T-CRAFT AERO CLUB

PUTTING WINGS ON YOUR DREAMS

VOLUME XIII

ISSUE 11

Submitted by Jim Hudson
Membership and Safety Director

Marginal VFR = Marginal Safety

Low Ceilings And Visibility Spell Marginal Safety

This is a re-print from 2013 and thought it would be good to review as we get into the winter flying season.

As the saying goes for us pilots; "It's better to be on the ground wishing you were in the air, than in the air wishing you were on the ground"

It's that time of the year again, when we get into rapidly changing weather which results in less than ideal conditions. In the January 2013 newsletter, I discussed the VFR minimums for KMAN, and the use of SVFR (special VFR). I encourage you to review that article.

In this article, I don't want to get nit-picky about the absolute legal minimum conditions one can fly in, but rather what are safe and reasonable conditions. As one would expect, safe and reasonable for one person, may seem hazardous and insane for another. As in driving in winter conditions, I'm much more comfortable driving in snow than my wife who hates it. Experience comes into play, and everyone has a different comfort level of risk. It's somewhat the same with flying, the more unfavorable conditions you've flown in, the more you know what to expect and what to avoid. The problem in flying is, you just can't pull off the side of the road when conditions worsen and you find yourself in over your head. Regardless of a pilot's experience, certificates, and ratings, or the aircraft, some weather should be avoided, especially for a pilot without an instrument rating. I think marginal VFR weather falls in that category most of the time of being unsafe for you and your passengers.

Marginal VFR is a sub-category of VFR conditions and used by various weather products to depict visibility and/or ceilings (usually by color coding) at airports and

locations with reporting stations. These are not to be confused with Air Space regulations FAR 91.155 for Basic VFR minimums of at least 3 mile visibility and/or 1,000' ceilings.

AC-00-45G – Aviation Circular on Aviation Weather Services, published by NOAA and the FAA, lists the following definitions:

The link to this publication:
http://www.faa.gov/regulations_policies/advisory_circulars/index.cfm/go/document.information/documentID/215166

Category	Ceiling		Visibility
Low Instrument Flight Rules LIFR* (magenta sky symbol)	below 500 feet AGL	and/or	less than 1 mile
Instrument Flight Rules IFR (red sky symbol)	500 to below 1,000 feet AGL	and/or	1 mile to less than 3 miles
Marginal Visual Flight Rules MVFR (blue sky symbol)	1,000 to 3,000 feet AGL	and/or	3 to 5 miles
Visual Flight Rules VFR+ (green sky symbol)	greater than 3,000 feet AGL	and	greater than 5 miles

*By definition, IFR is ceiling less than 1,000 feet AGL **and/or** visibility less than 3 miles while LIFR is a sub-category of IFR.
+By definition, VFR is ceiling greater than or equal to 3,000 feet AGL and visibility greater than or equal to 5 miles while MVFR is a sub-category of VFR.

There are a few exceptions where flying locally with an airport in sight is OK in MVFR conditions, and can be a learning experience. I welcome MVFR as a CFI to take my student up locally to experience what it's like, and hopefully make an impression that it's not real fun to fly in. This helps in understanding and respecting limitations, and a respect for weather not conducive to safe flight. It's hard to judge what represents 3 mi visibility, or how far you are away from clouds. If ASOS is reporting such and such visibility and ceilings, one can go up and relate to what it's like to have some reference point in those conditions. The other observation is how fast things can change when a system is going through. I've seen it go from MVFR to IFR within one loop in the pattern.

When marginal weather prevails in an area, some pilots are tempted to fly above it. The weather is better above the clouds than below, but the problem is making a VFR descent at the destination. A preflight forecast may indicate that the destination's weather will be VFR, but if the forecast is inaccurate and/or conditions change, the pilot may be forced to divert - or attempt a dangerous descent through the clouds to marginal VFR conditions below.

For short term forecasts (3 days out 3 hour blocks) for winds, visibility, ceilings, other aviation WX, the following presents a great graphical representation of the raw data from the National Weather Service's GFS MOS Guidance. One can choose several locations from any state. USAIRNET-NAMPA

The following are some YouTube video's and AOPA Accident case studies that will give you something to think about.

