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page

42

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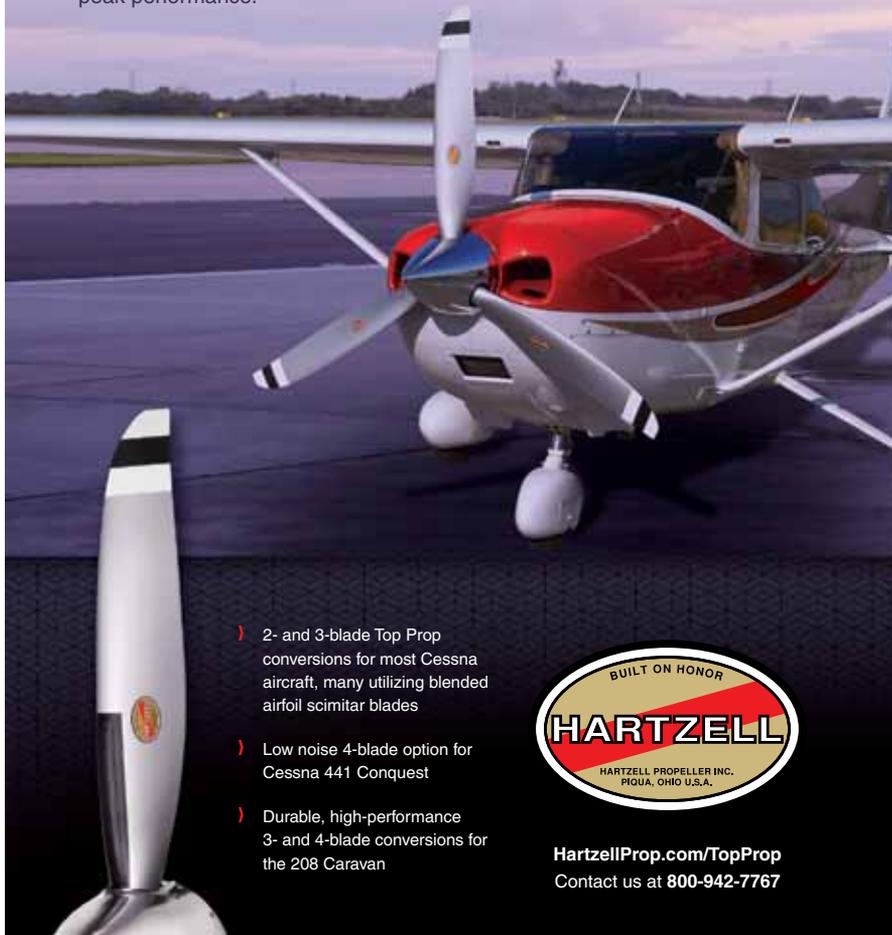
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Pre-Purchase Inspection: All It Should Be
By Dennis Wolter



Engine Mounts Explained
by Steve Ells

Renewing a Skylane, Inside and Out
by John D. Ruley



Oregon Coast: Choose Your Adventure
by Scott Kinney

08

THE VIEW from HERE
Jennifer Dellenbusch

08

LETTERS to the EDITOR

10

CESSNA FLYER EVENTS

16

THE HIGH and the WRITEY
Kevin Garrison

20

QUESTIONS & ANSWERS
Steve Ells

26

FULL CIRCLE
Thomas Block

66

NEWS

72

AIRCRAFT SAFETY ALERTS

80

ADVERTISER INDEX

82

BACK WHEN: VINTAGE CESSNA ADVERTISING AND MARKETING



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Jennifer Dellenbusch THE VIEW FROM HERE

Planes, Rain and Automobiles

It's Friday, July 20, 2018, and we're driving from Waupaca, Wisconsin to the AirVenture grounds in Oshkosh. And it's pouring in the way that Midwest summer storms do. We slow to a crawl when the windshield wipers cannot keep up. By the time we get to the grounds and start to unpack our cars for booth setup, the sun has started to come out. Ah, summer in Wisconsin.

Aided by two of our intrepid Gathering attendees—Jimmy and Sal, who arrived on Thursday to beat the weather—we have the exhibit booth set up in no time. Good; we're all set for AirVenture to start on Monday and can make our way back to Waupaca to prepare for the 14th annual Gathering at Waupaca which will take place over the next two days.

On Saturday, we spend the morning carefully watching weather reports. It's not great. The Cherokees to Osh group launches from Waupaca Municipal (KPCZ) early to beat the weather. They are the only mass arrival to make it into Wittman Field (KOSH) that morning. Oshkosh closes to VFR arrivals just as the Bonanzas to Oshkosh mass arrival is on the way in, and that entire group must divert at the last minute.

If you've ever helped stage an aviation event, you know that weather is the one factor you can't control, and weather has a big impact on the success of your event. Members are making their way to the Gathering at Waupaca from as far away as California and Prince Edward Island, Canada, and we worry—first of all—for their safety. No event is worth risking life, limb or aircraft.

But we are doing a weather dance (at least mentally) and hoping the way will clear for our attendees to make it in safely. Some attendees are reporting in from stops along the way where they are waiting out the weather. A few are just not going to be able to make it—weather's too iffy along their route. Two are stuck in South Dakota with electrical issues.

With anxious minds, we prepare for our welcome reception at KPCZ on Saturday night. It doesn't seem like there are many planes on the ramp, but we'll still make sure that everyone who does show up has a great time with plenty of food.

Surprisingly, as 6 p.m. draws near, the hangar begins to fill up with attendees. The Canadians have made it, as have all but two of the Californians. I ask a couple from Indiana how the weather was on their trip. Turns out the weather had not looked good, but they didn't want to miss the event so they packed up the car and drove the six hours to get to Waupaca.

By the time the seminars start on Sunday, more people have arrived. They've flown in their Cessnas or they've had to bite the bullet and drive or take the airlines.

In the end, only a few folks had to cancel, we ended up with a great group of people, the bus to AirVenture was full and a great time was had by all.

So mark your calendars for next year and whether you come by plane or by automobile, you are sure to have a great time. But maybe we can skip the rain.

Blue skies,

LETTERS to the EDITOR

Send your letters to
editor@cessnaflyer.org

Gathering at Waupaca attendee is pleased with his raffle prize

Hi Jen,

Just received my Rescue Ruck. This is something that I will use, for I fly a lot down to rural Alabama. In the event of a situation, this [survival gear] would be invaluable.

It was very generous of Precise Flight to provide this. I have used them in the past for some oxygen masks.

I would again thank Precise Flight for their participation in our event.

Warm regards,

John May
Champaign, Illinois



Compliments from a new reader

Dear Editor,

Picked up your July 2018 magazine yesterday in my FBO's office. What a nice magazine it is. I really love your large page numbers.

I fly a Scout; never have owned a Cessna... but a C-180 may be in my future.

Congrats for running a tight ship.

Lu McLeod
Durango, Colorado

Letters continued on Page 78...



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EVENTS

SEND EVENTS to
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CFA EVENTS

Jul 20–21, 2019 — Waupaca Municipal (KPCZ). The 15th annual Gathering at Waupaca. Save the date for CFA's annual pre-OSH event with fun, food and friendship. Watch this space and CessnaFlyer.org in the coming months for more details.

FEATURED EVENTS

Sep 20–21 — Yarmouth, ME. G500/600 and GTN™ Regional Pilot Training Seminar. A classroom-based training opportunity covering the G500/G600 and GTN 650/750 avionics suite. The same in-depth instruction offered at Garmin Headquarters, this course explores all of the capabilities the G500/G600 retrofit glass-panel and GTN series of navigators have to offer. Hands-on, scenario-based training in a classroom

environment for novice and experienced users with a strong emphasis on flight planning and instrument procedures. \$795. To see a list of all classes and register, visit <https://fly.garmin.com/fly-garmin/training>.

Sep 24–25 — Olathe, KS. Garmin G1000/G1000 NXi Pilot Training. A two-day course to serve both novice and experienced aviators. We'll explore the capabilities of the G1000 Integrated Flight Deck by providing hands-on, scenario-based training in a classroom environment. The course will focus on flight planning, instrument procedures, vertical navigation and the automatic flight control system and will highlight the increased capabilities of the G1000 NXi system. 8 am to 5 pm both days. \$715. To see a list of all classes and register, visit <https://fly.garmin.com/fly-garmin/training>.

Sep 29 — Corona, CA. Corona Municipal (CAJO). Aircraft Spruce West – Super Sale. This is the time of year when we go all out by offering spectacular discounts on our most popular products and provide a chance for our loyal customers to meet our vendors. Come join the fun and get a chance to win big prizes. Enjoy a free Southern smokin' cookout and soda on us. 7 am to 3 pm. For more information, phone 951-372-9555 or 800-861-3192.

OTHER EVENTS

Sep 12 — Minneapolis, MN. ASI Investigates: Weather Accidents. Weather is often blamed as the cause of accidents when, in reality, it's poor decision making. Arm yourself to make the right weather choices at crucial moments before and during flight. You'll learn why getting the

continued on Page 12...

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Events continued from Page 10...

big weather picture is important; how to improve your go/no-go decision making process; tips to “weatherize” your mindset and avoid traps like flying VFR into IMC; and why technology can be a great tool and your worst enemy in weather flying. This FREE session will be held at Doubletree by Hilton Minneapolis North, 7 to 9 pm. Register at <http://www.aopa.org/training-and-safety/air-safety-institute/in-person-seminars>. Contact AOPA Air Safety Institute, 800-638-3101.

Sep 14–15 — Santa Fe, NM. **Santa Fe Municipal (KSAF). AOPA Fly-in.** Sitting at the foot of the Sangre de Cristo range, Santa Fe is a magical, exuberant, colorful journey at any time of year. Not only is it the oldest U.S. capital city, but with an elevation of 7,000 feet, it's the highest, boasting an average of 300 sunny days per year. Santa Fe has long been a center for arts and culture and ranks as the country's third largest art market, with nearly 300 galleries and dealers to explore. Admission is free. Friday workshops \$99. Meal prices vary. Check event website for details: <https://www.aopa.org/community/events/aopa-fly-ins/2018-aopa-fly-ins/santa-fe>.

Sep 15–16 — Hammondsport, NY. **2018 Seaplane Fly-in. Curtiss Museum's Wings and Wheels on Keuka Lake.** Friday: no planned activities, but town docks and amphibian ramp available; Saturday: local flying, flying contests and seaplane parade around Keuka. Saturday night: cocktail hour, dinner (pilot and copilot eat free), guest speaker; all in the museum. Sunday: more fun with seaplanes and cars. For more information, phone 607-569-2160. Visit glennhcurtissmuseum.com and wing-sandwheelshammondsport.com.

Sep 15 — Kalispell, MT. **Kalispell City Airport (S27). End of Summer Bash with Montana Air Adventures.** Our airport was on the verge of getting shut down. We gained the city's vote on keeping it here for at least another 40 years—but only if we make this airport an attraction. Montana Air Adventures has been voted to take charge of the airport and make sure the city's needs are met. Enjoy an exhilarating day in the Flathead Valley and explore what we have to offer! Take a quick trip up into Glacier Park or visit downtown Kalispell for a fun day of browsing local shops, then come back to the airport for a barbecue dinner accompanied by a local band for your enjoyment. Email office@montanaairadventures.com or call 406-755-2376.

continued on Page 14...

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Events continued from Page 12...

Sep 15 — Iron Mountain/Kingsford, MI. Ford Airport (KIMT). Ford Airport Day Fly-in and Custom Car Show. Breakfast 8 to 10 am; lunch 11:30 am to 2 pm. Kids' pedal airplane corral, Snoopy simulator. Displays by Civil Air Patrol, Dickinson County Pilots Association, Menominee Range Historical Foundation and Ford Memorabilia. \$5 per person/\$15 per family. Air National Guard A-10 Warthog and other warbirds tentatively scheduled. Free Young Eagle flights for youth 8-17; adult rides \$25. Ride in a CAF B-25 Mitchell Bomber for \$450. 8 to 4 pm. Contact Will Kroeger wkroeger@alphacomm.net or phone 906-241-9070.

Sep 15 — Guthrie, OK. Guthrie Edmond Regional Airport (KGOK). Sixth annual Community Day and Fly-in. Free airplane rides for kids ages 8-17 with EAA Young Eagles Program and EAA Chapters 1098 & 24 with activities and fun for the whole family. You won't want to miss the Commemorative Air Force A-26 Invader on display, along with many other type of aircraft static displays; radio control aircraft; Sooner Flight Academy kids' activities; classic and exotic car show. 9 am to 3 pm.

Free admission and parking. Visit guthrieedmondregionalairport.com.

Sep 17-19 — Scranton, PA. 38th annual Pennsylvania Aviation Conference. A forum for education, networking and a professional exchange of knowledge and innovation. Each year's conference program features diverse and informative panel discussions, speakers, educational and collaborative sessions and events covering a variety of important and emergent topics in aviation. Hosted by Wilkes-Barre/Scranton International Airport at the Radisson Lackawanna Station Hotel. \$395. To register, visit <https://www.acpfly.com/annual-conference>. Contact Debbie Bowman, BowmanDebbie@msn.com or phone 717-850-0227.

Sep 22 — Socorro, NM. Socorro Municipal (KONM). Capt. Laura S. Haines Mountain Fly-in. A gathering of regional aviators and the community featuring a variety of aviation and transportation-related family activities in a relaxed, friendly setting. Static displays of homebuilts, vintage aircraft, warbirds and others. Aviation information, flights for kids and skydiving demonstrations. Free admission.

Visit <https://www.facebook.com/MMountainFlyIn/> or contact Jay Santillanes, jsantillanes@socorronm.gov.

Sep 22 — Lawrenceville, GA. Gwinnett County-Briscoe Field (KLZU). Rusty Pilots instructed by AOPA Presenter Mark Grady. The dream of flight can be yours again. Come and participate in this Rusty Pilots program with fellow lapsed pilots. We will help you understand what's changed in aviation since you last took the controls and brush up on your aviation knowledge. Free for AOPA members, \$69 for non-members. 9 am to 12 pm. To register, visit <https://www2.eventrebels.com/Registration/StepRegInfo.jsp?ActivityID=25925&StepNumber=1> Contact Rusty Pilots Program, RustyPilots@AOPA.org or phone 301-695-2000.

Sep 22 — Terrell, TX. Terrell Municipal (KTRL). Flights of Our Fathers Airshow and Fly-in. A full day of activities and events for all ages, ranging from a kids' zone to static displays of military, vintage and new aircraft. Several performers; car and motorcycle shows; flyovers of vintage and modern aircraft; guest speakers. A variety of food vendors. Pancake breakfast
continued on Page 79...



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THE HIGH AND THE WRITEY

Old Dog, Meet New Tricks

An education, especially one in aviation, is never a waste of time.

“I am not young enough to know everything.”
—Oscar Wilde

I can confidently say that I have learned something new every time I have gone flying.

Learning and remembering new things is one of the ways that people can stay young. That’s according to a lot of old-age experts, whose names I cannot recall at the moment. Apparently, after a certain age, our brain’s bazillions of little cells tend to sit on the couch, eat taco chips and watch TV reruns from the 1960s unless they are stimulated by the challenge of learning something new.

If you could watch a training video of this process, you would see your brain cells leap off your cerebral couch, chug an energy drink and then sprint in the general direction of the new knowledge when it is available and free. We are human aviators and we naturally love learning.

Oh, no! The FAA!

Don’t panic; it is true that the FAA expects you to know certain things about flying and aircraft ownership.

They do this using a cunning array of written exams, check-rides, proficiency checks and flight reviews. Sometimes, they are waiting for you on the ramp or on the telephone and outright ask you questions to assess your level of know-it-all-ness. These phone calls to the tower and face-to-face meetings on the ramp usually only happen after you have made a boo-boo (or when the FAA thinks you did).

Please try not to roll your eyes and cast big loud sighs when a member of the FAA does this sort of thing. After all, it is their job, and they are good people who put their pocket protectors in their wrinkled white shirt pockets just like the rest of us. Many of them also fly airplanes. Think of them as intrepid airmen and airwomen rather than as glorified IRS auditors with cool sunglasses.

Zen master (pilot)

I have, over my many years of defying gravity, developed the habit to approach my learning as not so much of an attempt to avoid fines and license suspensions, but as a noble quest.

My aviation learning goal is to be the flying equivalent of a Zen master. I want to catch the metaphorical buzzing fly of knowledge with two fingers while my eyes are closed. All I need

to do is access the almost unlimited and often free-of-cost wisdom available in the age of flight.

Many times during my airline career, I imagined sitting in the left seat of some sort of airplane, like a Boeing 727, when my right-seater, who is flying that leg, freaks out and says something like, “The engineer says that the galley oven is inoperative, and the flight attendants say they can’t heat our steaks properly!”

Without opening my half-shut eyes, I then say, “This is a simple problem, grasshopper. Just cycle the galley power and then go back into the cabin and push the oven circuit breakers in. While you are back there, please bring me a coffee with a half a Sweet ‘N Low and a cream.”

