VMC Club Meeting

San Luis Obispo

Spetember 17, 2026

Notes are at

SLOPilots.org/VMC

Sponsored By

EAA VMC CLUB

ACI JET™

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SLO PILOTS

NINETY-NINES WOMEN PILOTS

Facilitator

John Scarry AGI/IGI
President EAA 170
Pilot since 2000, Instrument rating 2019
1,100 hours all but about 5 minutes VFR
82 Airports, 3/4 in California

No accidents or close calls

A couple of flat spots on tires from bad landings.
A few hangar rash incidents.

I want to keep it that way.

Meeting Format

- Meeting is intended to last approximately 1 hour
- This is not an instructional event, it is a forum to foster open discussion
- There are no right and wrong answers
- There may be multiple conflicting right answers
  Some answers are definitely wrong
- If there were no wrong answers people like Juan Brown, Hoover, and Air Safety Institute wouldn't have YouTube channels

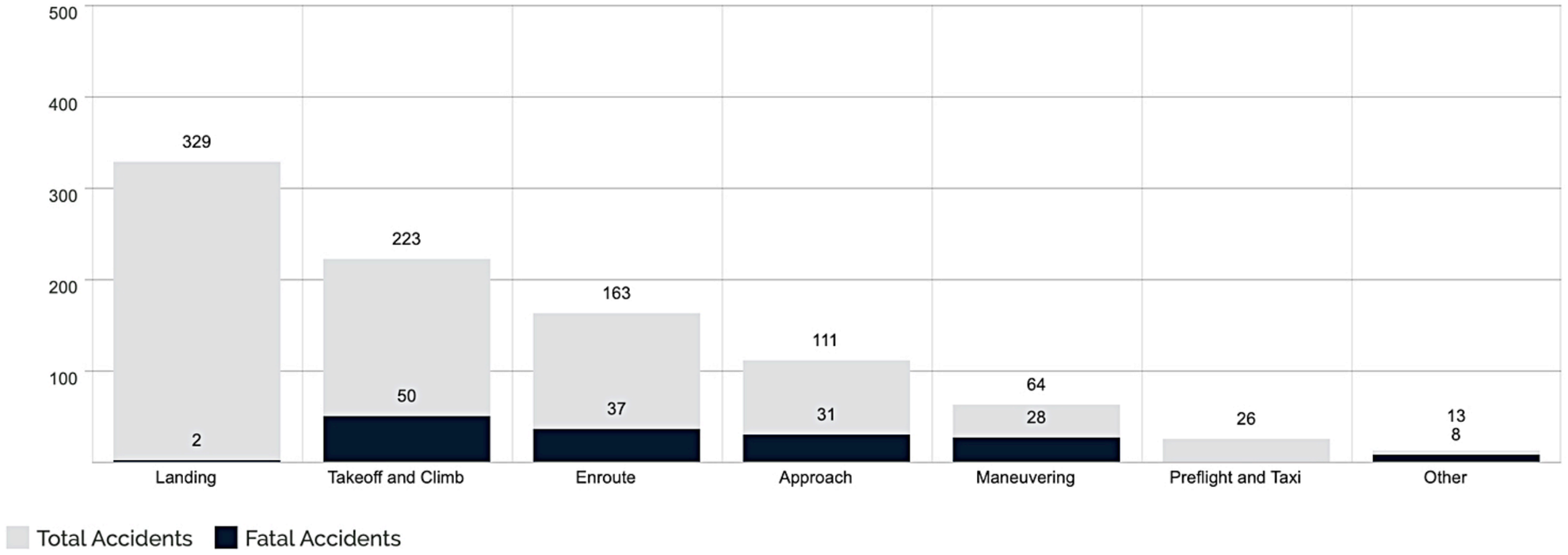
Objective

- Discuss accidents around the pattern and develop a plan for **your** Flight Review
- Determine adequate fuel reserves by flying to your alternate
- Practice go-arounds, slips(?), rejected takeoffs
- Determine **your** crosswind limits
- Practice flight into fog on takeoff and enroute
- Simulate an engine failure and return to the airport (at altitude)

Major Types of Accidents

Figure 1.11: Major types of accidents

2023 Non-commercial fixed-wing



AOPA McFadden Report

Fuel Exhaustion

Fortunately, fuel exhaustion events are rare among our cohorts.

On July 25, 2002, about 2030 Pacific daylight time, a Cessna 172P, lost engine power and made a forced landing on a road near Creston.

Prior to takeoff from San Diego to Paso Robles, he visually checked the fuel level by looking inside the tanks. He estimated that he had about 5 1/2 hours of fuel on board the airplane. He planned his cross-country to be about a 3-hour trip. About an hour before the engine quit he recalled the fuel gauges in the cockpit showing 1/2 tank of fuel on the right side, and a little under 1/2 tank of fuel on the left side. The pilot thought that the accident was a result of fuel exhaustion. He did not report any mechanical problems with the airplane prior to the accident.

I recall another fuel exhaustion event around that time when a lawyer working at PG&E ran out of fuel in his Cessna 182 and totaled the airplane.

Flight Planning—Fuel

I seems to me that most of the fuel exhaustion accidents we hear about occur on the approach to the airport. It's almost as if they think that the laws of physics don't apply to them.

§ 91.151 Fuel requirements for flight in VFR conditions.
(a) No person may **begin** a flight in an airplane under VFR conditions unless (considering wind and forecast weather conditions) there is enough fuel to fly to the first point of intended landing…

§ 91.167 Fuel requirements for flight in IFR conditions.
(a) No person may **operate** a civil aircraft in IFR conditions unless it carries enough fuel…

Weight and Density Altitude

Tommy Zimmerman CFI, Mammoth Lakes

At about 2:40 [on May 22, 2002] I went outside to look of the helicopter I was standing by the south doors. At this time the heli was running, the door closed they “revved” the engine moved around just a tiny bit, then lifted off, turned west, moved about 30 ft and set down. Lifted off again at least 6'off the ground and set down very hard right on the yellow X. It looked like that shook the heli a bit side to side. They then lifted off again and took off toward the west. The phone rang and when I went inside they were no longer in sight.

Density altitude and weight

The maximum allowable gross weight of the helicopter was 1,370 lbs.
Considering the occupants, miscellaneous baggage, and full of fuel, the helicopter's gross weight, at the time of departure, was 1,459.25 lbs. The density altitude at the departure airport and the accident site was calculated at 8,702 feet and 10,681 feet, respectively.

According to the approved rotorcraft flight manual, the in-ground-effect (IGE) hover ceiling versus gross weight, and the out-of-ground-effect (OGE) hover ceiling versus gross weight performance limits were not available beyond 1,370 lbs. gross weight.

