



THE SLIPSTREAM

THE NEWSLETTER OF GREEN RIVER EAA CHAPTER 441 KENT, WA

November 2022

President's Column

Currency and Proficiency

In order to reliably perform at any motor skill, and many cognitive skills, we need to practice. But simple repetition is not enough. We need to practice to a certain level of expertise. Recently, I've been reading a book called "Accelerating Expertise", which is a collection of educational psychology notions regarding just how to do that.

Consider flying: we are required, in order to carry passengers and to fly in certain environmental state (IMC, Night) to be "current". Currency is given by logging of the experience. For carrying passengers, that includes three takeoffs and three landings in the past 90 days. For night, they must be at night and landings to a full stop. For flying in instrument conditions, that includes 6 approaches and holding using electronic navigation signals in the past 6 months.

It occurred to me in the past few months, that these notions also include motor skills involved with building airplanes. I've been involved with a trailer-building project requiring welding of aluminum. There's a skill which atrophies quickly if not practiced regularly. As does the ability to make very precise, and therefore very tight glue joints with wood.

In flying, we have regulations to provide minimum practice to stay "current". But that does not necessarily make us proficient. For proficiency in flying, we have minimum performance standards given in the Airman Certification Standards (ACS), and a requirement to take a Flight Review every 2 years. For building our airplanes, we have standards in the designer's plans and in AC 43-13. We also have access to technical counselors to look at our work and help us understand whether we are building "up to standard". And that's where chapters come in handy. An opportunity to get together once/month to talk about technique and experience, and ready, personal access to lots of knowledge.

All of this comes to mind because I have to get my instrument approaches in, my CFI is up for renewal next month, I need a Flight Review next month, and it's dark and cold outside, which is just a generic dis-incentive except for the night landings bit. Luckily, night landings count for general currency requirement. Now that we're in the "Workshop Season", I'm looking forward to practicing (and improving) precision in the shop.

Stay warm and safe; April is coming.

Brian

Next Meeting

Thursday, 17 November 7 PM

NOTE NEW DATE

17618 S. E. 303rd PL, Kent

This Month's Program

Bruce Finney tells us all about the FlyQ application

Christmas Party Planning

Inside this Issue:

Presidents Column	1
Editor's Corner	4
EAA news	5
Member Reports	7
For Sale	8
Guess that airplane/panel	9
Yesteryear's homebuilts	13
On the Wreckord	15

Chapter Officers

President: Brian Lee
 (253)-639-0489

Vice-President: Mark Owens

Secretary: TBD

Treasurer: Steve Crider

Tech Counselors/Flight Advisors:
 Brian Lee (253)-639-0489
 Dave Nason
 Jonathan Lee (253) 508-1376

Newsletter Editor: Ron Wanttaja
 (253) 833-7394
 ron@wanttaja.com

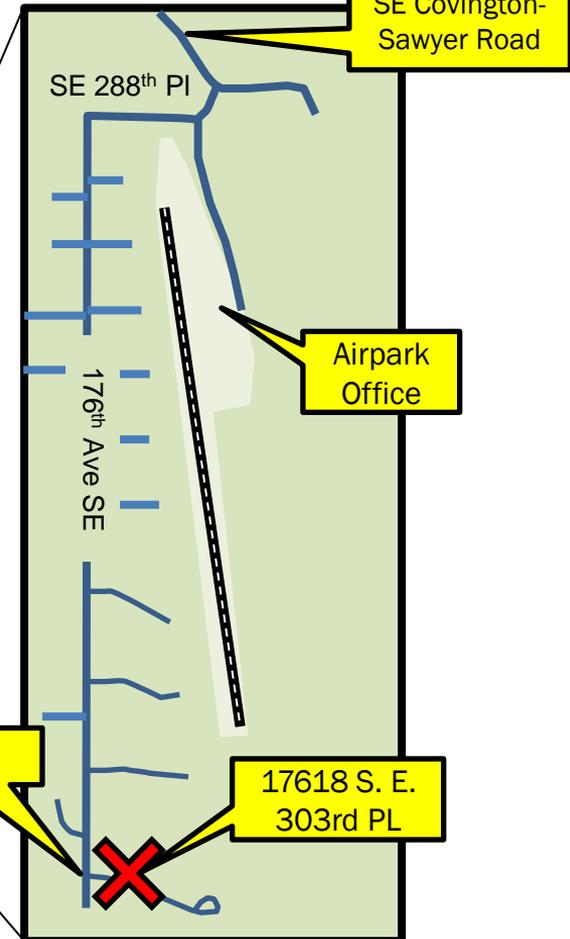
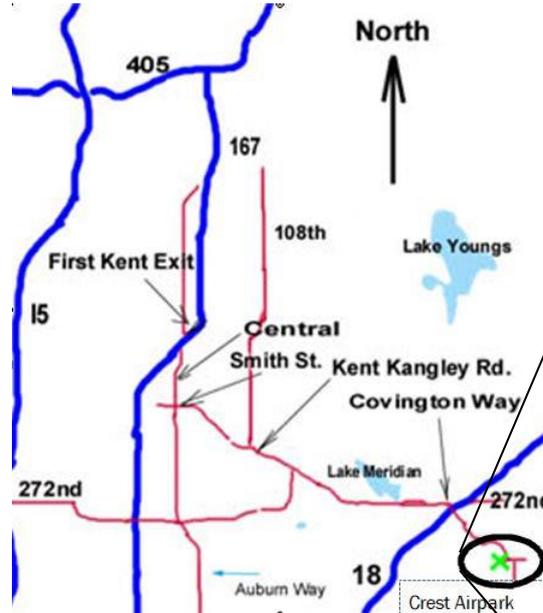
What did we talk about Last Month?