Marginal VFR conditions – You may want to fast forward this one to about the 9 minute point until the guy is in the air.
http://www.youtube.com/watch?v=4IcxJBj76CU
Departing in VFR, return in MVFR
http://www.youtube.com/watch?v=tWtqtoewWPo

AOPA Case Studies:
Trapped on top – Afton, ID to Ellensburg, WA – Very good. Shows how ATC can help in an emergency
.https://www.youtube.com/watch?v=R-EkSaw1Fqw

In Too Deep Another example of how ATC can help. Unfortunately a very sad outcome from what could have been a good ending. https://www.youtube.com/watch?v=W0lWsqAwYwY

You may fool weather gods some of the time, but you won't fool all of them all the time.

Fly Smart, Fly Safe, Have Fun, and – Don't do anything Stupid!

Jim Hudson
Safety/Membership Director

December 2016

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

Calendar of Events:

12/13/2016 – Board Meeting.

11/29/2016 - General Membership Roland Steadman will present an Aviation Weather Seminar

12/10/2016 - Accounts due
12/20/2016 - Accounts past due
12/25/2016 - Merry Christmas
12/27/2016 - No Meeting
01/01.2017 - Happy New Year

Fuel Reimbursement
$4.17 per gallon.
The fuel account balance as of 10/25/16 was approximately 6,800 gallons.

Top flyers for the month

Dale Reese	10.5
Van Turney	8.3
David Graybadger	8.1

Highest billings for aircraft

9989E	$2,819.00
4464R	$2,154.00
7593S	$2,136.00

Hours flown for aircraft

67375	34.7
4464R	29.5
9989E	24.3

*These figures are reported at the directors meeting earlier in the month.

Breakdown of Membership

106 Members (3 LSA only)
1 on wait list.
42 Class I Members (39%)
64 Class II Members (61%)
07 Inactive (voluntary suspension)
08 Suspended (BFR/Med/Attend/Billing)
06 Social Members (non flying)

Ratings
16 Student Pilots
67 Private Pilots
01 Recreational Pilots
14 Commercial Pilots
08 Air Transport Pilots
30 Instrument Rated Pilots

Welcome New Members:
Wade Spradley - Student Class I
Jake Blewett - Student Class I
Johnathan Culotta - Student Class I
Lloyd Putman - Class I
David Nejely - Class II
Cassidy Brown – Student Class I

Accomplishments:
Travis Gibson - Garden Valley Check Out
Mich Giebel - Tailwheel Endorsement

BFR's
Ben Jantz
Travis Gibson
John Brown
Robert Shephard
Jared Martens
David Nejely
Mike Bracke

If you've achieved a new rating, BFR, accomplishment, please inform the Membership Director Jim Hudson, or Secretary/Newsletter editor Bert Osborn

If you have news or pictures that you would like to have included in the newsletter, please submit them to Bert Osborn at 1berto@cableone.net

ELECTIONS

Elections will be held the last Tuesday in January. The position of President, Director of Maintenance and Treasurer will be up for election this year. Inquiries about who is interested in running will be sent out by email and nominations can be made from the floor.

The T-Craft telephone number is 208-546-4128.

HATS OFF

Kudos to President Ben Brandt. Ben does an excellent job as the president of T-Craft. At board meetings and at membership meetings he works to make sure that our membership gets its best, safest and most satisfying flying experience at the lowest possible price. Since our treasurer fell and broke some significant bones in his body, Ben has been doing yeomen's duty by doing his duties as president and filling in for our injured treasurer.

At the November meeting, member Roland Steadham of KBOI Channel 2 TV news put on an excellent weather presentation. If you missed it you missed an excellent, fun and interesting presentation of weather forecasting. Thank you Roland.

New Aircraft Purchase:

At the general membership meeting in September, a member asked if there was any movement on purchasing a 206. Again at the October and November meetings the issue of the club purchasing an aircraft was raised. At the November meeting a member suggested that rather than purchasing another aircraft, the club upgrade 9989E and 4464R to IFR certified status. Both aircraft will be made IFR capable. 89E will be upgraded with the transponder from 93S and already has a Garmin 430. 64R doesn't have a GPS and will be limited to ILS and VORDME approaches.

CFI's

We now have 8 club member CFI's on the list of 22 club approved instructors. Only instructors on our list can instruct in club aircraft unless you get an exception from the board. A reminder for those interested in getting instruction in the Champ; only the instructors noted on the list are approved by the board to instruct in the Champ.

