



Hello! Good morning, and Welcome to our 2023 convention!

I know it's early in the convention, but I hope you're all are enjoying yourselves so far. I'm looking forward to many of the sessions today and tomorrow.

My goal today is to discuss the accidents that have occurred since our Tucson Convention last year, and then try to put them into the larger context of MMOPA's mission of improving safety.

I've got a little extra time this year, so I'll also try to talk about some incidents and what we can learn from those.

I'm a strong believer in trying to learn from others' experiences, since life is too short for each of us to get all the direct experience we could use.

## FAA / NTSB Definition of “Accident”

- as a result of the operation of an aircraft, any person (either inside or outside the aircraft) receives **fatal** or **serious** injury, or
- any aircraft receives **substantial** damage.

The FAA has a very specific definition of what constitutes an accident.

Basically, significant injury or substantial airframe damage.

## NTSB Definition – “serious injury”

### **Injuries that result in one or more of the following conditions:**

- Requires hospitalization for more than 48 hours, commencing within seven days from the date the injury was received,
- Results in a fracture of any bone (except simple fractures of fingers, toes, or nose),
- Involves lacerations that cause severe hemorrhages, nerve, muscle, or tendon damage.
- Involves injury to any internal organ, or
- Involves second or third degree burns, or any burns affecting more than five percent of the body surface.

Serious injury is pretty much self-explanatory, and common sense.

## NTSB Definition of “substantial damage”

Damage or structural failure that negatively affects an aircraft's structural strength, performance, or flying characteristics, and which would require significant repair or replacement of the affected component or system.

Substantial damage excludes damage to landing gear, wheels, tires, and flaps. It also excludes bent aerodynamic fairings, dents in the aircraft skin, small punctures in the aircraft skin, ground damage to propeller blades, or damage to only a single engine.

Substantial damage has a very specific meaning to the FAA, and basically excludes the damage you'd see from a simple gear-up landing.





So under that definition, this gear up landing never made it into the accident database.



Nor did this botched go-around.

These mishaps go into the FAA's incident database, and I'll discuss incidents a little later today.

With that understanding of how accidents make the FAA's list, let's start looking at specifics.

First, though, I'd like to make the same disclaimer I make every year:

I was not present for any of these accidents.

All I am doing is using the NTSB and other public records to describe what may have happened.

In many of the cases, all I have is a preliminary report with minimal information.



A demo flight go-around that didn't

My point this morning is not to affix blame; I'll leave that to the NTSB, the insurance companies, and the courts.

My goal is for us to look at these accidents as learning experiences; trying to learn from someone else's misfortune. I may speculate on causes, if it helps make a teaching point.

I certainly don't mean to cast aspersions on any of the involved pilots, even when I list pilot error as the cause. The best pilots can have a bad day; any of us could.

# Accident Database

# Incident Database

## AIDS Search Results

AIDS Search Results

FAA Search Results

NTSB#	Public Docket	Event Date	Location	Report	Original Published Date	Event Type	Highest Injury	Aircraft Details	Status	Has Safety Rec
✈️ ERAC2FA318		07/17/2022	Las Vegas, Nevada			Accident	Fatal	N77CK Piper / PA-46-350R N160RA Corsica / 172N	In work	✖
✈️ GAAZ2WA172		04/15/2022	London, Brazil	None		Incident	None	PS-RLJ Piper / PA-46-600TP	N/A	✖
✈️ GENC2LA153		05/25/2022	Olus Branch, Mississippi			Accident	None	N6279R PIPER AIRCRAFT INC / PA-46-600TP	In work	✖
✈️ GENC2FA119		02/19/2022	Oshtemo, Kansas			Accident	Fatal	N6248P PIPER AIRCRAFT INC / PA-46-600TP	In work	✖
✈️ ERAC2LA721		02/01/2022	Crystal River, Florida			Accident	None	N35CM PIPER AIRCRAFT INC / PA-46-350R	In work	✖
✈️ GAAZ2WA492		01/31/2022	Ontario, Canada	None		Accident	None	C140KC Piper / PA-46	N/A	✖
✈️ GENC2LA105	Docket	01/14/2022	Centro Springs, Texas		06/14/2022	Accident	None	N648CA Piper / PA-46-350P	Completed	✖
✈️ GENC2FA063		12/15/2021	Seaside, California			Accident	Fatal	N744Z Piper / PA-46-600TP	In work	✖
✈️ GENC2LA060	Docket	12/01/2021	Cassville, Missouri		06/09/2022	Accident	None	N4440T Piper / PA-46-310P	Completed	✖
✈️ ERAC2LA079	Docket	11/29/2021	Cornelia, Georgia			Accident	Minor	N172MA Piper / PA-46	In work	✖
✈️ ERAC2LA055	Docket	10/26/2021	Interlaken, Florida		06/26/2022	Accident	None	N65LJD Piper / PA-46	Completed	✖

Search for: Investigations Recommendations

Find results that match ALL of the following rules:

Field: Aircraft model Contains: 46

Reset Add Group Search

Search Results: 434

Here are the two official FAA databases – one for accidents in the US, and one for incidents. Of course, other countries

Every year, some mishaps may move back and forth between these lists, usually based on the amount of airframe damage.

I'll first talk about the accidents, as currently listed.

Later I'll get into the incidents, since I think we can learn from those as well...



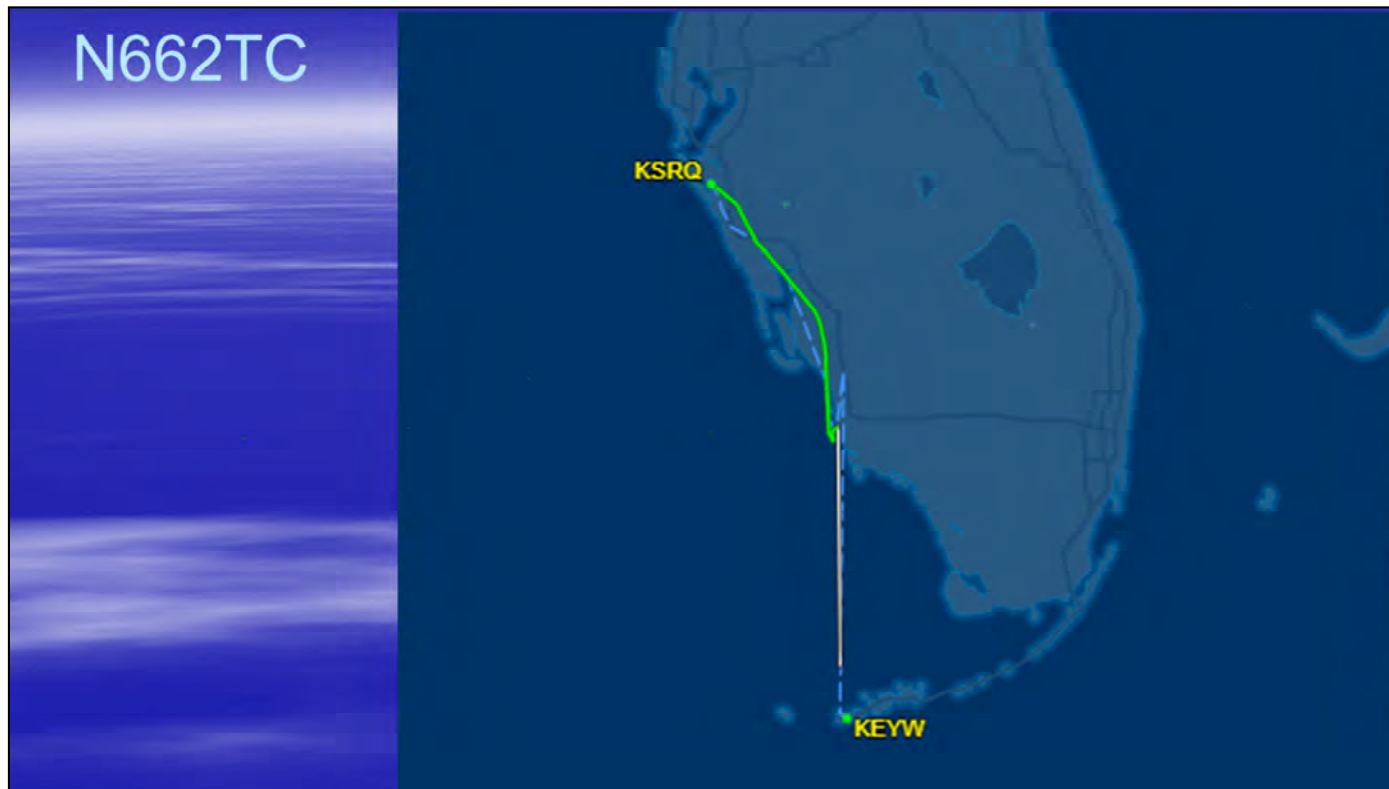
## Follow-up Older Accidents

N#	Mo/Yr	Model - Event	Cause	Fatal	Notes
<b>N662TC</b>	<b>12/20</b>	<b>Malibu – engine out</b>	<b>Both</b>		<b>Naples, FL. Fuel starvation.</b>
N463ST	12/20	Matrix – NLG collapse landing	Mech		York, PA. Improper welding eng mount.
G-LAMI	7/22	Mirage – rejected takeoff	Pilot		England. Takeoff decision making.
N627PR	3/22	M600 – landing LOC	Both		Olive Branch, Mississippi

But before talking about recent events, I'd like to look back at some older accidents, where the final reports give us some insights we didn't have at the original presentation.

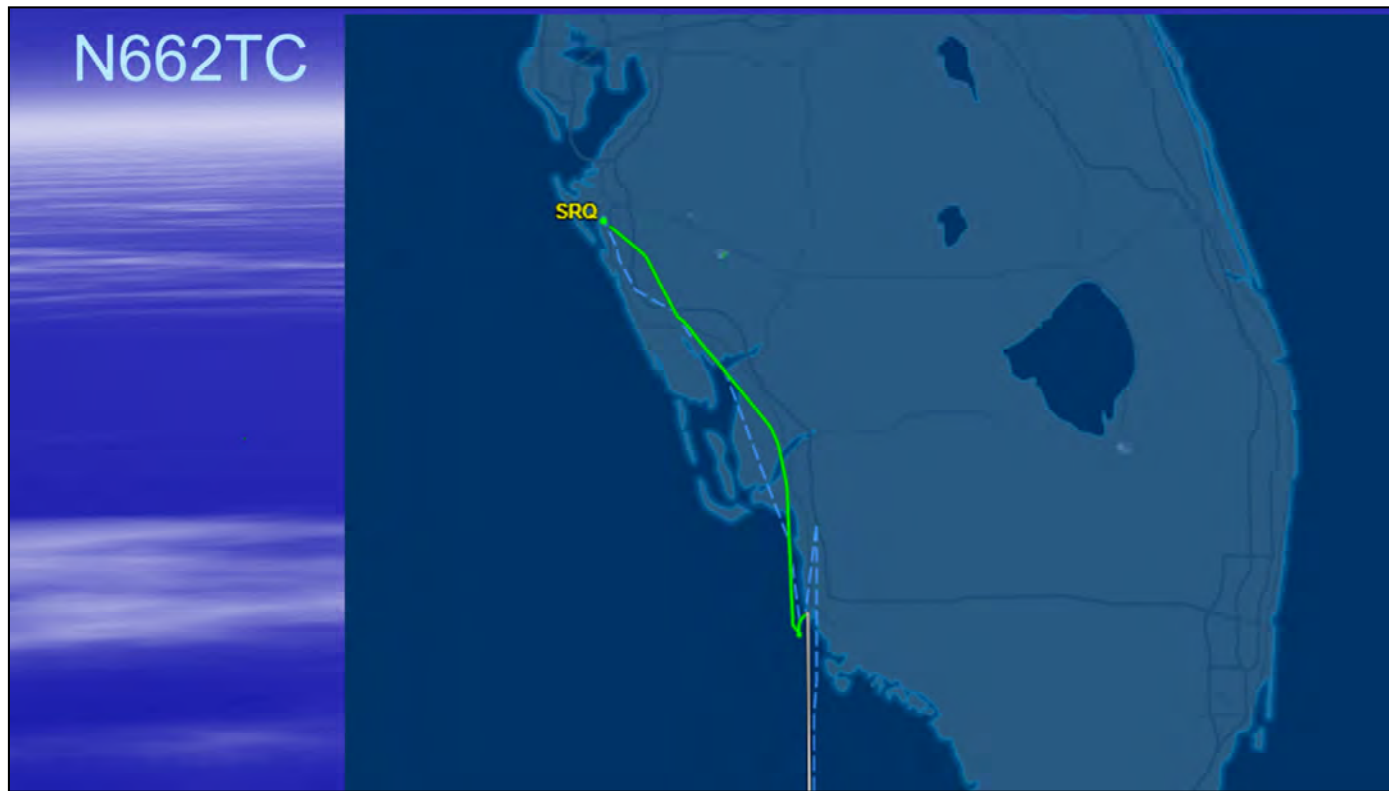


First is a 1985 Malibu that water-landed off the coast of Florida 2 ½ years ago.



