12453
Charlotte, NC 28220
Phone: 1-877-977-3246
Email: editor@twincessna.org
Website: www.twincessna.org

The Twin Cessna Flyer Magazine is the official publication of the The Twin Cessna FlyerSM owners organization, P.O. Box 12453 Charlotte, NC 28220. The price of a yearly subscription is \$85 (\$130 international), which includes a one-year membership in The Twin Cessna FlyerSM owners organization.

The Twin Cessna Flyer is not affiliated with or sponsored by Textron Aviation or the Cessna Aircraft Company.

Twin Cessna owners and operators are encouraged to submit articles and pictures for publication. Once submitted, the articles and pictures become the property of The Twin Cessna FlyerSM and cannot be returned. The act of making a submission for publication is an express warranty that the submitted material does not infringe on the rights or copyrights of others.

Published articles may include opinions or specific recommendations on aircraft maintenance or operational practices. These opinions and recommendations are solely those of the article author and not necessarily those of The Twin Cessna FlyerSM. The Twin Cessna FlyerSM does not endorse any practice that would be in violation of FAA regulations or the aircraft POH/AFM.

Nothing appearing in The Twin Cessna FlyerSM may be reproduced or distributed without the express permission of the publisher.

4 FROM THE EDITOR
Upcoming seminars, new alternator SAIB, ATC privatization, power-by-the-hour for Twin Cessnas, In This Issue, and more.

8 340A RESTORATION DOWN UNDER
To “restore” a Twin Cessna means different things to different owners. To member Chris Panayiotou, who lives in Australia, it meant a complete tear down and rebuild of his beloved 340. For what he spent, he could have easily afforded to upgrade to a turboprop. But why do it when a 340 is such a perfect fit for his mission?

14 MEMBER SURVEY RESULTS - PT. I
Many of you took the time to answer a lot of Twin Cessna Flyer survey questions a few months ago. In this article, we present the first part of the results. We are an experienced and mature group of pilots!

20 SPECIAL 310 SIGHTINGS
The pictures tell the stories. One 310 spotted in remote Africa provides thrills to visitors, including local school children. And another famous 310 had a special visitor recently.

22 TRADING CRUSADERS
The Editor recently sold his 1982 T303 Crusader and bought a newer, 1984 model. It was an “all-in-the-family” affair, as he bought the new airplane from a TTCF family and sold his old one to a member of our group. Plus TAS did the prebuy inspections on both airplanes.

26 READERS WRITE
Partial power takeoffs, manifold pressure drops, TBO extensions, aux fuel pump ops, MLG strut leakage, and more.

32 CLASSIFIEDS

36 UPCOMING SEMINAR INFORMATION

THE TWIN CESSNA FLYER ADVISORY COMMITTEE

Larry A. Ball - New Haven, IN
Anthony R. Saxton - Defiance, OH

Cover photo provided by Chris Panayiotou.

Editing assistance provided by Rose Comaduran.

Copyright 2018, The Twin Cessna FlyerSM. All rights reserved.



FROM THE EDITOR

by Bob Thomason, Editor

FALL SEMINARS

Registration is now open for our fall seminars. First, we will hold our annual West Coast seminar at Hillsboro Aviation, located on the Portland-Hillsboro Airport (KHIO) in Oregon. It is now firmly scheduled for September 13 - 16.



I understand the weather in the area is great this time of year, and it's been years since we've held a seminar there, so we are expecting a big crowd. Thanks to member Rick Sottile for his help arranging this exciting location.



Our final seminar of the year will be held on October 18 -21, at TAS

Aviation in Defiance, OH. This is our Tech Advisor Tony Saxton's shop, and the dates are firm. TAS is currently booked out for a full year, so we'll have plenty of Twin Cessnas in various stages of disassembly and repair to look at.

Details can be found on page 40 of this magazine, and you can register online from our website: www.twincessna.org. For both seminars we will be conducting the Systems Seminar on Thursday and Friday, and the Engine Seminar on Saturday and Sunday.

"I felt like I was in the room with likely the foremost expert on aircraft engines, systems, and maintenance today."

— Greg, 340 Owner

NEW ALTERNATOR SAIB

On June 20 of this year, the FAA issued a Safety Airworthiness Information Bulletin (SAIB NE-18-16) directed to owners of airplanes with Continental 520 and 550 engines that have direct drive alternator systems. This includes most Twin Cessnas. The purpose was to alert owners to the possibility of potential failure of the alternator drive coupling following maintenance events and/or improper installation. This failure could result in loss of engine power in flight and forced landing.



If your Twin Cessna has a front-mounted engine-driven alternator, make sure your shop follows the proper installation and inspection procedures as outlined in Continental M-0 Maintenance Manual.

The SAIB is a result of 2015 fatal accident involving an A36 Bonanza, where the alternator drive coupling failed sending metal throughout the engine, causing oil starvation and engine failure. The NTSB report on the accident stated: "Either an out-of-tolerance coupling or an improperly installed one can result in insufficient clamping force holding the coupling against the alternator. If there is insufficient clamping force, the coupling can rotate on the shaft and cause unusual wear and the ultimate failure of the coupling."

This is not a newly-discovered risk. It is addressed in the Continental Maintenance Manual M-0 where proper installation practices and inspections are detailed. If your airplane has an engine mounted alternator, make sure your shop is familiar with section 10 -

4.1.3 of the M-0 manual. A copy of the SAIB can be found on our website on the Technical and Safety Info page.

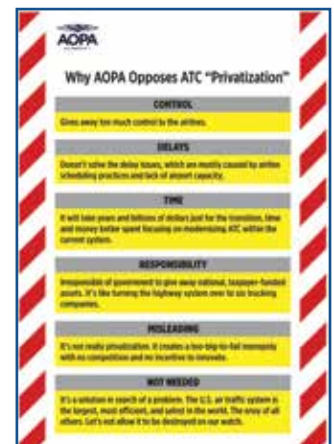
ATC PRIVATIZATION WON'T DIE

ATC privatization has been reintroduced twice in last minute, back-door efforts since it was first defeated earlier this year. Fortunately the proponents have been beat back each time. Still, one thing is clear: the fight is not over.

We can be sure there will be more attempts to finagle a privatization bill through Congress, so we need to constantly be on high alert. That means making sure you are on the email lists for

the AOPA, EAA, and NBAA. And when they notify you that another attempt is being made, contact your congressional representatives immediately and tell them why ATC privatization is a bad idea.

AOPA has a particularly good document entitled "AOPA Privatization Emergency Checklist." Just Google that



AOPA's Privatization Emergency Checklist.

Fall Seminars

1) September 13 - 16, 2018
Hillsboro, OR (KHIO)

2) October 18 - 21, 2018
Defiance, OH (KDFI)

See page 36 for details

2018 FLY-IN CONVENTION

SANTA FE, NM

May 15 - 18



term to get a copy. We'll also put a link to it on our website. It not only lays out the argument against privatization, but lists alternative actions which, when compared to privatization, would be more effective in modernizing ATC.

POWER-BY-THE-HOUR FOR TWIN CESSNAS

Turbine operators have long benefited from engine and even airframe maintenance programs. They pay an hourly fee to the program management company and then most, if not all, maintenance expenses are paid by that company.

There are many benefits to programs like this, including: 1) Your maintenance costs become predictable because unexpected events are covered by the program and your hourly fees. 2) the program protects you, the operator, 100% against these unexpected events. (In our case, this might be a cracked crankcase or an engine tear down due to metal in the oil.) 3) according to VREF and Blue Book, an aircraft enrolled on a PistonPower Program increases the residual value of your aircraft because all maintenance is covered going forward, the engines are treated as new and transfers with the aircraft upon sale.

The flip side is that if you have a good maintenance experience with your airplane and no unexpected events, a program like this might cost you

more than simply paying maintenance expenses out-of-pocket.

A relatively new company, PistonPower, is offering several maintenance programs like this to piston aircraft, including certain Twin Cessnas. Right now, they have programs for the 414 and 421 that are equipped with RAM engines, but they can customize programs for other aircraft. Our recent member survey

showed that 30% of our membership would be interested in such a program. I know if I still owned my 421, I would definitely be interested. Unpredictable maintenance costs are the biggest challenge in using the airplane in a business.

The number one risk of a program like this is the company behind it. After all, you are paying them an hourly fee. Will they come through when you have a maintenance event?

PistonPower was founded by Ron Zilberbrand, who founded Jet Support Services, Inc. — the world's largest independent provider of hourly cost maintenance programs for turbine aircraft. Plus, the company states on its website, "The client money is placed

in a Putnam Fund and is not an asset of the company...if the company were to dissolve then the management team would simply return the unused monies to each contract holder."

I don't have space to outline all the maintenance plans and fees here, but I've looked them over and I believe they

(continued on next page)

WHEN YOU REALLY HAVE TO TRUST YOUR **AUTOPILOT**, TRUST THE PROVEN **EXPERTS**.



INTRODUCING THE GENESYS AEROSYSTEMS S-TEC 3100



The S-TEC 3100 digital, attitude-based autopilot is one of the most advanced autopilots ever developed for general aviation. You can now be confident of precise digital control for every phase of flight, with features such as envelope protection, straight and level recovery, altitude preselect, precision approaches and much more. The S-TEC 3100 will interface with compatible EFIS displays and analog gauges.

The S-TEC 3100: The next generation of autopilot technology and capability, from the leading name in autopilots.

Sign up for the latest News & Updates at genesys-aerosystems.com

PISTONPOWER
THE CLEAR APPROACH TO PISTON AIRCRAFT MAINTENANCE



Many turbine operators protect themselves against unexpected maintenance events. Now piston operators have that option too.

GENESYS
AEROSYSTEMS

S-TEC 3100
PRECISE PERFORMANCE.
PROVEN EXPERIENCE.
PERSONALIZED ATTENTION.

are worth checking out for any 414 or 421 owner who values predictable maintenance costs. My bottom line, preliminary analysis is you may pay more for the program in good maintenance years and much less in bad ones, but either way your maintenance costs will finally be predictable.

For more information, visit the PistonPower website at www.pistonpower.com.

IN THIS ISSUE

340A Restoration Down Under: A lot of our cover stories feature extensive restorations of Twin Cessnas. We read them and marvel at the amount of effort and expense it takes to restore one of our airplanes to like-new status. Most of these stories are about U.S.-based airplanes. When one of our members outside the U.S. engages in a restoration, where rules are more stringent and SIDs are mandatory, the costs and effort involved are breathtakingly higher.

This was the case with Chris Panayiotou's 340 project in Australia. It was a bare-metal-up project. I asked Chris how much it cost and he declined to give me a figure; he just said he could have bought several other 340s for what he spent restoring his. You've really got to love your airplane to put that kind of money into it, and Chris certainly does.

In addition to the thoroughness of the restoration, one of the things that impressed me about Chris's project was the extensive list of mods he added, which included strakes, VGs, spoilers, and something I've only seen a couple of times on a Twin Cessna - an infrared nose camera for night and low-visibility flying. When you plan to keep your airplane at least another ten years like Chris does, adding mods like these makes sense as it makes the depreciation hit easier to absorb.

Additionally, when Dan Moore and Jerry Temple spoke at our convention they listed performance mods as one of the top things that most improves the value of a Twin Cessna. When the time comes for Chris to sell his airplane, it will sell easily and he'll get top dollar for it.

It's people like Chris who help keep our fleet viable. While he'll enjoy it in the years to come, he's created an airplane that will be attractive to potential owners far into the future.

TTCF Member Survey Results - Part 1: Many of you participated in this year's member survey, and we present the first part of the results in this article. Our response rate, at 20%, was good.

Why is it important to know about our membership? Well, as the gossip rag tagline goes, "Inquiring minds want to know." In other words, it's just interesting to know how we compare to our fellow members. What are we flying? How much do we fly? How old are we? These are all questions I have as a Twin Cessna owner, and I suspect many of you do too, particularly if you filled out the survey.

Another reason for the survey is it gives us an idea of the health and popularity of the Twin Cessna fleet. Are we gaining new members? Are younger people buying Twin Cessnas? How do members feel about owning their airplanes? Our survey let's us "take the temperature" of the membership.

And finally, your input helps me make the Twin Cessna Flyer a better organization. It lets me know what you value most and how we can improve our group. So thanks to all who participated and I hope you enjoy seeing the results. Part II will be in next month's issue.

Famous 310 Sightings: I love it when members send interesting pictures of Twin Cessnas (or Twin Cessna people) they spot while traveling, or even on their home fields. This month I was fortunate to get news of two sightings - both of 310s.

Roughly 5,500 310s were built between 1954 and 1982. Today, there are only about 1,850 on the FAA registration list. Where did they all go?

Since the FAA started its re-registration project a few years ago, I've always thought the new registrations underrepresent the fleet. I think it's likely some people have just failed to re-register. How many? Your guess is as good as mine, but I would not be surprised if actual flying aircraft are 10% higher than the FAA list shows.

That still leaves a lot that are no longer flying. Some crashed. Others went to the scrap yard, and some are just wasting away on tie-downs or in the back of hangars. Those are the ones that make me sad.

On the flip side, some have been elevated to places of permanent status and glory, as gate-guards and display aircraft around the world. That's the case with the two shown in this article. It's great to know that people around the world appreciate Twin Cessnas like we do!