You can tell that this is an imaginary story because I mentioned getting fed a steak in flight. Pure fantasy!

Can you afford to pay a little money for knowledge?

Any kind of educational effort, in my opinion, is worth whatever it costs, even if you don’t use the knowledge for a while.

Anybody who spent tons of money on a liberal arts education in comparative literature and spent years trying to get a job in that field can attest to the fact that it takes a while to be named poet laureate of their state. And yet, this did happen to a friend of mine.

Please don’t feel bad about any funds you have spent, or are planning to spend, pursuing an education in aviation. It is hard to quantify something that pays off over a long lifetime, and the money funneled into your flying knowledge base will pay off in ways you cannot now imagine.

The people of the companies that provide the courses you purchase put out some wonderful products. Most of the ones that cost money prepare you for a rating and must follow strict FAA guidelines. They are worth the money.

Learn the alphabet

We now live in the wonderful (and sometimes annoying) age of the internet. A properly motivated person could likely assemble quite a good education in comparative literature or aviation using free sources easily found on the web. It would take some effort, but quality content is out there. Consider the fact that many people now get advanced degrees online with only a rare visit to the college campus.

The aviation organizations that I usually refer to as the “alphabet groups” are a fantastic source for courses, information and practical advice. There is a membership fee to join associations like Cessna Flyer Association, AOPA, EAA, NBAA and the like, but I have never regretted writing those checks. I have

continued on Page 18...

We are human aviators and we naturally love learning.

Kevin Garrison’s aviation career began at age 15 as a lineboy in Lakeland, Florida. He came up through General Aviation, retired as a 767 captain in 2006 and retired from instructing airline pilots in 2017. Garrison’s professional writing career has spanned three decades. Send questions or comments to editor@cessnaflyer.org.

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always been paid back tenfold with the information and help they provide. Every organization has a raft of courses and/or information that is instantly available to you. Much of the content is free for members and nonmembers alike.

If you have a question you can't answer in your quest for knowledge, these associations have a human on the other side of the phone you can talk with to sort things out. Some of these numbers are available on a 24-hour basis in case it is very late and you are very lonely.

The best free aviation education source I have ever found is the FAA. Just look over their website and pick your poison. You paid for it with your taxes and there is very good stuff to be found there.

Self-directed learning

I have the luxury of having more licenses, ratings and endorsements than I currently need, so other than my every-two-year CFI renewal, I don't spend much money on ratings-focused courses.

This means I can pursue learning areas and subjects that are based only on what I currently want to learn. I have been taking the free AOPA Air Safety courses one by one. I have cruised the EAA's content library for homebuilding tips; the NBAA site for information and courses; along with blogs, podcasts and educational articles—all for free.

The internet also provides me with almost unlimited learning opportunities via YouTube.com and similar video sources. For example, I have been viewing World War II fighter training videos for some time now and think I could easily load .50-caliber ammo into the wings of a F4U Corsair should the need arise.

I am also catching up on my reading of the classics. Currently, I am reading "Wind, Sand and Stars" by Antoine de Saint-Exupéry and "West with the Night" by Beryl Markham for what is most likely the 10th time. The best thing about the self-edu-

cation that comes from reading and re-reading great books like these is that, unlike when you read them in school, you don't have to do a book report.

Please, don't ever give up on learning about piloting, aircraft ownership and all things aviation. You can do it at no cost in your spare time.

Whoever said "ignorance is bliss" got it wrong; learning is the most blissful thing a human can do. I sometimes suspect that is one of the main reasons we are here on earth and why we love flying so much. **CF**

Resources

CESSNA-SPECIFIC INFORMATION AND SUPPORT

Cessna Flyer Association
cessnaflyer.org

ADDITIONAL LEARNING MATERIALS

Aircraft Owners and Pilots Association (AOPA)
Air Safety Institute
aopa.org/training-and-safety/air-safety-institute

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STEVE ELLS



QUESTIONS & ANSWERS

Resealing windows, “flashing the field” on a generator

Steve,

Is there a way to reseal the rear window of my Cessna 172 without removing the window? My airplane was recently in not one, but two, torrential downpours at my airport. I discovered leaks around the rear window and a mega leak around the baggage door.

I can easily repair the seal around the baggage door, but I'm wondering if there is a shortcut for the rear window repair. Being a desert rat, I rarely venture into rainy areas and I don't want to spend a lot of money on the fix. Is there an easy and inexpensive way to accomplish this?

Arlene

Hi Arlene,

Well, maybe. Part of the problem is that all Cessna windows “float” in between a couple of flanges.

On your Cessna 172's window, the skin of the aft fuselage forms the outer flange. A riveted piece inside the airplane forms the inner flange.

Initially, all windows had a strip of felt installed around the edges. Any space or gaps surrounding the window(s) were cushioned with putty. In the old days, Cessna used zinc chromate putty.

Time takes a toll; the felt begins to compress, the putty migrates and the window becomes loose in the flange, allowing water to enter the fuselage. When it's been years since a windshield installation, it's not unusual for floating windshields to clunk from movement when taxiing over rough ground.

Today, Cessna uses windshield sealant tape. You can look for Cessna Part No. U000927S. It's oftentimes listed as “Sealant,” “Tape” or “Perma Gum.” It's a non-hardening sealer and is used along with felt.

I've tried various methods for resealing rear windows such as yours.

The quickest and least expensive method is to use semi-flexible RTV sealant found in hardware stores. Try to find a clear, cold-weather, high-adhesion sealant.

First, clean the window with isopropyl alcohol. Clean the metal around the edge of the window. Next, mask around the

edge of the window and the edge of the metal. You want to lay the tape about one-quarter inch from the edge of the window and one-quarter inch from the edge of the metal. This will create a one-half inch gap between the tapes. This gap should be evenly spaced along the window/skin joint.

While wearing examination gloves, squirt a bead of the sealant where the metal and window meet, then smooth it out to the tape edges using your fingers. Have plenty of rags close by because you're going to be removing some sealant as you smooth out the bead. You're looking to create a smooth, not-too-thick coat of sealant across the metal/window gap.

After it looks good, pull the tapes, being careful not to spread the sealant or drop any on the back window. If you do, use isopropyl alcohol to clean up.

Having said all that, it's not likely that this fix will seal out moisture for more than a couple of years, simply because the window will continue to move in the flanges.

A more expensive and longer-lasting trick uses PPG Aerospace's P/S 890 Class B-1/2. This two-part sealant is more durable (and about five times more expensive) than RTV. It is a brown color. The same prep method is used.

Regardless of the method you elect to use, it's very important for Cessna owners to understand that sealing the back window prevents corrosion. Here's why. When water leaks into the aft fuselage of any Cessna single, it saturates the carpet. Later, when the sun comes out, that moisture in the carpet evaporates and rises. Some of it condenses on the inner skin of the upper fuselage, above the headliner. This moisture, in contact with bare aluminum, is one of the components needed for the formation of corrosion.

Cessna didn't paint the inner skins of its single-engine airplanes. One of the most likely places to find corrosion on a Cessna single such as yours is on the inner side of the upper fuselage skin.

Happy flying,
Steve

Hi Steve,

I fly a Cessna 140 that I have owned for six years. It's served me well and fits my needs perfectly.

Recently, I joined with five other local Cessna 140 owners for a breakfast flight to an airport about 100 miles away. There are few things I love more than an early-morning

continued on Page 22...

Steve Ells has been an A&P/IA for 44 years. He is a commercial pilot with instrument and multi-engine ratings, and loves utility and bush-style airplanes and operations. Ells was a tech rep and editor for Cessna Pilots Association and associate editor for AOPA Pilot. He owns Ells Aviation (EllsAviation.com) and lives in Templeton, California. Send questions and comments to editor@cessnaflyer.org.

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flight; except maybe a late evening flight in my little 140.

My wife came with me because we are avid antiquers and had been planning to visit this little out-of-the-way town to look around and shop at the stores.

The others had left by the time we got back to the airport for our flight home. After starting my 140, I saw that the ammeter needle was deflected to the “not good” or discharge side.

I taxied back to the tiedown area, without a plan. I didn't know what was wrong or how we were going to get home.

I opened up the cowl to look around and before long, an older gentleman appeared and asked what was wrong. (I'm 72, so when I say older, I know what I'm talking about.) I told him the ammeter was going the wrong way.

He looked under the cowling for no more than two seconds, told me he would be right back with a tool to get me going, and within a couple of minutes showed up with a piece of wire with alligator clips on each end.

He told me to get in and turn on the master switch. I didn't see what he was doing, but after a few seconds, he secured the cowling and told me to try it.



“Flashing the field” is a little-known trick for re-polarizing a generator, but should never be attempted with an alternator-type system.

I started the engine and lo and behold, the ammeter was showing a charge.

My question is: What did he do?

140 Flyer

Hi Flyer,

Your mystery magician and airplane fixer performed a task called polarizing the generator, or “flashing the field.”

The Cessna 100 series service manual states, “A generator of the type used on aircraft must maintain a residual magnetism in the pole shoes in order to produce a charge. To polarize a generator, connect a jumper (wire) momentarily between the armature and the battery terminals of the (voltage) regulator before starting the engine. A momentary surge through the generator is enough to correctly polarize it.”

The next sentence in the manual warns that if the generator is not correctly polarized, the regulator and generator may be damaged. NEVER polarize an alternator-type system.

You're fortunate; I would place a bet that the topic of flashing the field is not often discussed or known these days.

Happy flying,
Steve

continued on Page 24...

Lever Type Window Latches

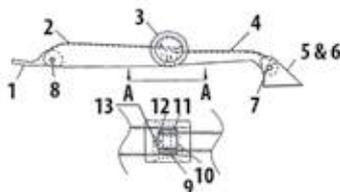
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3. Knob (ivory only).....	U0413359	\$18.63
4. Extension Arm.....	U0413362-12	\$68.71
5. Angle (left side).....	U0413362-10	\$7.19
6. Angle (right side).....	U0413362-11	\$7.19
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10. Spacer.....	U0413362-7	\$8.46
11. Washer (2 required).....	NAS1149F0363P	\$0.04
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13. Screw.....	4X3/8-TRA	\$0.10

Window Latches

NOTE: U0413362-2 replaces Cessna 0411186 and 0411186-3



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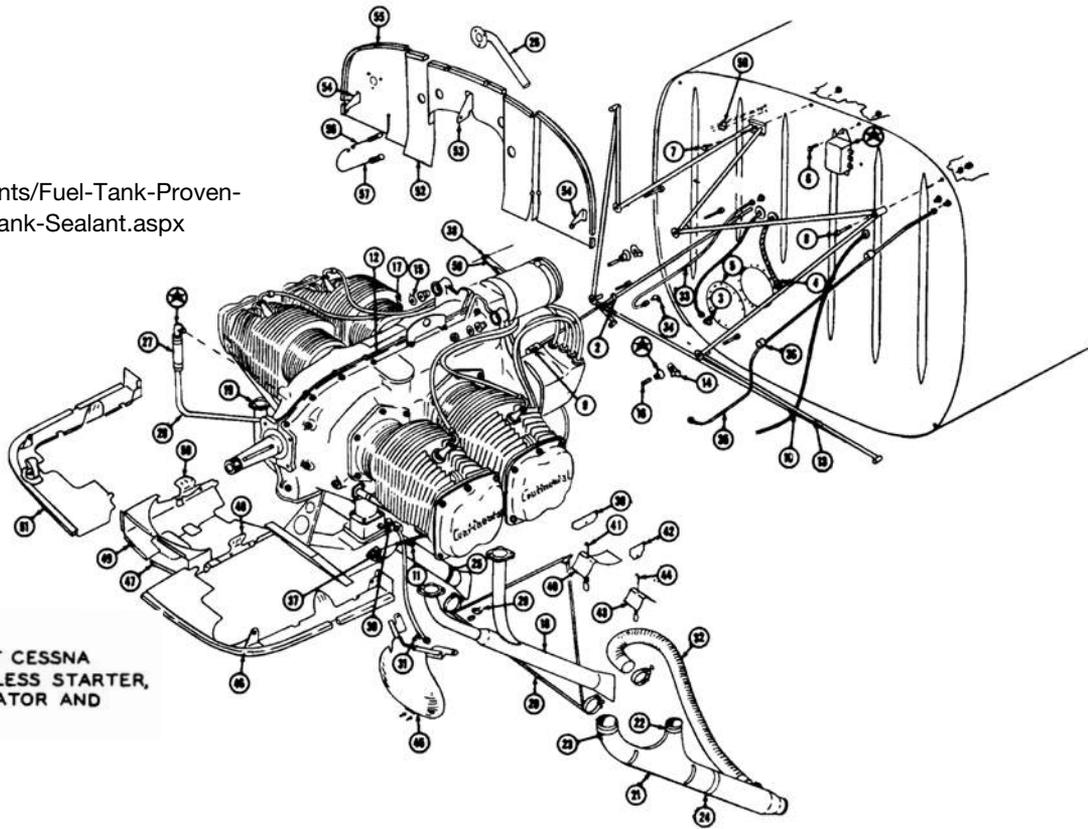
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Resources

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Facebook Memory

A young airline pilot comes face-to-face with the deadly risks of his occupation.

I'm not a big fan of Facebook and haven't used it a great deal. I do, of course, have an account. It's required these days, right?

While I seldom post anything (I'm of the opinion that even my best friends don't particularly care where I had lunch yesterday or what my next vacation plans are), I do check to see if people I know have had anything noteworthy occur to them since I heard from them last. On one such occasion recently—and because of Facebook's pure magic—a video from several years ago that I had never seen before popped up on my screen.

Someone had posted a four-minute news feature created by WRGB CBS Channel 6 News in Albany, New York. The news clip aired March 3, 2012. It was a retrospective of an airline accident that had occurred in Albany on March 3, 1972; 40 years earlier. A Mohawk Airlines Fairchild FH-227 twin-engine turboprop crashed into a house, 3 miles short of the runway, on a snowy night. The crash killed 17 people (14 passengers, plus both pilots and one person on the ground). Thirty-one others survived, though many were injured.

The video reminiscence of this accident caught my complete attention, because I had been right there.

I was hired as a copilot for Mohawk Airlines in 1964, and I was initially the most junior pilot on the seniority list (No. 276, out of exactly that many). By the summer of 1969, the airline had grown to over 500 pilots, and I was a newly-upgraded captain on the FH-227 turboprop, flying out of New York's LaGuardia (LGA) and John F. Kennedy (JFK) airports.

A year and a half later, Mohawk's pilots went on strike for 154 days (dumbest thing ever, in my opinion; don't get me started) and by the time we came back to work, the airline was nearly bankrupt and on its last legs. Mohawk was purchased by Allegheny Airlines, and the date for the official merger was set for April 11, 1972.

By March 1972, because of pre-merger downsizing, I had been reassigned from captain on the FH-227 to copilot on the BAC 1-11. On the night of March 3, 1972, flying with my good friend Capt.

Edmund Johnson, we landed in Albany, New York, parked our BAC 1-11 on the snowy ramp, and headed for the local hotel for an overnight.

We walked into the hotel lobby at 8:45 p.m. As our crew of five (Capt. Ed, three flight attendants and myself) were signing in, a local police officer, who was also at the check-in counter, took a radio call from the portable unit strapped to his belt. He finished the radio exchange, then turned to us.

"You guys are Mohawk, right?"

"Yes."

"One of your airplanes just crashed. Less than a mile from here. Come with me."

Ed and I dropped our bags and ran to the patrol car. We sped off into the dark, lights flashing and siren blaring. Both of us were still in full uniform, with heavy topcoats and gloves. It was very cold outside, probably 10 F or less. Light snow was still falling.

Within minutes, we made the last turn on a residential side street and—straight in front of us, like an aberration from a bad movie—was a Mohawk Airlines FH-227. Some emergency equipment had already arrived, and the crash site was illuminated by numerous floodlights from fire trucks. The cockpit and the tail section of the aircraft appeared amazingly intact, but the middle of the airliner—the entire cabin section—could not be seen, because it had a completely intact house sitting directly on top of it.

Later on, we learned that when the airliner hit the house, the impact caused the house to literally "jump" into the air. The airplane continued forward; then the house came back down on the cabin section of the twin turboprop. In essence, the entire cabin was now in the basement of the house, with the cockpit on one side of the house structure and the tail section on the other.

The police officer said, "You guys are in uniforms, so you can come with me." We followed him up to the wreckage.

He quickly found the fire chief and told him who we were. The chief turned to me and said, "We're lucky as hell there's no fire. But I need to know, is there anything inside the airplane that could still blow up?"

"Yes," I said. I had, until just recently, been a captain on the FH-227 and had nearly 2,000 hours flying it; I knew the aircraft from stem to stern. "A very large oxygen bottle in the cockpit. It supplies the entire ship."

"Follow me. Show me."

After we got back, we each needed to take a long shower to get the smell of kerosene out of our hair and off our skin...