Weight and Balance

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

The pilot's poor decision to continue the flight into the rising mountainous terrain, and subsequent failure to maintain clearance with the trees. Contributing factors were rising mountainous terrain, the high density altitude, and the exceeded weight and balance and performance capability of the helicopter

Complacency, Changing Plans, and the Accident Chain

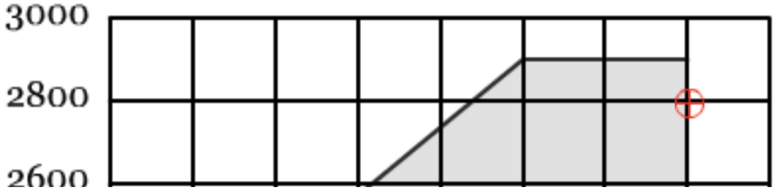
We don’t have to worry about density altitude here and I, at least, don’t usually worry about being overweight. On the return trip from the Young Eagles event last Saturday we added a passenger because Jacob had a flat tire. I usually let the Young Eagles fly so he would be in the front seat and his father and Rob in the back. What would you do?

Piper Turbo Arrow N1997H

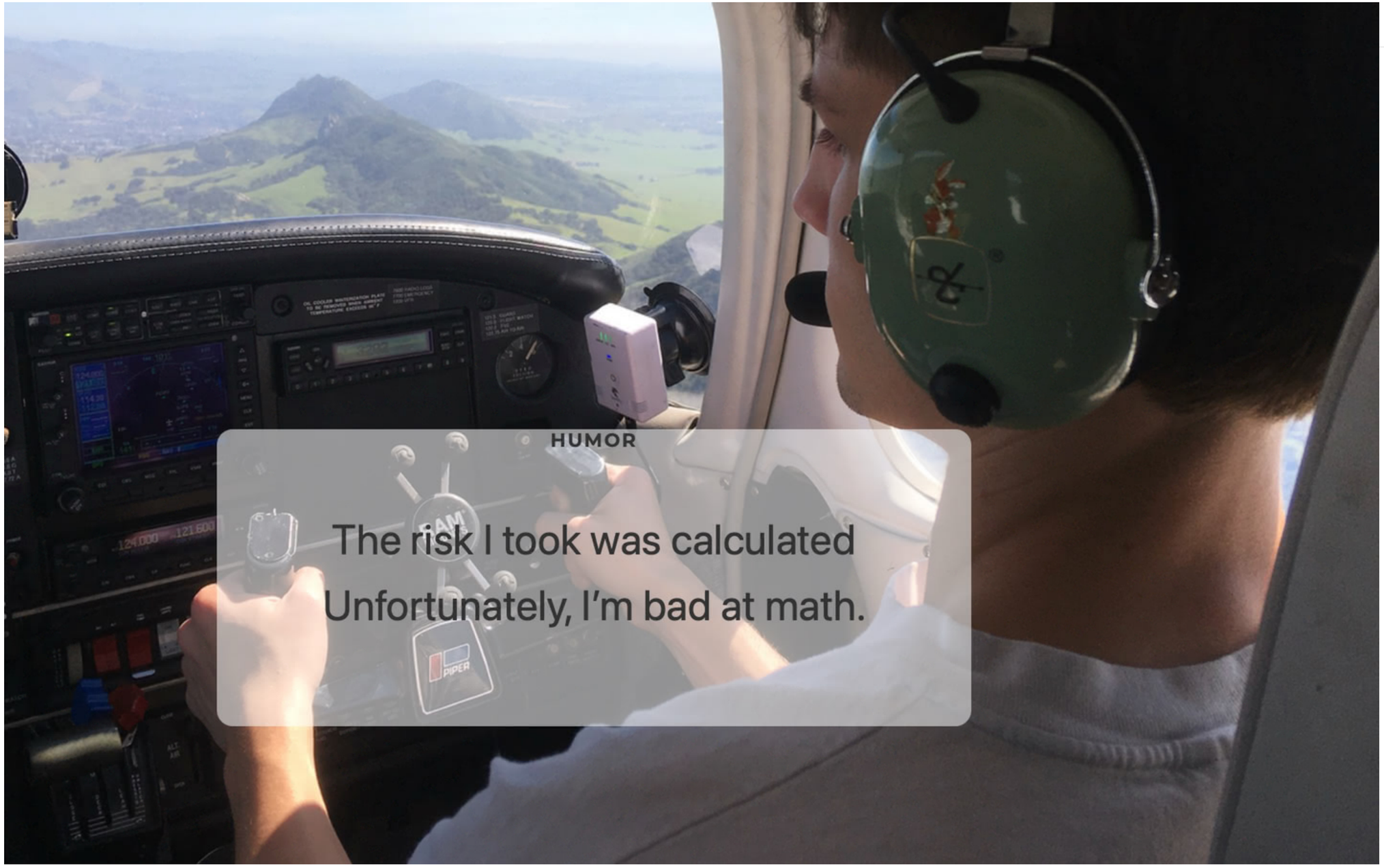
			Weight (lbs)		Arm (inches)	Moment (in-lb)
Empty Weight			1820.99		85.5	155694.6
Fuel (72 gal. max)	**gal:**	50	300.00		95	28500.0
Oil (8 qt max, 7.5 lb/gal)	**qt :**	7	13.13		24.5	321.6
Front Seat L & R			195	95	80.5	23345.0
Rear Seat L & R			145	220	118.1	43106.5
Baggage_Weight (200 lb max)			3		142.8	428.4
Gross Weight (2900 lb max):			2792.11			251396.1
Loaded Center of Gravity:					90.0	
Zero Fuel Center of Gravity:					89.4	
Maneuvering speed, Va (mph/kts):			134 mph / 117 knts		(decr. with decr. wt.)	
Best Glide speed (mph/kts):			89 mph / 78 knts		(decr. with decr. wt.)	

Calculate Reset

Calculated Gross Weight and C.G. point must lie within the envelope limits per the *POH*



Calculations



Complacency, Changing Plans, and the Accident Chain

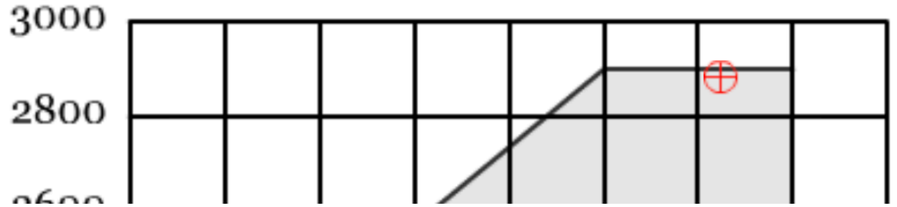
I actually had more fuel than I thought and he probably weighed more than 220.
He did sit in the front. It would have been better to do a weight and balance **before** I took off.