Trading Crusaders: This article is a little self-indulgent and I thought about not publishing it. After all, it's all about

I Lost an Engine on Takeoff...!



Martti Matheson

"The left engine...the critical engine...! And I'm alive to tell you about it, thanks to my recurrent training."

At **National Flight Simulator**, my sim training experience provided safe, professional and effective scenario-based training focused on the engine-out procedure... and it paid off

in spades. Their two-day training program elevated my ability to be sharp and proficient in emergency procedures and more consistent with the flows."

National Flight Simulator...there's no better way to keep proficient and to improve piloting skills. And it just might be a lifesaver...!



TRUSTED. EXPERIENCED. AFFORDABLE.

Formerly Nashua Flight Simulator

Turbo Prop - Multi-Engine • High Performance Single Engine

Tel: (866) 505-0077 • NationalFlightSimulator.com

me and my buy/sell experience. Would anybody else really be interested in it?

My rule for articles is they've got to be more than just interesting - they have to contain some information that could be useful to other owners. If I read an article and come away with two or three ideas that might improve my own Twin Cessna ownership experience, then I consider it worthwhile. Given that standard, I decided to go ahead with this article. In it I discuss the processes I've used with some success over the years to both buy and sell airplanes. I talk about what makes a good prebuy shop. And finally, the article may give some comfort to those of you who wonder if all the money you've spent on your airplane is worth it. My "Crusader Trade" was the single most enjoyable airplane buy/sell experience I've ever had. I hope you enjoy reading about it.

I've got about 16 hours on my "new" Crusader as I write this. There are some major differences compared to the one I sold. First, it has the optional cargo door which is nice, but not absolutely necessary. It also adds about 25 lbs. empty weight. In total, my new Crusader is about 100 lbs. heavier than my old one. That's a lot, and I plan to weigh the airplane at some point to see if it is accurate. I may be forced to leave behind some of the luxurious (and heavy) camping gear I've accumulated over the years for my annual trip to Oshkosh!

But the biggest difference between my new and old birds are the MT composite props. The "new" airplane is much smoother and quieter. In fact, the difference is amazing. As reported by others, you have to be careful with these props when reducing power to idle. The drag from those four blades act exactly like speedbrakes and the airplane will slow quickly.

In fact, they remind me of my old 421. When you pull the power to idle you can clearly feel the props trying to drive the engine. I find that on final, I am jockeying the throttles much more than I did in my old airplane. I do think it will be doubly important to get the prop feathered quickly in the event of an engine-out situation. I plan to experiment with this in the future and will report the results.

The next step for this new airplane will be a panel upgrade - of course! It's got some great equipment already, but I

plan to install a Garmin G500 TXi with the ESI engine monitor. I'm also in line to be the T303 STC aircraft for the new STEC 3100 autopilot. More on this later, as well. This could be my last airplane ever. But, then, I said that about my last Crusader!

Until next month, fly safely!

Bob

Comprehensive Aviation Support From The Recognized Leader In Twin Cessna Services.



Contact TAS Today!
Find out how we can keep you flying.

TAS 
VIATION, INC.

20399 Airport Road • Defiance, Ohio 43512
www.tas-aviation.com
419.658.4444

340A RESTORATION DOWN UNDER

by Chris Panayiotou, TTCF Member



My passion for flying began at the age of six. As a young lad I had severe asthma. Back in the 60s, asthma medication as we know it today did not exist, so my parents were advised by the experts to send me to a drier climate, preferably Europe. My parents decided to send me to my dad's birthplace in Cyprus.

So in 1966 I boarded a Qantas Boeing 707, my first ever trip in a plane, bound for Athens, and then on Olympic Airways to Cyprus. My uncle accompanied me as Mum and Dad could not afford a ticket. We flew the Kangaroo route, which back then meant the plane would make at least four to five refueling stops. My uncle graciously gave me the window seat.

To this very day, I clearly remember how amazed I was to see the airplane leaving the ground and flying. I had a million questions. What were the moving parts on the wings? How much air did the plane need to fly? Why were there four engines, etc.

To my surprise the stewardess, who must have felt sorry for my uncle, took me to the flight deck where I sat with the pilots who were only too happy to answer every question I had! It was on



My restoration of VH-VVK was not your ordinary paint, panel and interior redo. We stripped the airplane to bare metal and replaced every wire, fuel line, and accessory while fully complying with the SIDs in the process.

this flight I knew that I would fly airplanes one day, despite the fact that no one in our family had any prior aviation history or experience. I was truly bitten by the flying bug.

I thought I would become an airline pilot, but I still vividly remember the day in 1976 when my father told me that my application to the Qantas pilot cadet program had been declined. I was devastated.

It would be 19 years later, with a career and business in the construction industry, that I would get my chance to take the controls of a Cessna 206 on floats whilst on holidays in the Tasmanian wilderness.

By now I was in my mid-thirties and still had a craving for flying. This time there was no turning back. Armed with a desire to get my private pilot's license, I walked into my local flying school in at Camden Airport (YSCN) and got my PPR in 1994, followed by my IFR license shortly afterwards.

About two years later, I was the proud owner of a Rockwell Commander 114 with 1,800 hours total time on it. We flew the 114 everywhere; up and down the east coast of Australia and occasionally into the Ozzy Interior. The highlight of this period of my flying life was our trip to Uluru (Ayres Rock).

Over half of the Australian Outback was considered remote flying territory, meaning you were encouraged, but not obligated, to carry an HF radio, and whilst in controlled airspace, provide an ETA to your next destination. Most airports in the Outback are dirt airstrips which generally belong to large farm stations, or are managed by the local councils, so a very good knowledge of remote flying is essential.



After flying my 340A for about 15 years, I decided I would keep it at least another decade. That called for a major upgrade.

After receiving my PPL and getting about 200 hours under my belt, I went to my local flying school for back country flight training. I thought I knew all there was to know about flying, but aviation always has something to teach you. Backcountry training was what really taught me how to fly.



Everything was rebuilt. Here is a new engine beam being prepared to receive a new RAM VII engine.

Most of this training involved understanding wind and weather conditions. In addition, precise speed control was essential to getting in and out of short airstrips. And we had to learn how to estimate runway length. These strips were not regulated, so the data was typically not published, and even the data that was published was not always accurate. Runway conditions, including looking out for wildlife, were important. Fuel planning was a challenge. If available, it was usually in 44-gallon drums. Ringing ahead and

(continued on page 10)

Flite ELECTRONICS

CALL 972.239.3791

AVIONICS SPECIALISTS - COCKPIT/PANEL REDESIGN AND REPAIRS FOR NORTH TEXAS PILOTS

Panel Before Update



*Does your
instrument panel
still look like it did
in the 1980's?*

*Maybe it is time
to move into the
21st Century!*

Take time to talk with Flite Electronics about an updated panel design.



Is it time to update your aircraft's instrument panel? With new electronics, radios and screens, panels are more reliable and much easier to read. A Flite Electronics professional installation uses quality Garmin components that give pilots greater confidence and security in almost any weather situation. Many times, years of equipment updates or repairs has created a tangled mess of wires behind the panel, making it an almost impossible task to safely make repairs or install new updates.

Call us today and fly with the confidence you deserve.

**Located at Addison Airport, 4786 Airport Parkway Addison, Texas
Visit us at: fliteelectronics.com or Email: mark@fliteelectronics.com**

checking the local airstrips, which in Australia often means calling the local pub or property owner, was a must as conditions can change overnight in some locations. Then there was the survival equipment, which involved carrying your EPIRB, lots of water, a mirror, torch, spare plugs, oil, leads, basic tools, and a portable first aid box.

Those days were exciting, but with the birth of my two boys and a growing desire to upgrade to a twin, it soon became apparent that I needed something bigger. It would need to be faster, and more importantly, able to get above the summer thermals and weather. I recall reading every magazine article and doing as much research as I could.

At first I narrowed the search to a Beechcraft Barron P58, a Cessna 404, and a Cessna 421. I quickly ruled out the Baron and 404 as I narrowed my airplane search to the following parameters:

1. Minimum endurance of four hours with a 30 to 45 minute reserve with four adults on board plus some baggage.
2. The plane had to be pressurized to get above most weather and had to have a cabin.
3. It had to cruise at or above 195-200 kts.
4. It had to be a low-time airplane.

Using these criteria, I narrowed my selection to either the 421 or 340. All the 421s I saw were high-time and in poor condition. After nine months of searching, in the year 2000 I finally



Here VVK is getting ready for paint. Note the strakes. I also installed VGs and spoilers.

found what I was looking for, locked away in a hangar and luckily at an airport close-by. It was a 1976 340A, VH-VVK, that had been owned by a local surgeon who had passed away. It had RAM VI engines with only 200 hours on them; I purchased it on the spot.

The transition to the 340 was very challenging because I did not have a twin rating or instrument rating. It was a big step-up, and the biggest challenge was just staying ahead of the airplane. I made the early decision to have my local flight instructor fly with me for the first 70 to 90 hours until we both felt I was proficient enough to handle the airplane. I remember on one occasion we went out in the training area and did over 15 stalls and over 18 simulated engine failures. I owe a lot to my flight instructor who taught me basic skills like planning ahead for takeoffs, speed and engine management, managing icing encounters, handling emergencies, and flying in controlled airports and airspace, which at the time were all new to me.

Another thing I had to learn was how to maintain the airplane. The biggest challenge was finding a shop that knows and understands Twin Cessnas inside and out. It took me over two years of trial and error, but today I fly my airplane over three hours from Sydney to a shop on the Parafield airport in Adelaide. They have a very good Twin Cessna knowledge base.

Once this box was ticked, the other biggest challenge was complying with the Cessna SIDs program (Supplemental Inspection Document), which over here is mostly mandatory. This work, which I did in 2010-11, involved over 770 shop hours.

Interestingly we have never had any problems finding replacement parts, and most of the folks we regularly speak to (predominantly in the US), including those within Cessna, have been more than happy to help and go out of their way with advice.

Today, I still own my Cessna 340A and I still love flying the plane as much as I did when I first bought it. A few years ago, I made the decision to keep her for

at least another 10 years, so I decided to do a complete ground-up restoration. This was not going to be a simple engine change, avionics upgrade, and paint job. I wanted a thorough nose-to-tail restoration and refurbishment.

As a low time 3,200 hour twin, it made perfect sense to me to invest the time and money to bring it up to brand-new condition. So I flew my plane to my shop at the Parafield Airport, and after considerable discussions with the shop manager and avionics engineer, we began the restoration project.

From the start it was our goal to completely VVK down to bare metal inside and out, replacing every wire, every fuel line, all fuel bladders, every fuel pump, both engines (with Ram VII engines), all flap and gear motors and all moving surface-cabling, etc.



This from-behind view not only shows the strakes but one of the LED lights which replaced all the old incandescent light bulbs.

We upgraded the brakes with new Cleveland four-PUC system, replaced all the circuit breakers and switches with new ones, upgraded all lighting internally on the instrument panel and externally with LED lighting, replaced the pressurization valve with a new one, and replaced all the door and wing locker seals and rubbers with new ones.

Finally, all new Garmin and engine instrument avionics were installed together with a new C&D heater, new leather interior, autopilot, Max-Viz infra-red nose camera (look closely at aircraft's nose on the cover picture), and a digital Ultra AuRacle 2120 engine display.

Structurally, both engine beams were

(continued on page 12)

GARMIN

ON YOUR NEXT COUPLED APPROACH,
MAKE SURE YOU CAN TRUST YOUR AUTOPILOT
TO BE RIGHT THERE WITH YOU.

Now
AVAILABLE

for
Select Twin Cessnas |
Barons | Bonanzas |
C182s |



GFC™ 600 AUTOPILOT



ATTITUDE-BASED
AUTOPILOT

SAFETY-ENHANCING
ESP* AND LEVEL MODE

ADVANCED
AUTOPILOT MODES

COUPLED
GO-AROUND*

LOW-MAINTENANCE
DESIGN

ULTIMATE IN
PERFORMANCE



TO LEARN WHAT AIRCRAFT PROGRAMS WE'RE WORKING ON, VISIT GARMIN.COM/GFC600.

© 2018 Garmin Ltd. or its subsidiaries. *Additional equipment required (sold separately)

340 DOWN UNDER

(continued from page 10)

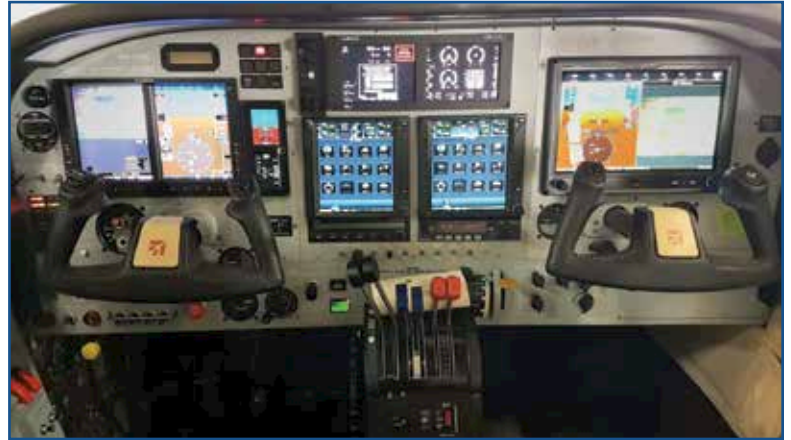
replaced, and at the same time we installed new straight flight heat shield kits. All SIDS items were inspected and competed, and a new paint scheme was applied, with power pack spoilers, VGs, and new APM strakes.

