

Thomas P. Turner's Mastery of Flight®

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FLYING LESSONS for March 26, 2026

FLYING LESSONS uses recent mishap reports to consider what *might* have contributed to accidents, so you can make better decisions if you face similar circumstances. In most cases design characteristics of a specific airplane have little direct bearing on the possible causes of aircraft accidents—but knowing how your airplane's systems respond can make the difference in your success as the scenario unfolds. So apply these FLYING LESSONS to the specific airplane you fly. Verify all technical information before applying it to your aircraft or operation, with manufacturers' data and recommendations taking precedence. **You are pilot in command and are ultimately responsible for the decisions you make.**

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This week's LESSONS

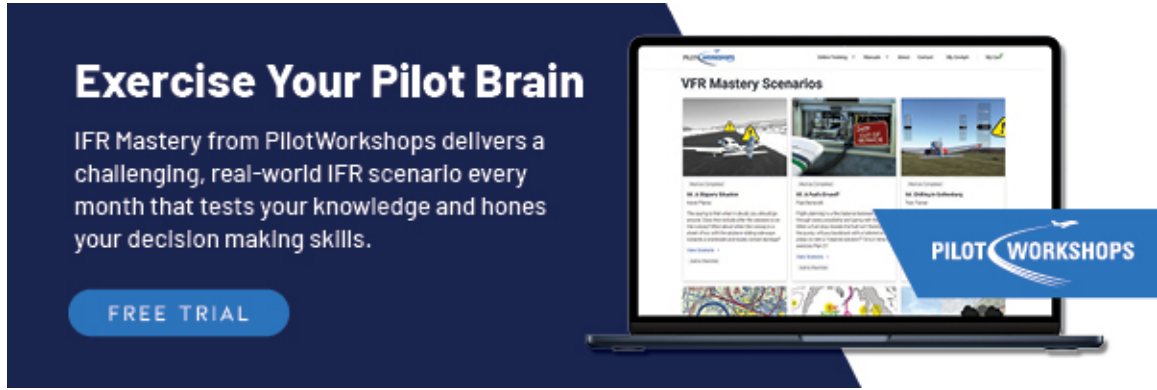


Thanks to a Christmas gift card from my son Alan I acquired an excellent-condition, first edition account of the flight of the *Southern Cross*, the first flight across the Pacific Ocean. When best to read this 98-year-old journal, including logbook entries from the actual two-stop flight, than while flying across the Pacific myself on my ninth trip to teach my friends in the [Australian Beechcraft® Society](#)? I may devote a future issue to how far we've come in that 98 years, and some surprising (to me) things I learned from this account and the juxtaposition of the seatback moving-map display of the Airbus A380 on what takes in 2026 about 17 hours nonstop from Dallas to Sydney.

See <https://abs.org.au>

But now, let's catch up on the copious reader Debriefs about our ongoing discussion of engine failures and the range of pilot response.

Questions? Comments? Supportable opinions? Let us know at mastery.flight.training@cox.net.



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Debrief

Readers write about recent *LESSONS*:

Reader Michael Long asks *FLYING LESSONS* readers if they have more data:

I am a frequent reader of your *FLYING LESSONS* and you have published me at least once in the past. Thank you for your efforts to increase safety for all aviators!

I have read about and practiced changing propeller pitch to low speed (out) on HP ASEL [high performance airplanes, single-engine land] aircraft to extend the glide. **Have you seen any research or POH entries on throttle plate position to extend the glide?** I suspect that placing the throttle open (in) will lower pumping losses on a failed but still spinning engine which should increase glide distance. I have not found any aviation references to support or refute this technique. I do not know of a safe way to practice this technique in the air.

I do know a non-running automotive SI engine with a manual transmission left in gear coasts farther with the gas pedal down. At least one downside to having the throttle full in could be disruptive to the landing flare if the mags and fuel mixture were left on and the engine out was caused by unported pickup tubes in the fuel tanks. The change in pitch from the landing flare could cause fuel to be sent to the full in throttle engine once again causing it to suddenly supply power. Most checklists should cover fuel mixture out, fuel shut off and mags off, but during high stress moments it can be easy to not have enough time or miss those items.