Piper Turbo Arrow N1997H

			Weight (lbs)		Arm (inches)	Moment (in-lb)
Empty Weight			1820.99		85.5	155694.6
Fuel (72 gal. max)	**gal:**	62	372.00		95	35340.0
Oil (8 qt max, 7.5 lb/gal)	**qt :**	7	13.13		24.5	321.6
Front Seat L & R			195	240	80.5	35017.5
Rear Seat L & R			145	95	118.1	28344.0
Baggage_Weight (200 lb max)			3		142.8	428.4
Gross Weight (2900 lb max):			2884.11			255146.1
Loaded Center of Gravity:					88.5	
Zero Fuel Center of Gravity:					87.5	
Maneuvering speed, Va (mph/kts):			136 mph / 119 knts		(decr. with decr. wt.)	
Best Glide speed (mph/kts):			91 mph / 79 knts		(decr. with decr. wt.)	

Calculate Reset

Calculated Gross Weight and C.G. point must lie within the envelope limits per the *POH*



Activity

Add weight to your airplane to get close to the maximum weight and in the middle of the CG range.
Calculate the takeoff distance required at the current temperature. Take off and see how close you and your plane match the calculations.

Now move the weight to the aft position. You might want try this with an experienced instructor.
DO NOT YANK THE PLANE OFF THE RUNWAY

How does the plane behave? Would you be comfortable flying passengers?

Accidents That Closed The KSBP Airport

Pilot Error

2007-07-18 The student pilot's improper **flare**, which resulted in a hard landing
2008-04-07 The pilot's inadequate landing **flare**, resulting in a hard landing
2000-08 Flat tire when the instructor braked hard to make Taxiway Echo.
2009-03-17 The pilot's inadequate compensation for the crosswinds during touchdown
2014-03-19 The pilot's inadequate **flare**, which resulted in a bounced landing and subsequent loss of aircraft control during landing
2015-01-03 The accidental application of the brakes by the passenger during landing roll
2018-07-08 The pilot's improper landing **flare**, which resulted in a hard landing
2023-05-02 The pilot's failure to maintain directional control during the landing roll
2024-05-17 The pilot's failure to maintain directional control during the landing roll
2025-05-23 The pilot's failure to maintain directional control during takeoff

Mechanical Failure

2013-09-16 The pilot's inadvertent action of retracting the landing gear instead of the flaps
2014-03-07 Corrosion of the bulkhead assembly in the left main landing gearbox area, which resulted in the structural failure … subsequent landing gear collapse.
2018-09-15 The failure of the landing gear extension motor due to wear, which resulted in the right main landing gear not fully extending

I recall a few more that didn't result in an NTSB report but closed the runway for a short time.

Accidents That Closed The KPRB Airport

Pilot Error

2018-03-07 The pilots' inadequate preflight inspection, which failed to ensure that the oil filler cap was secured resulting in oil starvation and a loss of engine power.

2024-04-19 The flight instructor’s failure to maintain adequate airspeed during landing which resulted in a loss of directional control and runway excursion.

2013-03-11 The pilot's failure to adequately compensate for crosswind conditions, which resulted in a loss of directional control during the landing roll.

Mechanical Failure

2011-10-21 A loss of engine power while maneuvering for reasons that could not be determined

2015-11-07 The failure of the nose landing gear due to unanticipated fatigue loads.

Slip

While on final to Runway 4 at Halter ranch with a 4 kt tailwind and just before reaching the structure building, I initiated a forward slip, angling to the right. This maneuver is one I often perform while landing my plane, as it is very much a glider and does not descend easily.

I diligently kept my airspeed at 55 knots or higher, maintaining 60 knots on this day. I pulled out of the slip just as I cleared the structure, pleased with my location and altitude (approximately 50 feet over the structure). I heard the stall horn beep once as I was pulling out of the slip. Upon releasing the slip, I noticed I had lost lift and had no control.

Go Around Indicated

Upon coming back inbound for runway 19 at KPRB following a missed approach, I noticed the pilot flying had us lined up for runway 13. I asked him to confirm the runway of intended landing as 19 and told him it looked like he was lining up for 13. After confirming we were lined up for runway 13 I suggested a short approach to 19. I assumed controlled part way through the turn, knowing multiple planes have been waiting in sequence to land behind us. As we turned, the plane entered a rapid descent to which I added power, which arrested some of the excessive sink rate but I was unable to align with runway 19 fully. The aircraft didn't bounce but departed off the right side of runway 19 and came to a stop after flipping over in the mud.

Probable Cause: The flight instructor's **failure to maintain adequate airspeed** during landing which resulted in a loss of directional control and runway excursion.

Be Prepared to Go Around

Cram – Power In (Carb Heat, Prop, and Mixture too)
Climb – Nose on Horizon
Clean – Gear first, then flaps
Cool – Cowl Flaps
Course – Course, Runway heading
Communicate – Let the tower know your intentions

Have you ever had to or decided to go around?

When was the last time you practiced a go around?
Did you do everything correctly?

Activity

Even if you are just doing pattern work, do you have enough fuel to go somewhere else? Do you know what the weather is at Paso, Santa Maria, and Oceano?

How much fuel does it actually take to go to Paso or Santa Maria?

There are a couple of private fields nearby. Fly over them so you know where they are and how much fuel it takes to get there.

Clean Up After Landing

Cessna 310R Night VFR Landing September 2013

I landed normally but just after touchdown I felt a slight "shimmy" in the main gear. I thought this was "unusual" and thought that maybe I was carrying a little excess speed. With that in mind, and while looking out for the upcoming taxiway lights to plan my exit from the runway, I reached out to retract the flaps so as to dissipate residual lift and improve braking efficiency.

In doing so, I mistakenly grabbed and raised the gear switch. As soon as I realized what I had done, I immediately lowered the gear switch. Unfortunately it was too late; the right main gear collapsed and the aircraft began to veer to the right. I was able to steer it onto the grass adjacent to the runway. Once the aircraft had come to a stop, I shut down the left engine, shut off the fuel and the electrics and quickly exited the aircraft.

Clean Up After Landing

After exiting the runway

Stop and then use the checklist or a mnemonic
I use BC FLAGS

Boost Pump Off
Cowl Flaps Open or
Carb Heat Off

Flaps Retracted
Lean
Air in Cockpit
Ground Control
Squawk VFR

Rejected Takeoff Indicated

The departure for the initial flight appeared uneventful; however, during the approach for the touch-and-go landing, the pilot seemed distracted, missing multiple landing clearances issued by an air traffic controller.

The airplane landed and used the full runway length for the ground roll, while making "popping" sounds similar to an engine backfiring, indicative of at least a partial loss of engine power.