The result is a near-new aircraft that meets my style and mission flying parameters. VVK, with its new avionics panel and autopilot, is a dream to fly. A bonus has been an 11 to 16 knot speed increase, especially in the high flight levels. At any altitude above FL190 I normally now plan for a true airspeed of 213 to 226 knots, with a 73 litre per hour fuel burn per side (roughly 19 GPH per side or 38 total).

All this took over 1,800 hours of labor, and the total cost was probably twice the value of a good 340. But for me, living down under with a limited pool of good Twin Cessnas and my desire to fly a 340 for another 10 years, this project was money well spent. From day one VH-VVK has opened up this beautiful

country of ours and made travel in it a breeze. It has very good operating costs, so doing what I did has improved the reliability of my plane to that equal of a new aircraft, which would cost considerably more - if a comparable one were even available.

VVK is an easy airplane to fly and it always manages to put a smile on my face. It handles itself beautifully and can easily tolerate some icing, haul a good fuel/passenger load and, with the VGs and strakes, has benign stall characteristics. I can plan to fly it at 5,000 feet or at FL 220 with mostly the same fuel flows - something you simply cannot do with a turbine.



Of course the panel was upgraded but the avionics world is changing so fast there is more to do. I'll be adding an STEC 3100 autopilot and perhaps new Garmin TXi equipment.

You might think I would be done with upgrades but I've already got my eye on a new Garmin G600 TXi, and when certified, a Genesys 3100 digital autopilot. Stay tuned!





Aircraft Simulator Training
Insurance Approved

AIRCRAFTSIMULATORTRAINING.COM

"WE OWN AND FLY TWIN CESSNA AIRCRAFT"

TRAINING:

- Three Day Initial Training
- Two Day Recurrent Training
- Single Day Engine Loss and Emergencies Training
- Loss of Control Training
- Instrument Currency & Proficiency
- Round Gauges to PFD/MFD transition



CUSTOMER REVIEWS

"Most informative training I have ever received"

"If you get sick of engine pulls, don't take this course."

"It was one on one discussion and flight training of my 414A and its system"

"We did Single Engine work between blue line & red line at 200 FPM CLIMB with high gross weight"



**310R, 340,
414A, 421
FULL MOTION
SIM**

EMAIL: AIRCRAFTSIMTRAINING@GMAIL.COM
FOR PRICES AND SCHEDULING

3581 Westwind Blvd.
KSTS
Santa Rosa, CA
707-528-IFLY

STAY OUT WEST WITH TOM'S AIRCRAFT



TOM'S AIRCRAFT™

— SALES AND SERVICE —

We are a Factory Authorized Cessna Service Center, and the West Coast's only shop that has been caring for these aircraft since they were delivered new 25+ years ago.

(562) 426-5331 or info@tomsaircraft.com

The experienced staff at Tom's Aircraft is available to support your Twin Cessna needs. Is it time for an annual? Or maybe just an oil change? Stay out West (or come out West!) with Tom's Aircraft. We offer ferry services to or from your home base if necessary.

Genuine Cessna Authorized Parts

- Experienced staff
- Competitive pricing
- Next day delivery if ordered by 7:00PM EST

Pre-owned Aircraft Sales

- Premium piston and turboprop aircraft
- Backed by an industry recognized name
- Consignment services available

Francis Salisbury

Maintenance
francis@tomsaircraft.com

Diego Cayetano

Parts Sales
diego@tomsaircraft.com

Thomas Jacobson

Aircraft Sales
thomas@tomsaircraft.com



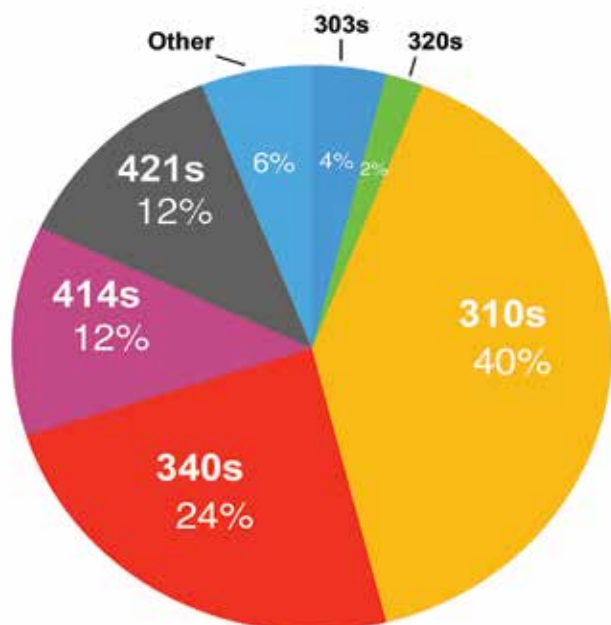
Tom's Aircraft Sales and Service
2721 E. Spring St
Long Beach, CA 90806
• www.tomsaircraft.com • facebook.com/tomsaircraft

TTCF MEMBER SURVEY RESULTS - PT. 1

by Bob Thomason, TTCF Editor



Every few years we ask our members to complete a survey about themselves, their airplanes, and their flying. Knowing key facts about these subjects helps us fine-tune the organization to best meet member needs. Earlier this spring, we conducted our third survey since I took over as President in 2010. This article is the first of two, presenting the results of our most recent survey.



What model Twin Cessna do you own?

This chart is self-explanatory, but here are the key takeaways:

- 310s make up the largest single group of airplanes. This makes sense as 310s are the largest group of Twin Cessnas on the FAA registry, comprising 39% of the total. Of our 310 owner survey respondents, 11% own tuna-tank classics, 48% own short-nose non-classics, and 41% are 310R owners. Interestingly, compared to our 2014 survey, we have a lower percentage of tuna-tank classics now (20% in 2014), and a higher percentage of 310Rs (32% in 2014).
- Among all our respondents, total cabin-class Twin Cessnas outnumber non-cabin class airplanes 52% to 43%, and this trend is increasing. People tend to join an owners organization shortly after they buy their airplane, when excitement and enthusiasm are high. There has been more market activity among cabin class Twin Cessnas than non-cabin class in the last few years.
- Five percent of our member respondents do not own Twin Cessnas - yet. These are the smart ones, learning all they can before taking the plunge.
- Our members who own T303s have doubled from two to four percent since 2014. The 303-dedicated section of the Forum has helped drive this.

We asked survey respondents what airplane they owned prior to their current Twin Cessna hoping, to find a pattern. All we found was that the vast majority moved up from single engine airplanes or other light twins. There was no model (say 210 or Cirrus) that was more prevalent than others. They ran the gamut from a Scottish Aviation Bulldog (whatever that is!) to a Beechcraft Queen Air to TMBs and Pilatuses.

We also asked survey participants what airplane might eventually replace their Twin Cessna. Again, no specific model emerged, but most either listed a larger airplane like a single engine turboprop or said their Twin Cessna would be their last airplane. That makes sense given the average age of our members (shown later).

And finally, about 36% of our member respondents own an airplane other than their Twin Cessna. Most were smaller airplanes including homebuilts and taildraggers.

How long have you owned your Twin Cessna?

Answer	Response Ratio
< 1 year	9.1%
1 to 5 years	31.6%
5 to 10 years	17.9%
10 to 20 years	20.8%
> 20 years	16.2%
Don't own a Twin Cessna	3.7%
No Responses	<1%
	100%

- About 9% of survey respondents are brand new Twin Cessna owners, buying their airplanes within the last year.
- A full 41% bought their Twin Cessnas in the last five years, which represents a healthy amount of fleet turnover.
- 55% have owned our airplanes longer than five years, making us a well-balanced organization of longtime and new owners.

(continued on page 16)

VISIT
Our Website
For Special
Rates!
simulator.com

ROUGH ENGINE DURING DEPARTURE.
PRECAUTIONARY ENGINE SHUTDOWN.
**SINGLE-ENGINE APPROACH
AND LANDING.**

Robie Elliott
Cessna 421C Professional Pilot
SIMCOM Customer

I was ready.

"Too many routine in-flight engine shutdowns in twin-engine airplanes end in disaster."

"Vmc loss of control on approach after an engine failure in a multi-engine airplane - I read about it all too often in the accident reports. The simulator time I spend at SIMCOM experiencing engine failures, single-engine approaches and landings is simply invaluable. When it really happened to me, I was confident and proficient. The outcome was never in doubt. Thanks, SIMCOM."



Watch the video of Robie Elliott describing his in-flight experience at simulator.com.



SIMCOM
AVIATION TRAINING
BETTER TRAINING. SAFER PILOTS. GREAT VALUE.

...Nothing Prepares You Like Simulator Training.
Visit SIMCOM's website at **simulator.com**

866.244.3552

© 2017 SIMCOM Training Centers. All rights reserved.

How many hours/year do you fly your Twin Cessna?

Answer	0%	Response Ratio
< 25		4.5%
26 to 50		19.5%
51 to 100		37.0%
101 to 150		24.5%
151 to 200		6.6%
> 200		4.5%
No Responses		1.6%
		100%

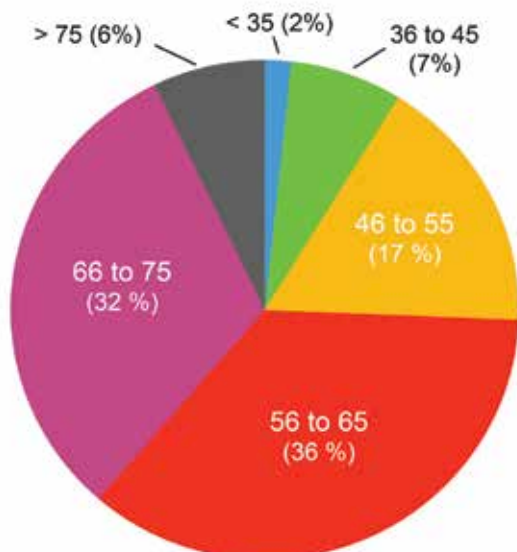
- Our member respondents flew their Twin Cessnas an average of 101 hours in the 12 months prior to the survey. That's about the same as our 2014 survey.
- A full 61% of us flew 100 hours or less in the past year, and that percentage is up from 49% in 2014.
- One reason for more people flying less is that a number of members reported their airplanes were down for significant periods for avionics or other upgrades.
- Since 36% of our members own more than one airplane, their total flight time per year is higher than reported here. We have many members who fly professionally as well.

Below:

- 40% of those who responded to the survey either fly or have flown professionally in the past. This is up from 29% in 2014.
- 24% are currently flying professionally.
- The percentage of retired professional pilots among our membership has increased from 12% in 2014 to 17% in 2018. This is a reflection of the increasing wave of retirement from the airlines which is expected to accelerate in the next 10 years. We can expect this portion of our membership to continue increasing.

Are you, or have you ever been a professional pilot? (i.e. airline, charter, corporate, military)

Answer	0%	Response Ratio
No.		60.0%
Yes, I fly for a major airline.		7.9%
Yes, I am a corporate pilot.		9.5%
Yes, I am a charter pilot.		5.4%
Yes, I am a military pilot.		1.6%
I am a retired airline, corporate, charter or military pilot.		17.0%
		100%

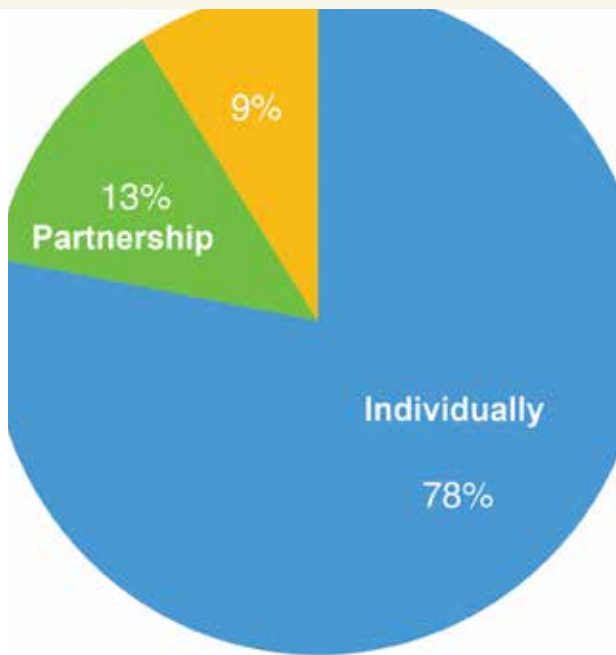


How old are you?

We've never asked this question on one of our surveys before but the chart at left shows the age distribution of our membership. We are definitely an older group:

- 38% of us are over 65.
- Only about a quarter of us are middle aged (55) or younger.
- Only 9% are 45 or younger.
- Only two people completing the survey were under 30 years old.
- The average age of our members is 61 years old.

Is this something specific to our group that we should be concerned about? I don't think so; it's just a reflection of overall pilot demographics. Plus, one has to have accumulated some level of financial assets to buy a Twin Cessna and that most often doesn't occur until later in life.



Left: How do you own your Twin Cessna?