Editor at large Thomas Block has flown more than 30,000 hours since his first hour of dual in 1959. In addition to his 36-year career as a US Airways pilot, he has been an aviation magazine writer, a best-selling novelist and owner of more than a dozen personal airplanes. Send questions or comments to editor@cessnaflyer.org.

I followed him to the cockpit portion of the wreckage. They had just pulled out the bodies of the two dead pilots. I found out later that the captain was Rusty McAdams, a man I had flown with many times over the past six years. The copilot had flown a few trips with me when I was a FH-227 captain.

The passengers were still trapped in the nearly-crushed main fuselage, which was, as I said, literally sitting in the basement of the house. The wings had been torn open on impact and there was jet fuel—kerosene—everywhere. We slogged through deep puddles of it as I followed the fire chief through a torn section of the sidewall and into the cockpit.

Again, while somewhat crushed front-to-back, the cockpit looked amazingly normal. “There’s the oxygen bottle,” I said. “Just close the valve on the top, then you can disconnect the feed line and take it out.”

“Will do. Thanks.”

I left the cockpit, while others came in to do the work. I backed up from the scene and stood outside with Ed while we watched the rescue continue. What unquestionably saved the 31 people who eventually got out of that mess was the extremely cold outside air temperature and the fact that raw kerosene is not particularly volatile. A fire would have killed them all.

Eventually, we got cold enough standing out in the night air and snow for the police officer who had brought us to offer to take us back to the hotel. After we got back, we each needed to take a long shower to get the smell of kerosene out of our hair

and off our skin, and it took me two or three dry cleanings to get the last of it out of my topcoat.

Now, almost half a century later, I watched the video retrospective done on the 40th anniversary of the crash. The news anchor said she was a teenager at the time, living just a few blocks away from the impact site. She and her friends had rushed to the scene. They were, apparently, out there with me that night, too.

I watched a few more of the interviews; the lady who had been inside the house watching TV with her family, and a police officer who found another survivor from inside the house sitting in the snow in their night clothes, dazed but relatively unhurt.

The video ended with an interview of Sandy Quinn, the flight attendant of the ill-fated flight. Sandy had been very badly hurt and spent many months in the hospital before eventually coming back to the airline. I knew her very well in those days. At the time, she was married to one of the copilots from our New York crew base. The three of us often flew trips together during my time as an FH-227 captain. During the TV interview, Sandy spoke about having survivor’s guilt.

The NTSB report, which came out a little over a year after the crash, concluded that the probable cause of the accident was a faulty propeller cruise pitch lock, plus confusion in the cockpit.

I watched the video presentation a couple more times, then closed down Facebook and shut down my computer. That would be enough memory-jogging for me for one day, thank you. **CF**

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Pre-Purchase Inspection: All It Should Be



By Dennis Wolter

11 tips to help you make a smart buying decision.

THE most important rule in the sales game is “you make your money when you buy something, not when you sell it.” When it comes to buying an airplane, it’s about saving money in the long run. Saving money happens to be a big factor in the airplane-happiness formula.

As outlined in my previous article “Start with the Right Airplane,” in July 2018’s *Cessna Flyer*, once a thorough search has identified a strong candidate airplane, it’s time to commit to a thorough inspection. What follows is a list of observations and guidelines to use before and during a pre-purchase inspection:

1. Have the inspection performed at a neutral facility by a trusted inspector who is interested in protecting you.

2. The first thing I would verify during a pre-purchase inspection is that the data plate and logbooks actually belong to the airplane. That may sound crazy, but considering the age of the fleet and the many reasons a less-than-honest person can benefit from changing the identity of a damaged or stolen airplane, these things happen. At Air Mod, we have seen this

issue rear its ugly head three times in the past 15 years.

3. Have copies of the logbooks sent to the inspecting agency in advance. Be suspicious of missing logbooks, sketchy entries, or unusual periods of idle time when the aircraft was not flown. Missing items or gaps in the documentation could be an attempt to cover up damage history.

4. Establish a clear understanding with the seller regarding your expecta-

...once a thorough search has identified a strong candidate airplane, it’s time to commit to a thorough inspection.

tions, and let them know what item(s) constitutes a dealbreaker. Be realistic; you are not buying a new airplane. If a non-dealbreaking item is found, be fair and objective when negotiating the cost of fixing it. Don’t be a nitpicker. Choose your battles as to what issues you may want to negotiate.

5. Confirm that the equipment list conforms to what is actually installed in the airplane. Most importantly, affirm that the installed equipment is approved for the candidate airplane and that the proper paperwork verifying approval for installation in that exact make and model of aircraft is contained in the aircraft’s records. It’s also very important to inspect the quality of the workmanship and the components used in the installation.

The process of acquiring paperwork after the fact for previously-installed-but-undocumented equipment can be expensive, and perhaps, impossible. I like to get the original equipment list from the manufacturer and compare it to what is currently installed in the airplane. Deviations can then be checked out to ensure the required documentation is in the aircraft or engine logbooks.

6. Don’t buy a corrosion bucket. Your money is in the airframe. Almost all 30-plus-year-old airframes, most of which were not primed with zinc chromate during manufacture, will have some corrosion. But corrosion can be remediated and controlled with modern technology and proper intervention techniques. (Wolter will cover corrosion issues in more detail in future articles. —Ed.)

In Cessna airframes, we tend to find the most cabin corrosion hidden behind the headliner (Photo 01, Page 29). One can inspect these places by carefully removing the upper trim components and/or opening zippers to gain enough access to inspect the upper cabin. (See Steve Ells’ Q&A on Page 20 for more on cabin corrosion. —Ed.) Pay close attention to all the spar carry through and attachment components.

The rest of the airframe (wings, aft fuselage, tail assembly, etc.) is easily inspected by removing inspection panels and fairings.

7. Identifying undocumented damage requires a careful and experienced eye. A savvy technician will know where and how to spot repaired damage. Overset rivets or driven rivets replaced with blind rivets are cause for some investigation.

Shiny or zinc chromated new components in older airframes are just some of the clues that can reveal a secret. Be curious about a 40-year-old retractable-gear airplane; many have had gear-up incidents somewhere in the past.

8. Don’t overlook an evaluation of the avionics equipment in the candidate airplane. Having a knowledgeable technician ground-check the radios and autopilot is a very good investment. The techni-

01



Corrosion found on the cabin top of a 1976 Cessna 172.

02



This wiring mess speaks for itself!

03



Confirm approved paperwork and quality of workmanship on any aftermarket installations, like the BAS inertia reel mounting shown here.

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cian can confirm that all equipment is approved for installation in the specific make and model of aircraft and that all components are approved to work together. They can also verify that the installation was done well. Not all work is good work, as shown in the accompanying picture (Photo 02, Page 29).

9. Carefully inspect any modifications that were installed after the aircraft was built (Photo 03, Page 29). Look closely to assess the quality of workmanship and verify that approvals and appropriate paperwork are included in the logbooks.

10. Ruling out the presence of hail damage is one inspection that's sometimes overlooked. The best way to check for hail damage is to turn off the lights in a closed hangar and put a bright single light source as close to the aircraft skin as possible; look for any waviness in the skin surface that will be visible in the very low angle of the light. It is surprisingly difficult to see slight unevenness in a metal surface in bright overhead light. Skilled use of body fillers can hide almost any dent.

11. Not all engines are created equal. Low-horsepower four-cylinder Lycoming engines of 180 hp or less are about as

...hours since overhaul can have a significant—and precarious—meaning.

bulletproof as they come. These engines can be evaluated with the usual maintenance record check, compression test, borescope cylinder inspection and an oil filter inspection.

High horsepower equals high heat, and high heat equals more stress on cylinders, rings and valves. Add turbocharging to the system and there are more items to check out. Complex engines require careful and knowledgeable management and inspection. I personally believe the most predictable and cost-effective plan is to buy a high-horsepower airplane with a run-out engine and start your relationship with your airplane with a fresh quality overhaul.

It's important to point out that not all overhauls are alike. By FAA definition, an engine can be considered overhauled if it has been disassembled, cleaned, inspected and all the critical components are precision measured to ensure that they meet minimum tolerance.

This means that worn, but still serviceable, parts can be put back in an engine

that can then be logged as overhauled and legally signed off for return to air-worthy service. If one critical component experiences as little as one-thousandth of an inch of additional wear, the engine is no longer airworthy. So, hours since overhaul can have a significant—and precarious—meaning. (For more on this subject, see “My Engine is 50 Hours from TBO” by Bill Ross. You can find the article in the August 2018 issue. —Ed.)

The most predictable way to make sure an overhauled engine makes it to TBO is to require that it be overhauled using new limits. That means that all the parts begin their new life fitting exactly to new engine specifications and have a margin for wear that will help to ensure performance longevity, and, most importantly, safety—all the way to TBO.

Two more engine issues that are important to consider are how active the engine has been and how many years it's been since it was last overhauled.

Be concerned about an engine that was overhauled 20 years ago or has been inactive for an extended period of time. An inactive engine tends to develop corrosion and arthritic components, decreasing the likelihood that the engine and supporting components will make it to TBO. These conditions will often lead to increased maintenance issues along the way.

Writing this article reminded me of a wise older gentleman (fortunately, it seems like every airport has one) who said something years ago that I think was probably true, but at the time seemed a little harsh. He told me, “The three biggest lies in aircraft shopping are: one, no damage history; two, no corrosion; and three, the engine temperature and manifold pressures have never gone above redline.”

Considering the age of the fleet today, these three comments are likely true and worthy of your attention. Be a smart buyer.

Until next time, fly safe! **CF**

Industrial designer and aviation enthusiast Dennis Wolter is well-known for giving countless seminars and contributing his expertise about all phases of aircraft renovation in various publications. Wolter founded Air Mod in 1973 in order to offer private aircraft owners the same professional, high-quality work then only offered to corporate jet operators. Send questions or comments to editor@cessnaflyer.org.

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ENGINE MOUNTS EXPLAINED

The engine mount represents a crucial link between your engine and airframe, and should be treated as a mission-critical accessory. STEVE ELLS visited Loree Air, an FAA-certified repair station, for insight into the engine mount repair process.





I've found no evidence that my engine mount—that web of steel tubes that supports the engine and nosegear on my 1960 airframe—had ever been overhauled or recertified.

It seems a bit hard to believe. After all, it's been bolted onto my airplane for 57 years. You'd think one mechanic or owner along the way would question whether the mount had suffered the ravages of time or had any issues. But like I said, when I started digging in the logs, I found no maintenance record entry that showed it had ever received specific attention.

I recently discovered a cracked tube, and when I scrubbed it with a wire brush, I found a gaping hole—the tube had rusted through from the inside. I removed

*...[the engine mount]
has been bolted onto my
airplane for 57 years.*

the welded steel mount in order to send it in for repair and recertification.

As it turned out, the tube with the rusted spot was only one of seven tubes that had to be replaced. I had no idea the mount was in such bad shape!

What engine mounts are made of

SAE grade 4130 steel, also known as chrome-moly, is a through-hardened chromium-molybdenum steel alloy that is used in the light airplane industry where light, strong tubing is needed. It's strong for its weight, easy to work, easy to weld and provides a good cost-to-strength ratio.

Chrome-moly steel is available from aviation parts suppliers such as CFA



Dents are repaired during the Loree Air rework. According to Steve Loree, the circular slot around the bolt hole is how moisture—a cornerstone of the rust process—enters the tubing in the mount. Loree seals this slot during rework.

supporters Acorn Welding, Aircraft Spruce and Airparts Inc. Wicks Aircraft also supplies this tubing. (*Another CFA supporter, Wilco, Inc., carries SAE 4130 in sheets. —Ed.*)

The seven tubes that were replaced on my engine mount consisted of one 1/2-inch diameter tube, two 5/8-inch diameter tubes and four 3/4-inch diameter tubes.

Chrome-moly tubing is purchased by specifying the outside diameter (OD) in 1/16-inch steps, and the wall thickness. The wall thickness of the 5/8-inch OD tubes in my engine mount is 0.035 inch. 0.035 inch is close to the thickness of a credit card. The wall thickness of the 1/2-inch OD tubes is 0.049 inch. 0.049 inch is approximately the thickness of a CD.

The 1/2-inch and 5/8-inch tubes sell for \$4.35 per foot at Aircraft Spruce; the 3/4-inch tube is \$3.35 per foot.

I needed 4 feet of 5/8-inch tube and 68 inches of 3/4-inch tube to repair my mount, before it could be recertified as air-worthy. The materials cost was less than \$50 at retail prices.

A chrome-moly steel mount is a sweet piece of engineering. My refurbished engine mount (as delivered to me) weighs 15 pounds, 11 ounces; yet it is strong enough to support the aircraft's Lycoming O-360 engine (258 pounds), a Hartzell two-bladed propeller (51 pounds) and support and endure the shocks suffered by my retractable nose gear.

Removing and sending the mount out for repairs

After I found the hole in the lower right tube, I removed the engine and nose landing gear assembly. Removing parts, like the demolition phase of a room remodel, always goes quickly. In this case, I knew I needed to label and sort the parts and engine accessories because it was going to be almost two months before I was going to be reinstalling the engine and nose gear.

One trick I've used for years when removing an engine or other assembly is to take photos of everything *before* picking up the wrenches. When I first heard of this photo trick, shops were using Polaroid cameras. Today, a cell phone and/or tablet is more than sufficient.

One of the decisions that I pored over

was where to send the mount for repair and recertification. I wanted an FAA-certified repair station that had the capabilities to repair and recertify my mount. My favorite internet search engine turned up four options. They were, in alphabetical order: Acorn Welding Ltd., Aero Fabricators (a division of Wag-Aero), Aerospace Welding Minneapolis and Loree Air, Inc. and I have no doubt that there are others.

I also searched for a used, serviceable mount. I found one on the East Coast and negotiated what I thought was a good price—but after learning that it would take more than \$500 to ship it to me on the West Coast, the deal fell through.

Obviously, the cost of shipping a mount, as well as how to ship a mount, must be considered. Companies told me that the most common method is to bolt the mount to a piece of stout plywood, then either build a wooden or cardboard box around it for shipping by UPS or

FedEx; or to bolt the mount to a pallet and ship it as truck freight. Since the repair facility has no control over handling after it leaves their possession, it's critical to create a shipping container that protects the mount during shipping.

CFA supporter Aero Fabricators quoted me \$1,400,

which included changing up to 10 tubes, and told me the turnaround time was two to three weeks. Aerospace Welding quoted a price of more than \$2,500.

Another CFA supporter, Acorn Welding, was unable to estimate their cost over the phone, but Paul Gyrko, head of sales, took the time to answer my questions and explain the full process when I called for information. (*Acorn Welding also sells new engine mounts for certain Cessna 180/185 and 182 models. —Ed.*)

Steve Loree, Jr. at Loree Air told me that the cost to inspect, repair, normalize, paint and certify my mount would be \$1,700, with any additional work costing more, up to a maximum of \$2,100. Loree also warned me the company had a five-week backlog.

Given that Loree Air was only 278 road miles away from my home base—while the other three were all over 1,800 road miles away—and that I had good reports from friends that had used them, I decided to use the five-week window for

...a thorough inspection revealed some surface damage to the exterior of a couple of tubes, bends in two tubes and more tubes that showed evidence of internal rust.



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Rust was clearly present in all of the seven tubes replaced by Loree Air.



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other tasks and took my mount to Loree.

After a friend offered to fly me up to Placerville to drop off the mount, I packed my sad old mount in the back of my buddy's aircraft and flew it up to the Placerville, California airport (KPVF) where I left it with Nicole, who runs the office.

Ready for pickup

Steve Jr. called on a Tuesday in late June to tell me that, after cleaning and sandblasting all the paint off my mount, a thorough inspection revealed some surface damage to the exterior of a couple of tubes; bends in two tubes; and more tubes that showed evidence of internal rust.

I asked him if it was OK if I drove to the shop once my mount was finished; I wanted to hang around and ask a lot of questions about mount damage and repairs. I figured this was an opportunity to pick up some hints and tips that a mechanic in the field could use to determine if a welded steel tube engine mount or landing gear support structure was airworthy. He said that would be fine.

Five weeks later I got the call; the repaired mount was ready.

I arrived at Loree Air at 10:30 Monday morning. I met the entire staff: Steve Sr., Steve Jr. and Nicole (who is married to Steve Jr.). I was also sniffed up and down by Layla, the small four-legged office assistant and guard dog.

Steve Sr. attained his welding certification at the San Diego shipyards and went to Sacramento City College for his A&P education at the suggestion of his flight instructor. He gained a wide range of reciprocating engine skills at the Sacramento Sky Ranch before spending 15 years working at the Sacramento Citation Center and at Aircraft Conversion Technology in Lincoln, California, with owner Bill Piper.

Seeing the need for a certified aircraft welding shop in California and wishing to steer his own path, Steve Sr. opened Loree Air in 1992 in a small shop in the Swansboro Country neighborhood in the foothills east of Sacramento, near Placerville.