The pilot and his wife were on an IFR flight in good weather from Sarasota to Key West.

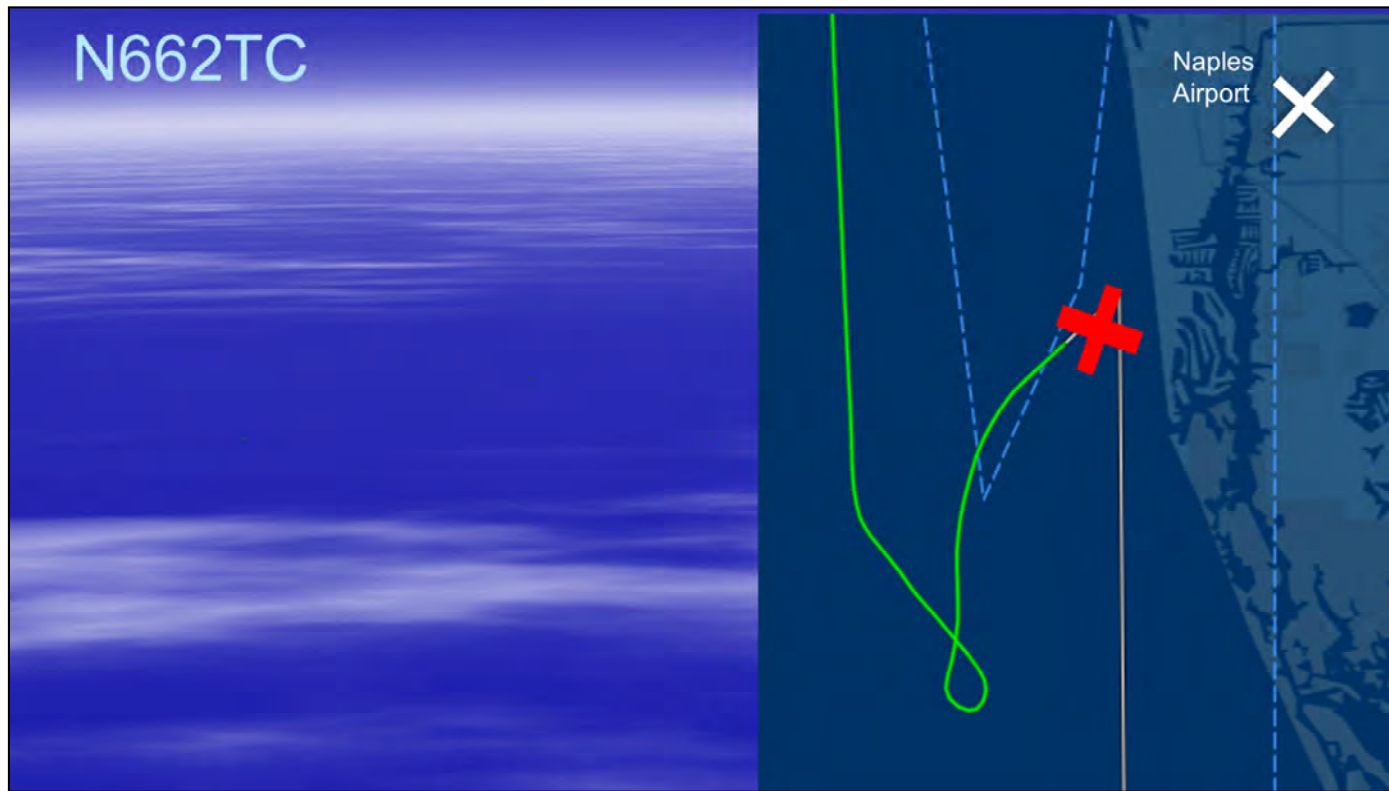
They were cruising at 7000.



About halfway, just past Naples, the pilot switched tanks from right to left.

The engine immediately started sputtering and losing power. When I first presented this accident two years ago, we didn't know why the engine died.





As you might remember, due to various pilot and ATC factors, the plane couldn't reach the nearest airport.



The pilot ditched perfectly about a third of a mile offshore. He and his wife exited the floating plane and swam for about 15 minutes until they were picked up.

So, an excellent emergency water ditching.

N662TC



The plane was recovered from the shallow water.

And the final NTSB report reveals the cause of the engine power loss.

As is often the case, there is a long chain of events that resulted in this emergency.

# N662TC

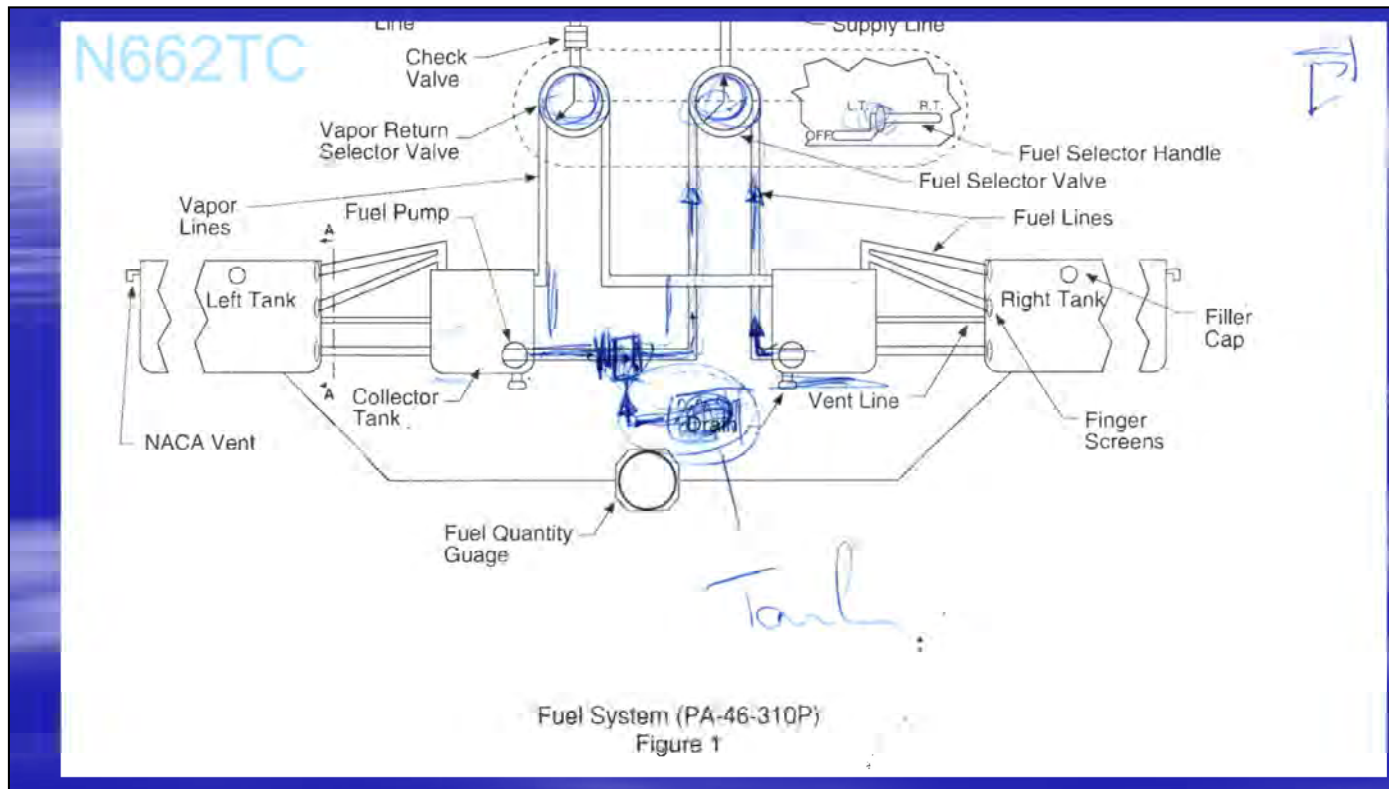


In this case, the accident chain started three years prior.

A few of you might remember that this pilot flew his plane around the world in 2017.

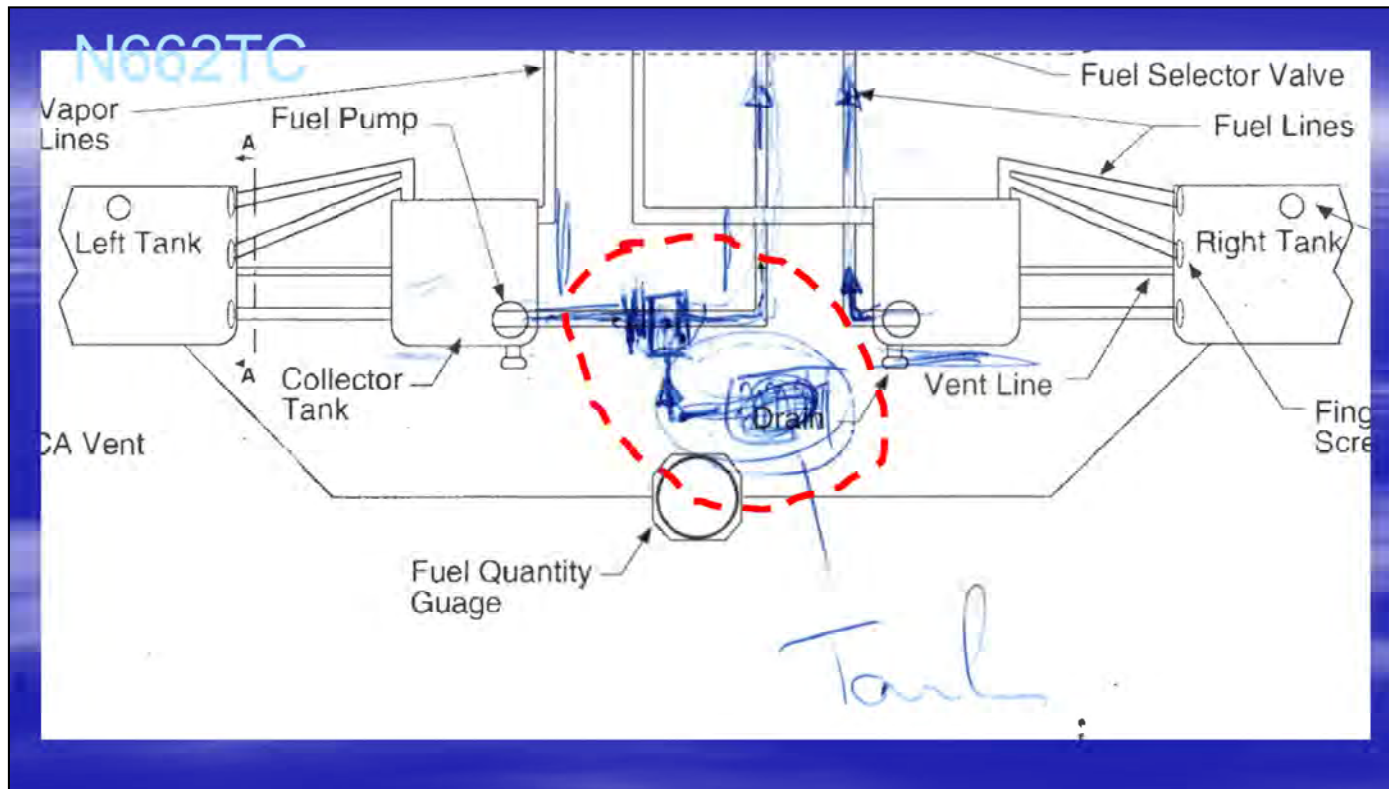
For that trip, a fuel ferry tank was installed in his Malibu.





This diagram is the only documentation in the airplane logs or POH regarding the ferry tank installation.

There was no STC or Form 337.



You can see the ferry tank was connected to the left tank fuel line.

N662TC



This is the valve that was installed with the ferry tank. It's on the forward side of the wing spar between the front seats.

With the valve in the "off" position, fuel flows from the left wing tank.

With the valve in the "on" position, as it was found in the recovered plane and shown here, fuel flows from the ferry tank.

As it turns out, the plane had gone thru an annual two months prior to the accident.

Post-maintenance test flights were conducted with the fuel selector on the right tank. (That is, the fuel line that did not have the ferry tank spliced in.)

N662TC



This was the first flight in which the fuel selector had been switched to the left tank. But with the ferry tank valve in this position (as on this picture), no fuel would flow from the left tank. So the engine stopped due to fuel starvation, even though there was plenty of fuel in the wing tanks.

It's unknown how the valve got moved; perhaps someone's foot hit it.

Regardless, in the heat of the moment, when the engine stopped, the pilot forgot to check this valve, and ended up in the water.

This is a good lesson for us to fully document airframe changes, as well as updating our checklists (in this case – the pre-start checklist and the engine failure checklist) to account for such modifications.



## Follow-up Older Accidents

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G-LAMI	7/22	Mirage – rejected takeoff	Pilot		England. Takeoff decision making.
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A second older accident was a nose gear collapse, also 2 ½ years ago.



This is a 2008 Matrix...