If you or your other readers have any insight on whether opening the throttle could extend the glide, it would be appreciated.

I don't have any data specific to this, Michael. Readers, if you do please email me and I'll pass it along to Michael and us all. I expect for many people the throttle will be fully open in an engine-out glide—the instinct to advance throttle in response to loss of power is strong, although if power loss occurs at reduced throttle, such as in the traffic pattern, it's possible the pilot may not push the throttle in.

As an aside, pilots who use lean of peak (LOP) exhaust gas temperature (EGT) technique may make matters worse if they push the throttle forward instinctively upon detecting reduced thrust. Unless the mixture control is advanced first, moving the throttle forward makes the fuel/air mixture leaner still, reducing power out (if any is available) even more. LOP pilots must drill until their **instinctive response** is to **make all power applications**, including takeoff, go-around/missed approach, enroute power advancement, stall recovery and in response to power loss, in this order: **mixture(s), propeller(s), then throttle(s)**.

Thank you, Michael. We'll see if any readers can quantify your assumptions.

Frequent Debriefers Mark Sletten addresses [last week's LESSONS](#):

Another great *FLYING LESSONS*. I often consider what I would do if my forward view were obscured by engine oil. One thing I would definitely do is get out my **EFB** (I use ForeFlight) and turn on the **Synthetic Vision** option. I've flown approaches under the hood using this feature (with a safety pilot of course) down to within 50 feet of the runway. Obviously, I don't recommend pilots use Synthetic Vision as a way to get around minimum flight visibility requirements for instrument approaches, but **it could make a difference in an emergency**.

Excellent advice, Mark. I've done this a couple of times and also with some of my more advanced and regular customers as part of a Flight Review. Thank you.

See <https://thomaspturner.com/flying-lessons-weekly/flying-lessons-for-march-19-2026/>

High-end piston twin instructor Dave Dewhirst adds:

This is a follow-up to the discussion of **stopping the prop to increase the glide ratio**. Years ago, we made some flights for AOPA photographer Mike Fizer to get some airborne photos with the prop stopped. We learned some things. In a low powered airplane like a Cessna 172, it is fairly easy to stop the prop. Just slow the airplane and hold it just above a stall speed. The prop will eventually stop. In a high performance airplane that is difficult because the airspeed is higher. It appeared to us that with the engine continuing to rotate, there may be enough remaining oil pressure to keep the prop in a high pitch setting until rotation stops. It appeared that with the prop stuck in a low pitch setting, stopping the prop may not be possible. It appeared that increasing lift and drag by lowering the flaps might produce an airspeed low enough for the prop to stop.

As I've written many times, a controllable pitch propeller is almost certainly going to continue spinning unless something mechanical happens to make it stop. You *might* be able to slow the airplane enough to make the propeller stop (you may have to stall the airplane to do so), and using my experience with inflight engine shutdowns in piston twins during training, as soon as you lower the pitch to return to Best Glide speed the air load may cause the propeller to resume spinning. The mention I made last week of such a propeller stopping in a glide was only if the engine seizes and the propeller will no longer rotate at any speed. About the last thing I'd want to do during an engine-out glide is to reduce speed, increasing drag and reducing glide performance, and intentionally stalling the airplane, rather than maintaining Best Glide speed until time to transition to Landing Without Power speed (or whatever your type's handbook might call it) for an off-airport or, if you're very lucky, a within-range airport or prepared landing surface. Thank you as always, Dave.

Reader Ed Stack continues:

Thanks for another excellent week's reading! One thing that I've done in ForeFlight (under Aircraft Menu, Glide Performance) is to reduce the best glide ratio below the number that [Beech, manufacturer of Ed's aircraft] publishes for my airplane. I reduced it to 9.0: 1 which is about a 15% reduction from what the manufacturer says. I did this to be a bit conservative for a few reasons.

First, it's highly unlikely when a problem occurs that it won't take me some time to overcome startle, troubleshooting, and then get the aircraft into the best glide configuration.