In 2011, Steve Jr. joined his father in the business. They decided that since the shop needed to grow in order to support two families, it was time to expand. To do so, Steve Jr. said, "I think we need a website," but Steve Sr. wondered if it was

necessary. Word-of-mouth advertising had been effective and the company had all the work it could handle. But Steve Sr. yielded, and today you can visit Loree Air online at LoreeAir.com.

After consistent growth—thanks to the website—the Steves decided to move the company to a small warehouse and shop in Diamond Springs, another community near Placerville.

With the help of many friends and family members, they planned and built a shop to fit the company's needs.

There had to be a large sandblast booth to clean mounts. There had to be a paint booth. There had to be an area for grinding and smoothing metal. The shop needed an area where mounts were put into jigs for alignment and buildup. A screened area was required for welding. A separate office and customer reception area were part of the plan as well.

There are also two lofts for storing parts and ready-to-ship mounts and nose strut welded tube support structures.

While I had opted to take my mount to Loree Air for repair, the company does stock repaired and certified mounts for some popular aircraft.

Problem areas

The Steves spent some time describing why my engine mount rusted out and passed on tips for determining if a welded steel engine mount is airworthy.

Loree told me that the most common problem they see on Cessna welded steel mounts is corrosion on Cessna 180 and 182 mounts due to the proximity to the left and right exhaust manifolds. Loree has developed a FAA-approved heat shield designed to prevent extreme exhaust heat from affecting the forward section of the main support tubes and the diagonal tubes.

I was also told that it's common to see cracking in the 172 engine mount's cross tube.

Inspection tips and tricks

I asked the Steves for tips to help field mechanics determine if the welded steel mounts they inspect are airworthy. They said one test is to use an automatic center punch to put a small dent in the end of a tube that is believed to be unaffected by

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by internal corrosion.*



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internal corrosion and compare that to the dent when the punch is used on the part of the tube that is suspected to be corroded. Usually this means comparing the dent at the highest part of the tube near a weld cluster to a dent in the lowest part of the tube.

Any difference in the depths of the two dents is clear evidence the lower end of the tube has been weakened by internal corrosion.

While at the Loree shop, I also saw tubes that were dented during installation and removal by sloppy tool handling; and tubes that had been scratched or scored by abrasion.

Since these tubes are so thin, what may at first appear to be negligible damage usually needs attention. "Our standard for repair is 10 percent of the tube thickness," said Loree.

One thing Loree was adamant about is avoiding the use of plastic tie-wraps (i.e., zip ties) to secure anything to a welded steel mount. He has seen it again and again: plastic tie-wraps will wear a welded steel mount tube faster than a pilot heads to a restroom after a cross-country flight. It takes longer to install properly-sized Adel clamps, but they are the only clamping device Loree wants used on an engine mount.

You and your mount

I was surprised to hear Steve Sr. say that in all his years repairing mounts he had seen very few engine mounts pass through his shop that needed no repairs.

I was also surprised when my mount needed seven tubes replaced.

Then I saw pictures of the inside of those tubes. They were all rusted to one degree or another. I believe good fortune was smiling on me when I found the crack that led me to remove my mount to send it for repair.

Based on what I learned and saw, I recommend that owners send their engine mounts to a certified mount repair shop to get inspected, repaired-as-necessary and recertified whenever their engine is removed for overhaul. **CF**

Steve Ells has been an A&P/IA for 44 years and is a commercial pilot with instrument and multi-engine ratings. Ells also loves utility and bush-style airplanes and operations. He's a former tech rep and editor for Cessna Pilots Association and served as associate editor for AOPA Pilot until 2008. Ells is the owner of Ells Aviation (EllsAviation.com) and lives



Left to Right, Top to Bottom: Steve Sr.; Steve Jr.; Nicole; Layla (the hairy one).

in Templeton, California, with his wife Audrey. Send questions and comments to editor@cessnaflyer.org.

Resources

SAE 4130 STEEL TUBING
– CFA SUPPORTERS

Acorn Welding
acornwelding.com/products/raw-materials.html

Aircraft Spruce and Specialty Co.
aircraftspruce.com/catalog/mepages/4130tubing_un1.php

Airparts Inc.
airpartsin.com

SAE 4130 STEEL SHEETS
– OTHER SUPPLIERS

Wicks Aircraft and Motorsports
wicksaircraft.com/tubing.html

SAE 4130 STEEL SHEETS
– CFA SUPPORTER

Wilco, Inc.
wilcoaircraftparts.com

ENGINE MOUNT REPAIR
– CFA SUPPORTER

Acorn Welding Ltd.
acornwelding.com/products/engine-mounts.html

Aero Fabricators
(a division of Wag-Aero)
wagaero.com/repair-station/engine-mount-repair.html

OTHER ENGINE MOUNT
REPAIR FACILITIES

Aerospace Welding Minneapolis
awi-ami.com

Loree Air, Inc.
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NEW ENGINE MOUNTS (SOME
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By John D. Ruley





N4696K

Skyline

Sometimes, small problems can lead to more complex projects. This Skylane restoration started with a flat tire and fuel leak. The tire was a quick fix, and the fuel leak ended up being straightforward as well (leak at the filler neck). However, a check of the logs showed that N4696K's fuel bladders were 20 years old—with an expected life of just 10 years. It was time for replacement. (For that story, see “Step-by-step Fuel Cell Replacement” in the January 2018 issue.) Once John Ruley and his four partners caught “upgrade fever,” they kept going.

This month, the Skylane restoration continues with several cosmetic and safety upgrades.

After N4696K's fuel bladders were replaced in July and early August 2017, we once again had an airworthy aircraft, albeit one whose annual was coming due by the end of August. We elected to paint N4696K, redo the interior and replace the aged Plexiglas windshield and windows. The Plexiglas and



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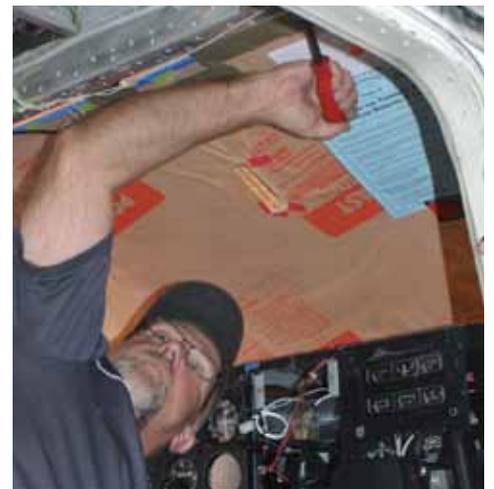




Paul and Rudy seat the windshield.



Paul applies sealant.



Shane secures the windshield from inside the cockpit.



Paul and Rudy push the windshield into place.



Paul applies more sealant to the windshield trim.

glare shield would come first as part of the August annual.

Great Lakes Aero Plastics delivered the Plexiglas parts early, which provided plenty of time to unpack them. Installation was contingent upon receiving back the glare shield that was repaired by Dennis Wolter and the Air Mod team in Batavia, Ohio.

While waiting, the mechanics at Pacific Aircraft Service at my home base of Modesto, California (KMOD), drilled out the rivets that held in the original windshield and popped it out.

Installing the windshield

About a week later, after the refurbished glare shield arrived, the new windshield was installed. It was a three-person job, with Paul Kline and Rudy Valdez on the outside, and Shane Cooper inside. The outside men had to pound on the windshield to force the felt-covered edge into the channel. I made a small contribution to the effort by noticing that the airplane rolled back each time

The new solar gray windshield and windows not only offer a much clearer view than the old ones, but also noticeably reduce the temperature on sunny days...

they hit the windshield—the parking brake wasn't set. Setting the brake and chocking the tires helped.

The process was complicated by using a 30-minute sealant, which forced them to work fast before it set up (evidently the two-hour version was not on hand). Cleco fasteners were placed in all the rivet holes to hold the windshield in place until new screws could be installed.

Fastening the windshield was a two-person job, with Shane on the inside adding nuts and washers, while Paul handled the screws from the outside. On the whole, it was a quick but labor-intensive install. The process took a full day.

The following day, it was time to peel the protective paper off both sides of the windshield. It came away clean and looked awesome—much clearer than the original.

A bit of corrosion

Unfortunately, that same day Shane showed me a nasty surprise that

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Cleco fasteners hold the windshield together until screws are installed.



Inside view, showing blind holes awaiting screws, washers and nuts.



Paul installs screws from outside.



Paul places temporary Cleco fasteners.



Shane reaches through the panel to install nuts and washers.



One by one, the Clecos are removed and are replaced by screws.



Ugly-looking corrosion behind the panel.



It is much easier to fasten nuts when they're out in the open.

turned up while he was behind the panel attaching screws and washers. A severely corroded area, probably due to factory insulation that trapped water, needed addressing.

The mechanics reassured me that despite an ugly look, it didn't present any threat to the structure and wasn't worth the effort to sand and treat with zinc chromate primer. Instead, it was soaked with ACF-50 anti-corrosion oil. Paul warned me that it would stink, but the smell would eventually go away.

While the fuel bladders and windshield were being done, the flaps came off and were sent off to West Coast Wings to replace the cracked plastic skins. Those were reinstalled shortly after the windshield. The rest of the annual inspection was completed and the airplane was returned to service by the end of August.

Repainting the airframe

We delayed installing the other windows until October, just before the airplane was shipped off for new paint and interior work. We knew that the new paint and interior would take time, and delaying until the fall—when the weather



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Nuts and washers in place.



Paul pulls off protective paper to expose the finished windshield.



Compare the new windshield to the faded windows!

gets iffy and fewer partners fly—seemed like a good idea.

Just how long it would take we couldn't have predicted. Installing the new windows and other prep took the guys at Pacific Aircraft just a few days. The airplane was delivered to the paint shop the first week in November. It finally emerged over three months later.

I'm not going to name the shop, but I will say they were highly recommended and ultimately did a fine job. Unfortunately, they were shorthanded, which led to a serious schedule slip.

That, in turn, delayed the interior work we'd planned to have done by Jeff Belardi in Watsonville, California. Jeff moved to a new location while waiting for the airplane to arrive and had to work us into his busy schedule. He did a fantastic job replacing the old fabric seat covers and cracked plastic trim.

Jeff also installed B.A.S. Inc. four-point inertia reel shoulder harness/lap belts for the pilot and copilot, something I had my doubts about. While the old manual

...a restoration takes time—you have to coordinate between multiple locations... and a delay at any one can cascade through scheduling at the others.

belt and shoulder straps were not ideal, I've used updated four-point restraints in other aircraft, and have had trouble getting them on and adjusted.

The ones from B.A.S., however, are easy to get in and out of, comfortable—and could make all the difference in the event of a crash. Compliments to my partner Michael Iocca for insisting on them, and compliments to Jeff, too, for a classy installation.

N4696K flies home

I got a ride to Watsonville from friend and fellow Commemorative Air Force Col. Ron Ramont, and flew the airplane home—with my instructor in the right seat. By the time the aircraft left the shop, I was overdue for a biennial flight review and instrument proficiency check. I hadn't been in the pilot seat for five months!

The result—as you can see in the photos—is an airplane that looks new and is a genuine pleasure to fly. The new solar gray windshield and windows not only offer a much clearer view than the old ones, but also noticeably reduce the

temperature on sunny days, which is a big plus in California's Central Valley. We couldn't be more pleased with them!

Beyond ramp appeal and comfort, the airplane also benefits from overdue corrosion treatment and catching up on many minor deferred maintenance items. One of those turned out to have a surprising side effect that we're still working on, however.

Our new antennas work—too well

I'm a bit of an avionics geek, and pushed for replacing the original VHF navcom antennas, which showed visible wear.

The new ones look great and work perfectly—which turns out to be a problem: the old antennas apparently did not transmit all the energy being delivered from the transmit side of the King (now BendixKing) KX-155A installed in our No. 2 slot. The new one does—and on some frequencies, it now interferes with our Garmin GNS 530 GPS.

I discovered this while doing practice approaches. The GNS 530 annunciated a warning that it had lost GPS position—something I had never seen it do before.

The lead avionics technician at Sky Trek Aviation contacted BendixKing and was told they have seen that before—and there's no fix for it. The KX-155 series was designed before GPS. To eliminate the problem, we're going to have to replace our KX-155A.

Fortunately, the folks at TKM Avionics have been working on a slide-in replacement which should work with our existing wiring, but as of this writing, the MX155 is not yet shipping. In the meantime we're working around the problem by changing which COM frequencies we tune on which radio.

Additional plans

There are two other upgrades we plan to do later this year. One will be purely cosmetic: while the new paint and interior work makes N4696K look new from the outside, we still have the same ugly cracked plastic covers on the instrument panel. A custom replacement cover to match the new interior will take care of that problem.

The second is a new transponder for ADS-B compliance. As the avionics geek among the partners, I've been tasked to recommend one. I'm leaning toward one of the newer Garmin models, because that will provide an option to display traffic and weather information on the GNS 530 as a backup to the iPads we all carry. *(For more on ADS-B options,*



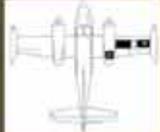
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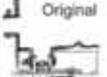
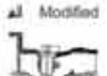
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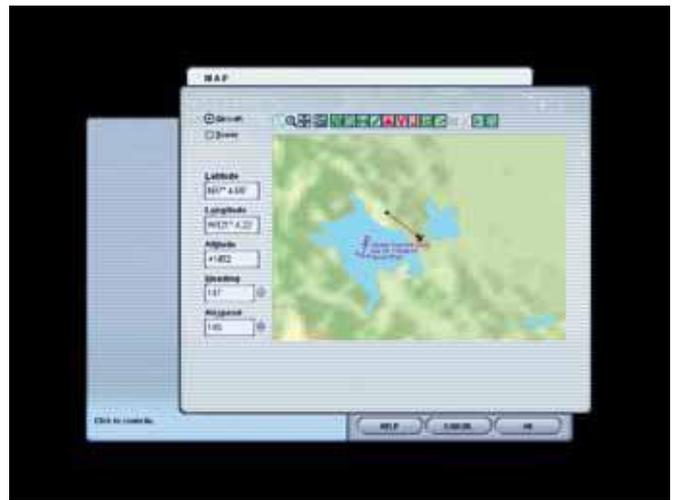
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Microsoft Flight Simulator helped me see how N4696K would look against various backgrounds around 10 AM on July 5th.



Ground track for the simulated shot over San Luis reservoir.

On Wednesday, June 28, 2018, I received the following email from Jennifer Dellenbusch:

Hi John,

I was thinking it would be cool if we could get your plane on the cover of the next issue with its new paint scheme... I would need the photo by July 6. Let me know if you are interested and think this is possible.

Jen

I've been taking semiprofessional photos, mainly to illustrate magazine articles, for 28 years; but as far as air-to-air work, just snapshots.

I knew air-to-air photography was possible with the equipment I own, as my late wife, Dr. Kate Bolton, shot a really good photo of our Skylane on the way home from a fly-out.

For this project, I needed a camera plane and two pilots, preferably with instrument experience. Allan Ramsey's Cessna 210 was my first choice for the camera plane. I asked my partner Michael Iocca, who took a formation flying course several years ago, to fly N4696K.

An internet search for air-to-air photo tips came up with the suggestion that early morning or late afternoon offer the best light. Afternoon temperatures in the valley get up near 100 F, so morning would be best.

My internet search also turned up tips on camera settings and a suggestion: either shoot low—ideally, no higher than 1,500 feet—to include terrain; or shoot high—at, or just above, cloud tops. Forecast weather for the target day was cloud-free, so low was the only option.

Then I had an inspiration: Microsoft Flight Simulator's Spot Plane View could show me how N4696K would look against various backgrounds at approximately 10 a.m. on July 5, 2018.

Shots at a simulated altitude of 1,500 feet looked good, but also showed me that visually busy terrain (urban areas, plowed fields, forests) would be distracting. A shot over a mix of land and water would be perfect.

I quickly identified San Luis Reservoir, 36 nm south-south-

west of Modesto, as the closest large body of water. If for any reason that didn't look good, we could fly on to the Monterey Bay area, 37 nm further west—but Monterey Bay would be busier, and in the morning it might be covered by a coastal stratus layer.

Our local Fourth of July parade provided an opportunity to experiment with my Nikon D5100 camera and 18–200 mm optically stabilized zoom lens. I wound up setting auto-bracket and firing bursts of three. That gave me one overexposed (light), one underexposed (dark) and one normal shot each time I pressed the shutter button.

On the morning of July 5, Michael, Allan and I met in our hangar—and at Allan's suggestion, we added a fourth pilot: Paul Vander Schuur, a retired naval aviator with a lot of formation flying experience. Paul flew in the copilot seat with Michael and provided an extra set of eyes. We departed separately and planned to join up near the reservoir.

Allan's Cessna 210, N6100Y, is equipped with ADS-B Out. We haven't upgraded N4696K yet, but have a Stratus portable ADS-B receiver. With the Stratus and ForeFlight Mobile on an iPad, Michael and Paul knew where the subject plane was at all times.