How Alternators work

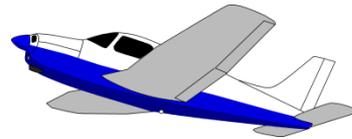
“Hot Spots” at Paine Field



Getting Here



Park along side of road at 303rd, meeting is at the second house. Walk down the driveway between the garage and the house, and go downhill to the hangar



Chapter 441 is fortunate to have two tech counselors. Feel free to call Brian (253)-369-0489 , or Dave Nason any time. You don't need to wait for some significant milestone in your project.

Remember, this is not an "inspection". The shop doesn't need to be cleaned for a visit. All are quite used to looking at pieces, parts, and assorted bits, and will be happy to answer questions, offer advice, and generally talk about projects, building, flying, or whatever.



Out and About

My hangar is at the north end of Auburn airport, which means I generally view other areas of the airport just as I taxi by.

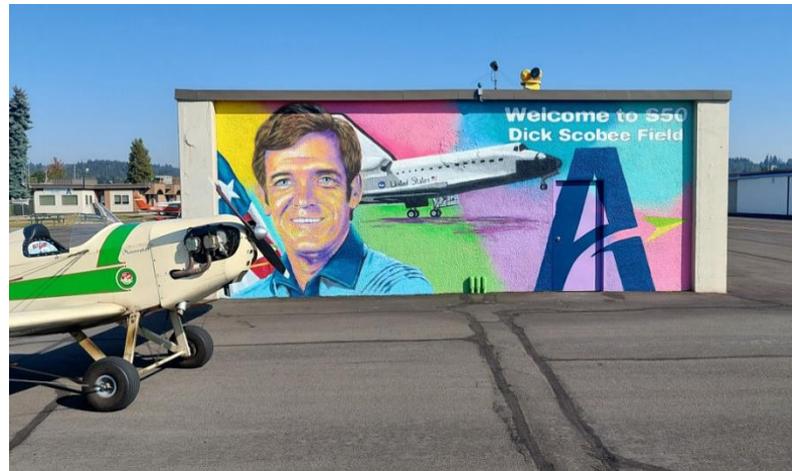
Spotted the mural a couple of weeks back. Auburn Airport (S50) is named after Challenger astronaut Dick Scobee. The airport management has worked with a local artist to paint a mural of Scobee on the end of one of the hangars.

Another day, I spotted what looked to be a disassembled P-51 behind the Normandy Aviation hangar.

Approaching it, I started noticing anomalous features. Like the fact that the fuselage was a shell, and I could see the cockpit area from the tail opening. The shell wasn't completely empty; it featured rusty steel square tubing running all through it.

Wasn't an airplane. It was a full-scale non-flying model of a P-51, probably made from fiberglass. Wings were on the trailer next to it.

Years ago, there was an store just north of Seattle's Westlake mall with a full-scale P-51 model hanging from the ceiling. This is that P-51. It's been donated to the Rainier Squadron of the Commemorative Air Force, who plan to strip and repaint it in honor of a WWII pilot from the Northwest.



EAA B-17 rides through Hurricane Ian

EAA's B-17 *Aluminum Overcast*, which has been based in Punta Gorda, Florida, for the past year while awaiting repairs to its wing structure, apparently sustained only minor damage as Hurricane Ian came ashore in that area of the Gulf Coast earlier this week and caused tremendous damage in that region.

The hangar where the B-17 was parked did suffer substantial damage, but early inspection shows only one piece of structure struck the B-17's tail section, which is repairable. The fuselage was not damaged from initial inspection done on-site, although there is a great deal of debris in the hangar that must be cleaned up.