HOURLY RATES

Our most recent fuel purchase was at $4.17, $0.67 higher than our previous rate of $3.50. This has resulted in our rate to increase as indicated below.

N1227G
$52.00

N67375
$59.00

N4464R
$73.00

N13686
$75.00

N1891X
$108.00

N9989E
$116.00

N7593S
$118.00

SQUAWKS

7593S The HSI isn't working. It will be replaced with a Aspen Evolution electronic HSI. The nose wheel on 7593S had to be replaced. It went flat on landing. Luckily the incident happened right before 5:00 p.m. so Mike Metcalf was able to temporarily inflate the tire and tow the aircraft off the taxiway and back to the hanger.

9989E None
1891X None
4464R None
13686 None

67375 There has been some seepage in the oil cooler fittings. Parts were ordered and this squawks was repaired the next day. 67375 had experienced an RPM loss during a mag check. The lower plugs were cleaned and the upper plugs were replaced. That resolved the problem. The right brake was replaced.

1227G The tape disabling the heater has been removed. 1227G had the brake reservoir filled.
Remember to report squawks on schedulemaster. The old clip boards for reporting squawks have been retired.

COLD WEATHER FLYING

James Eyre, the Director of Maintenance, has set out the heaters, cords and blankets. Please remember. If it's cold enough for you to wear a coat or a jacket, it's cold enough that the aircraft engines need heat. When you fly arrive early and take the time to hook up the engine heater and the oil sump heater. As Jim always reminds us, if we take care of the engines, they will last a long time and serve us well.

AVIONICS REPORT

At the November board meeting, and at the November membership meeting, Gordon Hall reported on his avionics assignment. Gordon reported that he had received an email from Jim Manley about making 89E and 64R IFR certified aircraft. Gordon explained that there was a difference between making aircraft IFR legal and IFR capable. It would be simple and cheap to make the two additional aircraft IFR legal. Simply certify the Pitot static systems which would add about $200.00 to each aircraft's annual. Making the IFR legal though, doesn't make them IFR capable. We could buy the IFR chip for 89E's Garmin 430 or we could upgrade the Garmin to a WAAS certified Garmin. To make 46R IFR legal would be simple but without a GPS you would be limited to Boise, Twin Falls and Idaho Falls for approaches. You couldn't do GPS approaches into Caldwell or Nampa. To make 64R IFR capable we would have to add a GPS and add the equipment that goes with the GPS. We have two airplanes that are ADS-B out compliant and will do 2 more in 2017. Since the box that had been fairly inexpensive has gone up $1,000.00 in price, it is now as cheap to add a Garmin all in one transponder. Gordon recommended that we go with the Garmin all in one transponder on both 89E and 375.

Gordon asked the board to reform the avionics committee and make it a standing committee. The board agreed. Gordon explained that he wanted 2 IFR members and 2 VFR members so the committee would be balanced. He agreed that the task of the committee would be to present an avionics plan for all of the aircraft in the future. He reported that the HSI in 93S was not working, again. We have approached 93S with a band aid repair approach and Gordon will look into adding a system that eliminates costly avionics repairs every year. Gordon reported that an Aspin Aviation Glass cockpit replacement for about $6,000.00 actually costs less than buying a re-built HSI which costs around $9,000.00. He could find no new HSI's. Aspen says the replacement is compatible with the 93S autopilot. There has been a discussion about how we have always approached the avionics in 93S with a band aid approach. Now may be the time to rip the avionics out and totally replace them with an avionics system that works. Gordon Hall and his committee will study the matter and report back to the board.

7593S and 13686 have been upgraded and are ADS-B out compliant. If you want ADS-B in, you can utilize your iPad with a Stratus receiver to get ADS-B in.

Simulator

The board has discussed the possibility of adding a flight simulator in the office. 1G Simulation advertises that it will install a flight simulator with no upfront costs, then bill the club monthly for the hours the simulator is used. The cost concept is similar to that of a vending machine.

Currency

Safety Director Jim Hudson notified the board that he is concerned that some members are flying less than 4 times per year. He has flown with a couple of members that are very rusty. The board should be thinking about some sort of currency requirements. For example, if a member doesn't fly often enough to remain FAA current to carry passengers, then perhaps he should be required to fly with an instructor before flying solo in a club aircraft.