Joining up was easy—but getting into position before we both passed the reservoir was tough. We wound up making three passes, breaking off to the north and south, and rejoining in the opposite direction. I was in the back of N6100Y, switching from the right side, to the left, and back.

By the time I called a halt—after an hour in the air—I had over 400 images. Bracketing turned out to be a good idea, as some of the "normal" shots were either too light or too dark. The D5100 was set for 1/400 second at f/8, ISO 100.

A dozen photos looked cover-worthy, and I sent those to Jen, publisher of *Cessna Flyer*. The magazine's art director, Marcus, selected the final images. For the cover shot, Michael had the airplane at about 1,500 feet over the northeast edge of the dam.

I'm grateful to Michael, Allan and Paul for helping to make these air-to-air photos possible, and I'm proud of the photos. I look forward to more air-to-air work—next time, with a little more advance notice!

see Steve Ells' ADS-B articles in the July 2017 and March 2018 issues. —Ed.)

The main lesson from our experience that may be significant for other pilots is that a restoration takes time—you have to coordinate between multiple locations (in our case, a local A&P, and remote paint and interior shops)—and a delay at any one can cascade through scheduling at the others.

But the result is worth it. N4696K looks and flies like a brand-new Skylane!



John D. Ruley is an instrument-rated pilot and freelance writer. He holds a master's degree from the University of North Dakota Space Studies program (space.edu) and is archivist for the Hubble Space Telescope (HST) operational history project. Ruley has been a volunteer pilot with ligainternational.org and angelflight.org, two charities which operate medical missions in northwest Mexico and provide medical patient transport, respectively. Send questions or comments to editor@cessnaflyer.org.

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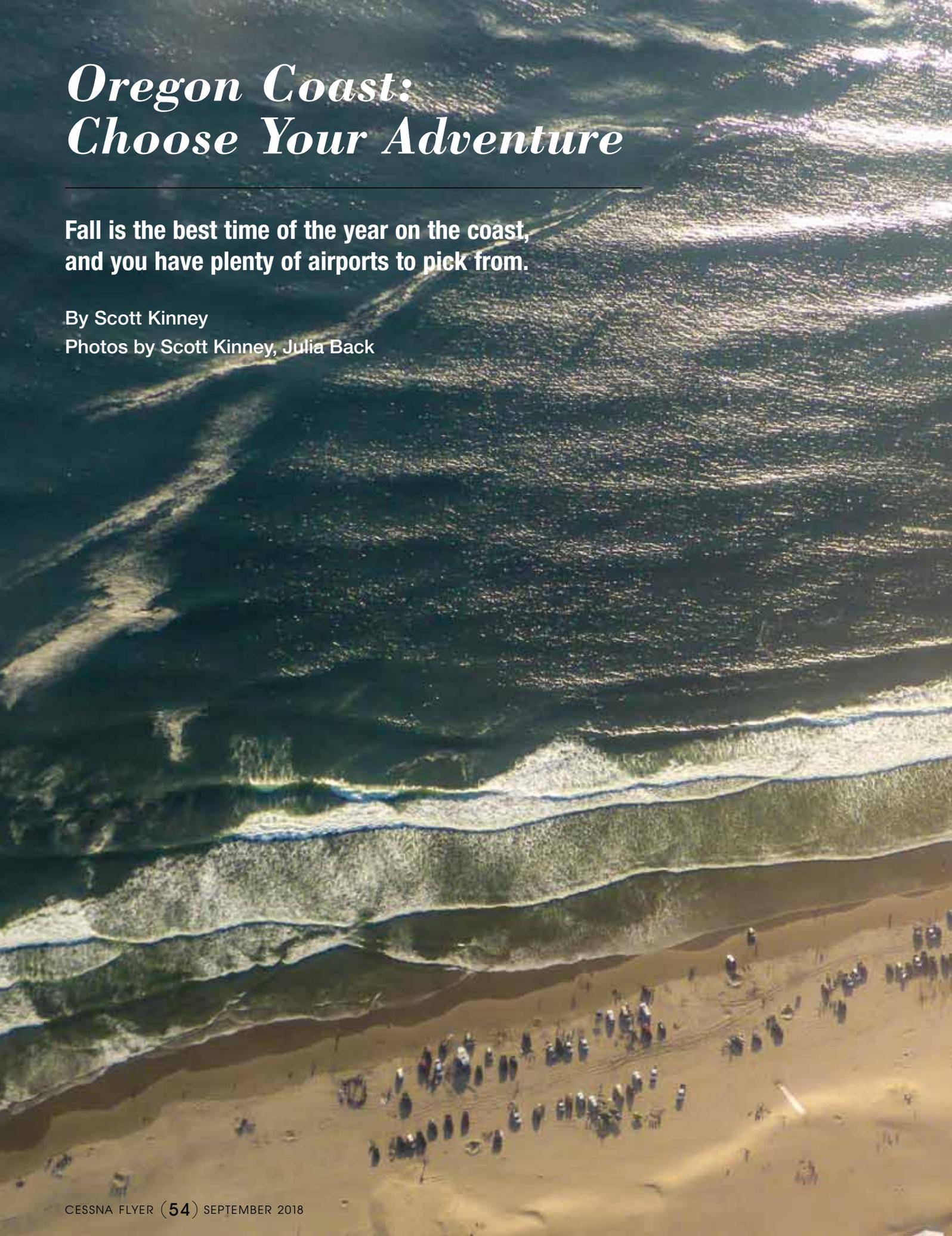
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Oregon Coast: Choose Your Adventure

**Fall is the best time of the year on the coast,
and you have plenty of airports to pick from.**

By Scott Kinney

Photos by Scott Kinney, Julia Back



Welcome to the (Oregon) coast. First things first: if you want to try to blend in, even as a temporary interloper, it's "the coast." Yes, I know, elsewhere you may take trips to the beach, to the shore, to the oceanside, to the waterfront... but here in Oregon, it's not any of these, or anything other than simply *the coast*.

The Oregon coast is 363 miles long, bordered to the north by the mouth of the mighty Columbia River, where Lewis and Clark first sighted the Pacific Ocean in November 1805. At the southernmost end of the coast, you'll find the redwood forests of northern California. In between is some of the most beautiful, wild shoreline in the Lower 48, with attractions and outdoor-centric activities to appeal to just about everyone.

Perhaps you'll build a sandcastle, fly a kite and take a hike through the dunes, or maybe you're after no activities at all. The Oregon coast is a great place to grab a well-loved book, a warm cup of cider and a blanket next to a roaring fire.

A drive to the coast from Oregon's inland population centers of Portland, Salem or Eugene takes around 90 minutes. Two-lane highways wind slowly up through Douglas fir forests, then over low Coast Range mountain passes before following sparkling rivers down to the sea.

For those of us who are blessed with the gift of flight, our airplanes can spirit us to the ocean's edge in 30 minutes or less. From any of the inland cities, it's only around 50 nm to the Pacific as the Cessna flies.

When you begin your descent toward the ocean, you'll have your choice of 15 airports, evenly spaced along the coast. Your pick will no doubt be guided by your aircraft, your skill, your intended ground destination and the weather.

It's time to choose your adventure.

Pacific City: Weekend getaway

Despite its name, Pacific City isn't a big place. Around 1,000 people call the town home year-round. Pacific City used to be a quiet backwater with a small fishing fleet and a few dairy farms. Things have changed in the past two decades; it's now a trendy destination in the summer tourist season and the beach can get quite busy (by Oregon standards).

Fly in to Pacific City in March or November, and you'd never suspect all that

hubbub. You might well have the place to yourself.

Activities and amenities at Pacific City are centered around Cape Kiwanda and its signature offshore sea stack, Chief Kiawanda Rock. (Not a typo; the cape and the rock have different spellings.) It's hard to miss from the air and even harder to miss from the ground.

To get to Cape Kiwanda from the airport, walk a few blocks to the west toward the sound of the waves, turn right and stroll up the beach. It's about a 20-minute walk over the sand to the cape.

The first thing you'll notice when you arrive is the funny-looking boats on the beach and the boat trailers backed into the surf. The Pacific City dory boat fleet launches directly off the beach to chase salmon, tuna and rockfish just a few miles offshore. You can charter a boat from one of several operators; to arrange a charter, ask the captains at the beach a day or two before you want to fish. (*See Resources for a brief video showing how a dory boat is launched.* —Ed.)

Cape Kiwanda is a protected natural area and marine life fills the tidepools. The rocks and pools just to the north of the boat launch give children and adults alike up-close views of sea

stars, anemones and crabs.

Feeling up for a workout? Grab a kayak from Nestucca Adventures and head off into the winding Nestucca Bay estuary. Birdwatching is especially good in the fall.

If conditions are right, surfers play in the beach break just south of Cape Kiwanda or the point break to the north. Information, rentals and lessons are available from Moment Surf Company.

If you see surfers here, you'll notice they wear wetsuits—the Pacific Ocean is cold year-round. Peak water temperatures in the summer rarely exceed 60 F.

Strong waves, cold water and lack of lifeguards make swimming here (and anywhere else on the Oregon coast) a poor and possibly dangerous idea. Wading is fine, but keep your eye toward the ocean. Occasional large waves have surprised many a beachgoer.

After you've explored the beach at Pacific City, there's no need to head elsewhere for lunch or dinner. Grab a cold Northwest IPA, a glass of wine—or an iced tea, if you're flying out soon—and watch the people and boats come and

The Oregon coast is a great place to grab a well-loved book, a warm cup of cider and a blanket next to a roaring fire.



Photo: Christine Garrison



Photo: Andrew Garrison, Meridian Restaurant & Bar



Sunset surf session at Pacific City.



Whether you turn left or right when you get to the ocean, you'll find your way to a fun destination.



Herb-crusted halibut with English peas, rhubarb, turnip, fiddlehead and asparagus.



A tiny crab found in a tidepool.

go from a comfortable perch at Pelican Brewing's beachfront taproom.

Meridian Restaurant & Bar, just to the north of Pelican, offers upscale dining with locally sourced ingredients and a fantastic view. You'll want reservations during the high season and on holidays.

Lodging books up quickly, as there are only a few boutique hotels and inns in Pacific City. Airbnb options are usually a better bet on short notice, and if you're lucky, you may be able to snag one of the units adjacent to the airport.

As for Pacific City State Airport (KPFC), it's a handful. The runway is a mere 1,860 feet long by 30 feet wide, and there are several buildings and trees near the runway. The runway is at only 5 feet msl and is adjacent to the Nestucca River. The runway occasionally floods. Heed the FAA Chart Supplement's suggestion to call the Oregon Department of Aviation at 503-378-4880 before using KPFC, especially during the winter.

Make sure your aircraft and personal skills are suited for operations here. Though the airport is challenging, it

also serves to keep the crowds down; I have only once seen the six transient tiedowns full. Other than tiedowns, there aren't any aviation services at KPFC.

The nearest fuel is at Tillamook (KTMK), which also makes a good alternate. KTMK has longer and wider runways, AWOS-3 weather reporting and a GPS approach with 750-1 minimums. Since it's inland about 6 miles, Tillamook usually has calmer winds than Pacific City and other airports nearer to the beach. You can rent a car at Tillamook and make the 30-minute drive to Pacific City. If you're there already, it's tempting to take a quick detour and stop by the Tillamook Air Museum's huge blimp hangar, or the Tillamook Creamery for a free tasting and tour.

Newport: Family-friendly fun

Roughly halfway down the Oregon coast, the bustling town of Newport sits on the north shore of Yaquina (pronounced "Ya-kee-nah") Bay.

Newport has been an escape for Oregon families since the early 1900s; the Nye Beach historic district was, and is, especially popular. Visitors can browse through art galleries, antique shops or simply just sip a cup of coffee with brunch (the best on the coast) at the Nye

Beach Café. The sounds of the ocean are never far away. I've always found Nye Beach to be a comfortable, quiet area to stay the night; there are numerous lodging options here and throughout town.

The Bayfront District has a decidedly different feel (and occasionally, an unusual smell). Yaquina Bay is home to Oregon's second-largest commercial fishing fleet and the Bayfront is very much a working waterfront. The fishing fleet processes most of its catch here, much to the delight of the hundreds of sea lions that inhabit the Bayfront docks.

The sea lions are easily seen and photographed at the docks next to Mariner Square on Southwest Bay Blvd. If you're having trouble finding them, just listen for their barks.

You could choose to battle these 1,000-pound pinnipeds for fish scraps, but it's a safer bet to go to one of several fish markets nearby. I like Fish Peddler's Market; they have fresh-off-the-boat seafood for cooking at home, and also do an excellent grab-and-go fish 'n chips. Mo's Seafood

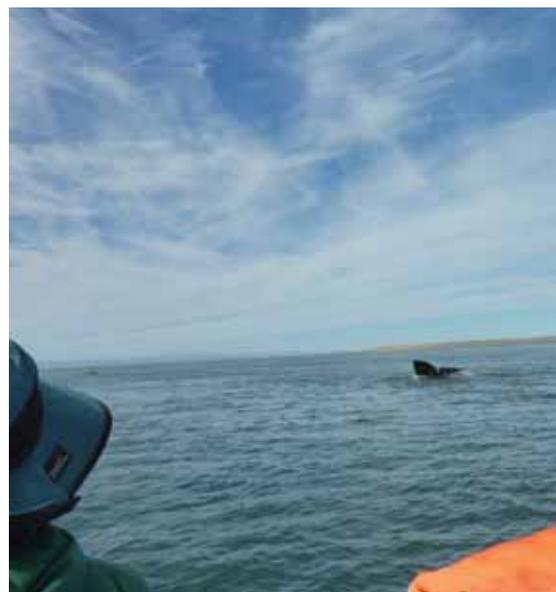
and Chowder is an Oregon institution and was a staple of my childhood trips to the coast. There are now several locations on the coast and the original location is in Newport. However, I think there's better seafood at Local Ocean Seafoods. Beer hounds love Rogue Ales and Spirits' three Newport locations.

Newport's premier attraction is, perhaps unsurprisingly, ocean-oriented. Oregon Coast Aquarium is open daily, both summer and winter. Its mission is "to create unique and engaging experiences that connect you to the Oregon coast and inspire ocean conservation."

The museum grounds cover several acres. You can easily spend a full afternoon visiting all the exhibits. My favorite is the Passages of the Deep exhibit, where visitors pass through a series of underwater walkways covering the three different ecosystems (reef, shelf, offshore) present in the nearby Pacific Ocean. For intrepid younger explorers, you can even book an overnight stay in the exhibit. To be honest, I'm not sure how well I'd sleep while surrounded by sharks.

For offseason travelers, the Newport Seafood and Wine Festival features hundreds of Northwest wines and seafood offerings from up and down the coast. The 2019 festival is February 21-24.

Fly in to Pacific City in March or November, and... you might well have the place to yourself. As for Pacific City State Airport, it's a handful.





The Tillamook Air Museum is housed in a World War II-era blimp hangar, the largest clear-span wooden structure in the world.



Small artistic touches are found everywhere in the coastal towns.



The brave can spend a night and sleep with sharks in the Oregon Coast Aquarium's Passages of the Deep exhibit.



Sea lions lounging on Newport's docks, with the historic Yaquina Bay Bridge in the background.



Whale-watching tours leave daily from Newport's waterfront during the summer and fall.



Photo Courtesy Oregon Coast Aquarium

The Oregon Coast Aquarium is interactive, including the Touch Pool where kids are encouraged to gently handle sea life.



Time to unload the camping gear!



Walking south on the beach toward Nehalem Bay Jetty.



Nehalem Bay is tucked into the trees, just a short walk from the ocean.



Winds at Nehalem Bay typically favor a landing to the north.



The numerous islands and sea stacks (rocks) off the Oregon coast are wildlife refuges; give them at least 2,000 feet clearance.



Summer means frequent fog along the coast.



Sometimes, the difference between VMC and IMC is only a few hundred yards.

Newport offers some of the most accessible whale-watching on the Oregon coast. Gray whales migrate along the coast in the early winter and again in the late spring. Several charter operators run whale-watching tours from the Bayfront District. A two-hour family-friendly “Sea Life” cruise with Marine Discovery Tours costs \$42 for adults and \$28 for children.

For the do-it-yourselfer, drive just a few miles north to Agate Beach and Yaquina Head Lighthouse. You don’t have to climb the lighthouse to spot whales, but you certainly can if you’ve arranged a tour in advance.

Newport Municipal Airport (KONP) is about 3 miles south of the Bayfront District. The airport is one of the best on the Oregon coast, with two good runways (the larger of the two measures 5,398 feet by 100 feet). KONP has several instrument approaches; two VOR approaches, a VOR-A approach, two GPS approaches and an ILS approach. The ILS and GPS approaches to Runway 16 have minimums of 250-3/4.

Fuel is competitively priced at \$5.00/gal for self-serve 100LL and \$3.90/gal for full-service Jet A. The City of Newport runs the FBO and offers a courtesy vehicle during business hours (maximum two hours). For longer stays, you’ll need to call a cab or rent a car. Tiedowns are always available. If you show up on a Saturday in the summer, there’s a free barbecue at noon to welcome visiting pilots!