Aluminum Overcast has been in Punta Gorda since March 2021, when a routine pre-flight inspection revealed a crack emanating from the left sheer web, which is a secondary support structure for the wing. The proper parts for the vintage World War II bomber are currently being specially manufactured for the repairs.



Aluminum Overcast in Seattle, May 2010

Top Gun: Maverick Aerial Coordinator Kevin LaRosa II Headlines Wright Brothers Memorial Banquet



Kevin LaRosa II, an aerial coordinator on more than 100 motion picture and commercial productions including *Top Gun: Maverick*, is this year's featured guest at EAA's annual Wright Brothers Memorial Banquet on December 9 at the EAA Aviation Museum. Tickets for the event are currently available at the EAA Aviation Museum website. Attendance is limited to 350.



For Further Information, check out the [AOPA web pages](#).

Jeppesen, who provides electronic charts and NOTAM support for the aviation industry, was hit by a cyber attack early this month. According to their web page, “On November 2, Jeppesen experienced a cyber incident affecting certain products and services. We immediately initiated an incident response process and are working to reactivate individual products to our hosted production environment. We continue to work to restore full functionality to all of our products and services.”

This affected private, commercial, and military flight-planning systems. Per the company, “Jeppesen publishes data in accordance with the AIRAC cycle occurring every 28 days. The current cycle 2211 started 3 November and remains effective until the following cycle 2212 starting 1 DEC. Because Jeppesen publishes all required effective information for each cycle in advance of the AIRAC date (28 October revision for the 2211 AIRAC cycle), the 2211 cycle data is current and effective until 1 December with the start of cycle 2212.

“Jeppesen sends interim updates to Terminal Charts delivered every two weeks during each 28-day cycle. These interim cycles are “effective upon receipt” and intended to be installed at the earliest possible convenience.”

Boeing, who owns Jeppesen, said, “Our subsidiary, Jeppesen, experienced a cyber incident affecting certain flight planning products and services. There has been some flight planning disruption, but at this time we have no reason to believe that this incident poses a threat to aircraft or flight safety. We are in communication with customers and regulatory authorities, and working to restore full service as soon as possible.”

Boeing declined to describe the nature of the attack against the computer systems of its subsidiaries, its scope, or when full restoration was expected. Unconfirmed reports on an aviation forum stated it was due to a ransomware attack.

Pilots are encouraged to exercise caution to avoid use of out-of-date navigation products for instrument flight.

News Flash
Reports of a B-17 midair in Texas during an Air Show



Ron Wanttaja Removes the Last Kneecapper

I bought my Fly Baby in 1996. It proved to be a good, solid airplane (albeit a bit heavy... 150 pounds more than stock). The biggest problem was that the previous owner, and likely the builder, had been much shorter than I was. After flying it home, the first steps were to install a seat giving me more legroom and adding extenders on the rudder cables to effectively move the pedals further forward for more leg room.

One problem I couldn't fix completely were what I called the "Kneecappers": The carb heat control and the cockpit heat control were installed on pieces of ¼" plywood that stuck into the leg space. The plane had lovely pads installed to rest one's knees while flying, but my long legs put my knees directly against the edges of the kneecappers. Wasn't very comfortable.

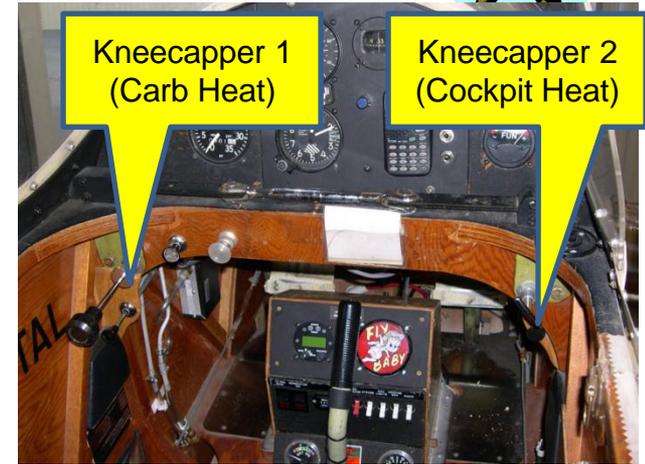
About ten years after I bought the plane, I moved the cockpit heat control and eliminated that kneecapper. That was one side. But I couldn't figure out where I could move the carb heat knob...the cockpit heat control had gone under the front structure and was actually out of sight. Awkward for the carb heat, which I use much more often.