Having reached the end of the runway, the airplane lifted off and climbed to about 150 feet above ground level, and a short time later the pilot issued a mayday transmission.

Rejected Takeoff

The pilot of a Cherokee 140 was taking off at Auburn with an outside air temperature of 108°. When he was halfway down the runway he saw that the airspeed was not reaching the required 55 MPH for takeoff. He immediately pulled the power and braked hard using up all of the remaining runway.

Thinking that the engine might not be developing full power because of the high density altitude he leaned the engine and tried again. The airspeed indicator was still not indicating 55 MPH but the GPS indicated a speed in excess of that required for takeoff so he departed.

What would you do?

Demonstrated Crosswind Velocities

Before an airplane is type certificated by the FAA, it must be flight tested to meet certain requirements. Among these is the demonstration of being satisfactorily controllable with **no exceptional degree of skill or alertness** on the part of the pilot in 90° crosswinds up to a velocity equal to 0.2 V_{SO}. This means a windspeed of two-tenths of the airplane's stalling speed with power off and landing gear/flaps down. Regulations require that the demonstrated crosswind velocity be included on a placard in airplanes certificated after May 3, 1962.

My old 182F has a V_{SO} (flaps out 40°) of around 51 kts. So the Maximum Demonstrated Crosswind is **10.2 kts**.

My 210L has a V_{SO} (landing gear down and flaps out 30°) of 51 kts. So the Maximum Demonstrated Crosswind is **11.3 kts**.

My Cherokee 140 has a V_{SO} (flaps out 30°) of around 48 kts. So the Maximum Demonstrated Crosswind is **9.6 kts**.

Maximum Demonstrated Crosswind Velocities

Piper Cherokee — **17 kts**
Piper Warrior — **17 kts**
Piper Arrow — **17 kts**

Cessna 210 — **15 kts**
Cessna 182 — **15 kts**
Cessna 172 — **15 kts**

Beech Bonanza/Debonair — **17 kts**
Beech V-Tail — **17 kts**

Grumman AA-5A & AA-5B & AG-5B — **16 knots**
AA-5 — **14 knots**

Vashon Ranger — **15 kts**

What is the Maximum Demonstrated Crosswind of your airplane?
Is it published or estimated?
What is **your** Maximum Demonstrated Crosswind?

Rule of Thumb for Estimating Crosswind Velocities

Think of the degrees off the nose as portions of the hour,
60 degrees – 60 minutes – the whole hour – it's all crosswind
45 degrees – three quarters of an hour – 3/4 is crosswind component
30 degrees – 30 minutes – half hour – 1/2 is crosswind
10 degrees – 10 minutes – 1/6 is crosswind
Compare this to the chart and it's surprisingly close.