The chart to the left is self-explanatory.

- The vast majority, almost 80%, own our airplanes by ourselves. One thing this means is that if the finances get tight, most of us still have the option of adding partners to share expenses. These results are unchanged from 2014.

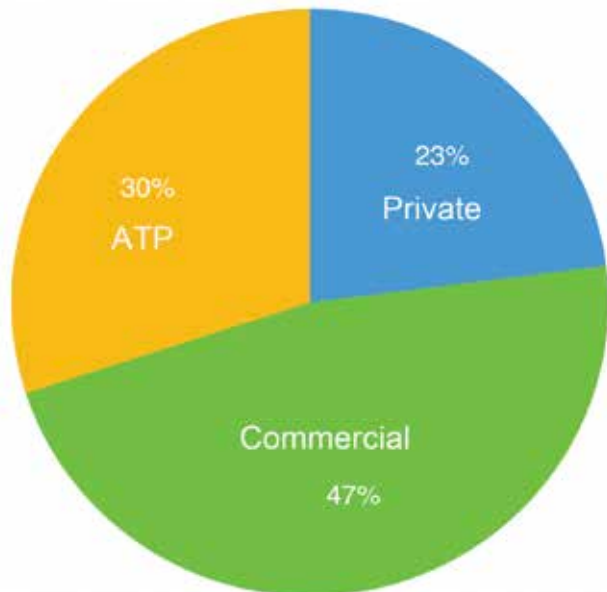
Below: Do you use your airplane for business?

- About 60% of us use our airplanes at least partly for business.
- Within this group, about 30% of their total flying is done in conjunction with their business.
- Many members devote a significant amount of their flying time to charity flights, (e.g. Angel Flight, Veterans Airlift Command and similar groups). This type of flying was not included as business flying.

Do you use your airplane for business at all?

Answer		Response Ratio
Yes, (enter % of business flying in space below)		59.1%
No		40.0%
No Responses		<1%
		100%

What pilot's licenses and ratings do you have?



- We are a highly-qualified group of pilots. 77% of us have either a Commercial or Airline Transport license.
- 81% of us have an instrument rating.
- 15% have a seaplane/float plane rating.
- 9% have a glider rating.
- 5% have a rotorcraft/helicopter license.
- Many members mention in the comments that they have A&P/IA licenses, CFI licenses, and multiple type ratings for almost every type of aircraft.



Coming in Part 2:

- Total flight time.
- How we maintain our Twin Cessnas.
- Affordability of our airplanes.
- Ownership challenges.
- Plans to upgrade, and more.



Experience matters.



Pilots rely on their extensive training to make important decisions inflight and on the ground, but there is no better preparation than experience when things don't go perfectly. When it's time to buy or sell a Twin Cessna, experience also plays a key role. That's why over 500 savvy Twin Cessna owners and pilots have chosen the professional aviation services of Jerry Temple Aviation. Since 1994, JTA has specialized in 300 and 400 Series Twin Cessnas. Trust the experience of JTA for your next transaction.

Jerry Temple Aviation.
Promises Kept. Expectations Exceeded.

**VIEW THE CURRENT
TWIN CESSNAS
REPRESENTED BY JTA!**

**View Specifications,
Technical Data,
Photos, and
Narrated Videos.**



JERRY TEMPLE AVIATION, INC.

www.jerrytemple.net

TEXAS OFFICE

Jerry Temple

PHONE 972 . 712 . 7302

EMAIL sales@jtatwins.com

TENNESSEE OFFICE

Dan Moore

CELL 423 . 647 . 4359

EMAIL dmoo@jerrytempleaviation.com



STAY COOL *this summer.*

Twin Cessna owners love their airplanes. Unfortunately, they can be plagued by air conditioning issues. DFW Aero Mechanix has the proper equipment and expertise to solve these complex problems, rather than simply applying quick-fix solutions. We have the ability to install the latest electrical system, allowing you and your passengers to enjoy cool comfort on the ground prior to engine start.

DFW Aero Mechanix offers our clients these services:

- Air Conditioning Maintenance
- Pressurization
- Inspections
- Pre-Purchase Evaluations
- Import / Export
- Structural Repairs
- Modifications
- De-Ice Boots / Systems
- Pick-Up and Delivery Service

DFW Aero Mechanix Inc.

Complete Aviation Services

Telephone: (972) 250-2403

E-mail: sales@dfwaero.com

Fax: (972) 250-6369

16321 Addison Road · Suite 150 · Addison, TX 75001

SPECIAL 310 SIGHTINGS



Above: I received these pictures and the email below from member Charles Schlumberger, who travels the world extensively in his position as Lead Air Transport Specialist for the World Bank.

Bob, I've attached two pictures I recently took in Burkina Faso. The Civil Aviation Authority of Burkina Faso displays this C310 at the entrance of its headquarters in Ouagadougou. The stairs are so that school children can have a look at the cockpit.

You are welcome to publish the picture at one of the future magazines. Maybe entitle it, "A somewhat glorious final resting place of a C310 in Western Africa."

Left & Editor's Note: I had no idea where Burkina Faso was, so I looked it up. It is a former French colony that gained independence in 1960 as the Republic of Upper Volta. It was renamed Burkina Faso after a coup in 1983.



Right and Below: This email came from Harold "Woody" Wood, head of EAA Chapter 93 in Indiana, PA. Woody leads the team that has restored one of actor Jimmy Stewart's 310s - a 1960 F model. He reports:

The Jimmy Stewart Museum had Judy Stewart (daughter) here this past Friday to give the George Bailey award to Rocky Bleier. Saturday afternoon we hosted Judy to a Power Point presentation covering the restoration progress, and showed the plane to her and the public. We served airplane cookies at this event. Judy was very excited about the plane and told several stories about riding in this 310 and also her dad's Super Cub.



MICRO VORTEX GENERATORS

- Improved Safety & Characteristics
 - Improved Controllability
 - Eliminate Vmca
 - Gross Weight Increase
 - Zero Fuel Weight
 - Lower Lift Off Speed
 - Lower Stall Speeds
 - Saves Tires & Brakes
 - 1 Day Installation
 - Cessna Twin Micro VG Kits
- \$1950. to \$2950.**



(800) 677-2370

4000 Airport Road, Suite D
Anacortes, Washington 98221

(360) 293-8082 FAX (360) 293-5499

micro@microaero.com <http://www.microaero.com>

Micro VGs are installed on the leading edge of the wings and on tail surfaces and strakes are installed on the engine nacelles to help keep air attached longer at slower speeds. This reduces the Stall Speed, improves controllability, improves characteristics, creates a more stable instrument platform and gives better aileron response and rudder authority.

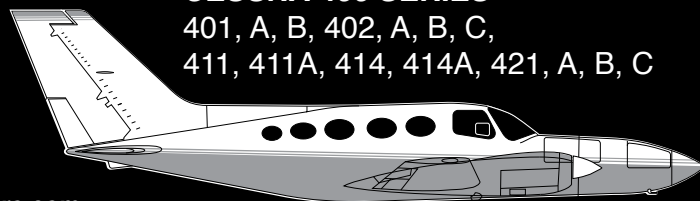
CESSNA 300 SERIES

310G, H, I, J, K, L, N, P, Q, 310R, T310R,
320B, C, D, E, F, 336, 337, 335, 340, 340A



CESSNA 400 SERIES

401, A, B, 402, A, B, C,
411, 411A, 414, 414A, 421, A, B, C



**REPLACE YOUR
SOUTH WIND**

FAA suggests 90% of South Wind
heaters will fail AD 2017-06-03.

Janitrol Aero

SWITCH TO HEAT THAT LASTS

There's a new AD affecting all South Wind heaters. Will your heater pass the test? Don't waste your time and money on compliance testing and replacing parts every two years. Purchase a new FAA-certified, AD-free Janitrol Aero brand replacement heater and leave AD compliance in the cold. Choose long-lasting performance. Experience a product supported by the leader in the industry.

Call us or visit the website to learn how the AD affects you.

Janitrol.aero/SouthWind

+1.334.386.5400



©2017 Janitrol Engine Technologies LLC. All rights reserved.

TRADING CRUSADERS

by Bob Thomason, Editor



As some of you know, I just sold my T303 Crusader and bought another one. I had owned N9476C, a 1982 model (s/n 179) for about seven years - the longest I had ever owned an airplane. I had invested over \$200,000 in upgrades and only needed a few more things to make it perfect. Why sell? I'll explain.

When I was shopping for 76C I used a technique that had worked well for me in the past. The best airplanes are usually not actively for sale, yet if you can locate a good off-market airplane, approach the owner, and make a strong offer, you can sometimes get a great airplane and avoid all the run-outs and project planes listed online. (I'm stunned by the number of stories I hear about airplanes that are completely misrepresented in their online spec sheets. Buyers show up only to find damage history and missing logs when the ads specifically stated the opposite.)

So in 2011, I mailed a letter to all registered Crusader owners (approximately 100) which said in part "...I am not looking for a deal. I am looking for a best-in-class airplane and am willing to pay top-dollar for it." This gets an owner's attention and generates a lot of calls because most people will sell anything at the right price. In talking to

these owners, I got a feel for who might actually sell at a reasonable price and who wouldn't. This approach generates a group of good airplanes to look at.

One Crusader owner who responded to my 2011 letter was Tom Srachta from Morris, IL. Tom had serial number 296, which was one of the last built, so I went to Morris to see it. It had a beautiful

lacked the optional cargo door I wanted, but it was extremely well-maintained and had lived a pampered life. Just my kind of bird! I bought it for \$170,000 and immediately began the upgrade process.

I had seven great years with 76C, and then something tragic happened: Tom Srachta passed away suddenly in late

2017. A few months went by and I contacted Tom's widow, Judy, and his good friend and hangar-mate, Tim Applegate, who also owns a nice 303. I wanted to offer to help them sell it. I was happy with 76C and in fact was getting ready

to buy a set of MT props for it. But in talking to Judy and Tim, I was reminded of what a great airplane Tom owned and how extensively he had upgraded it. Among other things, he had just added MT props, plus a G500, dual Garmin GTN750s, the GTX 70 digital radar with a 12 inch antenna, Garmin traffic, Flightstream 510, and several other nice items. All this airplane would need from me would be a new autopilot to replace the 400B and an engine monitor.

So I went to Morris and Tim and I flew N303CM. The famous "one-thing-led-to-another" happened, and I made an offer which Judy accepted. Now all I had to do was sell 76C. Brokers can be a big help selling airplanes, but if you've got the time and energy, I've found some techniques



Two great Crusaders. I sold the red one, a 1982 s/n 179, to member Barney Welch and bought the black one, a 1984 s/n 296, from Tom Srachta's widow, Judy.

paint job and was well-equipped. I made him a strong offer, but no luck. It was clear Tom did not want to sell it. (Tom later wrote a great piece on his airplane for the August 2010 issue of this magazine. Read it and you'll see how much he loved his Crusader).

So I pursued other options and bought 76C from an architect in Madison, WI, who also responded to my letter. His airplane needed more work, had an older paint scheme than Tom's, and



Smiles and handshakes! Left: Barney and I celebrate closing on 76C. Right: Tim Applegate, Tom Srachta's good friend and hangar-mate, delivered 3CM to me in Defiance. Photos: Marla Pancake.

that have worked well over the years. Of course an ad goes on Controller and Trade-A-Plane, but I also like to create a web page for the plane with a spec sheet, lots of detailed pictures, and a video.

I sold my 421 this way in 2011 and used the same process again for 76C. I also listed the airplane on Beechtalk and the Cirrus Owners forum. Beechtalk has about 20,000 members, I'm told, and Cirrus owners are perfect prospects for Crusaders since they already fly unpressurized airplanes but may need the extra space a cabin-class airplane provides. I had priced my airplane at \$275,000 and got lots of interest.

One thing I hadn't anticipated was the impact of Basic Med. A lot of owners are apparently having to downsize to airplanes under 6,000 lbs. maximum gross weight. The Crusader, at 5,150 lbs., offers good capability yet meets the requirement.

But regardless of why people were interested, I spent hours just educating folks since only about 300 Crusaders were made. All were intrigued but some shied away because they thought parts or insurance might be a problem (not so), or they just weren't comfortable owning such a rare bird. That was fine. There was still plenty of active interest. I was scheduling test flights for people, but then had to take a break to prepare for and attend our Convention in late May.

TTCF member Barney Welch had contacted me early on, but really wanted an airplane with air conditioning, which 76C doesn't have. But since he and his wife were at the Convention, I offered to take them for a ride. They both loved the airplane, but what set things in motion was when Barney said that, after riding in 310s and even 340s, my Crusader was the only airplane his wife liked. There is no bigger green light than when the spouse likes an airplane!

Barney made me a good offer and I agreed to think about it. Back home, I mulled it over. I really thought I could sell 76C for more but there were some intangibles at work. First, I liked Barney. I had met him at a seminar at TAS last year and spent more time with him at the Convention. Second, he said he would let TAS do the prebuy. That would make the sale a really smooth

(continued on next page)

BETTER PERFORMANCE AND A SAFER FLIGHT SIMPLY PUT: STRAKES WORK

Investing in your Cessna's safety is the safest investment you can make. Dual aft strakes from Aircraft Performance Modifications, Inc. (APM) have been rigorously tested and proven—in the lab and in the air—to improve safety, performance and yaw control for your Cessna 340 and 400 cabin-class aircraft.