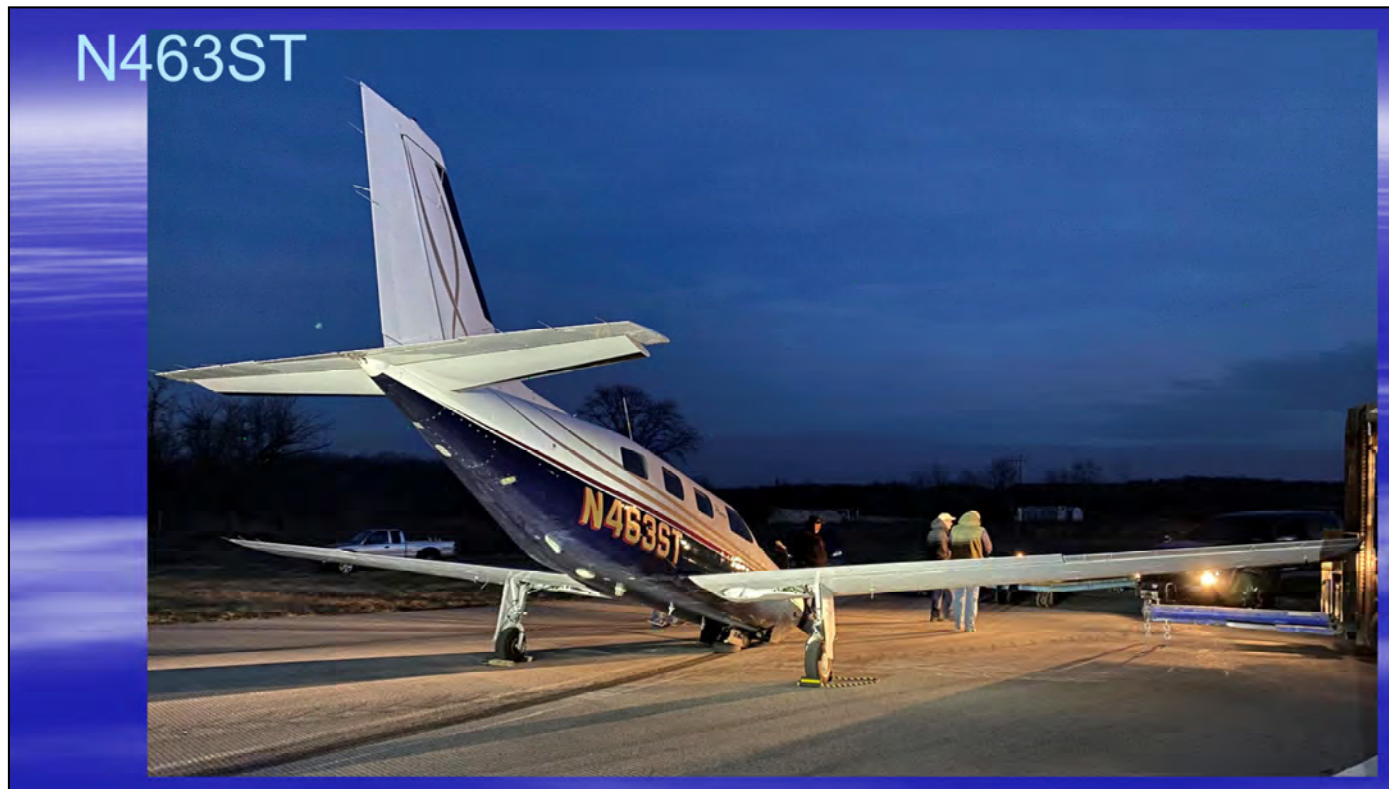


... which was on a trip from Virginia to York, PA.



The plane landed on runway 17 at York, and the nose gear collapsed. There were no injuries.

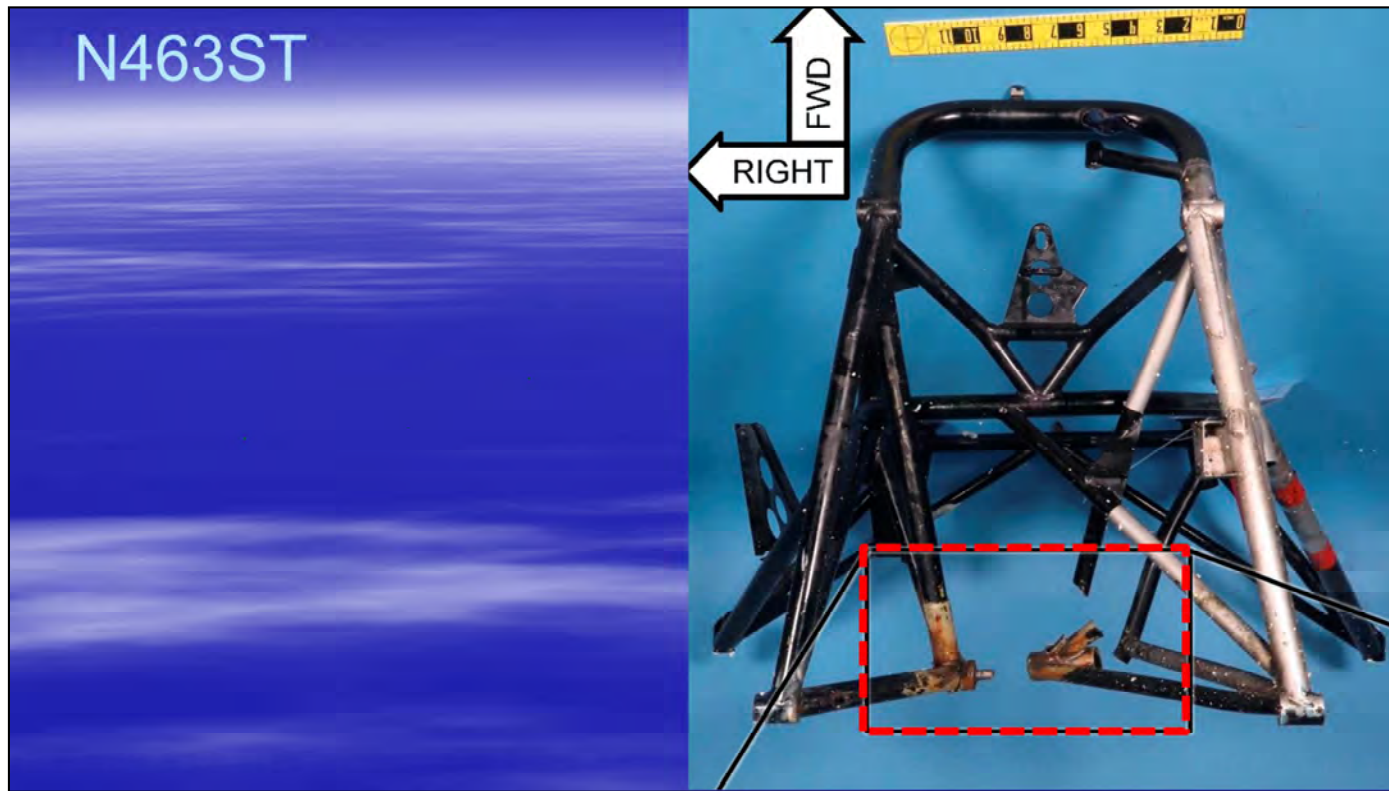
This is another case where the accident chain started years before, as you'll see.



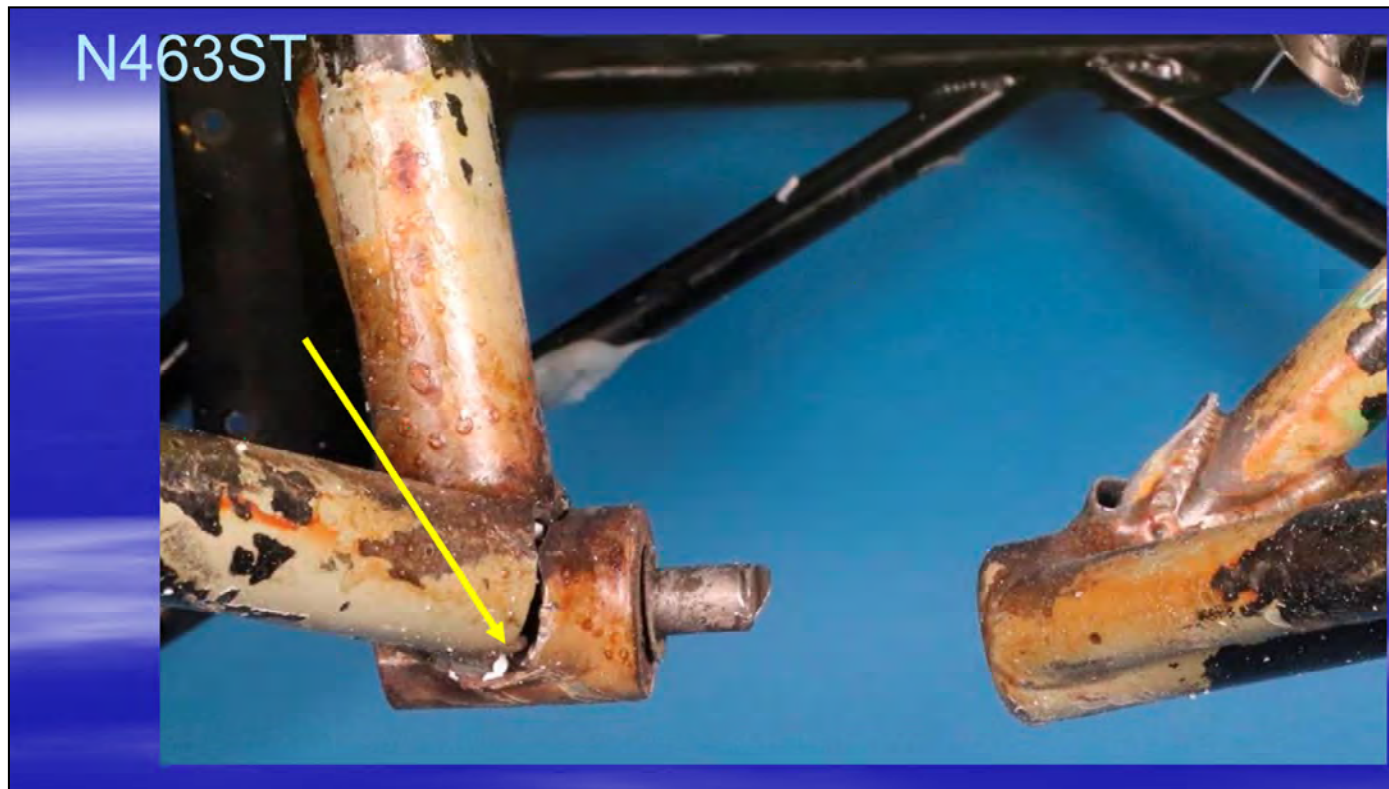
The local mechanic at the time said this seemed to be an actuator attachment point failure on the engine mount.

We saw a lot of these in the past, until Piper came out with a strengthened engine mount. We haven't seen much of these mount failures for at least a decade now.





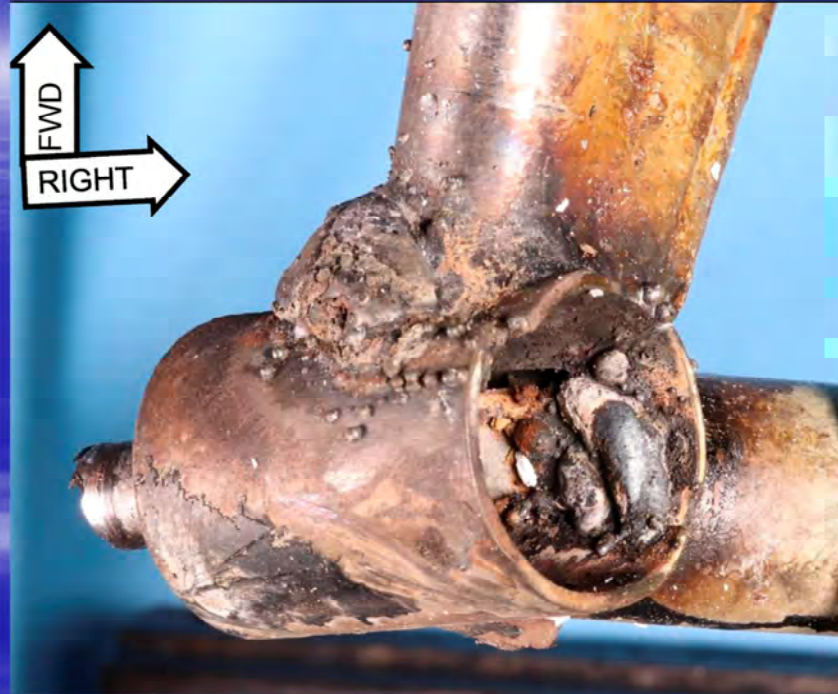
The engine mount was sent to the NTSB for examination, and is shown here, with the broken nose gear actuator attach point highlighted.