Next, my pilot technique may not be as good as the test pilots that maintained perfect glide speed during aircraft certification.

Finally, while I'm flying, I'm highly confident that I can make it safely to somewhere within the green arc because this added safety margin. If I end up doing better than my 9.0 glide ratio, then I have more options.

Reader Justin Graff takes it further. I've edited out small parts of very type-specific information and used the remainder unchanged:

My N35 Bonanza had a loss of oil pressure engine failure in 2004 with my wife and 2 kids aboard. We were at 3700 ft AGL and 7 miles from the nearest airport. **Oil on the windshield and smoke in the cabin.** Prop uncontrollable as expected.

It went well with a gear up landing into a muddy corn field in Southern M[innesota] rather than trying to stretch out the glide or running into power lines or vehicles on a two lane highway. No injuries. We had to wake my 2-year-old up to get her out of the car seat.

As you know from the reports you've shared over the years, **engine failures are a significant percentage of accidents and fatalities.**

As a pilot that is never going to allow myself to get anywhere close to running out of fuel, engine failure becomes the most likely reason to need to use a glide range ring. Much of the time in large bore Continental engines, that engine failure is going to result in loss of oil pressure and inability to control the prop and obtain the glide ratio in the POH. For that reason, **I have set my glide range ring's setting at [less than the airplane's published glide ratio] and recommend that others do the same.** The difference in glide range is considerable and allows the pilot to consider making changes to their route to reduce risk.

If one has control of the prop, one could try to estimate visually double the glide range, of a bit less, but I think it is better to **plan for the worst case scenario** to avoid trying to drag out the glide and set oneself up for a stall/spin.

When glide range rings were first added to Garmin Pilot and ForeFlight, I asked them to consider showing a best- and worst-case glide range ring for aircraft with controllable pitch props.

I use Garmin Pilot in flight. In Garmin Pilot one sets up the aircraft glide ratio in settings/aircraft/glide ratio with the book value. **I then set a "glide range buffer" of 40%** (effectively a glide ratio of 6:1 instead of the book 10:1) by tapping the map options button at the bottom left, then "Ownship/Route" then glide range buffer.

In ForeFlight there doesn't appear to be an option to display a buffer, so I just set the best glide ratio to 6:1 in ForeFlight's aircraft settings.

Excellent advice, Justin. I've written many times before that I set my EFB glide ring to 9:1 rather than the "book" 10.1:1 glide ratio to account for increased descent at Best Glide during the time between when I detect power loss through the time I establish glide and (if control and time permit) I attempt to restart the engine—all time before I would "pull the prop" and attain (I hope) the published maximum glide performance.

That said, I've just reset my ForeFlight glide performance to 8:1 and may do some simulations in flight to see if that is more realistic. If not I'll change it to 6:1 as you suggest. I do this for several reasons:

1. For the worst-case scenario of not being able to reduce propeller speed, as you suggest;
2. To account for the fact that even a shallow-bank, 1G turn during an engine-out glide at Best Glide speed increases the gliding rate of descent by 300 feet per minute or more in the airplanes in which I teach. The glide ring is inaccurate for anything other than gliding straight ahead, not accounting for any maneuvering you may need to do to align with a suitable off-airport field or (if luck abounds) an airport; and
3. Garmin and ForeFlight glide rings illustrate the place when the airplane will reach the ground—the point of impact. An airport on the very edge of your glide ring does not give you any altitude to maneuver before reaching the surface.

An Australian-based program, [AvPlan EFB](#) (by friend and *FLYING LESSONS* reader Bevan Anderson, who I saw this week in rural New South Wales) sets its glide ring at a point the aircraft will be 500 feet above terrain, providing some margin for last-minute alignment with the chosen

landing target. Even so, its users might consider adding a greater margin by customizing a more conservative glide ratio in the aircraft settings. Thank you, Ed and Justin.

We'll have more *LESSONS* (including that increasingly elusive Cirrus request) and your Debrief insights next week.

More to say? Let us learn from you, at mastery.flight.training@cox.net.



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