For more information visit www.AircraftSTC.com

FAA & EASA APPROVED

Overhauled Continental Starter Adapters Shipped Fast



Or Overhaul Your Own With Our PMA Parts, .015, .030, or .040 Over

At Aircraft Specialties Services we know Starter Adapter failure can be a truly frustrating experience. A perfectly good aircraft that just sits on the ramp. This usually happens at the worst possible time, when it's sitting on someone else's ramp for example. We also know making repairs with a factory new Starter Adapter is a very costly proposition.

That is why we stock a full range of overhauled Starter Adapters ready for immediate exchange.

Our technicians have years of experience rebuilding these Continental adapters, using the highest quality parts. We can also overhaul your own core, if you prefer, and get it back to you quickly.

Give us a call; we can get you back in the air fast and at a price you can afford! That's the Aircraft Specialties Services promise.

1-800-826-9252

www.aircraft-specialties.com

2860 N. Sheridan Road, Tulsa, OK 74115 Phone: 918-836-6872 Fax: 918-836-4419



We Recommend
CamGuard



FAA DD2R764K & EASA.145.6513 Certified Repair Station



process versus the unknown of selling to someone across the country and managing more complex logistics. Time is the scarce commodity in my life right now and selling to Barney promised to conserve as much precious time as possible. I accepted his offer.

The prebuy went smoothly. Some might say Barney violated the old maxim about not letting the shop that maintains the airplane do the prebuy, but I have done the same in the past. The more important issue is choosing a shop you can trust. Barney was TAS's customer for the prebuy and they were looking out for his interests and not mine. That's how a good shop works.

I already had N303CM under contract, and with my airplane sold, was ready to take delivery. Tony had done a prebuy along with Tom's mechanic a few weeks earlier. It had required a new cylinder and a new nose gear bell crank but was now ready to go. The day after I completed the sale of 76C to Barney, Tim graciously flew 3CM from Morris to Defiance so I could take delivery.

Some of you may have met Tom Srachta. He was a regular Convention attendee. If you had a chance to talk to him, you knew how much he loved flying. Like many of us, he fell in love with flying as a child and took lessons as soon as he could. He flew continuously throughout his life and owned a succession of airplanes. The Crusader had been his favorite. He and his wife Judy (they met in high school) had countless memorable trips in 303CM.

Every time I visited Morris during the buying process - for the initial test flight, the prebuy, etc. - Judy was there. After each flight, she would get out a spray bottle and towel and clean the airplane, often with tears in her eyes. And when Tim towed the airplane out of Tom's hangar to fly it away from Morris for the last time and deliver it to me, Judy sprinkled Tom's ashes on the wings of this special airplane. Over time, 3CM will become more and more my airplane. But it will never become totally mine and that's OK. I'm honored to be its caretaker and hopefully someday, pass it on to someone else who will love it as much as Tom did and I eventually will, I'm sure.

Right: This is something you don't see very often given the small T303 fleet size. That's Barney (and TAS pilot Jim Duval) headed home to OK at the lower left and Tim enroute to Defiance to deliver N303CM to me in the top center of the picture.



Reasons to Consider JPI

I recently purchased a JPI EDM-Twin (EDM 760) for my P-Baron...at 21,000 feet and cruising between Denver and Cleveland when the JPI flashed that the CHT on the # 4 right engine was climbing to a dangerous level. I throttled the engine back and made a provisional landing. Inspection revealed a crack in the cylinder that was 3/4 around the jug. If I had not had the JPI I probably would have had a catastrophic engine failure. The JPI has already paid for itself in the first several months.

Verified Purchaser



EDM 960 TWIN

The EDM960 is certified as a primary flight instrument. Featuring one DAU per engine, only 2 wires run back to the display in the cockpit. The 960 can open up space in your panel, allow you precise engine management, and instantly warn you of any parameter exceeding set limits. All parameters are logged every 6 seconds.



EDM-790 TWIN

With the 790 Advisory EDM on board, you can remove many of your old engine gauges. Open up valuable space! Featuring one DAU per engine, only 2 wires run back to the display in the cockpit.

4.8 X 3.44

JPI Instruments is the only manufacture with advisory & primary instrument replacements for 7 & 9 cylinders. Flying with any JPI EDM, will add proven safety.



Visit online or call us for specs & deals!

Technology that works

SALES: 1-800-345-4574 www.jp instruments.com

As I write this, Barney has 76C back in his hangar in Oklahoma City while he's earning his multi rating in a 1963 Beechcraft Travel Air. His insurance company is requiring 25 hours of dual before he gets turned loose. That's completely adequate, as the Crusader is a very simple and easy-to-fly aircraft.

The attachments we develop with our airplanes can be powerful. TAS pilot Jim Duval and Barney left for Oklahoma just before 3CM arrived, and as I watched it depart, I recalled the amazing adventures I'd had with it - some of the best of my flying life. There was the TTCF trip to Cuba with my family - a trip I thought I'd never be able to make in my lifetime. There was our amazing journey to Alaska which I made with my brother and fellow TTCF members. Flying a thousand feet over a wilderness river with majestic mountains soaring up on both sides was surreal.

But I think my all-time favorite memory was flying 76C out to Death Valley

one Spring to bike with my two boys.

"If you want to know why some of us engage in the insanely expensive endeavor of buying...and flying Twin Cessnas, you need look no further than once-in-a-lifetime memories like these."

My youngest son and I arrived around sunset one day and planned to pitch our tent and camp but the wind was too strong. I had removed the seats in the airplane to carry the bikes, so we secured the bikes outside and spent the night inside on the spacious cabin floor of 76C.



Sunrise at Stovepipe, Death Valley.

We woke up the next morning, well-rested, to some of the most beautiful desert scenery ever. I soaked it all in and marveled at what our airplanes allow us to do.

If you want to know why some of us engage in the insanely expensive endeavor of buying, upgrading, and flying Twin Cessnas, you need look no further than once-in-a-lifetime memories like these.



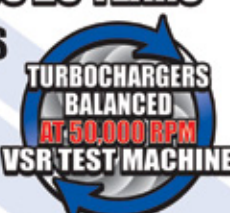


MAIN TURBO

We Will Help You Troubleshoot Your System!
(Teaching Subject At FAA Endorsed Events)

IN THIS BUSINESS 25 YEARS

- PRESSURE RELIEF VALVES
- OVERHAUL - EXCHANGE
- TURBO CHARGERS
- CONTROLLERS
- WASTEGATES
- **WE BUY CORES**



**Visit Our Web Site to
See the VSR In Action**

"A father / son team with 92 combined years of aviation maintenance experience with A & P license/commercial pilot"

1-888-847-8007 • 559-635-3322 • Fax 559-627-1960

6am - 6pm PST • Mon - Fri

GARY MAIN

"Sensitive to your needs"

www.mainturbo.com • maints@mainturbo.com



SIGN UP TODAY FOR YOUR...

RECURRENT TRAINING!

**SPECIAL OFFER
FOR TWIN CESSNA FLYER**

\$2,700

RECURRENT

IF BOOKED FOR
JULY 2018

SPECIALIZING IN...

- 2-Day and 3-Day Options
- Insurance Approved
- 5-Star Customer Service
- New Twin Cessna FTD
- We Offer Initial Training!

Gain confidence and stay sharp in your knowledge and abilities to handle unusual situations like weather, malfunctions and failure.

Our Twin Cessna Flight Training Device is a FAA Level 5 device that has been backed by our own flight test data to ensure our device reacts and handles like the real aircraft.



QUESTIONS?
FEEL FREE TO CONTACT US.

US +1 833 471 2725
info@RTCPilot.com
www.RTCPilot.com/TCF

CESSNA 303, 310, 320, 340, 414 & 421!



Tony Saxton - TTCF Director of Technical Support and owner of TAS Aviation (see ad on page 7).

Partial Power Takeoffs Revisited

Tony, I just read the article on Partial Power Takeoffs (June 18 issue) and found it quite interesting. I wanted to get your opinion on what may be the only Twin Cessna that is actually placarded against full power take-offs (at least down at sea level).

We have a 1978 C310R that we've extensively updated. One of the upgrades we've done is the Bearcat Conversion which installs IO-550As in place of the IO-520s. This STC limits take-off MP to 27.7 inches at sea level to 25.9 inches at 3800 ft (with a straight line variation between the two points). Obviously this limitation is an STC airframe limitation because standard Continental IO-550As don't have any such limitation. This supposedly derates the IO-550As to 285 HP (same power as the airframe was originally certified with).

What we've noticed since having these engines installed is that if we want to keep the CHTs under 400°F in the climb, then we really do need to heed this limitation. After we reach a safe altitude we quickly accelerate to 120-130 knots for our climb speed. If we do try to use full power on take-off, the CHT's will quickly hit 420°F and continue climbing on a typical summer day in Alabama.

Continental in Fairhope originally installed and set-up the fuel systems on the engines, and since then our mechanic has even bumped up our full throttle

fuel pressures a bit higher, but we've never been able to get it rich enough to keep our CHT's down at full throttle.

While we love the cruise performance of our Bearcat conversion (we've easily had it up to 17,000 feet while still climbing at 500 fpm), keeping the CHTs within reasonable limits during the climb has always been something we've had to watch and from what I understand, this is a common problem with this conversion.

Ian, TTCF Member

Ian, the Partial Power Takeoff article was primarily focus toward turbocharged models. It is understood that all normally aspirated models, when faced with higher elevation airports, are limited to reduced power on takeoff (and initial climb) which must be dealt with.

The IO550 conversion in the 310R also has a lower MP limit even at sea level. Disregarding the temperatures for a minute, this lower takeoff MP was to keep the new installed IO550 at the original 285 horsepower for all operations which simplified the STC requirements. Limiting the engine to its original horsepower, reduced or probably eliminated the time consuming and costly flight testing requirements etc. for certification.

It was widely touted by Colemill that even though there was a limitation, the throttle could be shoved forward in case of emergency (wink, wink). The stated advantage was of course the added horsepower, which gave a higher available cruise power at altitude. The MP reduction requirement had nothing to do with temperature reduction.

As to the high temperatures, this installation in all 310Rs has always struggled with higher CHTs. The IO550, due to its longer stroke, tends to create a lot more heat, and in OEM installations this has mostly been addressed. In this early aftermarket STC installation the original cowlings which were kept intact as/is, are simply not up to the cooling task required. We have added aft lower cowl lowers, special built inner-cylinder baffles, etc. to try and reduce the temps with little success. In

the end the attempt to keep these CHT's below 400 degrees is a rather fruitless endeavor. Stay below 420 degrees and set the takeoff fuel flow to slightly over the maximum setting and that's the best that can be accomplished.

Tony Saxton – Director of Tech Support, TTCF

Sudden Drop in Manifold Pressure

Tony, I own a Cessna 335 and last week I was flying cruise at 8,000 feet with 29 inches of manifold pressure, ROP mixture, aux fuel pumps on LOW, and fuel selectors on the main tanks. Suddenly my right engine started losing manifold pressure and dropped all the way down to 20 inches. I enriched the mixture and added power but nothing happened. Since it held at 20" and I was over the ocean, I didn't want to experiment much with other settings and worsen the problem. After about three minutes, the manifold pressure started to increase up to 27 inches.

Any thoughts and what may have caused this sudden drop in manifold pressure. Controller? Wastegate? I hope you can help me with your expertise.

Martin, TTCF Member

Martin, several things can create a sudden drop in manifold pressure. Obviously a wastegate or the controller malfunction can but such items as a torn induction tube or a broken of loosening induction clamp can also result in the scenario you described. In addition, the partial or complete failure of and exhaust system component could also be a culprit and would be the most dangerous scenario.



A sudden drop in manifold pressure can be something serious like an exhaust leak or, if only intermittent, something less serious like a stuck wastegate.

However since the manifold pressure returned later, the likelihood of these

(continued on page 28)



Chosen for value and service

Twin Cessna Parts!

www.preferredairparts.com



40% - 50%
off list price!

Cessna twins are a very important part of our business as we have parted out over 370, from 303's to 441's. Preferred also stocks over 14 million new surplus aircraft parts covering Cessna, Piper and many other single and multi-engine, piston, turbine and jet aircraft and their engines, propellers and accessories.

We have:

- The worlds largest inventory of new Cessna parts outside of the factory, most at a 40% discount
- Used parts for Cessna twins of all models, at a 50% discount
- Large stock of **new** and **overhauled** accessories and rotables
- Jig repaired control surfaces
- Wings for nearly every model of Cessna twin
- Propellers, fresh overhauled and low time
- We are distributors for LP Aero Plastics windshields and windows
- Also stocking some Donaldson filters, and Gill batteries.

Preferred Airparts, LLC

Division of JACO Industries Inc.

Kidron, Ohio 44838 USA

800-433-0814

Toll free US and Canada

330-698-0280 PH

330-698-3164 FAX

sales2@preferredairparts.com

**We are
Cash
Buyers!**

We Buy Worldwide

We buy inventories of new surplus parts for nearly anything that flies. Also tired or damaged Cessna twins, Caravans, Citations, engines and propellers.