MEMBERSHIP DUES

Effective February 1, 2016 membership dues were established at $60.00 per month. That rate combined with the low hourly charges for the airplanes made available because of the well timed fuel purchases and the great maintenance under the watchful eye of Maintenance Director Jim Eyre makes T-Craft the leader in high quality, low cost flying. Upgrades will not impact the hourly cost of flying an aircraft.

PLEASE REMIT PAYMENT IN FULL BY THE 10TH OF THE MONTH.

Your account will be PAST DUE if not received by the 20th and there will be a $10.00 late fee. There will be a finance charge if your account is over 30 days past due and flying privileges will be suspended.

OFF FIELD FUEL REIMBURSEMENT

If you purchase fuel off site you will be reimbursed at the club rate per gallon, currently at $4.17 per gallon. In order to get the reimbursement, send your receipt(s) to the club mail address to the attention of Reggie Sellers, or scan a legible copy and email to Reggie Sellers. DO NOT put your receipt in the club pouch, these are for Nampa fuel receipts only and your personal receipt will probably get lost.

WINTER FLYING MONTHS

Reggie Sellers, Director of Billing

We are in the three-month period (Dec, Jan and Feb) in which we have a policy that allows for poor weather that we sometimes encounter during the winter. Please review the policy below and feel free to ask any questions you need to for clarification. I suggest that you don't wait until the last week of February to try to fly the 3 hours of use it or lose it flying time.

5.6 Winter flying hours: during the months of December, January and February the monthly “use it or lose it” minimum flying charges may be combined for credit in any of these months. For example, if a member did not fly in December or January but flew the equivalent of 3 hours of 152 time in February, the December, January and February “use it or lose it” credits would be applied to the February billing period. The

same is true if the 3 hours were flown in December.

I might add that **if you don't fly at all during the three winter flying months**, you **will be billed for 3 hours of 152 time all in one month (Feb**). Each year this catches someone off guard so please enjoy the funest time to fly....winter.
Thank you and Happy Flying everyone!

AERONAUTICAL LICENSE PLATE

Remember to support Idaho aviation and purchase an aeronautical license plate from the state of Idaho, Department of Motor Vehicles. The purchase can be made on line and your present remaining registration will be pro-rated on your new plates.

To purchase a plate, visit
https://www.accessidaho.org/secure/itd/personalized/plates.html

Customized plates are $60 for the first year, and $40 yearly thereafter
Non-Personalized plates are $25 each year. The fee will be pro-rated depending on when your registration is due.

PAPER PILOT CERTIFICATES

T-Craft records show that some members still have paper pilot certificates. Hopefully you have plastic and we have not received copies of your plastic certificate for our files.
All paper certificate holders cannot exercise the privileges of their PAPER certificates after March 31, 2013. This includes all certificates that are issued under 14 CFR Part 63 and 65If you still have a paper certificate; you are in violation. If this is the case, you can replace your paper at the following FAA website:
http://www.faa.gov/licenses_certificates/airmen_certification/expiring_paper_certificates/

WINTER FLYING

(If what you are about to read seems familiar, it is).

Suppose you've noticed that the easy engine starts of summer have slowly given way to preheats & longer careful warm ups once the prop is turning. Why do people go out of their way to fly during the cold weather months since it seems to be such a hassle? Winter flying can be a lot of fun & provide pleasant flying memories. The cold dense air boosts engine power, aids wing lift & is often stable & smooth (good time to take the wife flying). After a winter front passes we can get great visibilities. Winter flying can be an anticipated adventure or it can be a huge struggle. Like humans airplanes aren't particularly fond of cold temperatures & require a bit of extra preparation to get going. Taking the time to prepare yourself & aircraft will increase safety & comfort.

With persistence & lots of priming aircraft engines can be started & run when cold-soaked. But the engine will be damaged for lack of lubrication as excessive priming dilutes & washes off existing oil film on cylinder walls & may also cause a carburetor

fire (great time to exercise your emergency egress procedure). Avgas doesn't vaporize very well when cold especially below about 20 degrees F.