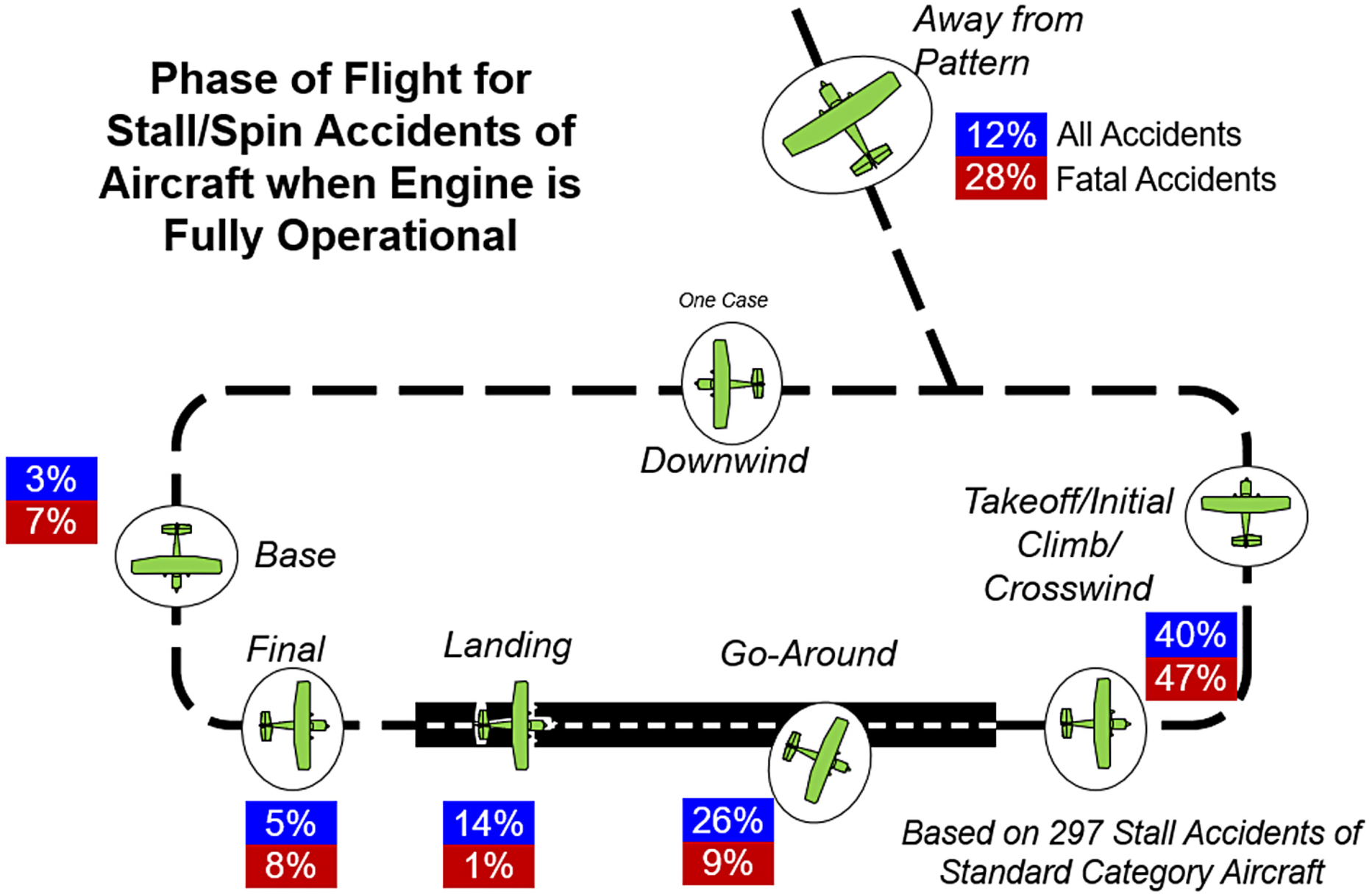
Crosswind Correction

Angle Between Wind Direction and True Course

Wind Speed Knots	0°	10°	20°	30°	40°	50°	60°	70°	80°	90°
10	10 / 0	10 / 2	9 / 3	9 / 5	8 / 6	6 / 8	5 / 9	3 / 9	2 / 10	0 / 10
20	20 / 0	20 / 3	19 / 7	17 / 10	15 / 13	13 / 15	10 / 17	7 / 19	3 / 20	0 / 20
30	30 / 0	30 / 5	28 / 10	26 / 15	23 / 19	19 / 23	15 / 26	10 / 28	5 / 30	0 / 30
40	40 / 0	39 / 7	38 / 14	35 / 20	31 / 26	26 / 31	20 / 35	14 / 38	7 / 39	0 / 40
50	50 / 0	49 / 9	47 / 17	43 / 25	38 / 32	32 / 38	25 / 43	17 / 47	9 / 49	0 / 50
60	60 / 0	59 / 10	56 / 21	52 / 30	46 / 39	39 / 46	30 / 52	21 / 56	10 / 59	0 / 60
70	70 / 0	69 / 12	66 / 24	61 / 35	54 / 45	45 / 54	35 / 61	24 / 66	12 / 69	0 / 70

Headwind 0 / 0 Crosswind

Stall/Spin Accidents in the Pattern



Source: Pilots of America, Ron Wanttaja

Stall/Spin Accidents in the Pattern

I ran the analysis on a 5,700-accident database I have of accidents involving Standard category airplanes.

Basically, I extracted the accidents where the pilots accidentally stalled, and identified where the aircraft was at the time. The stalls, in this case, are of **perfectly fine** aircraft. This has nothing to do with engine failures; it's stalls involving aircraft with fully-functional engines. Of that ~5700-accident set, about 300 accidents involved stalls...again, with nothing wrong with the engines.

There are a lot of different reasons for the stalls on takeoff and initial climb. Density altitude, too-short runways, students at the controls, etc. But there are still a number when the pilots just stall.....

Probably the **biggest surprise** for me is the number of stall accidents that occur during **go-arounds**. Still, the fatality rate is lower, probably because the plane is already close to the ground.

PoA Comments—Stall/Spin Accidents

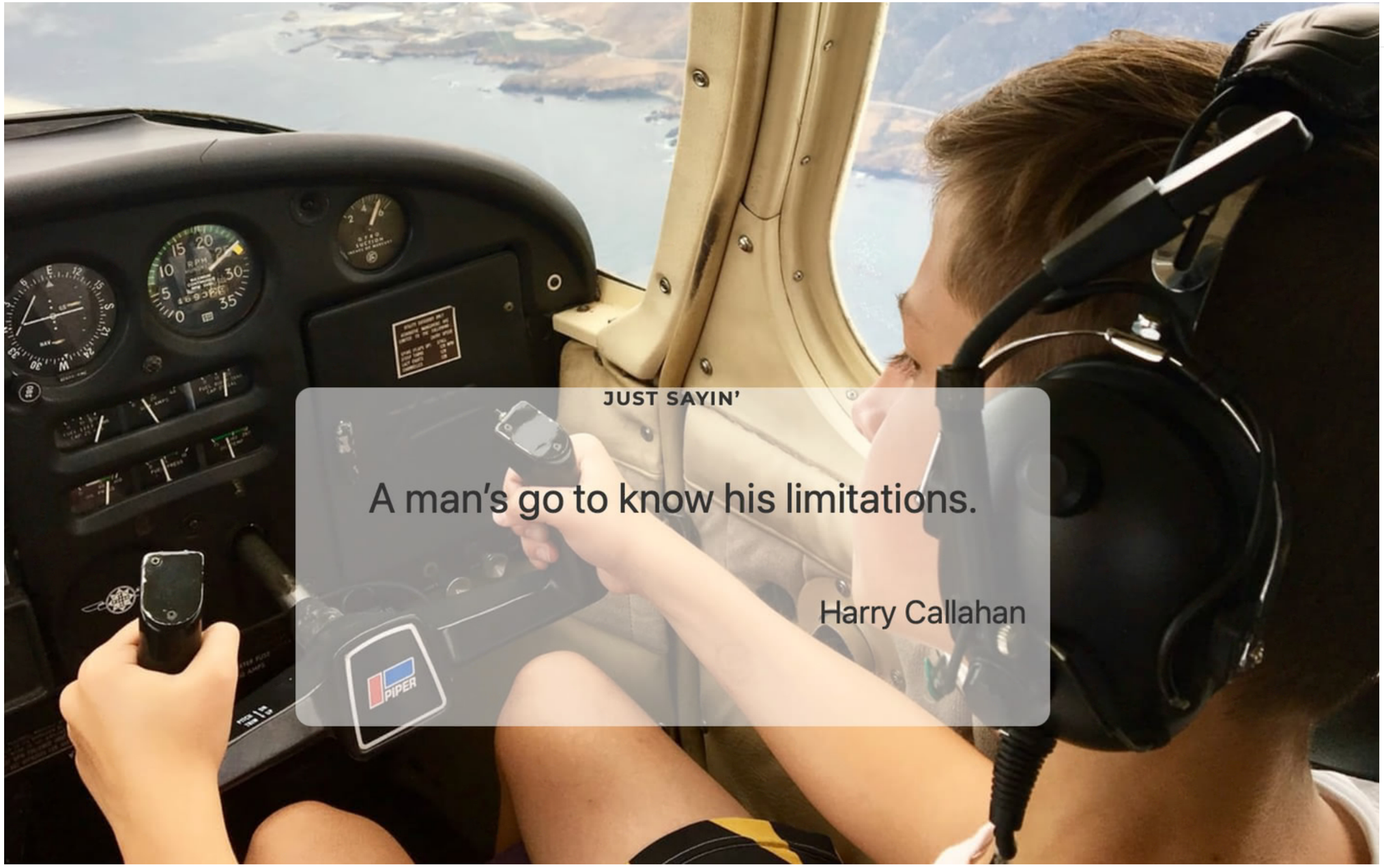
Premature rotation, torque effect, excessive pitch-up, or improper flap management and the same reason students should not be allowed Touch and Goes.

I would tend to think that the turn to crosswind would be most likely but that could be absolutely incorrect. It might also be that pilots are taking the plane out of ground effect early or trying to force it up and over the tree line that's approaching fast at the end of the runway.

In an AOPA article on **carb icing** the stats showed that carb ice was the major factor in power loss. One thing they mentioned was taking off and being unable to climb adequately due to carb ice that had accumulated during taxi and runup and wasn't caught by the pilot. The investigators can't positively pin the accident on carb ice since the ice is long gone when they get there, and all they can say is that the prevailing atmospheric conditions were conducive to carb ice.