Johna Hambrook is our buyer. Please contact her at 330-698-0280 ext 224 johna@preferredairparts.com

items having occurred are low. I would un-cowl and check the engine bay area and, if everything is OK, lube the wastegate with "Mouse Milk" and remove and flush the wastegate/controller oil lines to remove any debris in the system.

Tony Saxton - Director of Tech Support, TTCF

Continental TBO Extensions

Tony, I'm trying to tell if the Continental TBO Extension Service Letter (attached) applies to my T303 engines. It says it applies to s/n 1006000 and later. My serial numbers are:

Left: 246169-R

Right: 246670-R

If the TBO extension does not apply, do you know what was different about the post- 1006000 engines that gave them the extra 200 hours?

Bob, TTCF Member

Bob, no these engines are not eligible for TBO extension per the SB (by the way, this is now found in the Continental M-O manual). There is not much difference between the engines covered and not covered other than the most recent service bulletins have been complied with, the installation of new generation Continental cylinders, and a simple sales ploy.

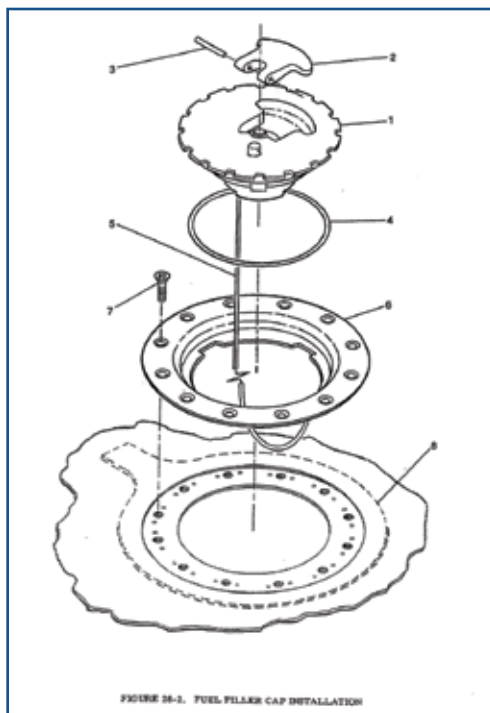
And remember, in Continental's own words: "An engine's published TBO DOES NOT mean that every engine will operate the number of hours or years listed without requiring component replacements and/or unscheduled maintenance events."

Tony Saxton - Director of Tech Support, TTCF

Fuel Cap O-Rings

Bob, two weeks ago I had a small technical issue that might be worth publishing:

After my C340 was down three month for some interior refurbishing, I flew it back from Central America to the



Fuel cap o-rings need to be replaced periodically as they can harden with age. There is an outer o-ring (#4 in above diagram) and an inner, stem o-ring which is often not shown in Parts Manual diagrams (but shows in the parts list.)

US. At fueling prior to this flight, the fueling personnel remarked that it was hard closing the fuel caps of the wing tip tanks. After a four hour flight at temperatures of minus 10 Celsius, we refueled the aircraft, but it was absolutely impossible to close any of the wing tanks.

After a local mechanic unsuccessfully tried to fix the caps, we called Tony at TAS. He suggested adjusting the fuel caps' internal bolt, but if that doesn't work, change the O-rings. We subsequently had to change the O-rings, and noticed that the old ones were hardened to the point that they couldn't be softened again.

Lesson learned: our aircraft are aging, and a cheap old O-ring might ground you on a long journey. It might be wise to change them preemptively at your next annual inspection.

Charles, TTCF Member

T303 Aux Fuel Pump Operation

Tony, a quick question. On my T303 if I

close throttle and mixtures then use the primer (high boost) fuel is soon draining out of a tube under the cowl. On the 414 this is the process to cool the fuel pumps for a hot start. Do you know how this bypasses the mixture cut off? Seems a risky process. This seems to me to be a big safety issue. A friend and fellow 303 owner sent me the following comments:

I find that if I try to stop the engines using the mixture cut off while the aux fuel pump is operating (even in low boost) the engine will not fully stop. This suggests the mixture cut off is set to limit, but not entirely stop, fuel flow. Using high boost can cause fuel to flow out of the tube under the cowl which can be dangerous if the wind blows this onto a hot exhaust.

Some while ago, a fellow owner had a fire under the engine when he turned quickly off the runway after landing with the aux fuel pumps on low and low fuel quantity in the tanks. There is a gotcha here in that the 303 has a sensor that commands high boost any time low fuel flow is detected with the aux pumps armed, so a quick turn with low fuel can expose the fuel port in the tank causing the sensor to operate.

My SOP is now to turn off the aux fuel pumps immediately on landing, but this can cause a hot engine to stop unless one is quick to catch it with the throttles. One is then faced with the embarrassing situation of an engine stop on the taxiway with the difficulty of a hot start; only once have I managed to taxi any distance single engine!

I'd appreciate any illumination you can provide on this Tony.

John, TTCF Member

John, first the idle cut off.

The mixture control moves a brass spool valve on a brass seat that is not 100% leak proof. In fact during overhaul the leak rate is acceptable with a rather large amount of leakage defined by number of drops per minute.

This low level effectively lowers the

pressure in the line to the flow divider (spider valve) where the real idle-cutoff (ICO) occurs. In the flow divider when the fuel pressure drops below 1.5 psi, a spring loaded needle valve closes tightly and block off the fuel to the cylinder fuel injectors. If, for some reason, the inlet to the flow divider line builds above the 1.5 psi the valve can open again. I've seen this happen for a short burst after shut down when the engine heat will increase the line pressure and the valve with pop open for a second and give a small burst of fuel out the nozzles.

This can also happen when the mixture control doesn't come all the way to the stop or leaks excessively or as you observed when the ship's electric fuel pump is on. Unfortunately this is exactly what you are doing with the hot start procedure. With the mixture in ICO and the pump switched on, some level of fuel is being bypassed to the fuel nozzle in all engines. Due to the TSIO520AE induction system there is more of a propensity to just dump this fuel overboard out the drain lines than other IO/TSIO 520 and 470s in which the fuel simply drops into the intakes and evaporates.

If the engine ICO is OK then not much can be done to relieve this situation other than mind the wind direction during the hot start.

The second part of your friend's statement is not exactly correct. In the original configuration there was a low pressure sensor switch in the aux pump circuit which sensed a drop in fuel pressure. The switch had to be in the "ON" position and the aux pump ran in low but was armed to automatically go to high if the pump sensed a pressure drop. HOWEVER if the pump switch was switched to "LOW" the pump could only run in low and would not be affected by the low pump pressure switch in any way.

With original system you would switch pumps to "LOW" shortly after landing.



It is important to know how your auxiliary pumps operate which, in turn, depends on whether they have been modified per MEB88-3.

HOWEVER, this system was superseded with the introduction of Cessna Service Bulletin MEB88-3 which modified the system to remove the automatic pressure sensor. With MEB88-3, the pump will only run in the mode that the switch is in LOW-OFF-HIGH. There is no "automatic" and it doesn't sense any pressure drop since it operates completely independent from the aircraft. With MEB88-3 the pumps on "LOW" can simply be left on "LOW" until just before shut down which helps stabilize the fuel flow at idle in the hot engine.

If the engine tends to continually die on hot idle after touchdown this is more of an indication of misadjusted fuel system which should be looked into.

Tony Saxton
- Director of
Tech Support,
TTCF

320 Nose Gear Switch Cover

Tony, I am curious to see if there is a replacement cover I can get as opposed to replacing the entire switch for the nose gear down switch on my Cessna 320. See attached photo. The Part number for the switch appears to be 2VB1.

Kevin, TTCF
Member

Kevin, I am not aware of any such part as the protection boot is actually pretty much a part of the switch.

There are all sorts of serviceable used units around as this was used in almost all of the 1967 mechanical gear Cessna twins as well as a couple of the Beech models.

Tony Saxton – Director of Tech Support, TTCF

414 Landing Gear Light Diode Assembly

Tony, perhaps you can point me in the right direction. I have a left main down/locked light that doesn't come on even though the gear is in fact down and locked. The microswitch bench tests ok and the lamp is working. Various tests

(continued on next page)

DOUBLE M AVIATION



"I have never had a better, more honest, and more capable maintenance go to source in all my aviation career. Mike Naab (Owner of Double M Aviation) is especially well versed in the twin Cessna series, and 400 series pressurized aircraft specifically. We literally ended up with the proverbial "squawk-free" aircraft!"

We get an amazing sense of security not only flying a super well maintained airplane, but also knowing that if a problem comes up on the road, we have a great go-to guy in Mike that can help bail us out.

-Kevin Jordan, Business Jet Enterprises, Texas



863-940-3450 | doublemaviation.com

Lakeland, Florida | KLAL

with an ammeter indicate there may be a blown diode in position 3 in the CRA1 Diode Assembly. The parts manual shows this assembly (Fig. 178) as being at the bottom of the panel just left of the gear handle. But we sure can't find it there. Rather than randomly tearing into things I thought I'd ask if you have a location idea for this assembly.

Lance, TTCF Member

Lance, the CRA1 is in the center pedestal forward of the engine controls. It is typically on the left side, upper, but not always. I'm not sure of the s/n breakdown but some of them are a gang of diodes with the individual items imbedded in rubber that looks sort of like an old fashion gum eraser. This is mounted on a terminal strip. Later units are the individual components on a terminal strip.

Hope this helps.

Tony Saxton - Director of Tech Support TTCF

Basic Med for 340 Owners?

Bob, a buddy and I who both fly under basic med were about to purchase a C340A with a RAM IV conversion until we discovered that the conversion included an STC increasing the gross weight to 6340 LB; 340LB above the basic med legal limit.

This past Friday we discovered that the American Bonanza Society has an STC for the Baron 58TC reducing the gross weight to 5995 LB so it can be flown under Basic Med.

Can a similar STC be obtained for the C340 with the RAM Conversion so it can be flown under Basic Med? We really love the C340 we looked at and the way it flies. It is still available, so can you help us find such an STC?

John, TTCF Member

John, I checked with the ABS and learned that the weight reduction for the Baron is not an STC, it's a Beech kit. In the 1980s Beech developed a paperwork restriction to less than 6,000 pounds to avoid certain European regulatory and

tax requirements. Owners of 58Ps and 58TCs can have their mechanic endorse the "modification" on the basis of the kit, and insert a Beech POH Supplement that changes the Airplane Limitations.

For the RAM modified 340s to have reduced maximum gross would require RAM to somehow modify the STC with a "kit" similar to the Baron. I checked with RAM and they are, in fact, investigating this right now. Hopefully something will be announced soon.

Bob Thomason, TTCF President and Editor

Erratic 340 Alternator Behavior

Tony, the left alternator in my C340A RAM III stopped working after an hour of flight. After landing and taking off on the next leg it operated normally supporting a 40 amp load. After an hour or so, it stopped working (0A and Alt INOP lamp lit). It repeated this on a third leg.

Have you seen this before? I'm thinking the regulator must be overheating. I cycled the switch and the ALT INOP light remained lit. Is there an alternator failure mode that would exhibit such a behavior?

Jabe, TTCF Member

Jabe, lots of things can cause intermittent operation like this.

It is also helpful to know which specific alternator is installed. This could have the Prestolite ALV9410 or ALV9510, which has a long history of operational problems including intermittent operation when hot, as well as having leaking drive end seals allowing engine oil to enter the alternator causing the brushes to arc and stick in the brush holders.

You could also have the Continental alternator (Crittenden) 642056. This unit has long suffered drop outs from failing or loose diode (rectifier) components.

If it is rather new, you could have the Hartzell Engine Technologies ALV9610 unit which has had some problems with premature brush and brush holder wear

which allows the brushes to arc and stick.

As you note, the voltage regulator, especially if it is the old original Lamar (Cessna) type, can become very unstable and simply stop working. This also shows up as an off line simply by falling out of parallel with the other alternator and thus shifting all the load to one side. This can happen intermittently or continuous depending on the amount of imbalance. The best answer here is to simply upgrade these old regulator/ overvoltage units with new Plane Power PMA units.

Also clean the field fuses. We have found several aircraft that have had alternator issues due to loose or dirty fuses and or springs in the field fuse circuits. Loose wiring, bad crimps, poor ground connections, etc. can all cause these type of problems.

Another culprit can be a slipping drive clutch. These units will sometimes start to slip and will not drive alternator hard enough to stay balanced. See the recent SAIB #NE-18-16 concerning this issue. It's posted on the TTCF website Technical & Safety Info page.

Tony Saxton - Director of Tech Support, TTCF

310R MLG Strut Leakage

Tony, I am on the road and I do not have any of the reference materials that you provided us at the recent seminar with so I'm writing to get your thoughts/ opinion on an issue I am having with my 310R. It's a 1976 s/n 310R0687. It's a solid airframe but has almost 11,000 hours on it as it was at a flight school in the 90's.

About 14 months ago in extremely cold weather I had an issue where the aircraft squatted on the right main during landing roll out. I had all the struts rebuilt and the bearings replaced in the mains to satisfy the 1000 hr TIS inspection AD.

Last week during landing rollout the aircraft squatted again. Upon inspection it appeared that the retaining clip released and the nitrogen and fluid

vacated the assembly. My mechanic stated that the inside of the strut assembly where that clip is retained is worn/damaged. I assume it's some sort of race machined into the assembly and he believes the strut will fail in the same manner if it's repaired.

It looks like that strut assembly has been replaced and they cannot cross reference the part number so I immediately thought you may be able to help out with that.