Here's a close-up of the actuator attach feet.

It's easy to see where the right foot failed (pointed at by the yellow arrow), with that large crack.

N463ST



Here's a close-up that attach foot showing both inside and outside of the tubing.

It's obvious that this area was re-welded post manufacture, and it's a pretty sloppy welding job.

N463ST



*The New Piper Aircraft, Inc.*  
2926 Piper Drive  
Vero Beach, Florida, U.S.A. 32960

# SERVICE No. 1103B BULLETIN

**PIPER CONSIDERS  
COMPLIANCE MANDATORY**

Date: November 25, 2003

(S)

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Service Bulletin 1103B adds the requirement of inspecting the nose gear actuator mounting bolt to ensure sufficient thread engagement with the lock nut after the engine mount has been replaced. This inspection and bolt replacement is only required if the engine mount was found cracked and is being replaced or has been replaced with the engine mounts listed in Table 1 for your aircraft.

Many of you are likely familiar with SB 1103, which has had a number of versions (this is the B version from 2003).

# N463ST

**COMPLIANCE TIME:**

**PART I INSPECTION:** To coincide with the next regularly scheduled maintenance event, and each one hundred (100) hours time in service or annual inspection, whichever occurs first, thereafter or until PART II of this Service Bulletin is accomplished.

**PART II REPLACEMENT:** If cracks are found during the Inspection in PART I, replace cracked engine mount. *Note: Compliance with PART II of this Service Bulletin will relieve the repetitive inspection requirements of PART I of this Service Bulletin.*

**APPROVAL:**

The alteration as specified in the instructions section has been shown to comply with the applicable Federal Aviation Regulations and is FAA approved.

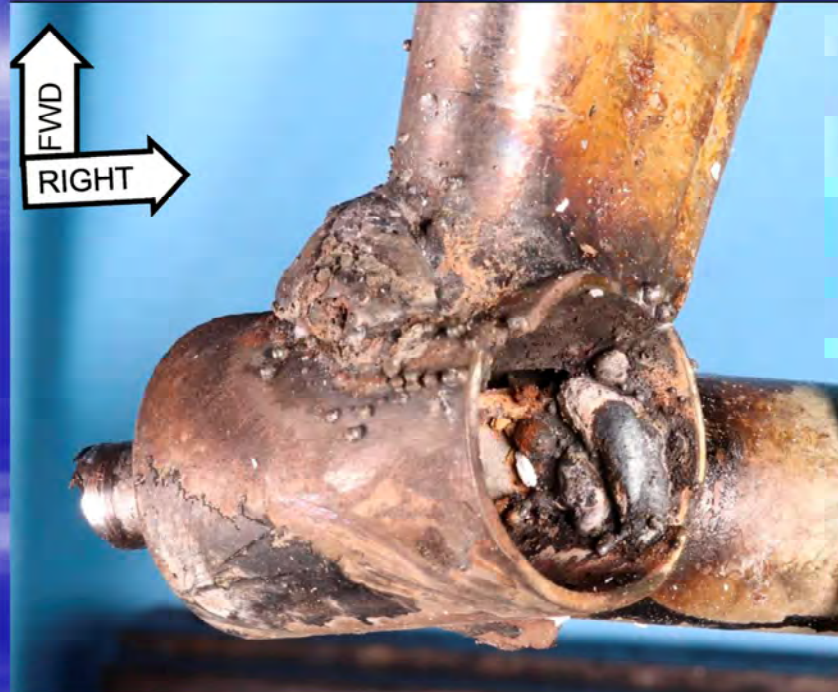
You'll recall this is the SB that requires annual or 100-hr inspections of the engine mount nose gear actuator attach feet, looking for cracks.

If a crack is found, it mandates replacing with the new stronger mount.

Repair of cracks is not mentioned, so by implication, no mount repairs are allowed.



N463ST



The pilot owner had purchased this plane in early 2019, almost 2 years prior to the accident. The mount repair wasn't done during his ownership.

And in fact, there was no mention anywhere in the logbooks of this repair; so we don't know when it was done. But this repair was certainly contrary to Piper's SB.

The final link in the accident chain is that an annual done six months prior to the accident doesn't mention compliance with SB 1103.

Another reminder of the importance of scrupulous maintenance of our airplanes.

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N627PR	3/22	M600 – landing LOC	Both		Olive Branch, Mississippi

Another older accident was this rejected takeoff last year in England.

As usual, in my experience, the UK Air Accidents Investigation Branch (the equivalent of our NTSB) released a thorough and very well-documented report.



This was a 2022 Mirage that was taking off from Wycombe Airpark.

The ATP-rated pilot had 131 hrs time-in-type, and was giving a demo ride to prospective purchasers. I'm going to call him the captain of the flight, for reasons that will shortly become clear.





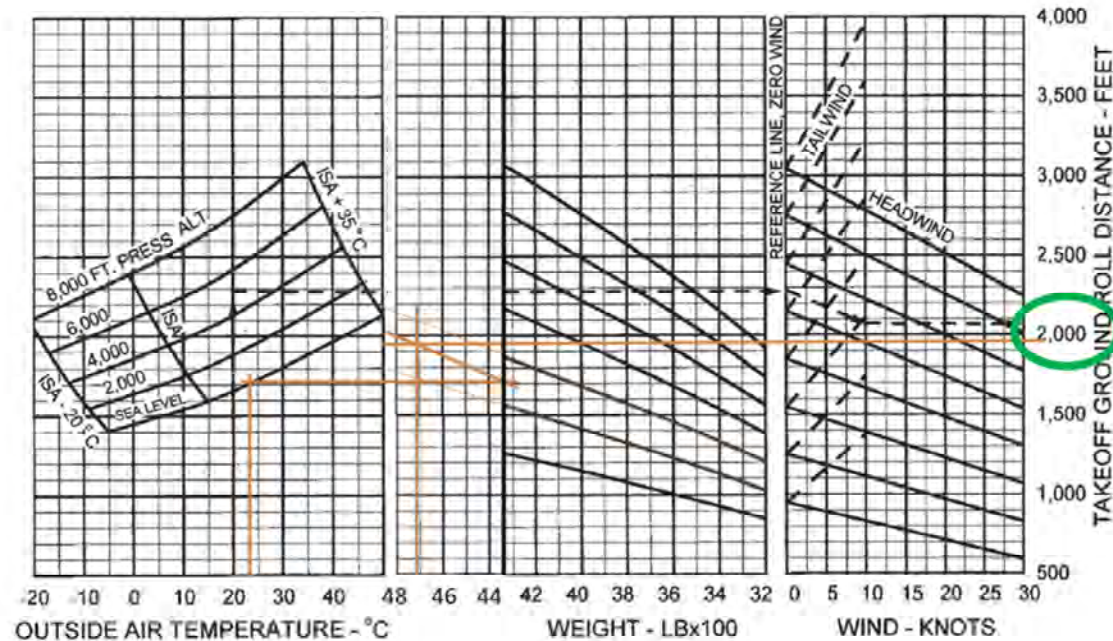
Runway 06 is 2360 feet long, and there are trees not far from the departure end.

The captain guess-timated that, with a reduced fuel load, he'd be just about at gross, including the five men who all wanted to go along on the demo ride.

In retrospect, with the six men onboard, and the fuel load, the actual takeoff weight was almost 400 lbs over max gross.



## Appendix 1 - Takeoff ground roll calculation:



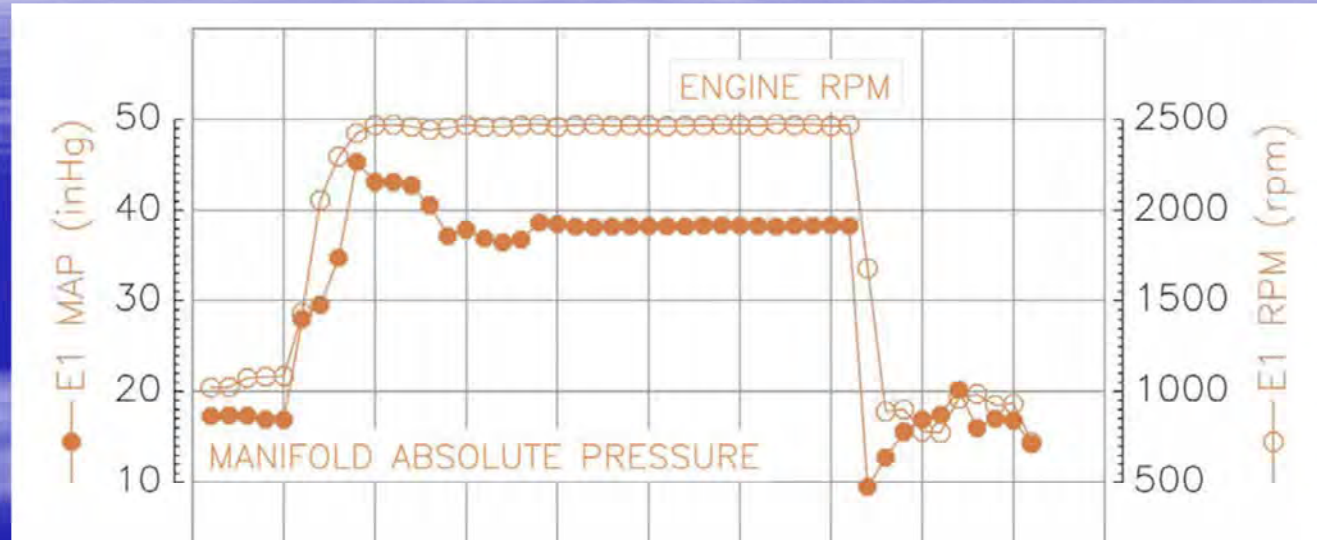
Extrapolating from performance tables what the takeoff distance would be for the overweight Mirage yields roughly 2000 feet, if everything was done perfectly. But everything was **not** done perfectly.

The right seat pilot-rated prospective purchaser wanted to fly, and the captain let him do so. The passenger had 700 hrs, mostly in a Saratoga, and no PA46 time.

Then they back-taxied on the runway, instead of using the grass taxiway, because they wanted to see how tight a circle the plane could make. So by the time the right-seater turned around and lined up, they'd used up another 100 feet of the runway.

And the flaps were set to 10 degrees for the takeoff.

# G-LAMI



The right-seater advanced the throttle. These readings are from the G1000.

Brakes were released at 70% engine power, and the engine didn't reach 42 inches manifold pressure until 3 seconds later, using up still more runway.

The manifold pressure then exceeded 42 inches and a warning light came on. The captain reduced throttle to 38 inches, where it remained during the rest of the takeoff roll.

They rotated at 71 kts, and the stall warning horn went off.

At that point the captain decided they weren't going to make it, took over control from the passenger, throttled down to idle, landed, and slammed on the brakes.



The plane ran off the asphalt, the left main gear collapsed and punched up thru the wing (which you can see in this picture). The right main gear also collapsed, and the plane came to a stop.

So, poor decision making regarding loading and short-field procedures, both probably due to trying to please potential purchasers.

But kudos to the captain for aborting, even if he did so too late in the roll.

It is highly likely they would have hit the trees or stalled if they had kept trying to fly.

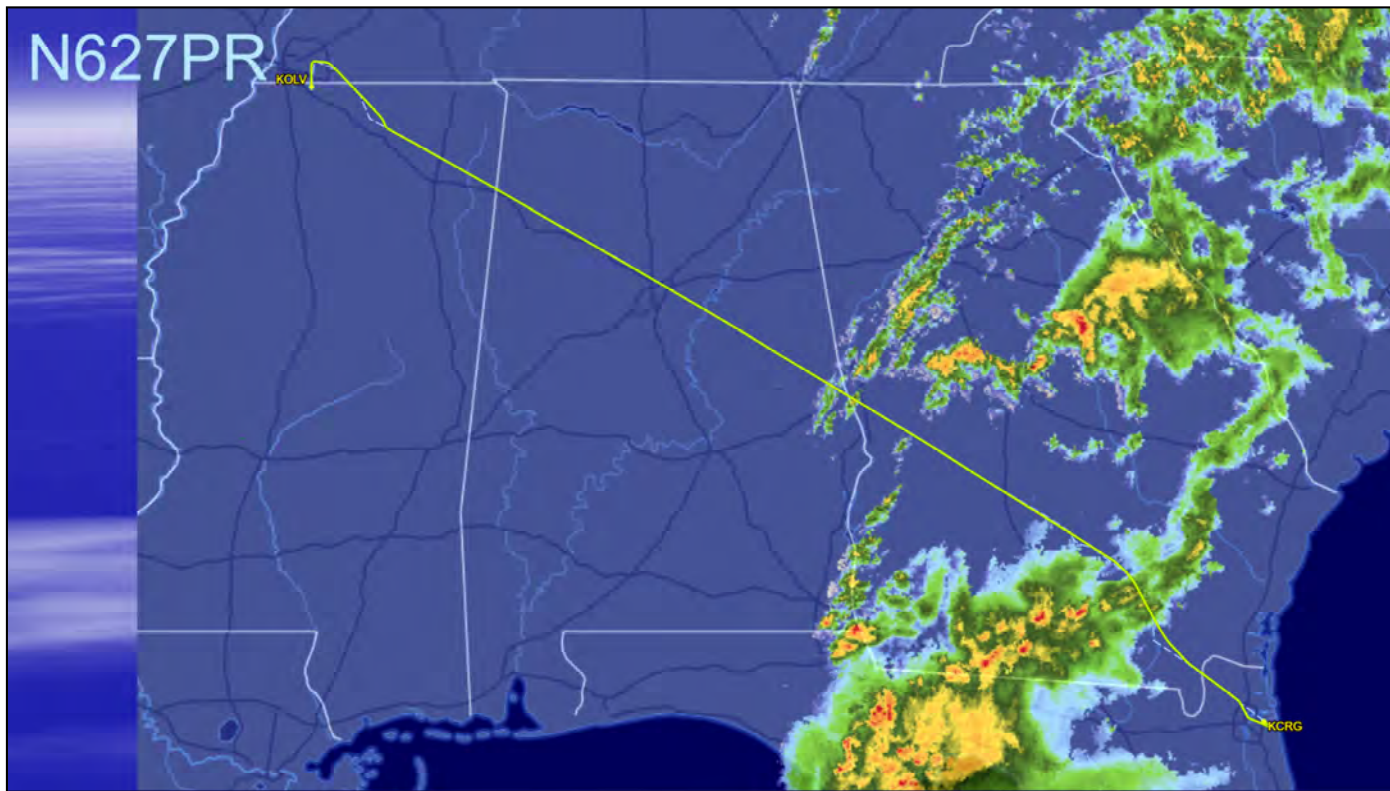
So the result was major plane damage, but no occupant injuries.