Manzanita/Nehalem Bay: “Roughing it”

Nehalem Bay State Airport (3S7) is a treasure for visiting pilots. Touch down, then taxi off the paved runway and onto the grass. Pull into the clearly-marked tie-down area and shut down. Unpack and pitch your tent in one of the several campsites nestled in the trees, just a few hundred yards from the beach. You’re home for the night at Nehalem Bay.

The Oregon Department of Aviation and Oregon State Parks have made six fly-in camping spots available exclusively for the aviating public. In Oregon, standard campsites at state parks are by reservation only and are often booked several months in advance. That’s not the case at Nehalem Bay’s fly-in campground. The sites are first-come, first-served and are seldom full, even on the busiest summer weekends, though you might want to come in on Thursday to guarantee a spot.

Camping is \$11 per night, per plane. That gets you access to the park facilities, including water and hot showers. For a few bucks, you can pick up a bundle of

firewood from the camp host. During the summer, rangers present nightly interpretive programs about local history and wildlife at the park’s amphitheater. Pack an inflatable kayak and you can launch it right off the end of the runway to explore the bay.

The beach is about a 10-minute walk to the west through the trees; those with more energy can hike to the Nehalem Bay Jetty, a 5-mile roundtrip from the campground. Walking a mile to the north will have you in downtown Manzanita. To get to town you can also take the scenic route, via the beach.

Nehalem Bay is a straightforward small airport (the runway is 2,350 feet by 50 feet) when conditions are benign. You’ll fly your downwind over the ocean, turn base and cross over the sand spit, and then turn north on final. Final puts you over Nehalem Bay; the runway threshold is only a few feet from the water.

Here’s the catch: when it gets windy, Nehalem Bay will bite you. There’s high terrain to the north of the airport, and on summer afternoons, strong winds can spill over and cause all sorts of unpleasantness at the surface at Nehalem Bay. Be ready to go around and/or divert if the conditions exceed your comfort level.

Nehalem Bay has no aviation services, but Tillamook (17 nm to the south) has fuel and can serve as a diversion.

Planning your flight

You’ll want to keep an eye out for forest fire TFRs in the summer and fall. Fire TFRs often affect routes to and from the inland population hubs. Smoke can also affect in-flight visibility.

All but one of the airports along the Oregon coast are non-towered. Fourteen coastal airports share three radio frequencies: 122.7, 122.8 and 122.9. Make sure you’re on the right frequency and announce your position as well as the relevant airport. En route, I like to monitor 122.9; it’s an unofficial frequency for low-level traffic along the beach.

Several MOAs overlie the Oregon coast and nearshore waters. I have never seen military traffic in any of these MOAs, but you should nonetheless check notams for current status.

Many of the rocks, islands and reefs near the coast are part of the U.S. National Wildlife Refuge system. These refuges are marked on VFR sectional charts. Pilots are requested to maintain a minimum of 2,000 agl above these refuges. Low flights that disturb wildlife are a violation.

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Grab the KTMK courtesy car and enjoy an afternoon on the beach at Oceanside.



Gold Beach, like many coastal airports, has self-serve 100LL for a reasonable price.

Astoria Regional Airport (KAST): Built as a naval air station in World War II to protect the vital Columbia River mouth area from attack. KAST has a VOR, ILS (250-1 minimums) and two GPS approaches. Winds are usually calmer here than at other coastal airports. Cheap 100LL by Oregon standards (\$4.99/gal). Rental cars available. Fort Clatsop (Lewis and Clark expedition winter camp) and Fort Stevens (World War II coastal defense) are nearby.

Seaside Municipal (56S): Seaside is one of Oregon's most popular coastal destinations, yet it has only a quiet municipal airport a few miles outside of town. Local taxis can take you downtown.

Nehalem Bay State (357): See article.

Tillamook (KTMK): Tillamook and its air museum can be spotted from miles away (see photo, page 58). Fuel is available (\$5.06/gal). KTMK has a courtesy car and rental cars. Drive to the town of Oceanside; it's got a great beach and several quality restaurants.

Pacific City State (KPFC): See article.

Siletz Bay State (S45): Adjacent to Salishan Resort, Siletz Bay is a great option for golfers and those who want to be pampered for the weekend. The resort will come pick you up. The Side Door Cafe is across the highway and makes a good lunch stop. As you approach or depart S45, look for Depoe Bay, about 4 miles to the south. This is one of the best places on the coast to spot whales. Watch for kelp beds about a quarter-mile offshore, just north of the highway bridge and harbor entrance. Where you find kelp, you'll often see whales.

Newport Municipal (KONP): See article.

Wakonda Beach State (R33): This challenging small grass runway (2,000 feet by 30 feet) is bracketed by tall trees. Beach access is a five-minute walk. It's possible to camp here; just make sure your aircraft is clear of the runway.

Florence Municipal (652): The Florence Airport Volunteer Group provides fuel (\$4.99/gal), a courtesy car and bikes during daytime hours. Call to confirm; it's a long walk to town otherwise. Sea Lion Caves, about a 15-minute drive to the north, is a huge sea cave cut into a rugged headland that hundreds of Steller sea lions and other wildlife call home. It's a unique experience and a good attraction for families.

Lakeside Municipal (9S3): A sleepy grass strip suitable for most aircraft. Camping is allowed. It's about a half-mile walk to town for food and/or groceries. 9S3 is several miles from the beach.

Southwest Oregon Regional (KOTH): The coast's only Class D towered airport. Also called Coos Bay or North Bend, the airport has several instrument approaches and an excellent FBO. KOTH receives a surprising amount of jet traffic—perhaps with passengers destined for renowned Bandon Dunes Resort and Golf, about 25 miles to the south. KOTH charges a \$10 landing fee (waived with fuel purchase, currently \$5.70/gal). Rental cars are available. Port Orford is an hour south and features art galleries, a unique commercial fishing operation (boats are hoisted into/out of the ocean) and the best fish and chips on the coast at the Crazy Norwegian.

Bandon State (S05): Too small for most of the Bandon Dunes jet traffic and inconveniently located south of the town of Bandon, S05 does have fuel (\$5.10/gal). Bandon itself is a charming town worthy of a stop, but I haven't found a reliable way to and from the airport.

Cape Blanco State (556): Another World War II relic; a large, deteriorating runway awaits infrequent visitors near the point of Cape Blanco. Several hiking trails lead down to the ocean from the northwest end of the airport. A fun spot to explore. Camping is allowed.

Gold Beach Municipal (4S1): The town of Gold Beach offers salmon fishing, whale watching and jet boat tours up the Rogue River. I've had great luck with food here. 4S1 has a beautiful approach over the ocean. Fuel is available (\$5.25/gal).

Brookings Airport (KBOK): The Brookings airport is a few miles inland and at almost 500 feet msl. Brookings can be VFR when other coastal airports are socked in. Fuel is \$5.30/gal.

Del Norte County Regional/Jack McNamara Field, Crescent City, California (KCEC): The southern Oregon coast is quite a distance from the rest of civilization, making California's KCEC an option should you need to cut a trip short and take a commercial flight home.

Flying over the beach and out over the water is part of the adventure and allure of flying along the coast. Prudent pilots will maintain an altitude that allows for a safe emergency landing ashore should an unexpected loss of power occur. Beaches are usually the best option for forced landings.

Much of the land along the coast is rocky or tree-covered. Still, land is likely a better bet than an offshore ditching in the ice-cold Pacific. For extended routes over water (as found on IFR T-route T257), you will want to bring a life raft, life vests and an extremely reliable engine (or better yet, bring a twin).

Weather considerations

You've probably heard it rains a lot in Oregon—you've heard right. It certainly does rain, in the winter and spring. The rainy season typically extends from mid-October until mid-April. Moisture-laden storm systems roll ashore every few days and drop their cargo as they ascend the slope of the Coast Range.

Even during prolonged stormy periods, the skies will often clear up long enough for a VFR flight as bands of clouds and rain pass through. Winter winds are usually more problematic than visibility and ceilings. Icing is a concern, especially when colder systems descend from the Gulf of Alaska bringing the freezing level close to the surface.

For as much as it rains in the winter, it doesn't rain much at all in the summer. However, the best weather on the Oregon coast is not during the height of the summer tourist season (June–August). Summertime is fog time and wind time. Coastal fog can appear in the blink of an eye. I've had to hasten a departure more than a few times as the fog bank approached the airport.

Summer surface winds are nearly always out of the north and can approach 40 knots in the afternoons and early evenings. Schedule your flights to arrive and depart early in the day and winds are usually a nonissue.

In my opinion, fall is *the* time to go. But if you pick your days (or bring your instrument rating), there's great flying to be had year-round.

September is the warmest month of the year along the Oregon coast. There's usually very little wind; the fog machine slows down and there is less traffic both in the air and on the beach.

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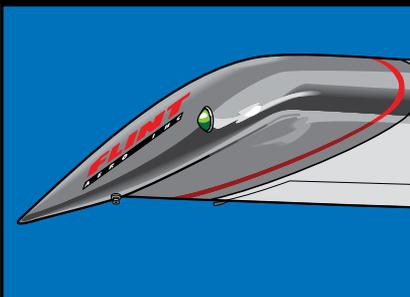
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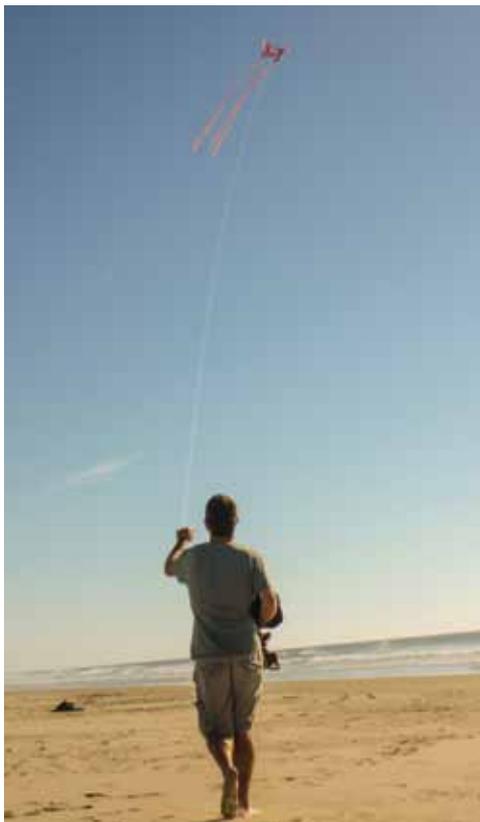
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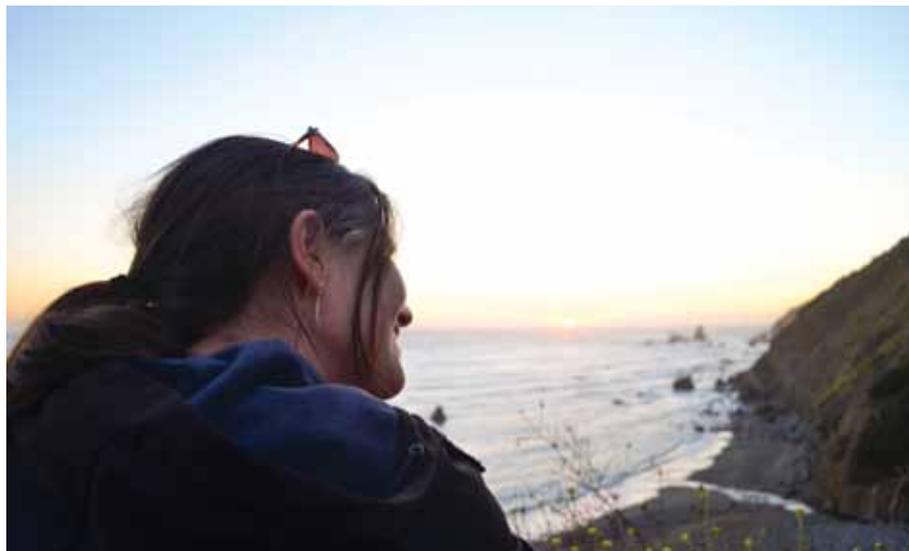
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Wind is a constant in the early summer months.



Fall brings warmer air temperatures and clear skies.



Though you can land under VFR, will you be able to leave?

ten—but you'll run the risk of having to divert or cancel more often than if you hold an instrument rating and fly an all-weather aircraft.

An instrument ticket will help you get to the coast—even if you're unable to get in to your VFR-only airport of choice, you can land elsewhere, rent a car and drive the rest of the way. That's a big deal if you've got a weeklong non-refundable hotel reservation.

Four of the coast airports have GPS approaches, and three have ILS approaches. Though these approaches won't be of much help in winter high winds, they will certainly assist in punching through the pesky summertime 600-foot-agl marine layer.

From a smiles-per-mile perspective, do everything you can to make your flight on a clear day. You want your passengers' noses to be pressed against the side windows, watching the ocean for whales and the treetops for bald eagles. It's not nearly as fun to stare at the inside of a cloud.

Each one of Oregon's 15 coastal airports has its own story and set of things to see and do nearby. Load up your family and friends, start your engine and point your trusty bird toward the ocean and all the Oregon coast has to offer. I look forward to seeing you there! **CF**

Scott Kinney is a self-described aviation geek (#avg Geek), private pilot and instructor (CFI-Sport, AGI). He is associate editor for Cessna Flyer. Scott and his partner Julia are based in Eugene, Oregon. They are often found buzzing around the western U.S. in their vintage airplane. Send questions or comments to editor@cessnaflyer.org.

Resources

PILOT AND AIRPORT INFORMATION

Pacific City, Nehalem Bay and other state-owned airports

<https://www.oregon.gov/aviation/Pages/State-of-Oregon-Airports.aspx>

Newport Municipal Airport FBO

newportoregon.gov/dept/onp/

VISITOR INFORMATION

Oregon Coast Visitors Association

visittheoregoncoast.com

Travel Oregon traveloregon.com

PACIFIC CITY

Dory launch at Pacific City

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Meridian Restaurant & Bar

headlandslodge.com/dining/meridian

Moment Surf Company

momentsurfco.com

Nestucca Adventures LLC

nestuccaadventures.com

Pelican Brewing Company

pelicanbrewing.com

Tillamook Air Museum

tillamookair.com

Tillamook Creamery

tillamook.com

NEHALEM BAY

Nehalem Bay State Park

oregonstateparks.org/index.cfm?do=parkPage.dsp_parkPage&parkId=142

NEWPORT

Local Ocean Seafoods

localocean.net

Marine Discovery Tours

marinediscoverytours.com

Mo's Seafood and Chowder

moschowder.com

Newport Seafood and Wine Festival

seafoodandwine.com

Nye Beach Café

nyebeachcafe.wordpress.com

Oregon Coast Aquarium

aquarium.org

Rogue Ales and Spirits

rogue.com/meeting-halls

Yaquina Head Lighthouse

blm.gov/learn/interpretive-centers/yaquina

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DYNON ADDS TO ITS PORTABLE AVIONICS LINE WITH TWO INTRODUCTIONS



WOODINVILLE, WASH., July 19, 2018 – Dynon is excited to introduce the D3, the latest edition of its popular Pocket Panel EFIS; and the DRX, a portable, dual-band ADS-B traffic and weather receiver.

Robert Hamilton, Dynon President, says, “Many pilots ask if we are replacing the popular D2, and the answer is yes. Our third-generation D3 Pocket Panel portable EFIS adds new features like synthetic vision and a touch screen interface that customers consistently rank high on their wish lists—at a new, lower price point.”

“In addition to the D3,” continued Hamilton, “we are also introducing the DRX, a feature-rich portable ADS-B receiver at an industry-leading price under \$395.”

The latest edition of Dynon’s popular portable EFIS line, the D3 Pocket Panel, lets pilots supplement their unreliable legacy instrumentation with an affordable, portable electronic attitude indicator that works.

Featuring a new synthetic vision display, improved brightness and an intuitive touchscreen interface, the D3 is the most advanced portable safety device Dynon has ever made. The D3 features the same reliable, proven AHRS engine that Dynon uses in its panel-mounted products for experimental, light sport and Type Certificated aircraft.

The D3 comes with a complete set of accessories, including home and airplane chargers, an optional external GPS antenna and two unique mounting options. Both the included cockpit mounting options require no tools, allowing the D3 to be deployed in any aircraft with no FAA approval.

The D3’s list price is \$995, but at introduction pilots may find it available as low as \$879 from authorized Dynon dealers.

The Dynon DRX is an affordable ADS-B traffic and weather receiver that is small enough to fit in a pocket, but can also last all weekend on a single charge.

DRX supports connectivity with most mobile apps, including ForeFlight and FlyQ, for superior in-flight situational awareness. The DRX allows pilots to see the entire traffic picture with dual band ADS-B reception. Pilots also benefit from in-cockpit ADS-B weather products such as NEXRAD Radar, METARS, TAFs and more.