I was flying this summer, climbing out after a touch-and-go, when something brushed my left knee. I looked down and the plywood kneecapper had broken right off...the carb heat knob was just dangling free.

So now I *had* to fix it. Since this happened just three days prior to this year's Condition Inspection, I was motivated.

Where to put it? Decided to remove the mixture control and install the carb heat control in that location. I've got a Stromberg carb on my airplane, and the mixture control is essentially ornamental. It doesn't have enough effect to kill the engine on the ground (I use the mag switch) and I spend most of my time below 5,000 feet. The mixture control was actually an extra-cost option when new aircraft were sold with Stromberg carbs!

Fortunately, the length of the cables were the same, so the carb heat control didn't have to be shortened. As part of the condition inspection, I had my A&P wire the mixture to full rich. Could have done it myself, but felt better having a professional do it.



Hi fellow EAA members,

I am currently selling my unfinished S-18 project. If you or someone you know who is interested, please contact me at:

Norm Pauk: Tel: 253-561-4801

Email: Npauk@msn.com





This Month





Last Month: Junkers JU-287

The Junkers Ju-287 was an aerodynamic testbed built in Nazi Germany to develop the technology required for a multi-engine jet bomber. It was powered by four Junkers Jumo 004 engines, featured a novel forward-swept wing, and apart from the wing was assembled largely from components scavenged from other aircraft. It was one of the very few jet propelled aircraft ever built with fixed landing gear.

Development:

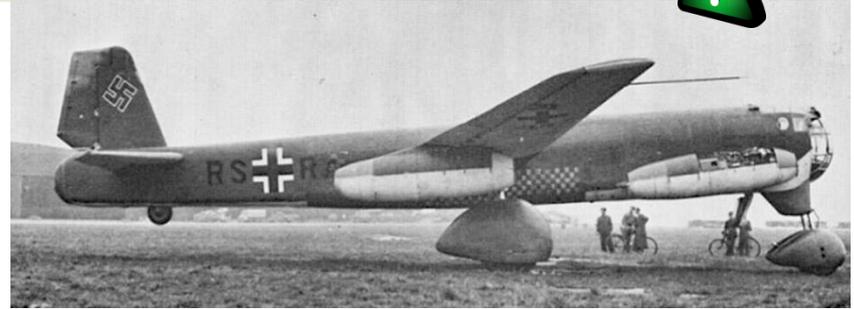
The JU-287 was intended to provide the Luftwaffe with a bomber that could avoid interception by outrunning enemy fighters. The swept-forward wing was suggested by the project's head designer Dr. Hans Wocke as a way of providing extra lift at low airspeeds - necessary because of the poor responsiveness of early turbojets at the vulnerable times of takeoff and landing. A further structural advantage of the forward-swept wing was that it would allow for a single massive weapons bay in the best location, the centre of gravity of the plane, with the main wing spar passing behind the bomb bay. in)

To read More:

Wikipedia: https://en.wikipedia.org/wiki/Junkers_Ju_287

YouTube https://www.youtube.com/watch?v=I0tSalk-O_w
<https://www.youtube.com/watch?v=mOCUTyoi9eo>

Airpages: <https://airpages.ru/eng/ru/ju287.shtml>



General characteristics

Crew: two

Length: 18.30 m (60 ft 0 in) Wingspan: 20.11 m (66 ft 0 in)

Height: 4.70 m (15 ft 5 in)

Wing area: 61 m² (660 sq ft)

Empty weight: 12,500 kg (27,558 lb) Gross weight: 20,000 kg (44,092 lb)

Powerplant: 4 × Junkers Jumo 004B-1 turbojet engines, 8.825 kN (1,984 lbf) thrust each

Performance

Maximum speed: 558 km/h (347 mph, 302 kn) at 6,000 m (19,685 ft)

Cruise speed: 512 km/h (318 mph, 276 kn) at 7,000 m (22,966 ft)

Range: 1,570 km (980 mi, 850 nmi)

Service ceiling: 9,400 m (30,800 ft)

Rate of climb: 9.67 m/s (1,904 ft/min)

