

THE RITE FLYER

MARTIN AIRFIELD

Building an airplane at home

Coming Up ...

Meeting :

Monday , January 11, 7:00 p.m. Online

Program: First Solo Experiences

Board of Directors

January 9, 7:00 pm

Next Meeting:

February 8th, Online

Chapter Website:

chapters.eaa.org/ea604

By Vic Groah

I have liked airplanes since my first ride in a Stinson on my ninth birthday. Four years in the air force as a jet engine mechanic reinforced this liking. During college, there was no money for my car addiction and flying.

Shortly after moving to Tulare, I met a fellow car nut who was also a pilot and flight instructor. We would fly errands for his company and to breakfast at neat places. My friend Ron was at the time 40. In his family, no male had lived over 45. Ron decided I must learn to fly so informal lessons began. If he had a heart attack in the air, he wanted me to be able to fly it in. We flew his nice little Cessna 172 all over California. I was well along with my lessons when Ron did have a heart attack, but not in the plane. He felt it coming so went to the hospital where his mother worked as a RN. His life was saved but my free flying lessons ended.

I made friends in the flying community and was able to get my youngest son free rides. He was hooked worse than I was. When he was established, he announced we were going to build an airplane. I had dreamed of that but had dismissed the idea long before. He had the passion and I had the shop so work began. We have long been interested in early cars so he chose an early airplane, a Pietenpol Air Camper. First made in 1929, these feisty little planes were the first designed to use an automobile engine, a Model A Ford. These were designed to be home built from the first. Bernard Pietenpol would sell plans and parts for you to build your own plane. He offered one day of flight instruction with every plane built if you brought it to his airport. He also sold "factory made" planes. The depression of the thirties and rigorous federal regulations made hard

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Calendar Items to share

Week Days Coffee Club, Martin Field Pilot's Lounge, **Cancelled until further notice**

Fly-outs are sparse due to social distancing and crowd size limitations.



Building an airplane *continued*



going for the fledgling company that still is somewhat in business today with Bernard's grandson running the company.

They stopped building planes in the 1960s but still offer the plans. In the 60s, they introduced a version that used a modified Chevrolet Corvair engine. Most of the planes built before the Corvair used Continental aircraft engines as the Ford A was becoming obsolete. Many of the model A engined Pietenpols are still flying today.

Son Michael and I began serious construction in my home shop about fifteen years ago. We bought the Corvair plans from the Pietenpols and a lot of aircraft grade spruce, high-end glue and a roll of aircraft fabric and went to work. The plans are a bit sketchy but since both of us have had experience in drafting and reading plans, we forged on. We found that there are just less than 1000 pieces in each wing. We cut a lot of wood. Michael is a very precise person. I made the tail section first and when he saw it he said to throw it away, it was not accurate enough. I learned right then if you are building an airplane, you must have accurate jigs for each section of the plane. From then on we did. Four years later, we had an airplane.

Michael just finished a 500 plus mile flight a couple of weeks before this writing. We burn about 6 gallons per hour at 80 to 100 miles per hour cruise. There is nothing like flying in an open cockpit plane, especially if you built it yourself.

One of the things about the Pietenpol is it is glued together, no screws few bolts, just 1/16, 1/8 and 1/4 inch aircraft grade plywood gussets at the joints. It is imperative that the joinery be of high quality. It would be very inconvenient for the thing to fall apart at 5000 ft.

We both learned a lot about a lot more than just building a plane. It is tough for a father and son to work together. We both recognized each had superior skills. He

was much better at some things and I somewhat better at others. We gained a great deal of respect for each other with this project. There were discussions but no arguments. We are now building a 1932 Ford together.

Word was that the FAA inspector was super tough. At the appointed time, he came to our hanger with a thick regulation book and asked to see our build book, the documentation of the assembly of the plane. Our book is over an inch thick and has intimate detail of the construction of the plane. After four hours of pointed questions and detailed scrutiny, he said this is good work. You officially have an airplane.

The first flight began at 6 AM with Michael as test pilot. He is much more qualified than I am for sure. Preflight, run-up, take off and climb to 5000 ft. for a one-hour test flight with a textbook perfect landing. We indeed had an airplane.

After the mandated 25 hours of test flights, our first showing was a 50-mile flight to an air show. We won best in class and best of show over some high dollar planes. We were amazed and felt vindicated for all the detail we insisted on for our ride. We have won multiple awards since.

Right after this event the crankshaft broke at 2000 feet over Tulare. Michael, the good pilot that he is nursed the sick plane for a straight in dead stick landing at the Tulare Airport.

We added a main bearing to the engine to carry the load of the prop. This entailed adding a main journal to the front of a new crank and replacing the timing cover with a new billet one with a big block Ford main insert and oil passage. There should be no more broken cranks. We have about 300 hour's flight time at this writing.

VG



EAA 604 Minutes, December 14, 2020

The meeting was called to order by President Bill Herrington at 7:04 p.m. using Zoom Meetings due to Covid-19 and the Stay Home Stay Safe order from our Governor. Don Gibbard took attendance and we had 12 members at the online meeting plus 2 guests, Bill Boyle and Jim Smith. Bill has built an RV-12 and he gave us a brief introduction of himself.

The Minutes of the November meeting were discussed. Don Gibbard had to confess that he missed page 3 of his notes when writing the minutes. Page 3 contained one item of new business concerning ALW. The minutes were received as printed with the additional notes.

Board Meeting Report: President Bill gave a report on the Board meeting. He introduced the topic of the Young Eagle workshop which will include an introduction, airplane aerodynamics, weather basics and a couple of others that I missed. Travis and Sue have reviewed all modules and selected the 5 likely topics. Sue stressed the importance of Chapter participation. The event will be one day on January 30th and will take about 7 hours to complete. Ray was concerned about the one day event and also mentioned he may have a student who would be interested. Norm offered to help.