It doesn't sound like something that can be repaired to me, but I would appreciate your thoughts on the matter.

This is the only part number on the Strut assembly: 5041002-498. It is the Right Main landing gear strut assembly.

My shop could not cross reference that part number anywhere.

Assuming replacement is the only option I was wondering if you could point me in the right direction, or perhaps offer an alternative part number.

Jeff, TTCF Member

Jeff, the part of the strut that retains the lower snap ring (sort of a round wire ring and not the traditional flat type) is the upper trunnion. This trunnion is a part # 5141001-226 (RH). I think the number you are referencing, if it is embossed on the strut is simply a forging number, with no real "out in the field" connection to the part number. Cessna doesn't have this part but that's not an issue anyway in that you probably wouldn't buy it from them. As a point of reference, the left side is in stock (part # 5141001-225) at a mind-numbing price of \$46,364.12!

I'm a little skeptical of the need for replacement even with the high time on aircraft. The retention ring sits into a groove in the inner part of the trunnion, and once in place doesn't move or "work" any significant amount during service. The only time any "wear" would be on the groove would be during installation or removal of ring,

which in your case may have been 15 or 20 times in the entire history of the aircraft. During the disassembly it is possible to introduce nicks or dents in the groove that possibility could affect the retention of the snap ring.

Another cause for total rejection of the part could be corrosion. I have seen some rather significant corrosion in this area and the resulting material decay could result in the need to replace.

Depending on the current condition I would carefully smooth any nicks on the inner groove, clean and re-assemble with a new retainer snap ring #CM2690-14 and beveled lower lock ring #5041111-1, making sure that the lower ring pack support is properly seated during installation. To accomplish this a little easier, I sometimes unhook the inner and outer gear doors and the wheel/tire/brake assembly and partially retract the gear (about 45 degrees). Place a padded jack or stand under the trunnion so that during the work no undue force is placed on the retraction/extension rods. This gets

the area in a much better position for inspection and work.

Tony Saxton- Director of Tech Support, TTCF



TEJAS
AERO
AIRCRAFT PAINT & INTERIORS
80 TWIN CESSNAS REFURBISHED AND COUNTING

DEALER FOR APM STRAKES

DEALER FOR JPI INSTRUMENTS

Our reputation is as flawless as the finished products we deliver to our clients. Dedicated to refurbishing your aircraft's interior and exterior to better than new with your own special touches. We cater to those who want nothing but the best. So let us take care of your most adventurous investment.

SPECIALIZED
AERO

Full Paint Jobs & Schemes | Partial Paint & Touch Ups | Interior Refurbishments
Engine conversions | Wingtips | Maintenance | LEDs | and Much More...

FAA certified repair station
2285 Airport Drive, San Marcos, Texas 78666
612-392-4634
TejasAero.com • SpecializedAero.com

Follow The Twin Cessna Flyer on Twitter!

Visit www.twitter.com and follow @TwinCessnaFlyer

Classified Ads

Aircraft for Sale/Wanted

1983 Cessna T303 - 4800 hrs TT, 1905 SMOH, 1802 SFREMAN props 340/59 SMOH. Garmin 430, Cessna Autopilot, Insight Strikefinder, RDR160, Hoskins fuel flow, Air Conditioned, De-Ice. Contact Mark Bresson 815-757-8840 or bressonflying@gmail.com.



1977 Cessna 310R, 6830 TTAF; 472 SMOH Engines and props; Cessna 300 & 400 avionics plus GNS 430;

NSD-360 HSI; Good paint & interior; Complete logs; November 2017 Annual; July 2017 IFR; \$109,900; Guy Maher, Lanier Media Aviation Services: (704)-287-3475, laniermedia@gmail.com.

1972 Cessna 340 RAM VI - 5586 TT, 105/105 SMOH, 105/105 SNP, Excellent 9/2013 P&I, Aspen 1000 Pro, Dual G430W, GTX 337/327, Radar Alt, Radar, WX Data, STEC 55X, 183 Gal Shadin, DeIce Boots, Heated Props, VGs, 2112 LB Useful. Annual Due July 2019. Located (NM). Asking Price \$265,000. Contact Jerry Temple at (972)-712-7302. www.jerrytemple.net

1974 Cessna 340 RAM VI : 7950 TT 1250 on both engines and Scimitar props, 6/18 Annual, October 2015 Paint



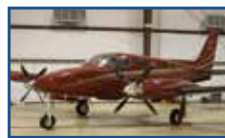
& Interior. Loaded Garmin Flight Deck including G500 w/ Synthetic Vision, GTN750, GNS430W, GDL88 ADS-B IN/OUT, GWX70 Radar, and much more! Open to offers. Holton Hancock (225) 800-2359 holton@hancockaviation.com



1977 340A 4488TT, 1050 since RAM VII conversion with Scimitar props, 661 STOH, Known Ice, 1995lb useful load, 183

gal, Leather, 530W, 430W, Color Radar, Traffic, STEC 55X with Alt capture, Known Ice, radar alt, spoilers, Factory Air. Never Damaged, well maintained (part 135 until 2010) \$269,000 will consider trade for Lancair 4P or similar (303) 817-2033. Contact john.seabury@comcast.net

1977 Cessna 340A RAM VI -- 6444 TT, L-659 SMOH / 10 STOP, R-659 SMOH, 659/659 SN Props, Excellent P&I, G500, G530W, GDL 69 WX Data, Ryan 9900B TCAD, STEC 55X, Altitude Pre-Select, 183 Gals, Shadin, Air, VGs, K.Ice, LED Lights. Annual Due May 31, 2019. Located (Houston, TX). Asking Price \$335,000. Contact Jerry Temple at (972)-712-7302. www.jerrytemple.net



1978 CESSNA 340A N438A; 4183 TTAF. RAM VII, 580 SMOH by Ultimate Engines including needle rocker bearing STC.

MT composite props 388 SNEW. Apollo MX20 MFD, Apollo CNX80 GPS WASS, Apollo SL30 NAV/COM, Apollo SL70 XPDR, Garmin GTX330 XPDR, Avidyne EX500 Radar Alt., Cessna 400B. GAMIs, Shadin Digiflo L Fuel, VG's. Tim Fennie 520-907-8542 or timfennie@earthlink.net

1978 Cessna 340A

S/N 340A0490

One owner and hangared for the past 32 years, this

Cessna 340 features ADSb out with a Garmin GTX 335, GNS 480 NAV/COM/GPS, MX-20 MFD, KFC 200 A/P, American Aviation Intercoolers, 300lb gross weight increase, Interior and paint in 1994. TTAF 3832.0. Asking \$215,000. Art Johnson (541) 484-2434 ajohnson@justicelawyers.com



1978 CESSNA 340A RAM IV - 3360 TT, L-769 SMOH/R-1191 SMOH, 325 HP RAM IV, 661/661 SPOH, G 500 Elec. Flight System, Dual G430, WX Data Link, 400 B A/P, Altitude Alert/Pre-Select, 203 Gal, Shadin, Air, VGs, K.Ice, Nacelle Fire. Located (CA). Annual Due 01/31/19. Asking Price \$270,000. Contact Jerry Temple at (972)-712-7302. www.jerrytemple.net

1978 Cessna 340A RAM IV - 5450 TT, 190/190 SMOH, 190/190 SPOH, G530W/430W, GMX 200 MFD, GDL69 WX Data, WX 500, GTX 330 Xpd, King KFC 200 AP/FD, 183 Gal, Shadin, JPI 760 GEM, Air, K. Ice. Located (San Carlos, CA). Annual Due 8/2018. Asking Price \$247,000. Contact Jerry Temple at (972)-712-7302. www.jerrytemple.net



1979 340A RAM IV- TT 3724

Q-tips TSOH 1054/1054 Props TSOH 208/208.

Immaculate Interior/Exterior. 183 gal; FIKI; -Keith A/c. New Glass Panel in 2015; 2 x GTN750, Aspen EFD1000; GMA35; GWX70 Radar, Avidyne TAS615 ADS-B; Golze ADL110B Euro Wx & SMS system; WX500 Stormscope, Century A/P & digital pre-select. Based in London UK ; N registered; would ferry to US. \$260,000 with new annual, williamsflying@gmail.com

1971 Cessna 401B. \$125,000. TT 7038. LE 605 SMOH - Prop 605 SOH. RE 605 SMOH - Prop 605 SOH. Spar Cap Due 500 HRS. ASPEN EFD 1000. S-TEC 55X A/P. GARMIN 530W, 430W. GTX 330 Transponder. GMA 340. EDM 760. KWX 56 Radar. (765) 585-0272, Stephen Songer, SWI Aviation. dsonger@centrebanks.net

414 Wanted: Looking for a a well maintained and great condition 414 for the model years 75'-77', must have Ram VI or VII with FIKI. Contact Doug Johnson at djohnson-bc@att.net or 269-217-4968.

1972 Cessna 414 - 3494TT, fresh annual, 1086/1039TSO, 383 TSOP, Dual Aspen

2000 PRO, GTN750, Dual EI MVP50 Engine/System Monitors, Trig TT31 Transponder, Cessna 400 Autopilot. Keith Air, New Boots, 178G Fuel (new locker tank), VGs, All logs, NDH. Asking \$170K. New carpet & tables. New alternators, new turbos. Contact: Troy Tollen - 415-350-4212/ttollen@gmail.com



1973 Cessna 414 RAM IV - 4094 TT, 1170/1170 SMOH, GAMI, 410/410 SN PROPS, Excellent Paint and Interior, 183 GAL, SHADIN, VGs, Air, Full DeIce, Dual G530, EX 500, Color Radar, WX500, WX Data, STEC 55X, Alt Pre-Select, GTX 330/327, Excellent Maint. Located (CA). Asking Price \$230,000. Contact Jerry Temple at (972)-712-7302. www.jerrytemple.net

Classified Ads



1974 Cessna 414,
N990PC, 8,650 TT,
1296/1296 SMOH, IFR,
450 SPOH, Nice Paint
and Interior, 335 HP

Ram VI, Full De-Ice, PMA 6000 Audio
Panel, GNS 530W, KX 155, EX500 MFD
w/Sat. Weather, Part 135 Maintenance
for the last 15 years. Asking \$170,000.
318-332-2048 or zeppair@gmail.com

1978 Cessna 414AW RAM IV R/STOL
- 5830TT, 1115/90 SMOH, 230/230
SPOH, Dual G430W, EX500 MFD, GTX
330, Ryan TCAD, RDS 82 Radar, 800B,
Alt Pre-Select, Winglets, VGs, K.Ice,
Air w/134. Located (IN). Asking Price
\$279,000. Contact Jerry Temple at (972)-
712-7302. www.jerrytemple.net

1978 Cessna
414AW RAM VII --
6700TT, 1100/1100
SMOH, JTA "9"
P&I, G600, Dual
G750, GDL88



ADS-B, GDL 69 WX Data, Dual GTX
33ES, GWX70 Radar, WX500, STEC
55X, TAS 670 Traffic, Winglets, Spoilers,
243 Gal, Shadin, JPI 760. Located (FL).
Asking \$479,000. Contact Jerry Temple at
(972)-712-7302. www.jerrytemple.net

1978 Cessna 414A RAM VII -- 5592 TT,
392/392 SMOH, 400/400 SPOH, G600,
G750/650, GDL88 ADS-B Link, GTX
530 Xpd, GWX 68 Radar, WX500, Radar
Alt., G210 Flight Stream, 800B AP, JPI
960 Gem, Spoilers, VGs, Air, K.Ice.
Located (OK). Asking Price \$505,000.
Contact Jerry Temple at (972)-712-7302.
www.jerrytemple.net.

1979 414A RAM
IV, 7386 TT, 557/28
SRAM, 435/435
SPOH, FIKI; G600
W/SVT, 530W, GTX



330ES, GDL-88,
GDL-69A, P200 WX RADAR, 400B
IFCS w/YD, WX-900, JPI-760, PMA-
8000B; 12/17 Annual; 8/17 IFR \$339,000.
Guy Maher, Lanier Media Aviation Svc,
(704)-287-3475; laniermedia@gmail.com.

1980 Cessna 414AW RAM VII - A JTA
Superstar - 5674 TT, 560/560 SRAM,
560/560 SNP, Superb P & I. Eight Seats,
421 Seats, Winglets, Spoilers, Strakes,
VGs, Wheel Covers, Air, K.Ice, JPI 760,
Shadin, Fire System, G600, Dual G750,

GTX 330ES, ADS-B Out, GWX-70
Radar, GDL 69 WX Data, WX500, Flight
Stream, Skywatch Traffic, Alt Alert,
STEC 65 w/Yaw & GPSS, 406 ELT.
Located (KY). Annual Due April 2019.
Asking \$725,000. Contact Jerry Temple
at (972)-712-7302. www.jerrytemple.net.



1981 CESSNA 414AW
- 4825TT, 925/1497
SMOH, 305/305
SNProps, Excellent
2008 P&I, Dual 530W,
EX500 MFD - WX,

Radar, Traffic. Sandel 3500 HSI, GTX
345 & 339 Xpd. ADS-B In & Out Flight
Stream, STEC 55X, GPSS, K.Ice,
Air, Shadin, JPI EDM 760. Annual
Inspection Due 12/31/18. Located
(NE). Asking Price \$404,000. Contact
Jerry Temple at (972)-712-7302. www.jerrytemple.net.