DRX additionally provides WAAS GPS position to mobile devices and has auto-dimming status lights for night flight.

The DRX carries on the Dynon tradition of bringing affordable, high quality avionics to all pilots. It’s list price is only \$395, but pilots may find it at dealers as low as \$349.

For more information about the D3, DRX and other Dynon Avionics products, visit DynonAvionics.com.

GENESYS AEROSYSTEMS ANNOUNCES TRAINING PARTNER FOR S-TEC AUTOPILOTS

Gary Reeves, Master CFI, and PilotSafety.org to produce extensive training materials for S-TEC autopilots

OSHKOSH, July 22, 2018 – Genesys Aerosystems, leading manufacturer of autopilots and stability augmentation systems for fixed and rotary wing aircraft, announces a partnership with Gary Reeves of PilotSafety.org to provide training materials for S-TEC autopilots.

Genesys has been developing autopilots for 40 years and its latest offering, the S-TEC 3100, is currently certified on the Cessna 177, 182, 210, Piper PA-32 and Beechcraft Bonanza A35/36 with many more scheduled over the coming months.

“Our latest autopilot, the S-TEC 3100, is unlike any other autopilot that we have produced in the past 40 years,” said Jamie Luster, Director of Sales and Marketing.

“We’ve had a lot of customers upgrading from previously installed S-TEC systems and Gary can help us provide a high level of tailored training to help make their transition easier,” Luster continued.

The 3100 is a two-axis digital autopilot (three-axis available on some models) that brings enhanced features such as automatic trim, envelope protection and alerting, one button straight and level recovery, indicated airspeed hold and altitude presepect (requires baro input), just to name a few.

With the mixed cockpit aftermarket, the 3100 also supports many third-party EFIS displays as well as integrating its own internal ADHRS should an EFIS not be installed.

“In 14 years of teaching single pilot IFR, I’ve always found S-TEC to be the most reliable and easiest to use. I’m proud to partner with Genesys and provide video training for the best autopilots available.”

“I chose the Genesys STEC 3100 for my airplane because it has the most features, it’s the easiest to use, and it has 40 years of proven experience behind it,” said Gary Reeves, Master CFI and Owner of PilotSafety.org.

For more information, visit genesys-aerosystems.com.

THE TX56/TX56A AND TX57/TX57A: FIRST PREVIEW OF TRIG'S SLIMLINE NAV/COM FAMILY



The TX56 range on public display at EAA AirVenture in July 2018

Trig Avionics has announced plans for a future Nav/Com product family, which is expected to be available to pilots in early 2019. The first preview of the product is being made now, allowing pilots to see the newly designed TX56 Nav/Com. Using a slimline form factor and innovative features, the TX56 will be easy to install and use.

Trig plans to offer a special introductory list price of \$3,195 for the TX56A, the 760-channel version of the Nav/Com. This is certain to appeal to aircraft owners and flight training organizations looking for a high quality and great value Nav/Com. The European 25/8.33 kHz version is expected to have a list price of \$3,495.

The TX56 family of products will be available with 8.33 kHz channel spacing or conventional 25 kHz spacing, with 10 watt or 16 watt transmit power. At only 33 mm high, the TX56 case will save valuable stack space and requires no cooling fans—consistent with Trig's "Better by Design" philosophy.

Trig CEO Andy Davis said, "For many

aircraft owners, the Nav/Com remains a vital piece of equipment. We are pleased to preview the TX56—it will make access to certified Nav information widely available, and will complete the Trig stack when it becomes available in early 2019."

Trig claims that the TX56 has a superior user interface; this starts with a high resolution display. All vital information on the TX56 is clearly presented—a display "sweep" function uses a single button to shift the display emphasis from Com to Nav status.

The Nav will automatically load the identifier for the selected VOR and over 200 frequencies and identifiers can be saved in to the Nav database.

The TX56 is dependable, with the capability of providing a fix to a second VOR, improving navigational accuracy. Full support for ILS approaches and a back button allows a back course to be selected and flown.

The TX56 has a built-in digital CDI. This provides a practical option when an external CDI is not available. The TX56 comes with a built in VOR/LOC converter as standard, making it configurable

continued on Page 69...

CATCH AIR PLAINS SERVICES IN SANTA FE AT AOPA FLY-IN, SEPT. 14-15

WELLINGTON, KAN., Aug. 6, 2018 – Air Plains Services, a world leader in extreme performance upgrades for a variety of General Aviation aircraft models, today announced the company will be an exhibitor at the AOPA Fly-in Sept. 14-15, 2018 in Santa Fe, New Mexico.

"We're excited about seeing many of our long-time customers in the region who always support AOPA, and, of course, we're keen to attract new customers to the fold with our XP Extreme Performance engine upgrades, as well as our wide range of aircraft parts and services," said Air Plains owner Mike Kelley.

"AOPA does such a great job with its regional fly-ins," Kelley added. "When you choose a spot like Santa Fe, it makes even more special for exhibitors and visitors alike."

Air Plains Services is known worldwide for its XP Extreme Performance engine upgrades, specifically the 172XP 180 hp upgrade for the Cessna 172 based on the Lycoming O-360, and 180XP, 182XP and 182RGXP 300 hp engine solutions based on either the Continental IO-520 or IO-550 for a number of Cessna 180s and 182s.

In the past year, Air Plains celebrated delivery of both its 2,500th 180 hp XP upgrade for Cessna 172s and its 500th 300 hp XP upgrade for Cessna 180s and 182s.

For more information, visit the Air Plains website at airplains.com and follow the company on the Air Plains Facebook page.

GARMIN® CONTINUES LEADERSHIP IN ADS-B BY BRINGING NEW FIS-B WEATHER PRODUCTS TO MARKET

OLATHE, KAN., July 12, 2018 – Garmin International, Inc., a unit of Garmin Ltd. (NASDAQ: GRMN), today announced future product compatibility with the new Flight Information Service-Broadcast (FIS-B) weather products available through the ADS-B ground station network in the U.S.

Once the ground station network is established to broadcast these new FIS-B weather products, pilots will be able to access them within the Garmin Pilot™ application on Apple mobile devices using Garmin receivers that support ADS-B In. Broader Garmin display compatibility is expected later this year and into the first half of 2019.

"Garmin continues to lead the industry with the most ADS-B solutions flying today and we're excited to bring these

new features and capabilities to our customers," said Carl Wolf, vice president of aviation marketing and sales.

"With only 17 months left to equip for ADS-B Out, customers can take advantage of a Garmin solution that is backed by our well-established lineage in ADS-B, superior product quality, award-winning product support and the most comprehensive dealer network in the industry—all starting at an MSRP of \$1,795."

The introduction of the new FIS-B weather products give pilots additional tools to better interpret the broader weather picture. These new products include lightning, turbulence, icing (current and forecast), cloud tops, graphical AIRMETs and center weather advisories.

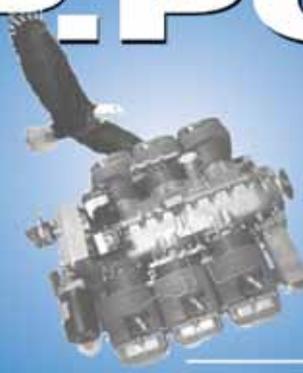
At launch, Garmin ADS-B products that are capable of receiving these new services include the GTX™ 345, GDL® 88, GDL 84, GDL 52, GDL 50, GDL 39 3D and GDL 39. Compatibility is also extended to include all remote-mount Garmin ADS-B In receivers.

These ADS-B In receivers do not require a software update in order to receive the new weather products, but compatible displays will require an update.

These products include the G500 TXi/G600 TXi/G700 TXi flight displays, the GTN™ 650/750 touchscreen navigators and the G1000® NXi integrated flight deck.

For additional information, visit garmin.com/lads-b or contact a Garmin Authorized Dealer.

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The Hawker® SBS J-16 battery from EnerSys® is manufactured with Thin Plate Pure Lead (TPPL) technology for extended life, low maintenance and superior aircraft battery performance.

READING, PENN., July 23, 2018 – EnerSys® (NYSE: ENS), the global leader in stored energy solutions for industrial applications, announces the launch of its Hawker® SBS J-16 battery specifically for General Aviation owner-operators.

Manufactured with proprietary Thin Plate Pure Lead (TPPL) technology, the Hawker® SBS J-16 battery provides extended life, low maintenance and superior aircraft battery performance in extreme temperatures and harsh environments.

TPPL technology is applied to the manufacturing of flat plates made of 99.99 percent pure lead, not lead alloy. These pure lead plates are made thinner, enabling more to fit in the battery for increased plate surface area. The additional surface area enables TPPL batteries to generate more power, provide longer service life, greater reliability and deep-cycle capabilities.

“Hawker batteries manufactured with TPPL technology have been powering military and business jet aviation applications for years,” said Steve Benulis, Marketing Director at EnerSys.

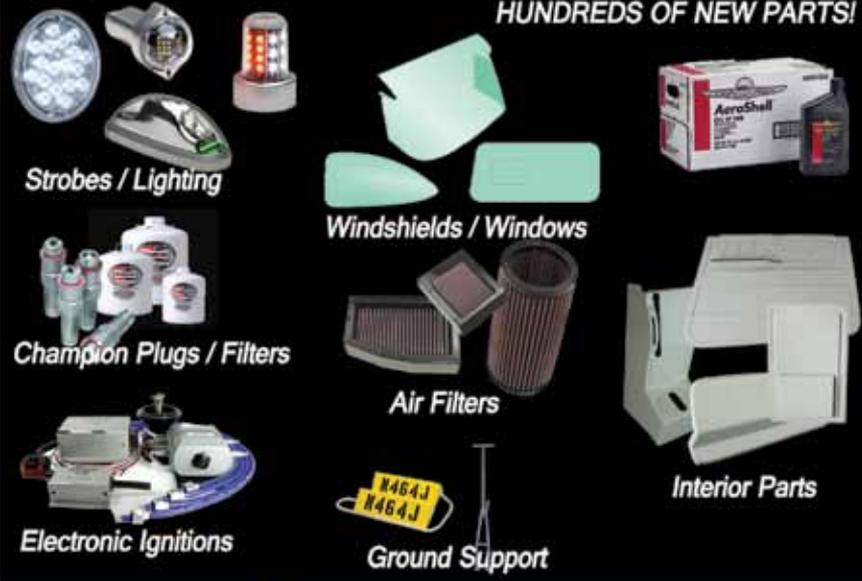
“EnerSys is pleased to bring a product to the commercial aviation market with the same distinct advantages and standards that the military demands.”

The Hawker® SBS J-16 battery features a three- to 10-year service life and two-year storage life at 77 F (25 C), reducing the need for off-season maintenance.

The battery is designed and manufactured to be vibration resistant, classified

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For more information on EnerSys and its full line of products, systems and support, visit enersys.com.

Trig Avionics
continued from Page 67...

with a wide range of cockpit instruments.

As a natural accessory, Trig will also be introducing a new CDI that will be available as a 3-inch unit called the TI106. This solid-state device offers a reliable and highly legible display augmented by LED lighting. The TI106 will have a list price of \$2,499.

The TX56 Com will enable VHF voice communications on both 8.33 and 25 kHz channel spacing. Features such as “Push Step” provide faster tuning and the radios’ Dual Watch feature allows the monitoring of two frequencies at the same time. The TX56 has Trig’s popular “Say Again” feature; this allows the replay of the last received transmission.

A powerful and fully customizable frequency database can be created and loaded in seconds via the front panel USB port. This removes the need for database subscription costs and provides genuine flexibility—each pilot can load their own customized radio and Nav frequencies for every flight. These features make the Trig VHF Com radio the clear choice for training fleets. The TX56’s exceptional audio quality and clarity extends to the built-in two-place stereo intercom which will have support for stereo music.

The higher powered 16 watt versions, the TX57 and TX57A (760 channel version) will become available for high performance aircraft where a 28 volt supply is used. The TX57 list price is anticipated at \$4,295, and the TX57A will have a list price of \$3,995.

The TX56 family represents a practical retrofit for legacy units, being compatible with existing Bendix King, Garmin and Apollo indicators. The ability to channel a Bendix King DME will also potentially ease installation. Trig sells compatible TMA44 and TMA45 audio panels; both are fully equipped to support Nav and Com features.

Trig Avionics will soon announce when the product family can be ordered via its Approved Trig Dealer network. For more information, visit trig-avionics.com.

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EAA AIRVENTURE OSHKOSH 2018: FACTS AND FIGURES

Best-attended opening day in history, along with several other record-breaking tallies

“A ‘perfect’ event may be unattainable, but AirVenture 2018 came about as close as one could imagine,” commented EAA Chairman Jack Pelton.

“The combination of outstanding programs, aircraft variety, a robust economy and good weather combined to complement the efforts of our staff and 5,000 volunteers throughout the grounds. The week was upbeat, exciting, and filled with many ‘Only at Oshkosh’ moments.”

Attendance was approximately 601,000, nearly 2 percent above of 2017’s record total. Pelton commented, “EAA members and aviation enthusiasts attended in large numbers, even without the presence of a military jet team as we had in 2017.”

“Our efforts to create unique attractions and aviation highlights across the grounds were incredibly successful. Attendance on opening day was the best in our history, as the vast majority of our guests came to Oshkosh early and stayed throughout the week.”

More than 10,000 aircraft arrived at Wittman Regional Airport in Oshkosh and other airports in east-central Wisconsin. At Wittman alone, there were 19,588 aircraft operations in the 11-day period from July 20-30, which is an average of approximately 134 takeoffs/landings per hour.

Total showplanes numbered 2,979 (the second straight year over 2,900), with 1,160 homebuilt aircraft (a 5 percent increase); 1,094 vintage airplanes; 377 warbirds (a 7 percent increase); 185 ultralights and LSAs; 75 seaplanes; 22 rotorcraft; 52 aerobatic aircraft and 14 hot air balloons.

More than 12,300 sites in aircraft and drive-in camping accounted for an estimated 40,000 visitors.

Commercial exhibitors totaled 867, while 1,500 forums, workshops and presentations sessions were attended by more than 75,000 people. 976 media representatives were on-site from six continents.

During the week, 2,800 people flew aboard EAA’s Ford Tri-Motors, while 3,032 people flew aboard EAA’s Bell 47 helicopters and 680 flew aboard EAA’s B-17 *Aluminum Overcast*.

More than 12 million people were reached by EAA’s social media channels

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during AirVenture, including 5.5 million via Facebook videos.

EAA's website had more than 1.7 million page views; EAA video clips during the event were viewed 2.2 million times; and EAA's 2,400 photo uploads were viewed more than 12.4 million times.

Additionally, EAA web streams were accessed nearly 800,000 times by viewers in more than 200 countries who watched more than 170,000 hours of activities from the AirVenture grounds. The AirVenture app was downloaded and used by nearly 50,000 attendees.

A record 2,714 visitors registered from 87 nations, also a record total. (Actual counts may be higher since international visitor registration is voluntary.) Top countries represented by registered visitors included Canada (538 visitors), Australia (386) and South Africa (277).

Economic impact, based on 2017 University of Wisconsin Oshkosh economic impact study, totaled \$170 million for the five counties in the Oshkosh region (Winnebago, Outagamie, Fond du Lac, Calumet and Brown).

"We are celebrating our 50th consecutive year in Oshkosh during 2019," said Pelton, "so we'll be looking back on a half-century of unforgettable highlights at Wittman Regional Airport (KOSH) and planning activities that involve EAA's hometown and its unique place in aviation history."

"While 2018 is barely in the record books, we're talking to many groups and individuals with intriguing new ideas for aircraft, innovations, exhibits and events," he added. "We're already planning for 2019 and looking forward to announcing features and attractions very soon."

EAA AirVenture Oshkosh 2019 will be held July 22-28, 2019.

Information and updates about EAA AirVenture Oshkosh 2019 will be posted at eaa.org/airventure.



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SPECIAL AIRWORTHINESS INFORMATION BULLETIN

SUBJ: Passenger Compartment Equipment - Installation of F. Atlee Dodge Aircraft Services LLC. Folding Jump Seats

SAIB: CE-18-23

Date: July 19, 2018

*This is information only.
Recommendations aren't mandatory.*

Introduction

This Special Airworthiness Information Bulletin addresses issues found in the installation of F. Atlee Dodge Aircraft Services LLC. folding jump seats in a variety of Textron Aviation, Inc. (Cessna) airplanes following Supplemental Type Certificate (STC) SA02008AK and field approval installations of the same or similar seats.

The airplanes affected are Cessna Models 170, 170A, 170B, 172, 172A, 172B, 172C, 172D, 172E, 172F, 172G, 172H, 172I, 172K, 172L, 172M, 172N, 172P, 172Q, 172R, 172S, R172K, 175, 175A, 175B, 175C, 180, 180A, 180B, 180C, 180D, 180E, 180F, 180G, 180H, 180J, 180K, 182, 182A, 182B, 182C, 182D, 182E, 182F, 182G, 182H, 182J, 182K, 182L, 182M, 182N, 182P, 182Q, 182R, 182S, 182T, 185, 185A, 185B, 185C, 185D, 185E, A185E, and A185F airplanes when equipped with F. Atlee Dodge Aircraft Services LLC. folding jump seats following STC SA02008AK or by field approval.