## Follow-up Older Accidents

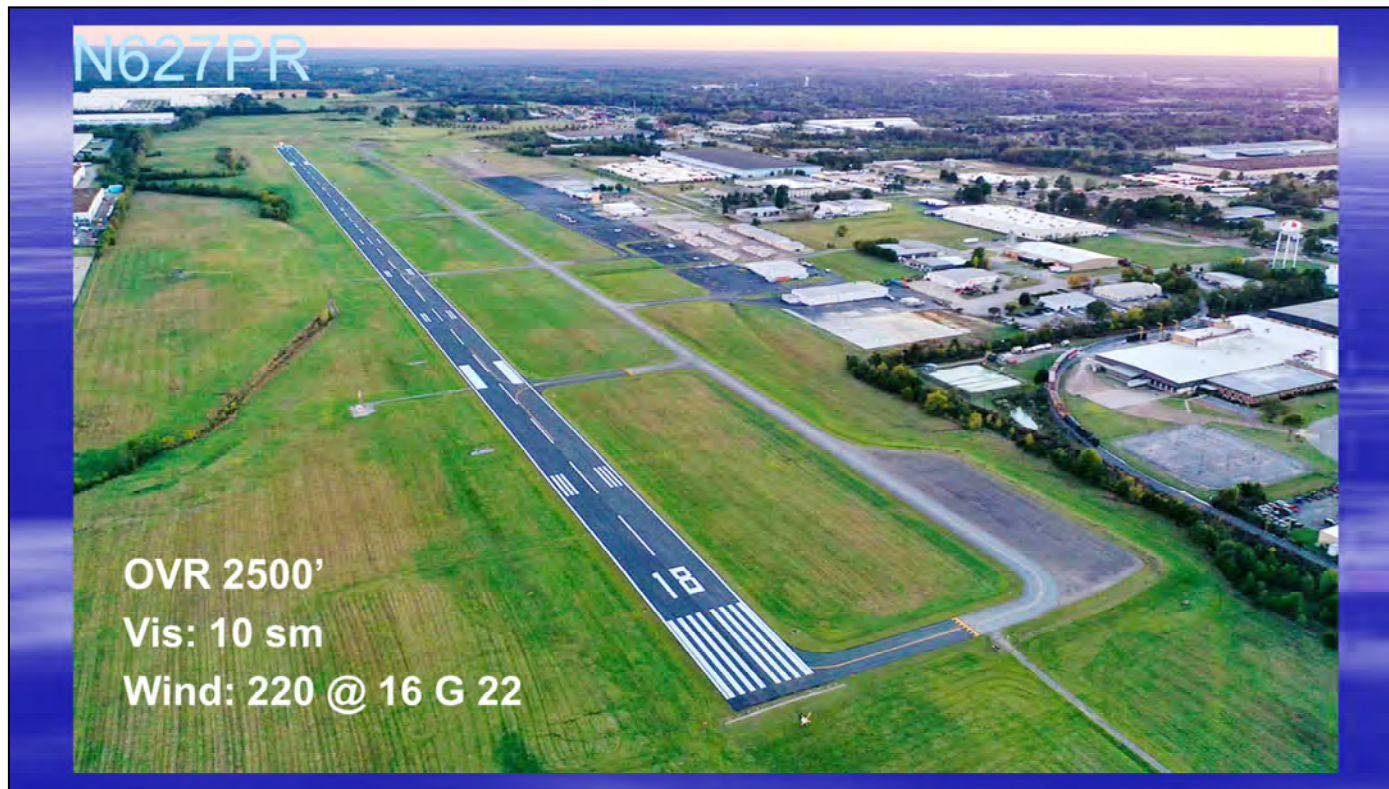
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Finally, there was a 2021 M600 landing loss of directional control in March of last year.





They were on a 2 ½ hour trip from Jacksonville to Olive Branch Mississippi, cruising at FL 250.



The weather at Olive Branch was windy & gusty.  
The crosswind component from the right was 16-22 knots.





The pilot flew the ILS-18 approach without any problem.

According to the pilot's statement, he touched down at 85 kts left of centerline, and as the plane was slowing, corrected back towards the centerline. The plane skidded, and ran off the right edge of the runway at about 50 knots.

The ground was muddy, and the nosegear collapsed.



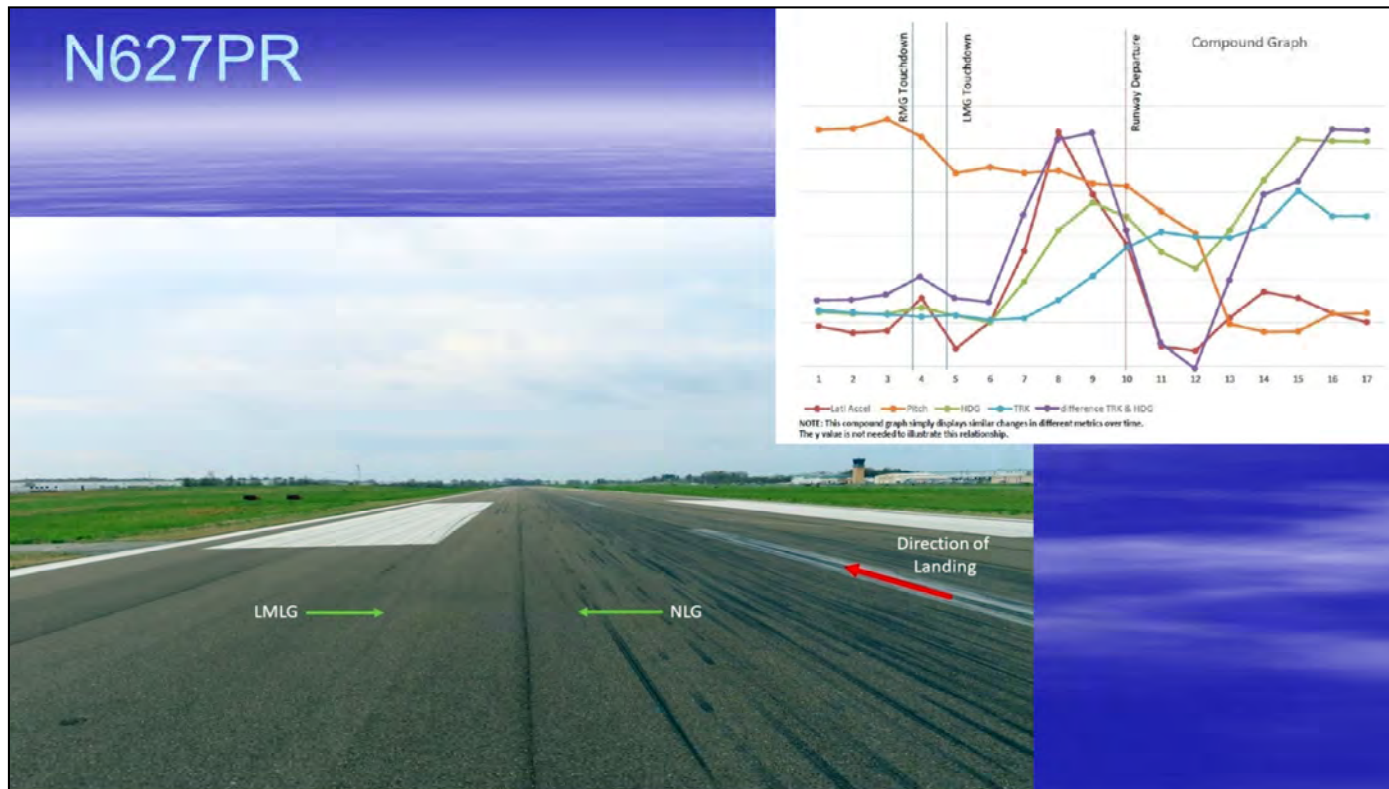
I was very pleasantly surprised at the NTSB final report on this accident.

Most previous mishaps like this one were basically dismissed as: pilot's failure to maintain directional control.

This time, however, the NTSB engineer looked into this accident a lot more closely.

(By the way, this was classed as an accident, rather than an incident, because there was damage to the engine mount.)





The NTSB analyzed the tire marks on the runway, and correlated those with the data pulled out of the avionics.



As would be expected with a right crosswind, the right main gear touched down first, about 10 feet left of centerline, followed by the left main gear one second later.

The nose gear touched down last, about 1 more second later.

Initially, all of these tire marks are faint, with clear tread marks, consistent with a rolling non-skidding tire.



Then, about 2 seconds after the nose gear touched down, the tire marks start a turn to the right, consistent with the pilot's statement that he steered back towards centerline.

The marks become darker, and the tread pattern gets blurred, indicating the tires were starting to skid.

The plane's track started diverging from the direction the nose was pointing, also indicating a skid. Just before the plane departed the runway, the nose was pointing almost 30 degrees right of the direction of travel – so a fairly pronounced left skid.





At this point, the NTSB could have just concluded “pilot error” – overcompensating in an attempt to return to centerline, resulting in a skid. Then, as the plane slowed, the tires got a grip, and the angled plane shot off the right side of the runway.

But the final NTSB report is a 16-page discussion of the PA46 nosegear.

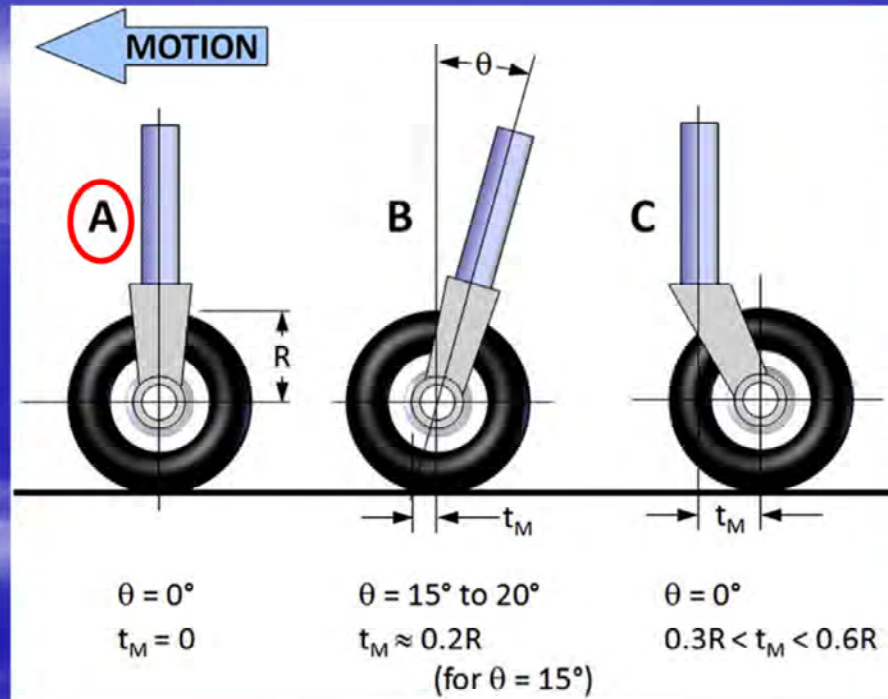


## N627PR

**Rake:** angle of strut (steering axis)

**Trail:** location of steering axis in relationship to the center of the wheel axle.

**A:** zero rake angle  
no trail



I'm a surgeon, not an aeronautical engineer, so forgive me for simplifying things.

I'd encourage you to read the NTSB report itself.