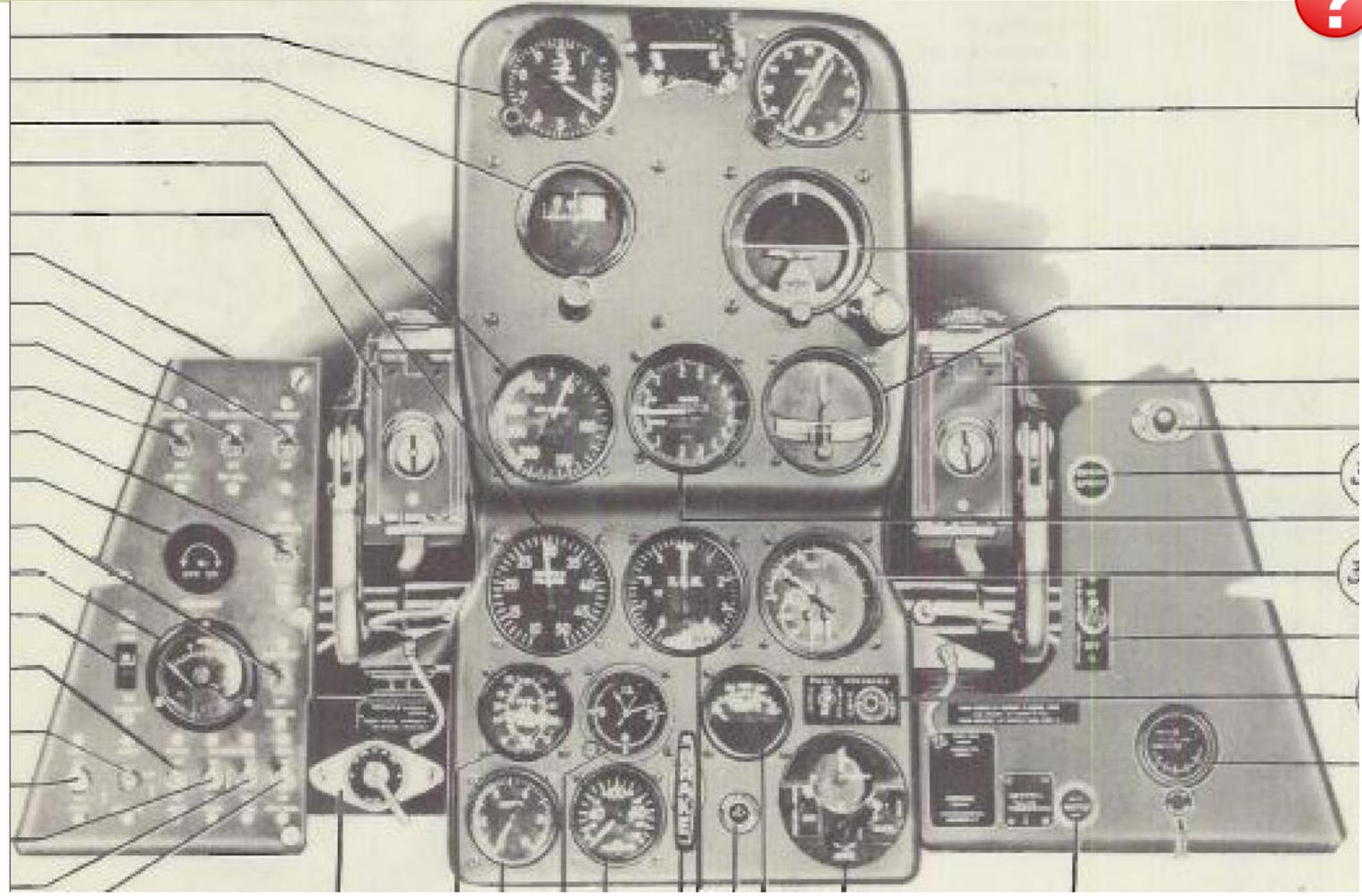
JU-287 Trivia: During WWII, America used letter designators for later models (P-51B, P-51D, etc.) while the RAF used "Mark". The Luftwaffe instead incremented the number in front of the aircraft designation: The upgraded ME-110 became the ME-210, the upgraded JU-88 became the JU-188, etc.

But the JU-87 was the famous "Stuka" dive bomber. The Luftwaffe used the "JU-287" designation for this aircraft to try to hide its nature from Allied intelligence! It had no relation to the Stuka.

- Ron W.



This Month



Guess that Panel– Berling Schert



Last Month: Beagle B.206

The Beagle B.206 “Basset” was a 1960s British seven-seat twin-piston engine liaison and communication aircraft built by Beagle Aircraft Limited

To Read More:

Wikipedia: https://en.wikipedia.org/wiki/Beagle_B.206

Plane and Pilot: <https://www.planeandpilotmag.com/article/beagle-b206-basset/>

Youtube: <https://www.youtube.com/watch?v=7GZeBVIdeDE>

- | | | |
|--------------------------------------|-------------------------------------|---|
| 1. Generator field switch (left) | 27. Heater temp. control switch | 53. Circuit breaker panel |
| 2. Booster pump switch (left) | 28. Windscreen demister control | 54. Outside Air Temperature gauge |
| 3. Ignition switches (left) | 29. Pilot's footwarmer control | 55. Alternative static source selector cock |
| 4. Starter warning light (left) | 30. Cabin heat control | 56. Electrical system transfer switch |
| 5. Starter switch (left) | 31. Oil temperature gauges | 57. Magnesyn compass indicator |
| 6. Switch bar | 32. Dimmer switch (right) | 58. Clock and stop watch |
| 7. Starter switch (right) | 33. Mixture control levers | 59. Door warning light |
| 8. Starter warning light (right) | 34. Propeller control levers | 60. Cabin heater overheat warning light |
| 9. Ignition switches (right) | 35. Throttle control levers | 61. Generator warning light (left) |
| 10. Booster pump switch (right) | 36. Rudder trim control | 62. Volt/ammeter |
| 11. Generator field switch (right) | 37. Aileron trim control | 63. Generator warning light (right) |
| 12. Battery master switches | 38. Flap control lever | 64. 'Press-to-transmit' switch |
| 13. Undercarriage position indicator | 39. Fuel cock controls | 65. Turn and slip indicator |
| 14. E.28. compass | 40. Elevator trim control | 66. Directional gyro |
| 15. Manifold pressure gauges | 41. Engine cooling flap switches | 67. Airspeed indicator |
| 16. R.P.M. indicators | 42. Hand brake | 68. Rate-of-climb indicator |
| 17. Fuel pressure gauges | 43. Rudder bar adjustment control | 69. D.V. panel |
| 18. Cyl. head temp. gauges | 44. Undercarriage selector lever | 70. Artificial horizon |
| 19. Oil pressure gauges | 45. Volt/amm. test switch | 71. Altimeter |
| 20. Cigar lighter | 46. Navigation lights switch | 72. Dimmer switch (left) |
| 21. Vacuum gauge | 47. Anti-collision beacon switch | 73. Flap position indicator |
| 22. Fuel contents gauges | 48. Land/taxi lights switch (right) | 74. Dimmer switch (centre) |
| 23. Vacuum test cock | 49. Land/taxi lights switch (left) | 75. Hydraulic master switch/light |
| 24. Overvoltage protectors | 50. Pilot head heater switch (left) | |
| 25. Heater heat switch | 51. Ice observation light switch | |
| 26. Heater fan switch | 52. Main fuse box | |

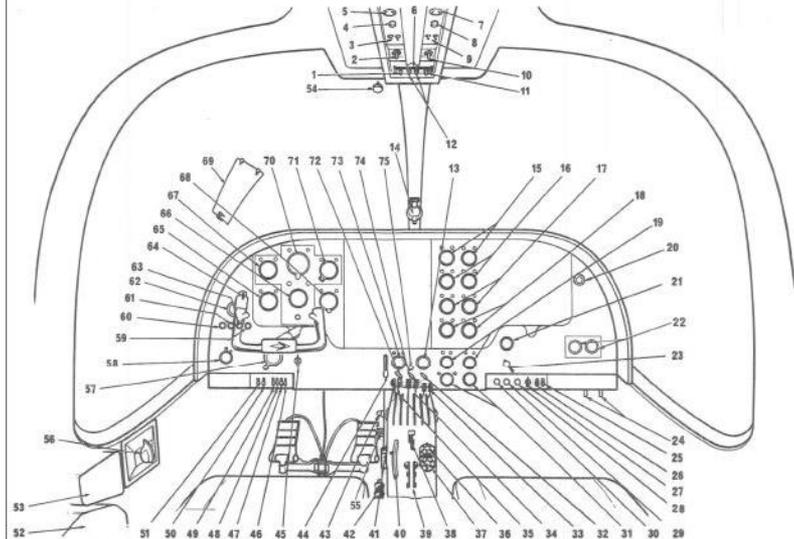


Fig.1 Instrument panels, controls and layout

The animal kingdom is a rich source of aircraft names, from the Sopwith Camel, to the Curtiss Hawk, to the Vickers Vildebeast, right up to the F-16 Falcon.

Not a lot of frogs on the list, though.

The Polliwagen (named for its pollywog-like shape and its use of a Volkswagen engine) scratched a lot of homebuilder's itches in the '70s and '80s. Composites were in; Rutan Variezes and Long-EZs were being produced in shops all across the world, and the Glasair was in an embryo state southeast of Seattle.

But many of these new airplanes required traditional powerplants. People wanted to use Volkswagen engines, but also desired higher performance.

Joseph Alvarez's Polliwagen promised it, with a design cruise speed of 170 MPH. After several years of developmental work, it was officially introduced at Oshkosh 1980. By the end of that year, over 500 sets of plans had been sold. In the years to come, about 45 Polliwagens were added to the US registry.