1982 Cessna 414AW RAM VII - A JTA
Superstar - 7620 TT, 320/320 SRAM,
320/320 SPOH, Superb P & I. 421 Seats,
Winglets, Spoilers, VGs, Hoskins, JPI
760, Air, K.Ice, Fire System, 406 ELT,
Chelton Electronic Flight System w/
SV, GPS/WAAS, G530/430, EX 500
MFD w/WX, Charts, Traffic, TCAS 1 &
TAWS Traffic, WX 500, DME, Radar Alt,
GTX330. Located (WY). Annual Due
Nov. 30, 2018. Asking \$568,000. Contact
Jerry Temple at (972)-712-7302. www.jerrytemple.net.

1975 Cessna 421B 9365 TT 1478/1108
SFRMN's Both engines have had
complete top overhauls. Certified Known
Ice, AC, Upgraded avionics Garmin
530W ABS-B, S-TEC 55X. Many extras
call for list. June Annual. Priced to sell
\$114,900 OBO. Chuck Smith 310-418-
4148 or chucksmithaircraft@msn.com.

1982 Cessna 421C -
5693 TTAF, 805/805
SRAM, 805/805
SNP/4-Blade MT
Propellers, 7-9

Place Interior, Dual
G750s, Dual Transponders, Dual Audio,
Color Radar, 800B Autopilot w/Flight
Director, Alt. Pre-Select, 234- Gallons,
Shadin, GEM, Air, VGs, Known Ice, 406
ELT. Annual Due Dec 2018. Located
(MO) Asking Price \$505,000. Contact
Jerry Temple at (972)-712-7302. www.jerrytemple.net.



Twin Cessna
Buying or Selling
Assistance: My
40+ years of
experience in GA
aircraft sales can

be your personal safety net in finding
the right twin Cessna for you - or selling
the one you have. For a no obligation
consultation, contact Guy R. Maher,
email: laniermedia@gmail.com, 704-287-
3475d, www.laniermedia.com.

Parts For Sale/Wanted



Parting out 300 through 400 series
aircraft. Most flown to our facility. All
with records, have 110 aircraft in 300
series & 84 aircraft in 400 series. Oldest
in aircraft parts at 58 years in business.
(800) 821-7733 whiteindustries.com

T303 Parts Buy/Sell/Trade-Call Robert
in Florida at (386)547-9880; robert.towe@aviationtechservices.com

Large Cessna 414A Parts Package for
sale!! Contact tom for info and pictures:
503-446-0910 or homestead623@yahoo.com.

Two CHT guages w/yellow tags from '58
310B. Going for \$50 ea. on E-Bay. Pay
for shipping and a reasonable offer and
they are yours. Gregg: skyranchpilot@yahoo.com

Complete Landing Light Assbly from
'59 310C. Working when removed,
includes bulb. \$1,000 incl. shipping.
Bob: bobmcwhorter@bellsouth.net

1958 310B Tuna Tank ends and wing
root covers. Excellent shape. \$50. Gregg:
skyranchpilot@yahoo.com

Parting Out a 1956 Cessna 310: Airframe
and associated components. Many good
and clean airframe structure, flight
control, and systems parts available. [No
engines, props, or avionics.] Guy Maher;
704-287-3475; laniermedia@gmail.com.

Parting out 320 D: control surfaces,
wings, gears, brakes, engines, interior,
instruments 503-803-5661 or stanturel@aol.com

(continued on next page)

For Sale: Cessna 414 Fuel Selector Decals. Strong, UV protected, color fast, laminated self adhesive exterior grade material. Match originals. \$50.00 / set. Bill Burger (775) 749-4043. bill_burger@yahoo.com.

Maintenance



Airborne Flying Service: Hot Springs AR. 20 years of Twin Cessna experience: Inspections, troubleshooting, repairs, modifications, and more. Instrument and avionics repair station adjacent to our facility. Call: Mark or Wesley at (501) 624-2462 or airbornelovett@gmail.com

Aircraft Accessories International: Twin Cessna accessory overhaul facility. Specializing in Fuel Pumps, Fuel Selector Valves, Landing Gear Actuators & Trim Tab Actuators. Quick turns & overhaul exchange available. 770-703-4316 or kevin@aaiar.com. www.aaiar.com

Carolina Avionics & Aircraft Interiors

– Salisbury, NC (KRUQ). Custom design & installation of interiors and avionics upgrades.



First class interiors, glass cockpits, new instrument panels, and ADS-B solutions...one stop service. For info and quotes: www.CarolinaAvionics.com or call Gary at (704) 630-0211 for avionics help (jenkinsg@aol.com).

Flight Training

Cessna 300/400 Series Initial or Recurrent Ground and Flight Training in your Aircraft. Texas based near DFW, or will travel to your location. Jerry Lunsford: jerry@planetexans.com 817 480-8866

Initial and recurrent training in all 300 and 400 series Cessnas. Insurance approved. Your aircraft / your location. MK Leighton. 561-738-7056 or flymkleighton@gmail.com.

Wright Aviation: Initial Twin Cessna FITS Accepted, Recurrent Twin Cessna

Training, Glass & TAA initial and refresher, G500/500, GNS430/530, Aspen, visit www.wrightaviation.net. email info@wrightaviation.net

Insurance approved initial/recurrent training in your 300/400 series aircraft, ATP CFII, New England based, will travel, call James Shepard, 207-409-6906.

Insurance approved initial and recurrent training in Cessna 310/340/414/421 aircraft. Gold Seal CFI, CFII, MEI. 40 years experience. Based at KEDC near Austin TX. Proficient with G500/600, GNS430/530, GTN650/750 units. Gerry Parker, 713-826-6663, gparker@pmkc.com

Cessna 300/400 series flight training initial and recurrent in your aircraft by ATP and Master/Gold Seal CFI/DPE Southwest based. Todd Underwood at <http://www.findapilot.com/Pilot-12523.html> 623-202-6910 toddmunderwood@me.com

Aerial Sim Training specializing in Cessna 300, 400 piston aircraft. Insurance approved initial & recurrent. Precision Flight Controls DCX MAX Promotion AATD Flight Sim. www.aerialsimtraining.com or contact Jeff at 626-552-9214 Bus or jeffstrouse@att.net San Gabriel Valley Airport (formally El Monte Airport) KEMT

Watauga Flight Service located in

Elizabethton, TN. See our ad on page 34 and be sure to check out the "Always Learning" section of our website at www.flighttrainonline.com. Contact dmoo@flighttrainonline.com

C300/400 Initial/Recurrent training. Insurance approved. 26 years over 4000 Twin Cessna Pilots trained. www.rtcpilot.com 1-800-727-1014

TAS AVIATION, INC. Cessna 300/400 initial & recurrent training in your aircraft. Flight Reviews or IPC checks when you pickup your aircraft or when we drop it off!!! See article in March 2012 TTCF edition about special 421 single engine training. Call TAS Aviation at 419-658-4444 And ask for Marla.



NOT A TTCF MEMBER?

"I have to laugh every time renewal comes up. I wonder not how much money the renewal costs; rather, how much money you will save me this year, next year, and even the year after that! If you only knew how much money I save on annuals and maintenance because I'm a member, you'd be asking me for a bigger slice."

Happy 310I owner.

www.twinessna.org

TWIN CESSNA SWITCH COVERS

- Replace Faded & Dirty Covers!
- Full Size & Mini Covers Available!
- New Switch Covers Look Great!



FOR MOST 300/400 SERIES:
310 Model: \$30 /set
340 Model: \$35 /set
400 Series: \$40 /set
Minis: \$15 /set

See product photos at www.jtatwins.com



JERRY TEMPLE AVIATION, INC.

E-mail or Fax your order request to sales@jtatwins.com or 972.712.7303

CESSNA 340 TAILCONE

FAA/PMA
Approved

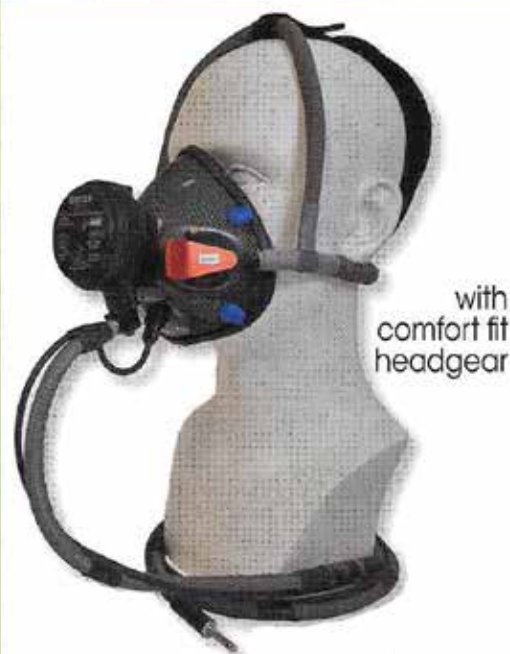


- **Short Lead Time: Usually ships in 7 to 10 Days**
- **Currently priced at 1/3 of the Factory List Price**
- **Inspection plates eliminate tailcone removal at each inspection**
- **Manufactured with fiberglass, not ABS like original**



chuck@avfab.com
(660)885-8317
www.avfab.com

TSO High Altitude FAA Approved Mask



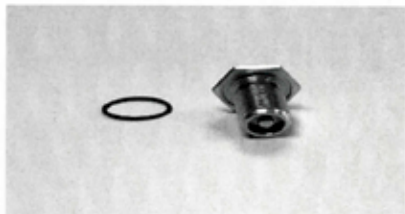
Twin Cessna Replacement Mask
Carbon Fiber

aerox
Phone (800) 237-6902
www.aerox.com

TIRED OF FUEL DRIPPING FROM YOUR ELBOW DURING PRE-FLIGHT?

TRY OUR NEWLY DESIGNED DRAIN
(REPLACEABLE O-RINGS, STEADY STREAM,
NO SPRAY, QUICK ON/OFF)

FITS TWIN CESSNA TIP TANKS



PART NO. F-75

TAS
VIATION, INC.
P.O. Box 880
Defiance, Ohio 43512

Call for
Price

419-658-4444

ATP
A&P
CFI
20 Yrs

Watauga Flight Service
C300/400 Series Training
PA46 & King Air Training
Initial & Recurrent
Avionics Training
423-647-4359
CessnaTwins.com



ENGINE & SYSTEM SEMINARS

WHEN: 1) SEPTEMBER 13 - 16, 2018
2) OCTOBER 18 - 21, 2018

WHERE: 1) HILLSBORO, OR (KHIO)
2) TAS AVIATION, DEFIANCE, OH (KDFI)

Twin Cessnas have complex systems and powerplants. The best owners and pilots have an intimate knowledge of how their airplanes are constructed and how they operate. Join fellow Twin Cessna pilots, owners, and maintenance technicians at our next set of seminars. You'll get detailed knowledge about your airplane engines and systems. It will make you a safer pilot as well as allow you to operate your Twin Cessna more cost-effectively. More than 1,000 owners and operators have attended these seminars in the past. Details and registration info for the seminars are on our website.

SYSTEMS SEMINAR

Topics Covered:

1. Introduction
2. Landing Gear
3. Fuel System
4. Electrical System
5. Environmental Systems
 - a. Heater & AC
 - b. Pressurization
6. Flight Controls
7. Type Certificates
8. Corrosion

All 300 and 400 series piston-powered Cessnas are covered.

ENGINE SEMINAR

Topics Covered:

1. Engine Nomenclature
2. Engine Cooling
3. Ignition
4. Engine Oil
5. Periodic Maintenance
6. Fuel Injection
7. Turbocharging & Exhaust
6. Engine Support Structure
7. Engine Overhaul & Repair
8. Engine Operations

This seminar covers TCM O-470 through IO-550 and TSIO-470 through GTSIO-520

BENEFITS INCLUDE:

- 14 hours of classroom instruction for each seminar
- Hands-on instruction with actual aircraft parts
- A detailed Training Manual & Reference Guide

COST: \$495 FOR EITHER SEMINAR OR \$900 FOR BOTH.

MEMBERSHIP APPLICATION



The **TWIN CESSNA** *Flyer™*

Supporting Twin Cessna Owners Worldwide since 1988

P.O. Box 12453 Charlotte, NC 28220

Application for Membership

1. _____ Date: _____
Name (First, Middle Initial, Last)

2. _____
Address

3. _____ / _____ / _____
City State/Province Zip or postal code

4. (_____) _____ Email: _____
Area Code Phone (required)

5. _____ / _____ / _____
Airplane Model Serial # Registration #

6. Check Membership Desired:

U.S./Canada/Mexico**

International**

International - Digital Only

___ 1 year @ \$85

___ 1 year @ \$130

___ 1 year @ \$85

___ 2 years @ \$150

___ 2 years @ \$240

___ 2 years @ \$150

___ 3 years @ \$215

___ 3 years @ \$330

___ 3 years @ \$215

**Includes both print and digital editions.

7. Credit Card _____ / _____ / _____ / _____ / _____
Visa MC Amex Disc Number

Name on Card Exp. Date Signature

Please fill out and fax to: 1-877-977-3246

or email to editor@twinessna.org

Join online with a credit card at www.twinessna.org