Briefly, "Rake" is the angle of the strut, determined by the line thru the center of the strut, the strut being the steering axis.

"Trail" compares the steering axis with the center of the tire contact patch on the ground.

It's important to understand that none of these three configurations is wrong, or right. Each has pros and cons, and like everything else engineered into airplanes, each is a compromise.

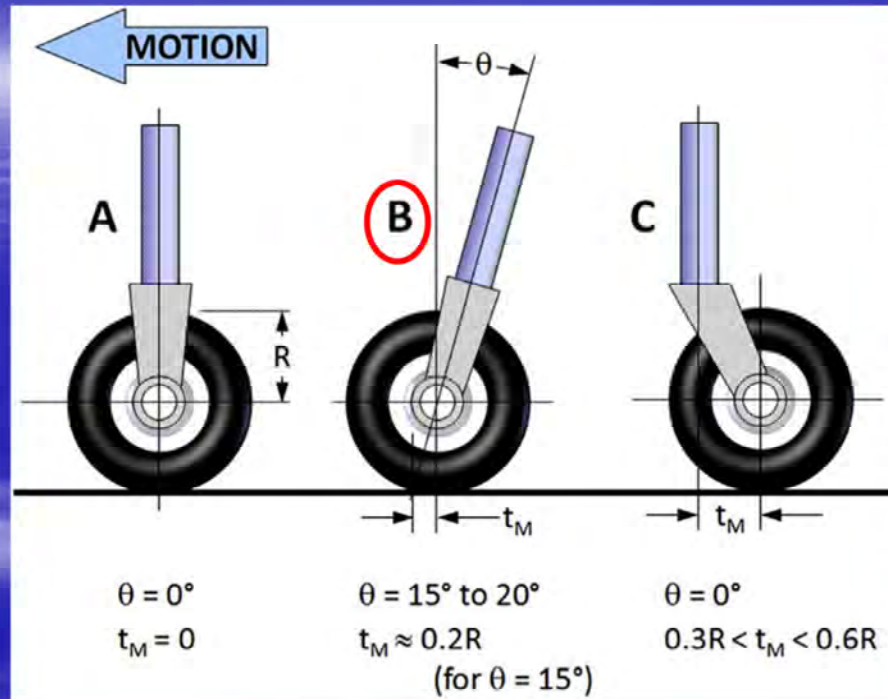
Our nose gear is like example A – a zero rake angle, and no trail: the steering axis is right on the tire contact point.

This configuration gives the lowest steering force and neutral stability, which works well at low speeds like taxiing.

## N627PR

**Trail and Caster:**  
location of  
steering axis  
in relationship to  
the center of the  
wheel axle.

**B:** positive trail



If the nose gear is angled forward, as in B, the tire contact point ends up behind the steering axis line. This is called positive trail.

This configuration results in self-correcting torque when the wheel is rolling, or positive dynamic stability. But steering forces are increased, and when standing still, the tire will tend to straighten itself un-commanded, neither of which is optimal for airplanes.

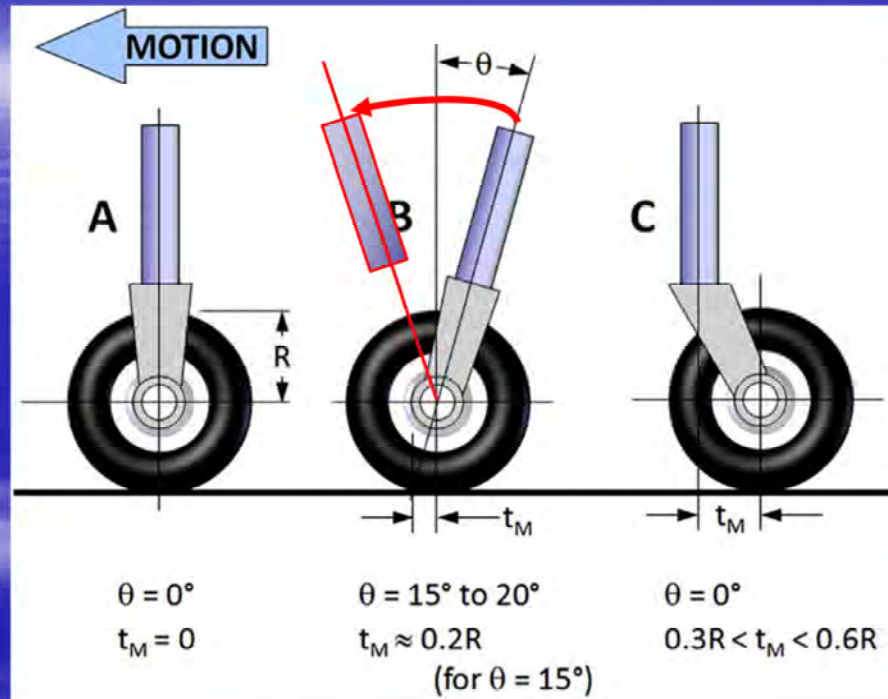
This is why bicycles and motorcycles have front forks that push the front wheel forward – increasing stability. But it's a tradeoff between increased stability and increased steering effort.

If any of you have ever ridden one of those '60's Easy Rider motorcycles with the really long extended front forks, you know that it takes more effort to turn since the tire is constantly trying to center itself.

## N627PR

**Trail and Caster:**  
location of  
steering axis  
in relationship to  
the center of the  
wheel axle.

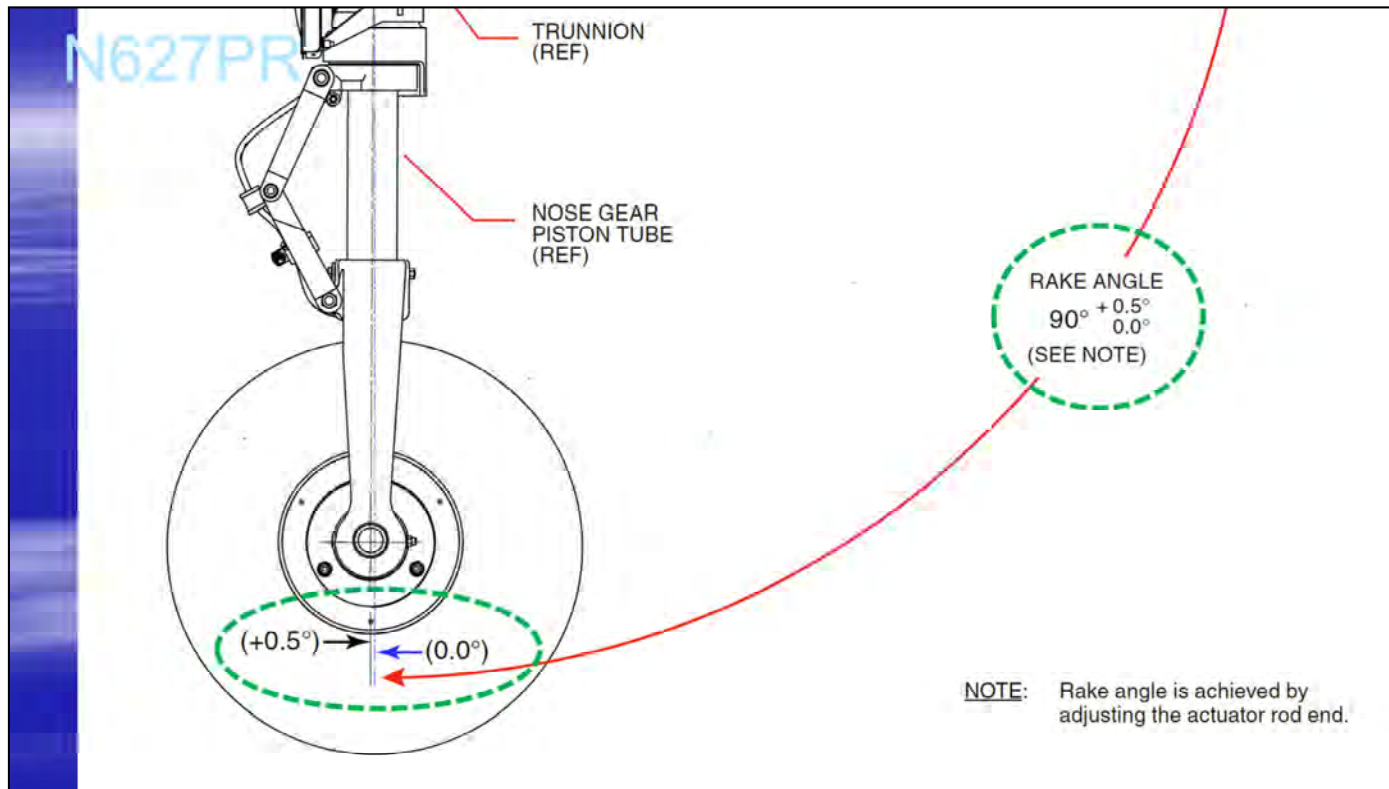
Opposite B:  
negative trail



If you reverse picture B, and have the tire trailing the vertical axis (as shown in red), you end up with negative trail.

This configuration is dynamically unstable; the nosewheel will actually try to increase a turn by itself.

It's why you never see negative trail on a bicycle or motorcycle.



It's also why the Piper specs for our nose gear allows half a degree forward angle, but zero degrees back.





This positive trail stability is why all modern bicycles have the front fork angled forward, thus putting the tire contact patch behind the extended fork line.

The configuration provides positive dynamic stability, which is why if you're young and daring, you can ride this bike with no hands on the handlebars.



Even a toddler's tricycle has the front fork angled forward, for increased dynamic stability.



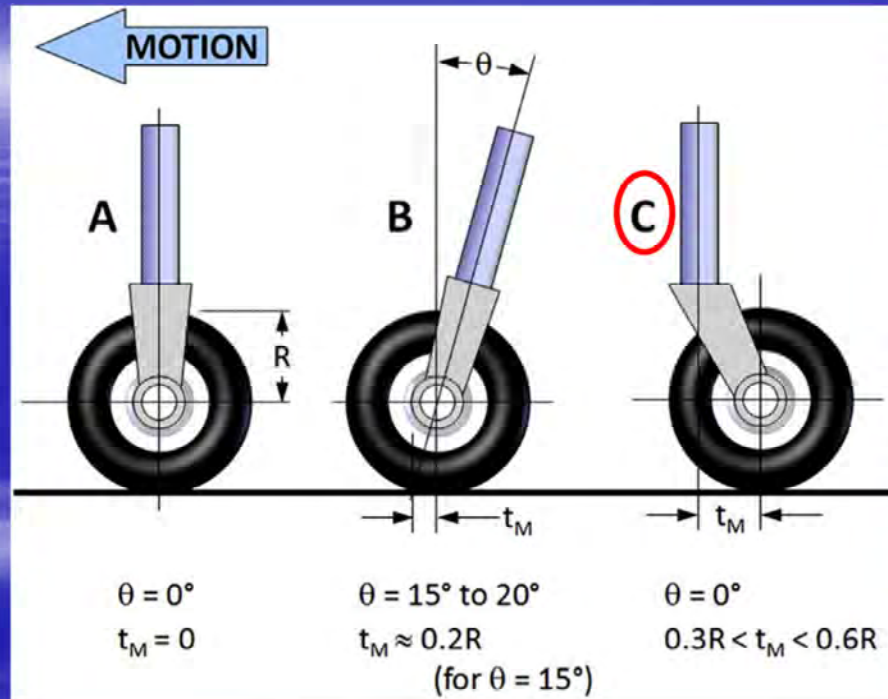
However, our landing gear is much closer in design to that of the penny-farthing bikes of the late 1800's. The tire contact patch is almost exactly at the same point as the vertical front fork.

I've talked to a number of folks who ride these, and they all agree these are unstable – you would never even consider letting go of the handlebars...

## N627PR

**Trail:** location of steering axis in relationship to the center of the wheel axle.

**C:** offset trail



Finally, you'll see some planes (not ours) with the C configuration, called an offset trail.

The front wheels of a supermarket shopping cart are set up this way.

Often planes set up this way use differential braking to steer.

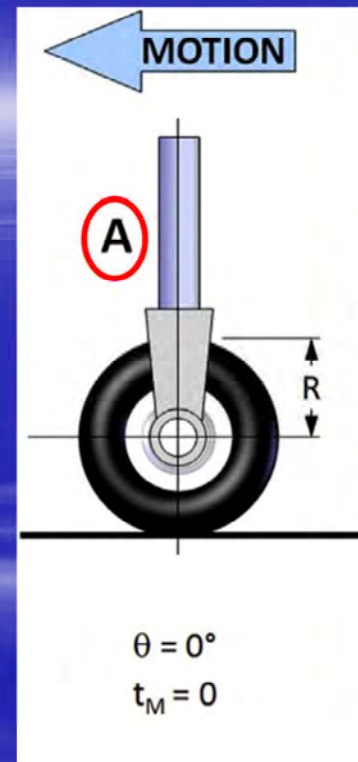
This avoids the bad effects of having the nosegear tilted back that I just talked about.

This C setup also has positive dynamic stability, but is more susceptible to shimmy, especially at high speed.