But as of January 2021, only two of those 45 Polliwagens are still on the US registry.

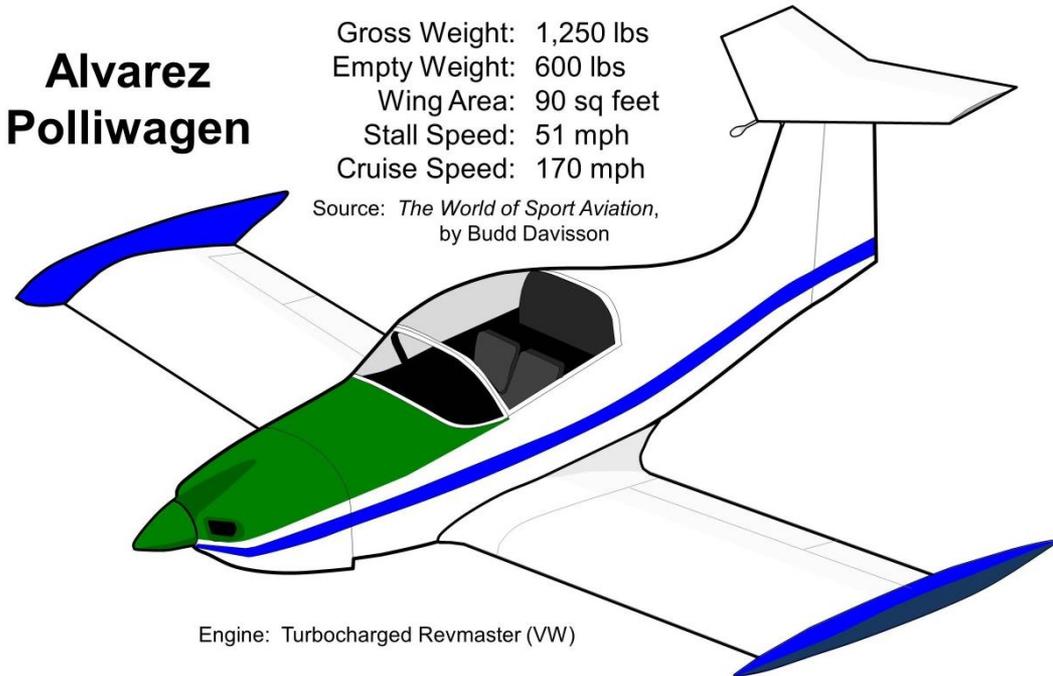
So what happened?

(Continued next page)