Another factor is frost or ice on the wings.

Limitations



Activity

With a good instructor, go out on a windy day to practice crosswind landings **and takeoffs**. Ask them to randomly call for a go around. I would not do touch and goes under those conditions.

Ask the tower if you can practice aborted takeoffs. Hold the aircraft on the runway at takeoff speed until the 2,000´ sign. Apply maximum braking. How long does it take you to stop?

Land precisely on the 1,000´ marker and apply short field technique to stop. How does that match the book values?

Come in to land 1,000´ high and slip to a landing. Is that something your are comfortable doing?

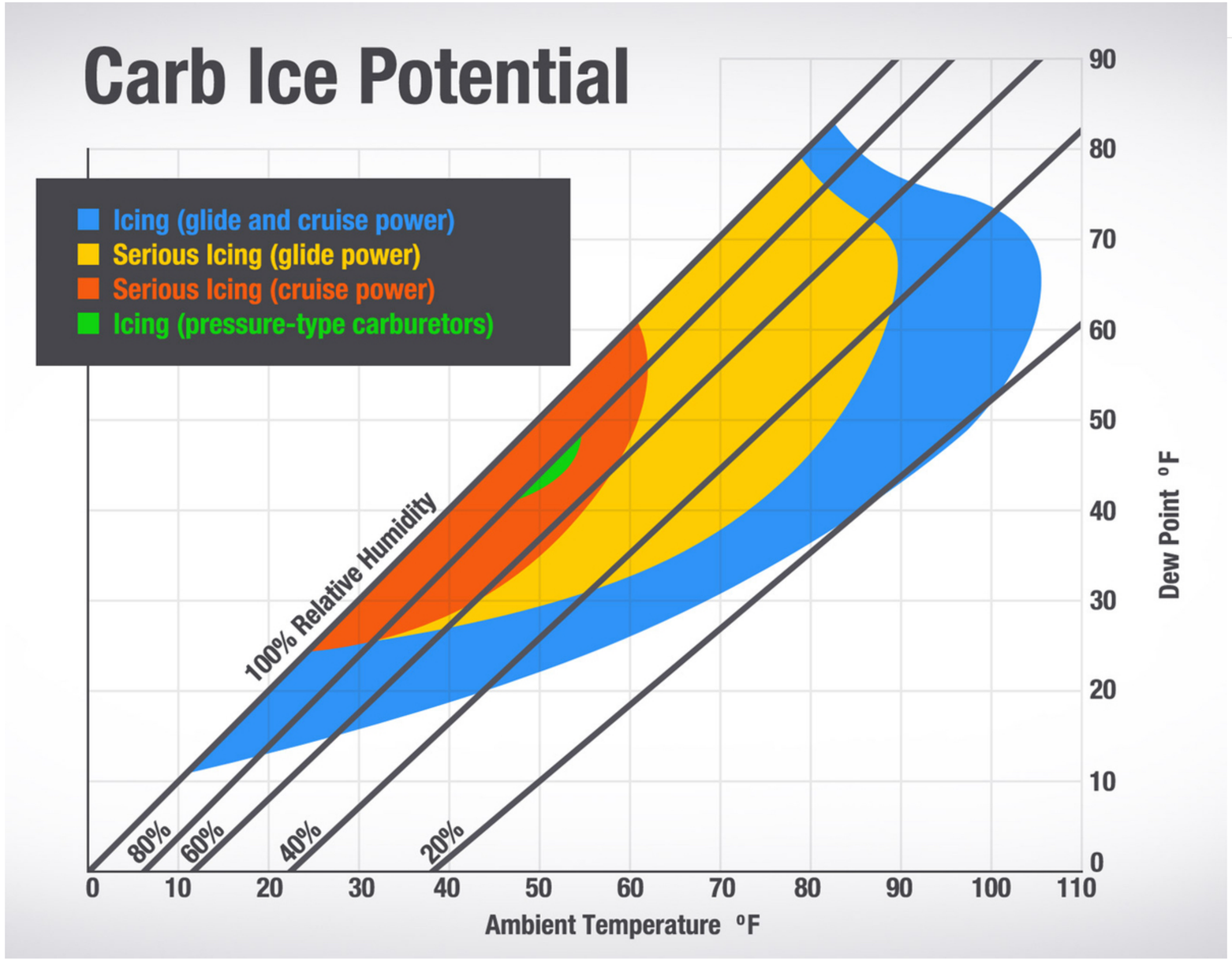
Cessna Skylane Icing Accidents - AOPA

Let down: Carb Heat - - Apply (if icing conditions exist)

Cessna 182 Icing Accidents

Description	Total
Attempted takeoff with snow/ice on wings/airframe.	4
Lost control, turbulence/ice encountered at high altitude.	1
Failed to use carburetor heat during IMC/icing conditions.	3
Power loss, lack of carburetor heat use.	7
Power loss on descent because of lack of carburetor heat use.	6
Power loss on approach, carburetor heat not used.	15
Stalled/lost control during continued approach in icing conditions.	5
Stall/mush due to ice-buildup on airframe	1

Carb Icing Conditions



https://slopilots.org/CarbIce.jpeg

Carb Icing Potential Locally

KSBP
Conditions at: 1756 UTC 14 Fri Aug 2026
Temperature: 70.0°F (21.1°C)
Dewpoint: 59.0°F (15.0°C) (RH 68%)

KSBP
Conditions at: 1503 UTC 17 Mon Aug 2026
Temperature: 61.0°F (16.1°C)
Dewpoint: 57.0°F (13.9°C) (RH 87%)

KPRB
Conditions at: 2153 UTC 18 Tue Aug 2026
Temperature: 96.1°F (35.6°C)
Dewpoint: 48.0°F (8.9°C) (RH 20%)

Carb Ice Potential in the Valley

KBFL
Conditions at: 2154 UTC 18 Tue Aug 2026
Temperature: 96.1°F (35.6°C)
Dewpoint: 48.9°F (9.4°C) (RH 20%)

KFAT
Conditions at: 1953 UTC 17 Mon Aug 2026
Temperature: 91.9°F (33.3°C)
Dewpoint: 53.1°F (11.7°C) (RH 27%)

KVIS
Conditions at: 2156 UTC 17 Mon Aug 2026
Temperature: 98.1°F (36.7°C)
Dewpoint: 55.9°F (13.3°C) (RH 25%)