# N627PR

**Trail:** location of steering axis in relationship to the center of the wheel axle.



So our nose gear is like A above.

This has the lowest steering effort and is easy to steer at low speed. But it's not self correcting, and if the shaft gets angled back just a little bit, you could have negative stability.

In our accident plane, all the measurements that could be verified post-accident were within specs, and just 10 flying hours before the accident, Piper's nose gear inspection had been accomplished.

But think about it, during landing, just as the stationary nose tire touches down, there's a lot of rearward force on the tire until the tire spins up. So at least theoretically, you could briefly get a negative rake angle.

Does that actually happen???

# N627PR

## Probable Cause and Findings

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

The airplane's uncommanded hard right turn and loss of directional control during landing in crosswind conditions. Contributing to the accident were the dynamic instability of the nose landing gear and the crosswind conditions.

Well, this NTSB report implies it can happen.

Here's the probable cause, which includes a contributing factor of "dynamic instability of the nose landing gear".

Remember that you only get dynamic instability if the rake angle goes negative, or the tire rolls onto its sidewall (which the NTSB ruled out since there weren't scuff marks on the tire sidewalls).

So it seems to me the NTSB is suggesting at least a brief period of negative rake angle...

## N627PR

The manufacturer redesigned the lower NLG fork area to move the axle 0.5 inches aft of the steering axis. This is equivalent to raking the NLG forward 5°, making it inherently dynamically stable. The new NLG should be dynamically stable even during aft deflection since the steering axis will remain forward of the vertical axis (center of the tire contact patch) and provide a restoring force to the NLG tire if deflected. The new NLG improves the dynamic stability of the NLG allowing the nose wheel to self-center.

The NTSB also talked about Piper's redesign of the M600 nose gear fork, which moves the axle ½ inch behind the steering axis.



This is a small rear offset (like those supermarket wheels). Seems like a tiny difference, but the NTSB says it's the equivalent of raking the nose wheel 5 degrees forward, which we saw results in positive dynamic stability.

This change began with serial number 198, and has been retrofitted to a number of earlier M600's.

Piper's reason for this change was to better accommodate unimproved fields, but I'm sure it didn't escape their engineers' notice that this change might also increase steering stability and perhaps make runway excursions less likely...

As I said at the beginning, none of these nosegear configurations is wrong. Each has pros & cons. But I like the intent of this Piper improvement.

I have over 3000 landings in the PA-46, and not had darting or a runway excursion. But if Piper someday offers this modification for my plane, I'd buy it.

It will be very interesting over the next few years to compare runway excursion rates in PA46 airframes with this new gear design vs those with the original setup....



## Follow-up Older Accidents

N#	Mo/Yr	Model - Event	Cause	Fatal	Notes
N662TC	12/20	Malibu – engine out	Both		Naples, FL. Fuel starvation.
N463ST	12/20	Matrix – NLG collapse landing	Mech		York, PA. Improper welding eng mount.
G-LAMI	7/22	Mirage – rejected takeoff	Pilot		England. Takeoff decision making.
N627PR	3/22	M600 – landing LOC	Both		Olive Branch, Mississippi

So those are the old accidents I wanted to update.

There are still a few older accidents that are puzzling, for which we don't have final reports – maybe by next year...

Now let's move on to the more current accidents.

## Accident reports Sept 2021 – Aug 2022



You may recall these are accidents I talked about at last year's convention: 3 fatal accidents, and 7 non-fatals.

## Accident reports Sept 2022 – Aug 2023



Here's where we stand with official accidents for the 12-month period from last convention thru the end of August:  
5 fatal accidents, and 11 non-fatals.

So unfortunately, no improvement at all over last year.

NTSB and overseas reports have been slow this year, so for some of these I don't have much hard information, but let's get into them.

## NTSB Reports since Sept 2022

N#	Mo/Yr	Model - Event	Cause	Fatal	Notes
<b>N43605</b>	<b>9/22</b>	<b>Malibu – stall/spin?</b>	<b>Pilot</b>	<b>2</b>	<b>Flagstaff, Az. Convection.</b>
N9190X	9/22	Malibu – landing crash?			France.
N987PS	10/22	Mirage – go-around crash	Pilot		Clovis, NM.
N234PM	11/22	Meridian - Approach LOC?	Pilot?	<b>2</b>	N Platte, NE. Icing?
N5EQ	12/22	Mirage – approach crash		<b>1</b>	Goose Bay, Canada. Weather?
N282TX	12/22	M600 – struck from behind taxi			Brookshire, TX. Rear-ended by P51.
N963MA	1/23	JetProp – approach crash	Pilot?	<b>4</b>	Yoakum, TX.
N864JB	2/23	Mirage – takeoff climb crash	Pilot?		Spruce Creek, FL. Didn't climb.
D-ETTg	3/23	Mirage – engine failure			Germany. Loss power?
N280KC	3/23	Mirage – takeoff crash			St Augustine, FL. Didn't climb.

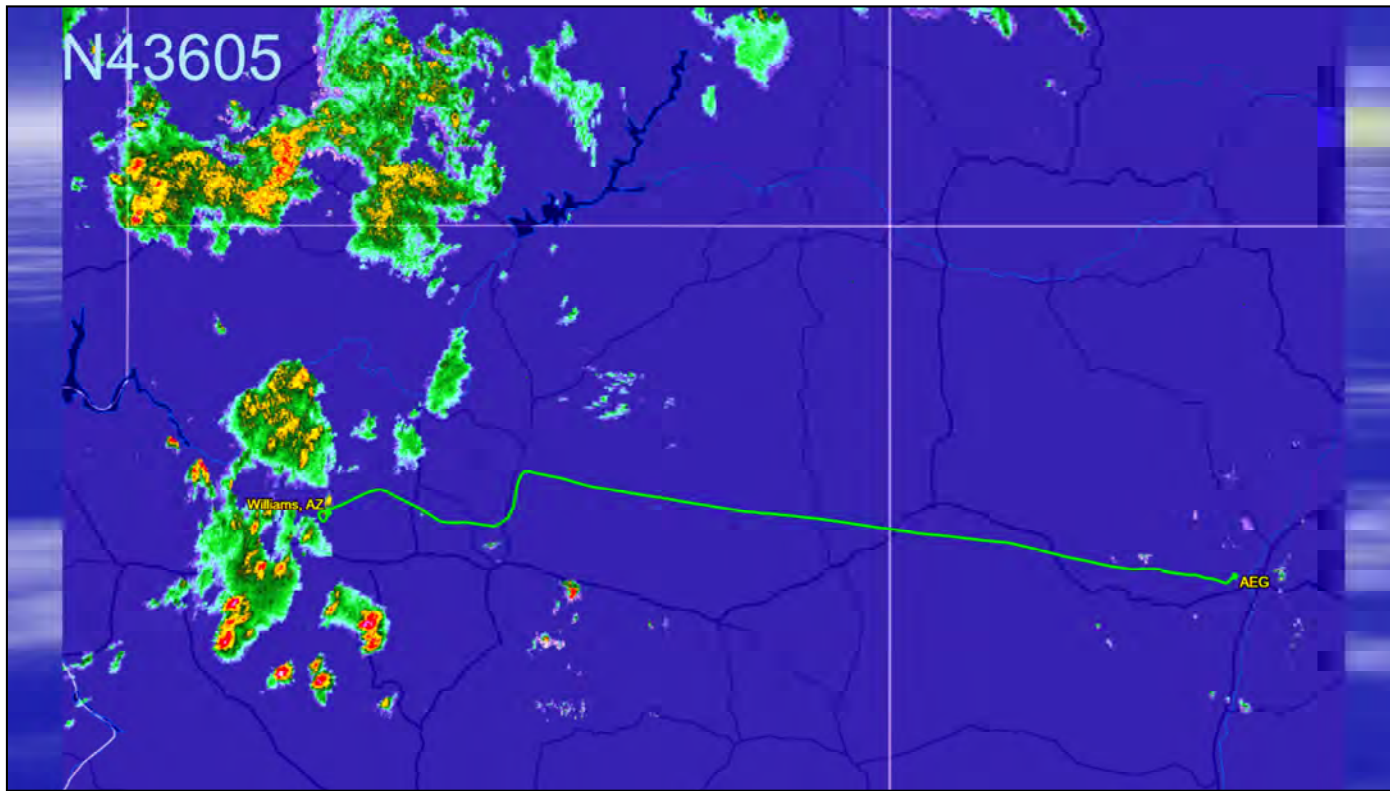
The first accident occurred last September, and killed two people.



N43605



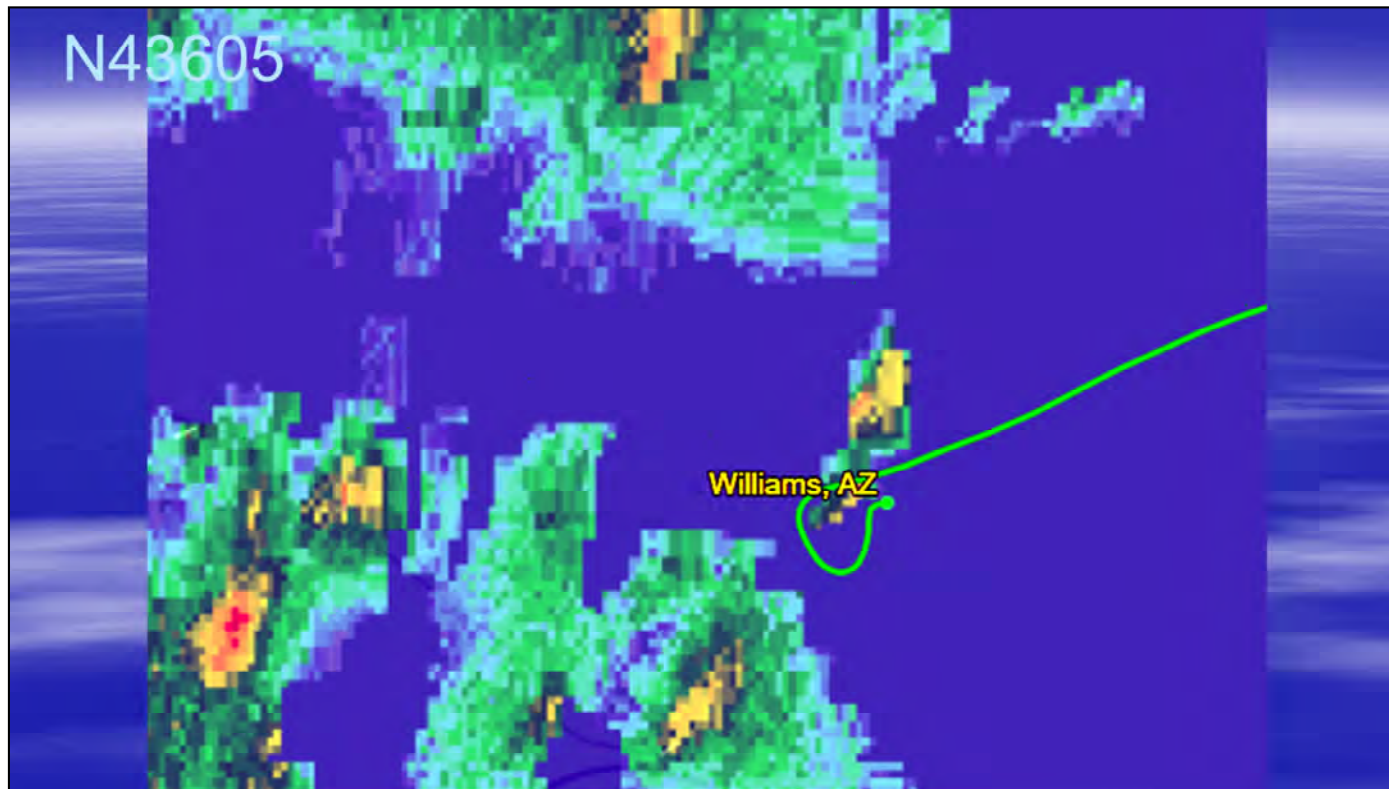
This was an '84 Malibu.