A reasonable course of action is to preheat. Preheating helps to ensure adequate lubrication during the start, initial engine warm up phase of operation, & to aid in better fuel vaporization. It also cuts down on Hobbs Time to get Oil Temp into GREEN. A good preheat will make your battery's life easier. Their output is diminished severely in cold weather. At freezing temps the battery will only crank about half as long as it would at 70 degrees F. The contracted metal of a cold engine makes for increased resistance the battery must overcome causing it to discharge more amperes & straining the starter. Do Not attempt a start with a low battery. This will only compound the situation. Get the battery charged up.

You will find power cords (make sure power cords are not lying in water) for each aircraft plus a small heater on chair (please leave on chair) with dryer vent tubing attached to foam pads. One power cord attaches to a plug found near the oil dipstick. This plug is on a line coming from the oil sump pan heater (Champ does not have oil sump heater). Oh yes – 64R oil pan heater plug is found in left nose cowling. The Foam Pads fit into air intake openings in nose cowling. A blanket is available to place over upper cowling keeping the warmth in while you do your usual thorough preflight. Remember to unplug heater when leaving to go experience a fun, safe flight. With power cords strung across hanger floor step with caution and inform your passengers to do likewise.

As the engine warms up moisture from engine & oil vaporizes & is vented overboard through the breather tube. The breather tube may freeze shut causing the engine's internal pressures to increase until the crankcase oil seal is pushed out of position resulting in the speedy exit of engine oil as it flows aft over the fuselage & windshield. Continental Engines (182) are particularly susceptible to have these tubes freeze. The tubes exit the engine case a few inches aft of the propeller flange & then routed rearward along the top of the engine. During the run from front to aft the aluminum tube is exposed to cold air. The exit end of breather tube should be checked for blockage (especially if aircraft has taxied through snow or icy slush). When OATs get down near freezing any water in the fuel system will cause big problems. Do the Cessna Wing Rock during preflight. Check fuel drains & sump. Fuel selectors can freeze in position so move selector thru all positions. Remember to place on Both for T/O.

Allow engine to ***slowly*** warm up at 1,000 to 1,200 rpm unless it is necessary to reduce rpm to keep from exceeding oil pressure redline. As the oil warms up the rpm can be slowly increased. **Please Allow Plenty of Time For The Engine To Warm Up**! The hydraulic lifters, which adjust the valve lash to compensate for engine expansion during warm up and operation, are dependent on oil to work correctly. We use multi-viscosity oil (Phillips XC 20W-50) allowing oil to circulate a bit easier throughout the engine after start.

If landing & taxing through snow/slush minimize brake usage. Warm brakes will melt any snow/slush upon stopping then refreeze locking the plane in position (even worse scenario if we had wheel pants on aircraft). This could be an especially bad situation if you are parking outside for extended time (MYL?).

Aircraft engines are sensitive creatures. Reduce power gradually especially in cold weather. Gross throttle reductions should be avoided in any air-cooled, piston engine airplane any time of year! Shock or sudden cooling can lead to expensive problems.

Just because the air is cold & dense doesn't mean you shouldn't lean. The scavenging agents in avgas require some heat, usually around 1,200 F., to keep lead from depositing in the combustion chamber & on the plugs.

Don't Consider Taking Off Until the Oil Temperature Has Reached at Least the Bottom of the Green. 182 drivers – don't try to expedite the warming of the engine by closing the cowl flaps. Airflow is not sufficient during ground operation & you'll only end up with lukewarm oil & hot heads (imagine who). Consider closing cowl flaps in climb if the CHT hasn't reached its normal operating range. You can do nearly as much damage by running an engine too cool as you can running it too hot. It is vital to maintain working oil temperatures.

Winter flying requires the correct mental attitude, a commitment to pay extra attention to the care & maintenance of aircraft & a willingness to wait out some suspicious weather. Minor inconveniences compared to the payoff. It is the responsibility of all T-Craft members to care and operate our aircraft in a responsible & safe manner. Winter flying is going to cost you additional time on the Hobbs, especially if you don't preheat. Learn to live with it. Be kind to your engine and it will provide you with many hours of safe flights!

For additional information on winter flying please take a moment to read the **COLD WEATHER OPERATIONS** article found on our Web Site Index.