Old Business: Projects—Troy Wright gave an update on his project. He has been working on the gear leg extensions and has fitted the fairings. Next is to paint the interior and prep for wiring.

Don Bais said the Kit Fox for his son(-in-law?) is complete and gone to Idaho.

Matt Harris says the Legal Eagle Ultralight ribs are built and building spars. He is working inside for the winter.

New Business: The Board asked and then appointed Travis Charlson as the Chapter Flight Advisor. His application is complete and will be sent to EAA for approval. President Bill announced that he has certificates of appreciation for Club Leadership positions. He announced who were receiving certificates and will distribute them at a future time.

DART finished the COVID safety masks distribution in the Northwest. Bill reported that they will be receiving 300K masks for the Indian Reservations in WA, OR, ID, and CA.

There was no other business so we adjourned for our discussion topic on Holiday Travel.

Respectfully submitted,
Don Gibbard, Secretary

Chapter dues for 2021 are being accepted starting now (thanks to all those who've already responded). Please mail a check (\$30 individual, \$45 family membership) made out to EAA 604 to:

Ron Urban
840 Clay St.
Walla Walla, WA 99362

How To Correct A Late Or Rapid Flare During Landing

By [Swayne Martin](http://www.boldmethod.com) (www.boldmethod.com)

You just crossed the runway threshold, and the runway's width suddenly fills your windscreen faster than you anticipated. You quickly pull back on the control yoke, feel the airplane stall, and slam onto the runway...

When Does A Late/Rapid Flare Happen?

Your natural reaction to an unanticipated low altitude above the runway is to apply excessive back pressure to prevent touching down early or landing hard.

So why do late flares happen? Often times it's the result of not focusing your eyes far enough down the runway during the roundout and flare, but it can also be caused by the illusion of a narrower-than-usual runway.

If you're surprised by a late flare, one of three situations typically happens: a balloon, a hard landing, or a nosewheel-first landing. Let's look at each one in detail...

Late Flare



Ballooning Without Touchdown

If you pull back on the yoke abruptly, you might escape the hard touchdown you were trying to avoid. But you'll likely put yourself into a balloon as a result.

During a balloon, as the airplane begins climbing away from the runway, your airspeed continues to dissipate. This puts you close to stall speed, as you continue increasing your distance from the pavement.

So what should you do to fix it? If the balloon is small, use a slight increase in power to reduce your sink rate, and touch down on the runway. But if the balloon is large, add full power and go around. Correcting a large balloon is difficult, and it's safer to simply go around and try again.

Hard Landing

If you apply back pressure too rapidly in a late flare, your angle-of-attack can quickly exceed the critical angle-of-attack. The result? A stall and

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Chapter Meeting Online

Our January Chapter meeting will be held as an online Zoom meeting on Monday January 11th starting at 7:00 p.m. You will receive an invitation to join the meeting from Ron Urban. There will be a link to the online meeting you can use with a computer, smartphone, tablet with video capabilities. If you do not have a camera on your computer you can still join online but you will need a microphone in order to join the conversation.

The second option is to dial in with any phone. There is a toll free number with the meeting ID and password in the line. If you can launch the call from your email, the link will in put all the necessary information. If you dial it directly from a phone you will need to follow the prompts for meeting ID and meeting Password.

Keep your email invitation handy as you login since it contains all the information you need to succeed.

If you have not used Zoom before, the link will prompt you to download the Zoom App. Follow the install directions.

Pure Michigan Sunset



The view: Just after landing at Oakland Pontiac International Airport (PTK)

The pilot: Tim Crawford

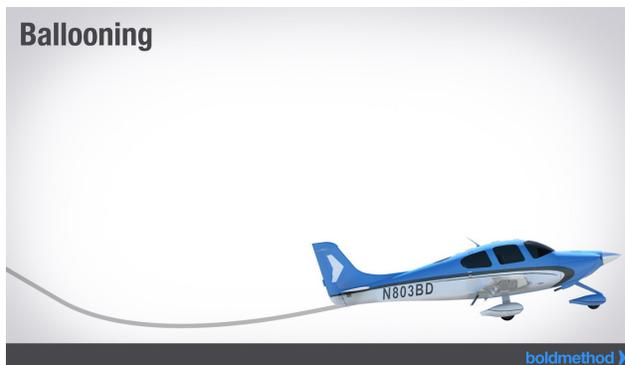
The aircraft: 2004 Diamond DA40 (N830BS)

The mission: Father's Day sunset flight mixed with some pattern work

The memory: Pure Michigan sunset views on a special evening flight.

Late Or Rapid Flare *cont.*

Ballooning



hard landing.

So what should you do in this situation? There isn't much time to react, however, adding power is the key. Like the balloon, if you have enough time, adding a small amount of power will help arrest your descent rate. However, if you're rapidly approaching the runway, adding full power and going around is, again, the best option.

Keep in mind that you might touch down on the runway during your go-around. Keep your power in, enter the pattern, and try again.

Nosewheel-First Impact And Porpoise

Let's say you don't flare at all. If you don't do anything, or your reaction is extremely late, you will likely touch down on the nosewheel first. If you do bounce back into the air (which is likely), don't force the plane back down to the runway. Execute an immediate go-around to prevent proposing and a potential prop strike or nosewheel collapse.

Porpoise Landing - YouTube Timeline



Should You Recover Or Go-Around?

The key to recovery from a late/rapid flare is the swift application of power.

While there are many cases where a slight increase in power can slow your descent rate for a smoother landing, in most cases, an immediate go-around is a much safer alternative.