At this time, the airworthiness concern is not considered an unsafe condition that would warrant Airworthiness Directive (AD) action under Title 14 of the Code of Federal Regulations (14 CFR) part 39.

Background

The FAA is aware of an accident in which a passenger seated in a F. Atlee Dodge Aircraft Services, LLC. folding jump seat was ejected through the windshield when the nose landing gear collapsed on landing. Investigation has determined that the most likely causes of the ejection to be either the lack of seat belt guides or incorrect installation of the seat belts. During the certification tests for the STC, it was determined that the belt guides were necessary to



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properly restrain the occupant. It was also found to be necessary to locate the seat belt anchors in specific locations in the seat tracks described in the installation instructions, not in the original design approval holder's locations. The incorrect installation of the seat belt anchors may have been due to the location markings being worn away or possibly never having been marked correctly during installation.

These items, if not maintained properly, can result in severe injuries or potentially death in the event of an accident. Visual observation of Cessna aircraft with the installation of the folding seat has shown that greater than 50 percent of the airplanes do not appear to conform to the approved configuration in one or more of the following ways:

- 1) Seat belt anchors are not installed in the correct location in the outboard and/or inboard seat tracks.
- 2) Seat tracks are missing the markings to indicate the correct location
- 3) Seats do not have the STC required belt guides. (Installations that were field approved prior to the issuance of the STC, did not have these guides.)
- 4) Seat belts are not attached to the seat belt anchors using the correct hardware.
- 5) Outboard anchors are attached to the original Cessna attachment instead of the seat track location identified in the folding seat installation instructions.
- 6) Fittings securing the belts into the seat tracks are not properly locked in place.

F. Atlee Dodge Aircraft Services LLC. has issued Mandatory Service Bulletin (MSB) 3187-I-01 to inspect for proper installation of seat belt guides and seat belt end fittings, install placards, correct the marking and add a flight manual supplement.

STC installations that do not have the belt guides do not conform to their type design and are not in a condition for safe operations and may not properly restrain the occupant in a crash. For these reasons, airplanes containing seats without belt guides should not be returned to service.

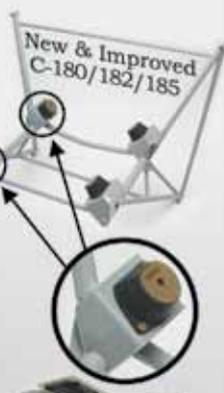
Recommendations

The FAA recommends that you incorporate F. Atlee Dodge Aircraft Services LLC. Mandatory Service Bulletin MSB 3187-I-01, Rev. A, dated March 23, 2015 and AFMS / SFM document AFMS-3187,

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Rev. I.R., dated October 01, 2015 or later FAA approved revision.

This includes the installation of placards, verification as well as marking of correct seat belt anchor and seat leg locations, and the addition of a flight manual supplement. In addition, as part of the normal preflight inspection of the seat belts for security when occupied, we recommend verification of the seat belt anchors to make sure they are properly secured and that cargo has not knocked them loose from the locking position.

For Further Information, Contact

David Swartz, Senior Aerospace Engineer, 222 W 7th Ave, Anchorage Alaska, 99513 phone: (907) 862-2586; e-mail: dave.swartz@faa.gov.

For Related Service Information Contact

F. Atlee Dodge Aircraft Services, 6672 Wes Way, Anchorage AK 99518; phone: (907) 344-1755; fax: (907) 344-6720, www.fadodge.com.

SPECIAL AIRWORTHINESS INFORMATION BULLETIN

SUBJ: Exhaust Turbochargers; Announce the availability of the "Best Practices Guide for Maintaining Exhaust System Turbocharger to Tailpipe V-band Couplings/Clamps"

SAIB: CE-18-21

Date: July 13, 2018

*This is information only.
Recommendations aren't mandatory.*

Introduction

This Special Airworthiness Information Bulletin (SAIB) is written to announce the availability of an industry and government developed best practice guide (BPG). The BPG is titled:

"Best Practices Guide for Maintaining Exhaust System Turbocharger to Tailpipe V-band Couplings/Clamps"

Background

The BPG presents a summary of one of the recommendations developed during the national industry and government V-band Coupling/Clamp Working Group effort. The BPG presents the "best practices" necessary to ensure airplanes equipped with turbocharged reciprocating

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ing engines fitted with turbocharger to tailpipe v-band coupling/clamps, remain in their original type design configuration. It will also help effectively manage the risk associated with the use of v-band coupling/clamps in this application.

Recommendations

The intent of this SAIB is to announce the availability of the “Best Practices Guide for Maintaining Exhaust System Turbocharger to Tailpipe V-band Couplings/Clamps”. Our intent is that the BPG be a living document, subject to periodic update as data becomes available. We recommend that the public review the information presented in the BPG and apply those best practices to assist in the maintenance, inspection and continued care of turbocharged reciprocating engine powered aircraft products. However, it should be noted that if there are any discrepancies between the BPG and/or any airworthiness directive (AD) or design approval holder (DAH) Instructions for Continued Airworthiness (ICA), the AD or DAH ICA’s take precedence.

The BPG can be found at the following link, and numerous aircraft DAH and type club websites: https://www.faa.gov/aircraft/air_cert/design_approvals/small_airplanes/cos/aging_aircraft/media/maintaining_exhaust_system_best_practices.pdf.

We also recommend that you periodically check the above link to refresh the data since the BPG is a living document and will be updated from time to time.

If any service difficulty issues arise in the use of turbocharger to tailpipe v-band couplings/clamps, it would be beneficial if the following Joint Aircraft System Component (JASC) codes were used when submitting that data in the FAA Service Difficulty Reporting System (SDRS) database:

- 8100: Exhaust Turbine System (reciprocating), or
- 8120: Exhaust Turbocharger

For Further Information Contact

Jeff Janusz, Aerospace Engineer, 1801 Airport Road, Rm. 100, Wichita, KS; phone: (316) 946-4148; fax: (316) 946-4107; e-mail: jeff.janusz@faa.gov.

SPECIAL AIRWORTHINESS
INFORMATION BULLETIN

SUBJ: NAVIGATION, ATTITUDE, AND
DIRECTION DATA SYSTEM

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-Julie Clark
Airshow Pilot T-34
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AIRCRAFT SAFETY ALERTS

SAIB: SW-18-19

Date: July 9, 2018

*This is information only.
Recommendations aren't mandatory.*

Introduction

This Special Airworthiness Information Bulletin (SAIB) informs registered owners/operators of an airworthiness concern for aircraft equipped with Aspen EFD1000 primary flight display under Supplementary Type Certificate (STC) SA10822SC. Specifically, this SAIB notifies owners and operators of possible misleading heading and attitude displays when activating electrical equipment, especially electrical equipment that draw high electrical currents.

At this time, the airworthiness concern is not an unsafe condition that would warrant airworthiness directive (AD) action under Title 14 of the Code of Federal Regulations (14 CFR) part 39.

Background

We were recently notified of an Electromagnetic Interference (EMI) issue on an Air Tractor AT-802A operating under night Visual Flight Rules, which was equipped with an Aspen EFD1000 primary flight display. After activating the aircraft's underwing work light system, there was a 40-degree shift in both the aircraft's wet compass and the EFD1000's heading display, followed by a 15-degree shift in both the EFD1000's pitch and roll indications. This interference was later observed to be repeatable in ground tests. The cause of the interference event is currently under investigation.

Recommendations

The FAA recommends that owners and operators flying with STC-installed electronic flight displays be aware of the potential for misleading indications when using electrical equipment, especially electrical equipment that draws high electrical currents. Operators should take particular caution when flying at night, in Instrument Meteorological Conditions, or under Instrument Flight Rules. Misleading indications may involve more than one indicator and may consistently provide the same misleading information. Operators are advised to cross-reference other instruments to validate indications.

The FAA also requests that owners, operators, and installers of the Aspen

EFD1000 primary flight display notify the FAA contacts listed below of any similar reports of misleading indicators when electrical equipment is activated.

A federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a current valid OMB Control Number. Under the provisions of the Paperwork Reduction Act (44 U.S.C. 3501 et seq.), the OMB has approved the information collection contained in this SAIB, and assigned OMB Control Number 2120-073 I.

Public reporting for this collection of information is estimated to be approximately 5 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, completing and reviewing the collection of information. All responses to this collection of information are voluntary.

Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to the FAA at: 800 Independence Ave. SW, Washington, DC 20591, Attn: Information Collection Clearance Officer, ASP-110.

For Further Information Contact

Kristi Bradley, Aerospace Engineer, AIR-7F2, ACO Branch, 10101 Hillwood Pkwy, Fort Worth, TX 76177; phone: (817) 222-5485; email: kristin.bradley@faa.gov.

Mahmood Shah, Aerospace Engineer, AIR-7F1, ACO Branch, 10101 Hillwood Pkwy, Fort Worth, TX 76177; phone: (817) 222-5133; e-mail: mahmood.shah@faa.gov.

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LETTERS continued from Page 08...

Publisher's reply

Hi Lu,
 Thanks for writing. We're glad you like it!
 Let us know if you need help once you find your 180.

Best,
 Jen

"The Making of N182AP"
 by Michael P. McRobert,
 May, June and July 2018

Dear Jen, Kent and Heather,
 I have been negligent in heaping praise on you all for the fantastic series on McRobert's airplane update - the making of N182AP. When he first sent text to my questions at 9,000 words, I thought it would be tough to edit. Y'all did a fantastic job. I know he is really impressed as well.
 Just a really great series. I hope the readers like it.

Doug Oliver

Editor's reply

Thank YOU, Doug. Your note means a lot to all of us.
 Jen and Kent are in transit to Wisconsin [for the Gathering at Waupaca] and will be pleased to see this when they land.

I will pass along your compliments to Scott Kinney as well. He did the great majority of the fine-tuning on the McRoberts series, and is such an asset to the AGL staff.

Regards,
 Heather

Corrections from a
 Twin Cessna specialist

Dear Editors,
 I present for your information two erroneous items in recent issues of *Cessna Flyer*.
 In the July issue, on Page 50, the



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Simulator Training Facilities listed in Resources contain some errors. CAE, aka Simuflite, has not offered Cessna piston twin or other piston training in years.

FlightSafety sold all of its Cessna simulators to SIMCOM a few years ago. FlightSafety only offers Bonanza and Baron courses.

In the August Issue, on Page 8, in an author's reply to a reader's letter, the TBO for the Continental GTSIO-520-L, or -N on the 421C is stated to be 1,400 hours. The TBO for these engines on the 421C is 1,600 hours.

On early 421As and 421Bs, the TBO on the GTSIO-520-D was 1,200 hours. On later 421Bs the GTSIO-520-H had a TBO of 1,600 hours.

Regards,
Jerry Temple
Frisco, Texas

EVENTS continued from Page 14

hosted by the Civil Air Patrol Black Sheep Squadron at 8:30 a.m. Gates open at 8:15 am and close at 5 pm. Tickets are \$10 per person or \$20 per carload. Call 972-551-1122 or visit terrellairport.com/airshow.

Sep 22 — Ithaca, NY. Ithaca Tomkins Regional (KITH). Centennial Flight and Celebration. Our 1918 Thomas-Morse S4 Scout will be the only airworthy original of over 600 advanced single-seat World War I trainers built in Ithaca. Celebration 2 to 6 pm. Free-will donation. For further information, go to tommycomehome.org/?page_id=448.

Sep 28-30 — Great Bend, KS. Great Bend Municipal (KGBD). Great Bend Airfest 2018. 75th anniversary of Great Bend Army Airfield, built for B-29 aircrew training. Lots of food and family fun. Free parking, low-cost admission. Fly-ins welcome. Contact Martin Miller, greatbendairport@ruraltel.net or phone 620-792-9446. Visit greatbendairfest.com.

OCTOBER

Oct 5-6 — Upland, CA. SWS 99s Fall 2018 Meeting. Hosted by the San Gabriel Valley Chapter. Contact Alice Talnack, atalnack@comcast.net.

Send events to editor@cessnaflyer.org.

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Bose Corporation	bose.com/A20	25	SCS Interiors	scs-interiors.com	53
Brant Aero/Progressive Air Group of Companies	brantaero.com/progressiveair.com	12	Selkirk Aviation	selkirk-aviation.com	47
Bruce's Custom Covers	aircraftcovers.com	24	Smooth Power LLC	smoothpowerllc.com	70
Chief Aircraft	chiefaircraft.com	65	Sporty's	sportys.com	79
CIES Inc	ciescorp.net	75	Stene Aviation	steneaviation.com	78
Concorde Battery	concorde.com	61	Strutwipe	strutwipe.com	04
Desser	desser.com	05	Superior Air Parts	superiorairparts.com	17
Dodson International Parts, Inc.	dodson.com	53	Survival Products	survivalproductsinc.com	31
Eagle Fuel Cells	eaglefuelcells.com	51	Teledyne Battery Products	gillbatteries.com	70
Electroair	electroair.net	76	Tempest Plus Marketing Group	tempestplus.com	35, 37, 39
Flight Resource, LLC	flight-resource.com	74	Texas Skyways	txskyways.com	23
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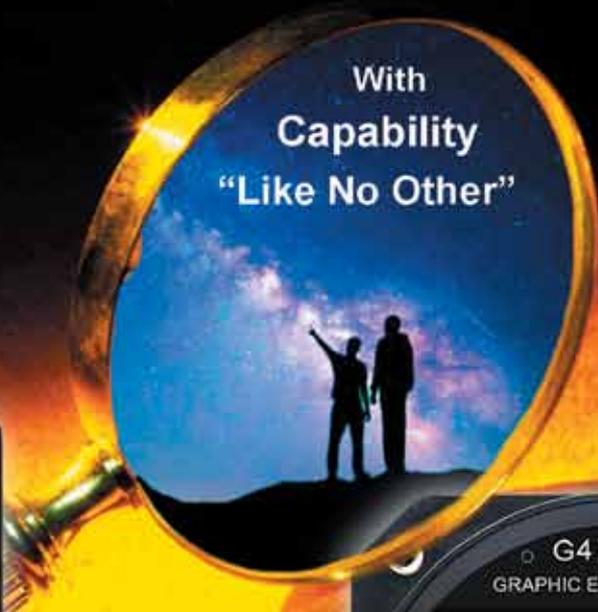
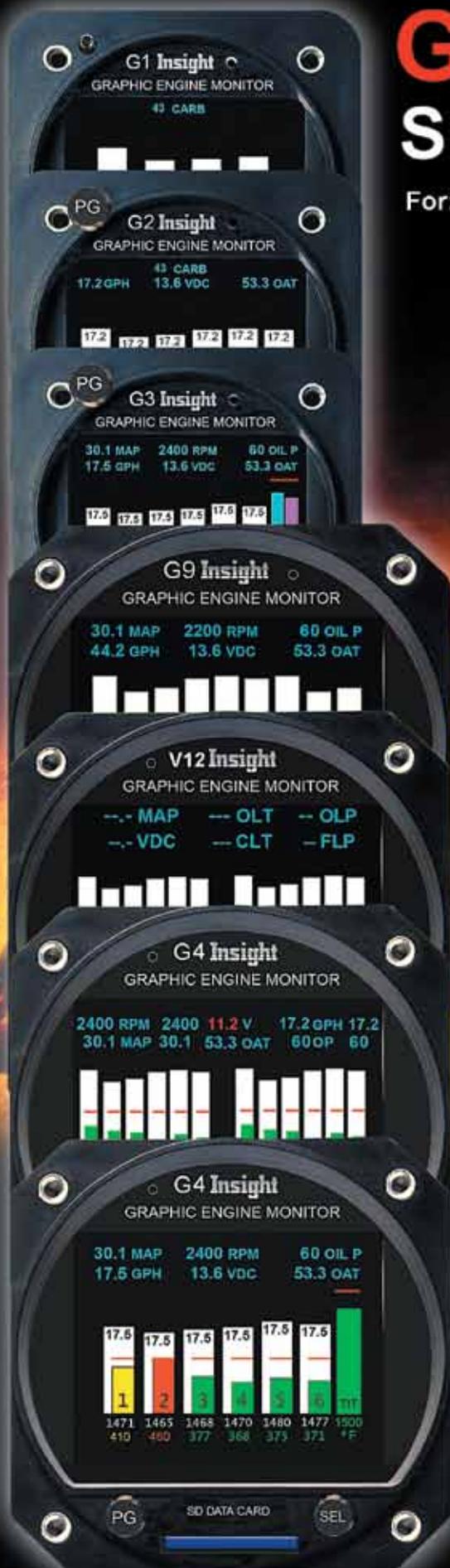
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