Have fun, be safe, pay attention to the little things, take care of your aircraft, and please don't do anything foolish (or stupid). Jim-e

FROM OTHER SOURCES

From the moment you start learning to fly, you're taught to not land with a tailwind. But is it really that bad? Here are three landing accident reports from the NTSB that prove it is.

So when it comes to landing accidents, how much tailwind is too much? In each of these reports, the pilot faced less than 10 knots of tailwind.

Accident 1: 7 Knot Tailwind On AN IFR Approach

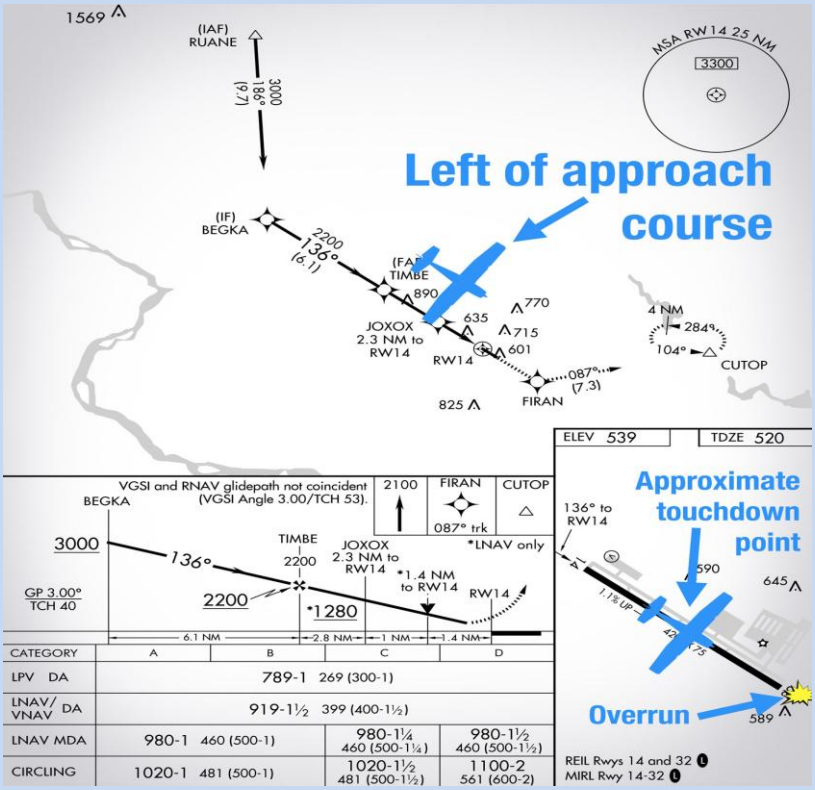
A Cessna Turbo 210 was on an RNAV approach in IMC. Based on radar data, the approach was un-stabilized from the final approach fix inbound, and the aircraft broke out of the clouds significantly left of the runway. The pilot made a right turn and maneuvered the aircraft toward the runway. But because of the aircraft's position and the 7-knot tailwind, the pilot touched down approximately half way down the wet runway.

Even though the pilot had 40 degrees of flaps in, they were unable to bring the aircraft to a stop on the remaining portion of the runway. The aircraft overran the departure end of the runway at approximately 45 knots, and impacted terrain, collapsing the nose gear.

So was tailwind the only factor in this accident? No, but it played a crucial role. Had the pilot faced a headwind, and not a tailwind, they would have most likely been able to land earlier on the runway. And had the pilot even touched down half way down the

runway, they may have had enough stopping distance to stay on the runway. According to Cessna 210 landing performance charts, a 7 knot tailwind increases the aircraft's landing distance by 28%.

Obviously a missed approach would have been the best decision, but by continuing the landing, the tailwind was a major factor in the accident.