Carb Icing Conditions in KSBP-KSMX Trip

METAR for:	KSBP (San Luis Obispo/San Luis Cnty, CA, US)
Text:	METAR KSBP 151656Z VRB03KT 10SM OVC013 18/14 A3012 RMK AO2 SLP198 T01780144
Conditions at:	1656 UTC 15 Sat Aug 2026
Temperature:	64.0°F (17.8°C)
Dewpoint:	57.9°F (14.4°C) (RH 80%)
Altimeter:	30.12 inHg (1,020.10 hPa) (sea level pressure 1019.8 hPa)
Winds:	variable at 3 kt (2 m/s, 3.5 mph)
Visibility:	10+ mi (16+ km)
Clouds:	overcast at 1,300 ft
Ceiling:	1,300 ft

METAR for:	KSMX (Santa Maria/Hancock Fld, CA, US)
Text:	METAR KSMX 151651Z 00000KT 10SM OVC011 17/14 A3013 RMK AO2 SLP203 T01720144 $
Conditions at:	1651 UTC 15 Sat Aug 2026
Temperature:	63.0°F (17.2°C)
Dewpoint:	57.9°F (14.4°C) (RH 84%)
Altimeter:	30.13 inHg (1,020.40 hPa) (sea level pressure 1020.3 hPa)
Winds:	calm
Visibility:	10+ mi (16+ km)
Clouds:	overcast at 1,100 ft
Ceiling:	1,100 ft
QC flag:	SOME DATA ABOVE MAY BE INACCURATE!!!

Carb Ice During Taxi

Under certain conditions carb icing can occur while taxiing. If you don’t leave the carb heat on for at least 10 seconds during the runup check, the ice might not melt and could cause lower power output during takeoff and possibly engine failure. If the carburetor is iced up during runup, carb heat application will result in an initial small rpm drop, then a rise higher than the runup rpm.

A large carb heat drop during runup, more than the typical 50 to 100 rpm, is caused by an exhaust leak inside the shroud where hot air is diverted to the carburetor.

Carb Icing

Piper Warrior Owner's Manual

Turn carburetor heat on (See Note). RPM will decrease slightly and roughness will increase. Wait for a decrease in engine roughness or an increase in RPM, indicating ice removal. If no change in approximately one minute, return the carburetor heat to "OFF."

Partial carburetor heat may be worse than no heat at all, since it may melt part of the ice, which will refreeze in the intake system. When using carburetor heat, therefore, always use full heat, and when ice is removed return the control to the full cold position.

Carb Icing Notes

There were 212 accidents attributed to carburetor icing between 1998 and 2007. Of these accidents, 13 resulted in fatalities. Does that change your best practices?

It generally occurs between 40 and 80 degrees F but may occur at even higher temperatures whenever the relative humidity is more than 50%.

In general, when the temperature-dewpoint spread reaches 20 ° F or less, you have a relative humidity of 50% or higher arrl are in potential icing conditions. Vaporization icing may occur at temperatures from 32° F to as high as 100° F with a relative humidity of 50 percent or above.

If you look at the graph, carb icing is almost always a threat.

Carb Ice Description by Vince Rabutsky

The carburetor blends fuel and air together in the correct ratio before sending it to the engine in the proper quantity. To do this, it draws air through a narrow passageway called a venture. Air moving through a venture speeds up as its pressure decreases. When fuel is injected into this fast, low-pressure airstream, it vaporizes and the resulting mixture of atomized fuel and air flowers to the cylinders.

The vaporization of fuel and the pressure change induced by the venture cause the air passing through the carburetor to cool rapidly, and if the incoming air is moist enough, ice can begin to form on the inner surfaces of the carburetor. As ice accumulates it restricts the flow of the fuel/air mixture leading to reduction in power as the engine is starved. If not remedied, the engine may lose power entirely.

Classic symptoms of cab ice are reduced power and a rough-running engine. With fixed pitch propellers, the first indication is a small decrease in engine rpm, which if not corrected with continue until engine failure. With constant-speed propellers, the decrease in manifold pressure rather than the tachometer is the indicator.

At the **first indication** of carburetor ice: Pull FULL carburetor heat ON, not partial, also use full power. Leave carb heat ON until normal engine power returns Monitor engine power and re-apply FULL carb heat if necessary.

Why do Cessna and Piper had different recommendations in the use of carburetor heat?

The difference between the recommendations of Cessna and Piper result more from philosophical differences than from differences in hardware.
Cessna reasons that because no one can be sure whether carburetor ice is forming better to use it on every landing.
Piper reasons that good operating technique requires that the pilot be aware of engine performance and use carburetor heat only when necessary.

Is the Cessna recommendation safer? Not when you consider that there is a downside to it. You should never have a problem with carburetor ice using the Cessna method, but there is always the problem of an unexpected go-around. Anyone who has ever tried climbing a 140 with carburetor heat on knows that this can be a real safety problem. As Piper is quite aware, in an emergency situation many pilots will not remember the carburetor heat is on—perhaps until it is too late. One other problem—if a go-around is performed with carburetor heat on. detonation is quite possible which will certainly do your engine no good. If you do decide to use carburetor heat during landing, use the same techniques as usual—do not try a power-on landing unless that is what you really want to do.

If you use carburetor heat, you need to remain aware of this should a go around be necessary.
Source: Cherokee Tips and Tricks

Carb Ice During Climbout

Chapter member David Dickey recently experienced an off-field landing of his kit built Hummel H-5, and agreed to share mostly in his own words his version of the event.

I took off VFR from Paso Robles to San Luis Obispo on the warmest day of the winter at the warmest time, and the engine stopped while passing thru 3500´ to 4000´ at about ten minutes into the 30 minute intended flight. Before takeoff I had had a long taxi and a ten minute idle while waiting to take off as three helicopters were training to land at the field.

I climbed out at reduced throttle to maintain a climb speed of 80 MPH at a VSI speed of 500-800 FPM (part of my flight test program). After the engine quit I got it to momentarily restart twice with little power after lots of cranking, then executed a 180 degree turn, radioed my emergency, and proceeded back to Paso Robles airport.

Carb Ice During Low and Slow

In 2004, chapter member Kurt Colvin who at the time had 780 hours of flight time and 580 hours in his Champion 7ECA, was flying over Cal Poly. Witnesses indicated that the airplane was circling the soccer field with a sputtering engine, prior to the landing. During the landing ground roll, the airplane skidded into a power pole.

The closest weather observation station was within 10 miles of the accident site and was reporting a temperature and dew point of 8 and 7 degrees Celsius, respectively (46 and 45 degrees Fahrenheit). Review of a carburetor icing probability chart disclosed that the temperature and dew point was in the center of the area for serious icing at any power setting.

Carb Ice During Low and Slow?

In 2011, the plane went over the California Polytechnic State University San Luis Obispo campus, dodged some power lines, hit a eucalyptus tree and crashed in a stream bed on a private ranch.

The plane was an Aeronca O-58B was used for training, observation and communications and nicknamed the "Grasshopper" by pilots.