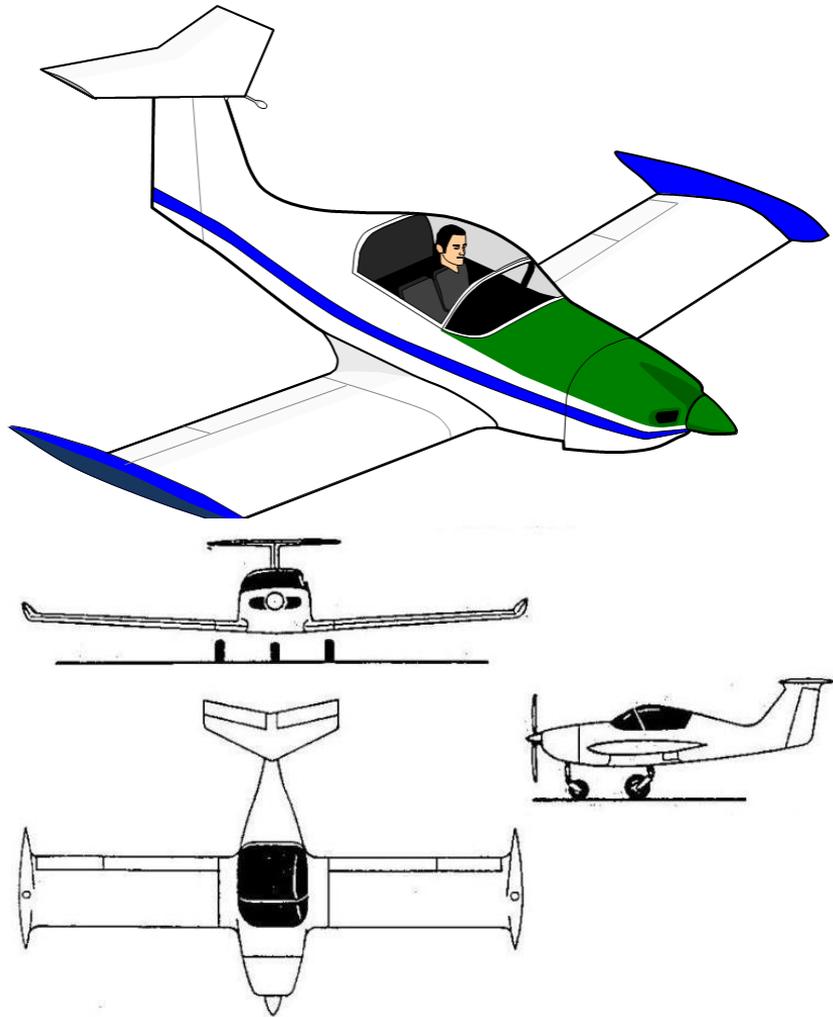
Alvarez Polliwagen

Gross Weight: 1,250 lbs
Empty Weight: 600 lbs
Wing Area: 90 sq feet
Stall Speed: 51 mph
Cruise Speed: 170 mph

Source: *The World of Sport Aviation*,
by Budd Davisson



Engine: Turbocharged Revmaster (VW)



Most pilots looking at the design for the first time have one comment: “That seems awfully short-coupled.” The short length of fuselage aft of the wing can produce some issues with pitch control. This seemed to be an issue with the Polliwagen.

In May of 1995, Mark Hall wrote in the newsgroup `rec.aviation.homebuilt`: “I got a chance to fly in the prototype Polliwagen at Tullahoma in 1980. I have flown in a number of homebuilt aircraft, but this is the only one that I refused to allow any other member of my family fly in... The demo pilot was supposedly an airline pilot with tens of thousands hours experience, yet he seemed to have his hands full with this little monster.”

If you examine online photos of Polliwagens, you’ll find a large number of extended fuselages. Some builders upgraded from the Volkswagen to O-360s, usually accompanied by the fuselage mods.

Even so, the NTSB record shows only six reported Polliwagen accidents. Pitch problems were associated with several. Even more telling, four of the six were on their first or second flight. All were flown by the original builders.

An attractive-looking aircraft, but a careful checkout is suggested.

RV-4 - Idaho: During landing, the airplane bounced, and the pilot added power. The airplane landed on the runway, but the left side of the airplane dropped to the ground. The airplane exited the left side of the runway where it came to rest. The airplane sustained substantial damage to the horizontal stabilizer.

The FAA safety inspector that examined the airplane reported that the weld on the left main landing gear axle support strut had failed with some signs of overload. (4/6/2018)



A note about "On the Wreckord":

The majority of aircraft accidents...homebuilts or no...are due to pilot error. However, "On the Wreckord" prefers to address accidents involving mechanical issues, whether spontaneous or due to builder or maintainer error. It's hoped that familiarity with mechanical issues for a variety of homebuilts might help us earlier detect problems with our own aircraft.

Kolb - Tennessee: The owner had purchased the airplane disassembled and "half restored" from what appeared to be accident damage. He and the accident pilot completed the repairs and assembly of the airplane using a "build manual" and a set of plans. The owner did not have airframe or engine logbooks for the airplane.

The accident pilot was supposed to be performing high-speed taxi testing of the experimental amateur-built airplane prior to the condition inspection; the owner did not know that the pilot intended to take off. After two high-speed taxi tests, the owner heard the pilot apply full power, and the airplane then lifted off the runway. The airplane had a high angle of attack and a steep angle of climb; the tops of each wing were visible on a video. The airplane, turned right above the trees adjacent to the runway, and entered the traffic pattern then leveled, banked left, and dove into the ground. The sound on the video indicated the engine was operating normally through the flight.

A review of the pilot's logbook revealed that he had no training in the accident airplane make and model and that he had not logged any flight experience in the 17 months before the accident. (4/20/2018)



Kitfox - Texas: The pilot indicated that, during the takeoff climb, about 15 ft above the ground, the airplane violently rolled to the right. He applied full aileron and rudder opposite the direction of the roll, but the airplane continued to roll to the right, struck the ground with the right wing, and then impacted a tree.

Postaccident examination of the airplane revealed that three of the four hinges connecting the right flaperon hanger rib were loose. The wooden material of the flaperon was found dry rotted where the hinges connected. The airplane had been flown about 3 hours in the 11 months before the accident. The airplane kit manufacturer had issued a service bulletin in 1991 that identified flaperon hanger rib failures on the model of the accident airplane. The service bulletin recommended the addition of an aluminum reinforcement on each flaperon hanger rib end. The accident airplane did not have the reinforcement installed. (5/2/2018)