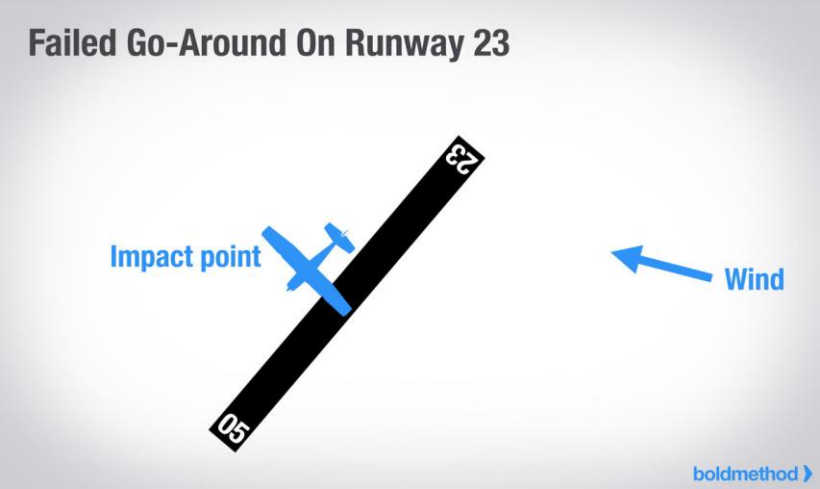
Accident 2: Failed Go-Around With 8 Knot Tailwind

A Cessna 172 was landing on runway 23 with winds reported at 120 degrees at 8 knots. The airplane bounced during the landing, and started drifting right.

The pilot added power to go-around, but the stall warning horn sounded, and the pilot lowered the nose to gain airspeed. However, the airplane struck terrain on the right side of the runway, collapsing the nose gear and flipping the airplane.

So what happened here? First, the quartering tailwind was most likely a factor in the bounced landing. And from that point forward, the go-around performance was also likely impacted by the wind.

While the tailwind component wasn't very high in this accident, a quartering tailwind can be difficult to manage, and it most likely is why the pilot went off the right side of the runway.



Accident 3: Tailwheel Landing With 8 Knot Tailwind

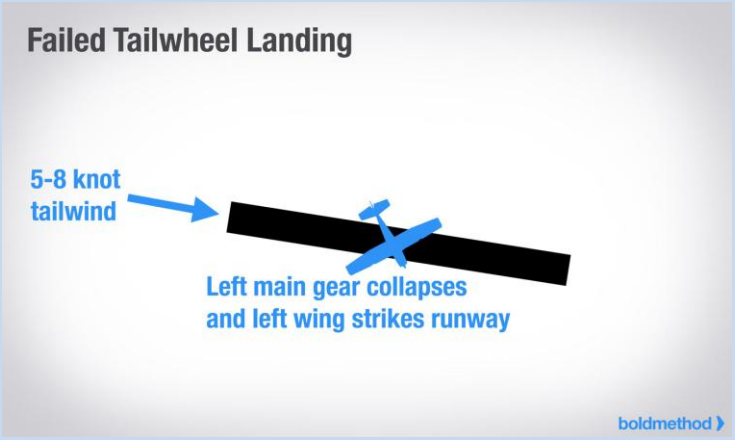
Anyone who flies a tailwheel aircraft knows how challenging they can be to land in wind. And when that wind becomes a tailwind, landing safely can be incredibly difficult.

In this accident, a Cessna 140 was making a landing with a 5 to 8 knot tailwind. During landing the airplane touched down hard, and the pilot lost directional control.

The aircraft began side-loading, causing the left main gear to collapse and the left wing to strike the runway, substantially damaging the aircraft.

Any time you have a hard landing, maintaining control of the aircraft is the first priority. But in this case, it was much more difficult because the pilot was dealing with a tailwind.

Landing into the wind may not have prevented the hard landing, but it would have made maintaining directional control much easier.



The Moral Of The Story: Don't Land With A Tailwind Unless You Absolutely Have To.

It's pretty clear that when you land with a tailwind, you're demanding a lot more from yourself as a pilot. Whether it's touchdown, rollout, or a go-around, everything is more difficult, and takes a lot more space when the wind is at your back.

So the next time you're faced with an option of landing with even a "little" tailwind, take a minute to think about the convenience or time saving you might have, versus the possibility of becoming the next NTSB accident report.

And whenever you can, pick the headwind runway instead. From what we've seen here, the few extra minutes it might take to maneuver and land is worth it.

Pictures of really neat military aircraft at our own Boise airport.
Provided by James Eyre

Two F/A-18Cs from VMFA-323, MCAS Miramar,CA visited BOI. #403 (BuNo 164896) broke down when taxing on Western's ramp. #412 (BuNo 164715) flew out, then returned. Both were still on the ramp when I left for the day.


412
N/H


412
403
N/H


403
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VMFA-323
MARINES


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