Activity

Have you ever experienced or thought you experienced carb icing? How did you respond?

Look up the information on carb icing in your owner's manual. When does it indicate that carb heat should be applied?

CFIT/Stall Spin at Night

Last month we covered three accidents when pilots took off from the airport at night, flew into a cloud deck, and subsequently crashed. One was a failed return to the airport, one was CFIT, and the third was probably spatial disorientation.

Prior to departure at 1939 on January 6, 2001 the ATP rated pilot contacted the SBP control tower to request an instrument departure to on-top and was advised to standby. During the course of communication the pilot was advised the “tops” were 300 feet above ground level, and at 1947, he was issued a clearance to taxi to runway 11. The airplane subsequently collided with the ground, south of the runway, in a steep right wing down attitude on a magnetic heading of 180 degrees.

Executing a 180° Turn in Clouds

Upon entering the clouds, an immediate plan should be made to turn back as follows:
(1) Note the time of the minute hand and observe the position of the sweep second hand on the clock.
(2) When the sweep second hand indicates the nearest half-minute, initiate a standard rate left turn, holding the turn coordinator symbolic aircraft wing opposite the lower left index mark for 60 seconds. Then roll back to level flight by leveling the miniature aircrait.
(3) Check accuracy of the turn by observing the compass heading which should be the reciprocal of the original heading.
(4) If necessary, adjust heading primarily with skidding motions rather than rolling motions so that the compass will read more accurately.
(5) Maintain altitude and airspeed by cautious application of elevator control. Avoid overcontrolling by keeping the hands off the control wheel and steering only with rudder.
Source: Cessna 210 POH

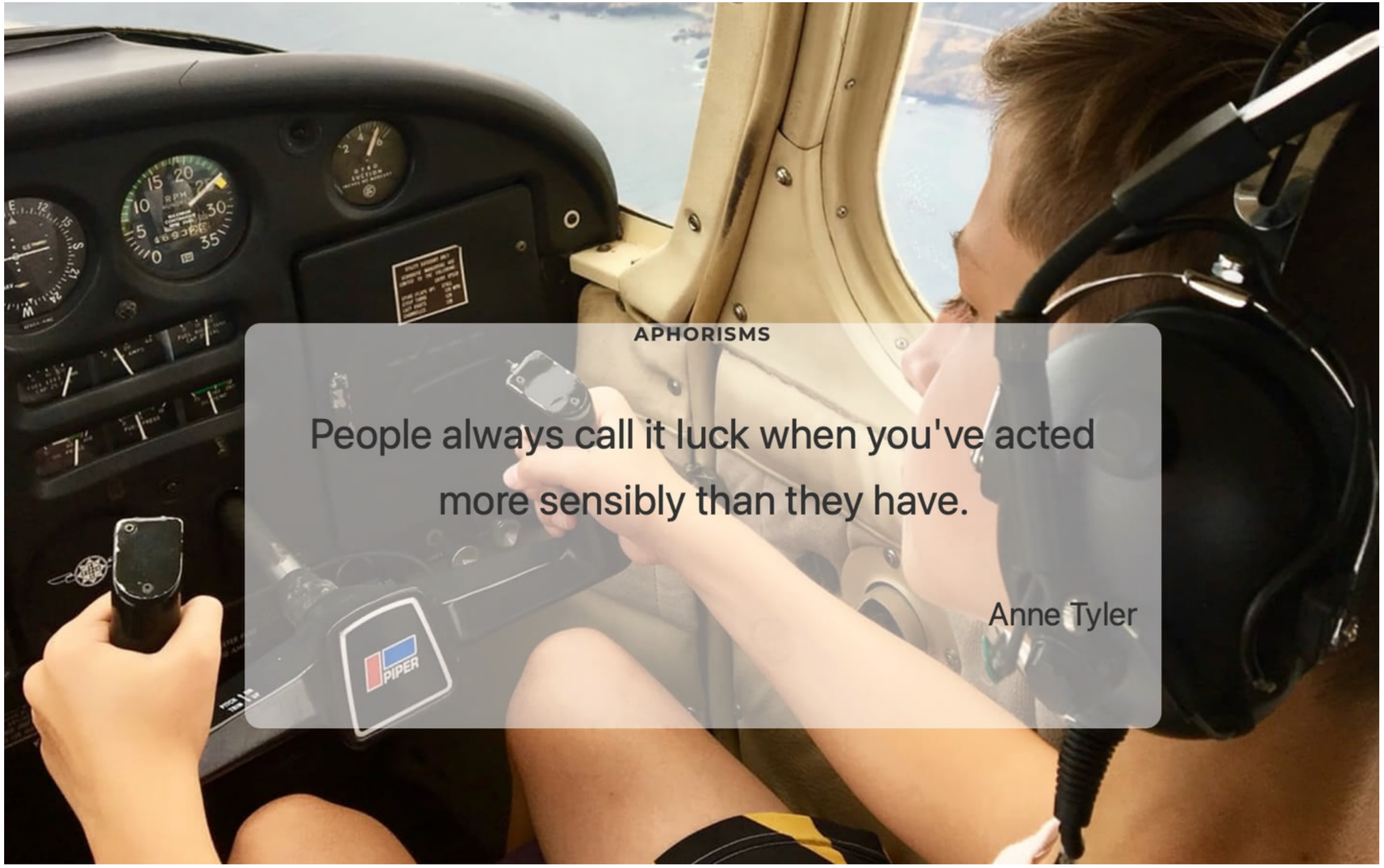
Activity

Flight into clouds after takeoff
While practicing crosswind landings and go arounds have the instructor randomly call for you to flip down the view limiting device. Do you fly straight ahead to get out of the cloud layer or turn around?

Flight into clouds after while enroute
Develop your own procedure for executing a 180° turn with the equipment in your panel.
With a CFII and aircraft that are current to be in the clouds, fly into a cloud and practice the 180° turn.

Did you experience any spatial disorientation?

Acting Sensibly



Engine Failure on Takeoff

Sportsman Owner's Manual

Land on the remaining runway, if possible; otherwise, prepare to land straight ahead, making small turns to avoid obstacles. Only if enough altitude and airspeed are available can a 180° turn be made to return to the airfield. You are much more likely to survive an emergency straight-ahead forced landing of the plane than a stall and spin resulting from a steep, slow turn back to the field.

Cessna 210 Owner's Manual

Prompt lowering of the nose to maintain airspeed and establish a glide attitude is the first response to an engine failure after take-off. In most cases, the landing should be planned straight ahead with only small changes in direction to avoid obstructions. Altitude and airspeed are seldom sufficient to execute a 180° gliding turn necessary to return to the runway.

Next
VMC Club Meeting

October 15, 2026