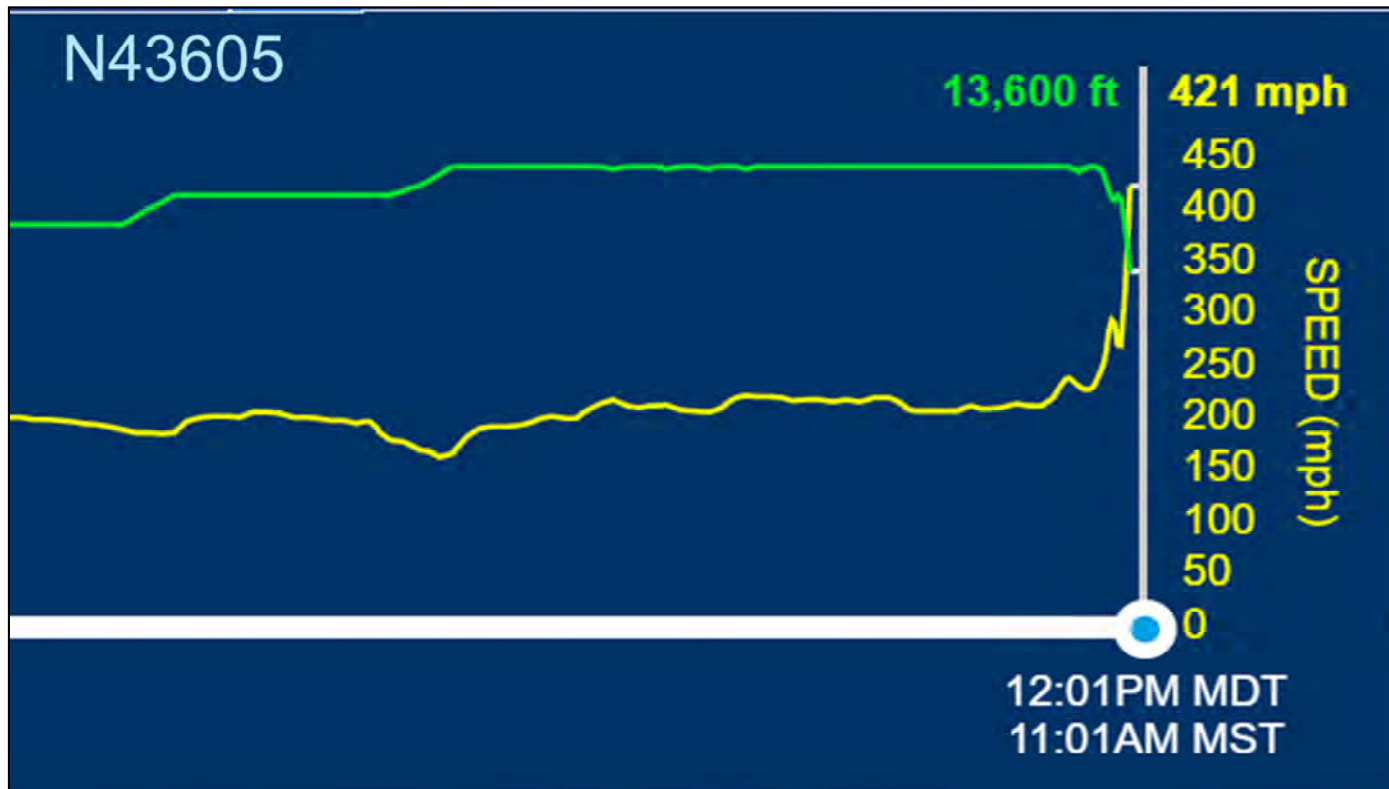
The student pilot and his wife took off from Double Eagle II, near Albuquerque, with flight following.

Almost two hours later the plane crashed near Seligman, Arizona, around 11am.

Remember that these FlightAware pictures don't accurately show the weather coordinated with the flight time. But it's clear he was flying into an area of active weather – other flights in the area reported moderate to severe turbulence and heavy precipitation.



On this closeup, the end of the flight track, regardless of the weather graphics, looks to me like a stall/spin or graveyard spiral.



The last FlightAware hit was in a steep descent at 13,600' , going 421 miles per hour over the ground, likely just before an in-flight breakup.

The debris field stretched over two miles, with separated sections of both wings and the tail.



N43605

## Times Record News

CRIME

### Bail set for violations

### on alleged probation



**Patrick Johnston**

Wichita

Published 1:26 p.m. CT Oct. 6, 2017

After nearly four months behind bars, a local contractor has had a bail amount set after being accused of violating the terms of his probation on his fourth driving while intoxicated conviction.

\_\_\_\_\_, 37, was arrested on June 16 and had not been released from the Wichita County Jail before Friday's hearing on a contested probation revocation.

As I mentioned, the pilot held a student pilot certificate, which had been issued 20 months prior to this crash.

Of course, student pilots are not permitted to carry passengers, so it's pretty obvious that this pilot wasn't too fussy about rules.

<CLICK> In addition, 5 years prior to this accident, the pilot spent 4 months in jail after his fourth DWI conviction.

N43605

## Times Record News

### NEWS

# A city contractor with DWI convictions got two weekends in jail for probation violations

**Trish Choate** Wichita

Published 9:46 a.m. CT Sept. 27, 2019 | Updated 9:52 a.m. CT Sept. 27, 2019

A Wichita Falls man whose business won a \$1.3 million roadwork contract from the city has been sentenced to two weekends in jail for violating his probation on felony convictions for driving while intoxicated, court records show.

\_\_\_\_\_, 39, pleaded true to violating the terms of his probation in 89th District Court on Wednesday, according to court documents.

Wilson violated his probation on two convictions for DWI-third or more by failing to provide his probation officer with timely written verification of attending Alcoholics Anonymous meetings from May 31 through June 13, court records show.

Two years later, he was again jailed for violating the terms of his probation on these felony DWI convictions.

Now, I have no idea whether his alcohol problem was in any way related to this plane crash.

But his driving and flying habits both show a classic anti-authoritarian mindset.

This is very dangerous for a pilot.

## NTSB Reports since Sept 2022

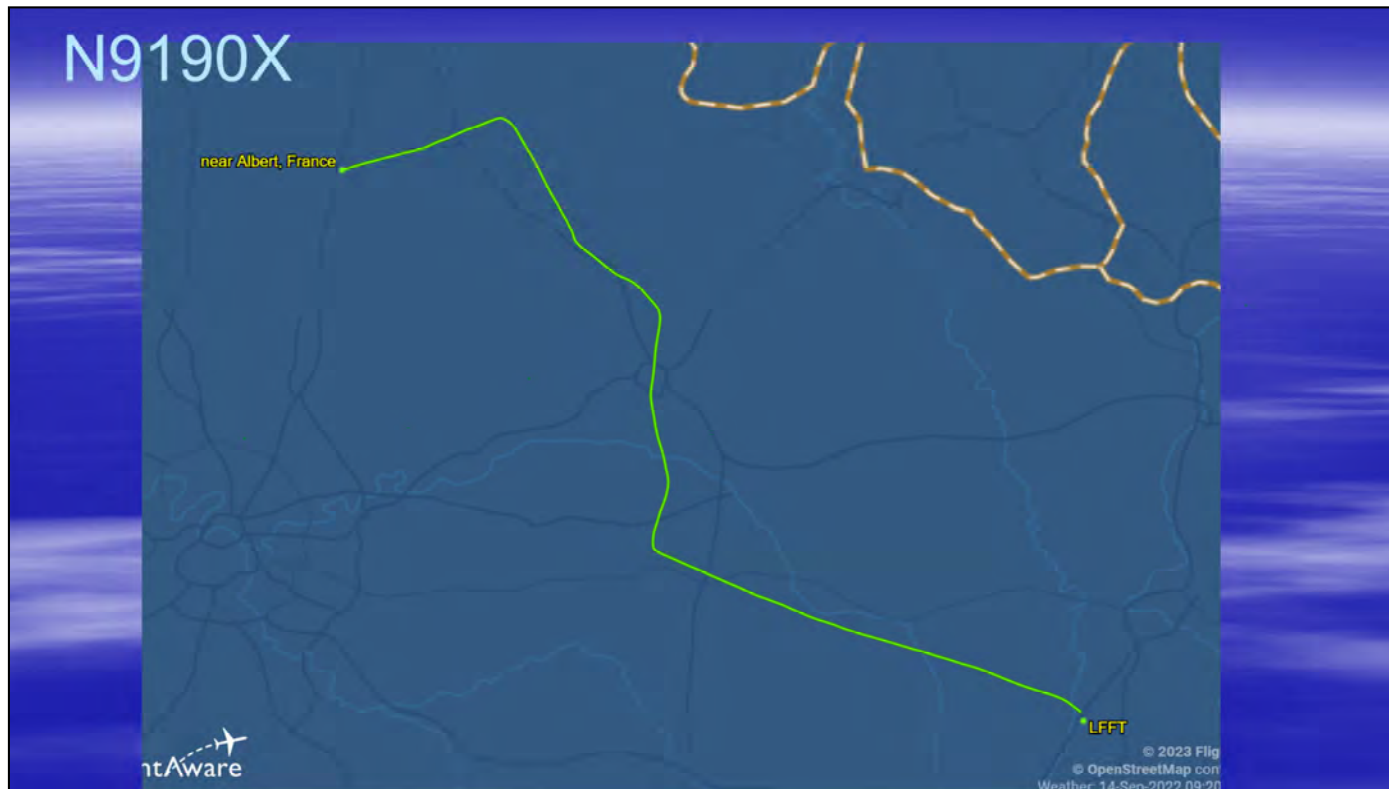
N#	Mo/Yr	Model - Event	Cause	Fatal	Notes
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N987PS	10/22	Mirage – go-around crash	Pilot		Clovis, NM.
N234PM	11/22	Meridian - Approach LOC?	Pilot?	2	N Platte, NE. Icing?
N5EQ	12/22	Mirage – approach crash		1	Goose Bay, Canada. Weather?
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D-ETTG	3/23	Mirage – engine failure			Germany. Loss power?
N280KC	3/23	Mirage – takeoff crash			St Augustine, FL. Didn't climb.

Next is an overseas accident, about which I have little information.

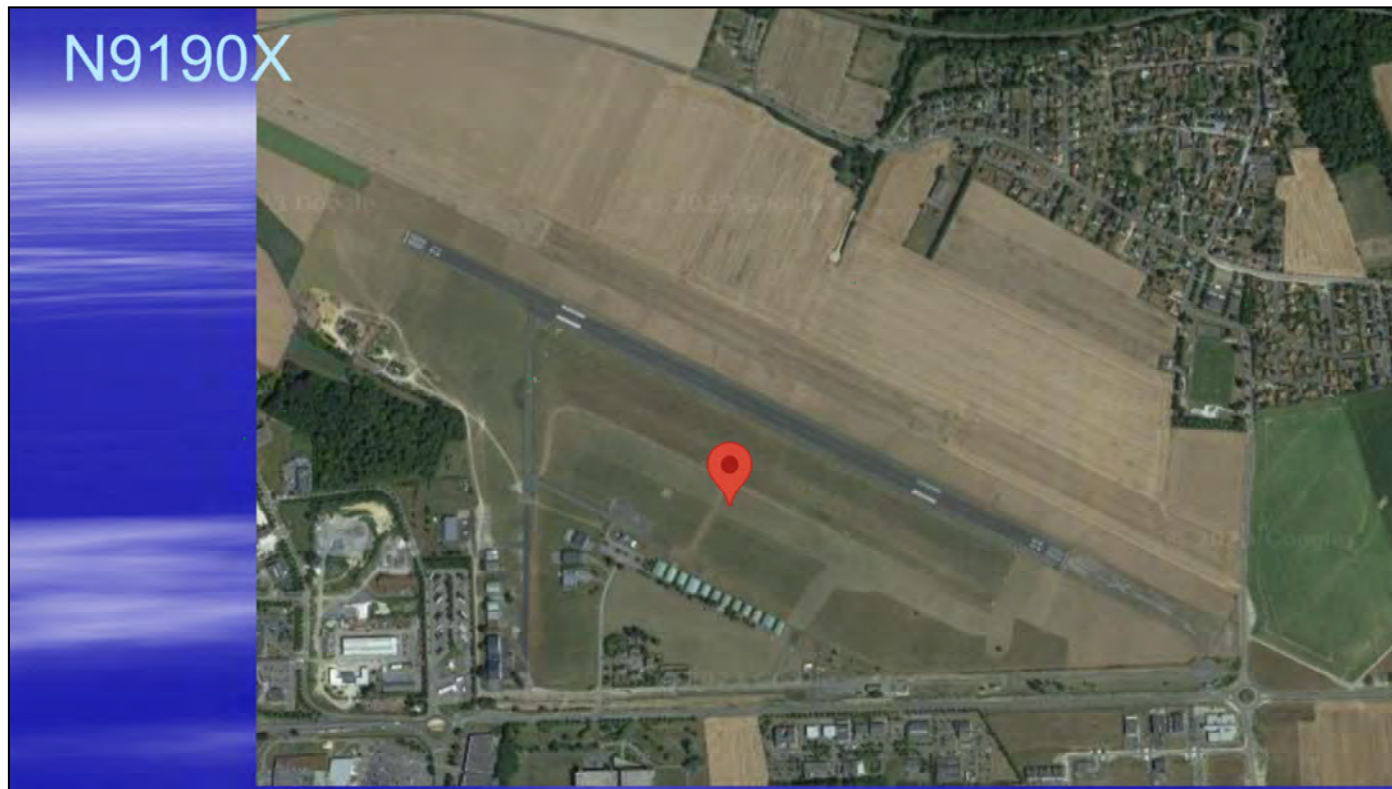


This is a Malibu in France....





... on a roughly 200 mile flight within France.



Apparently the plane had a mishap on landing at the destination.

# N9190X



## Accident to the Piper PA46 registered N9190X on 09/14/2022 in Amiens-Glisys (80)

Collision with runway during landing

### SUMMARY

Flight AD Epinal-Mirecourt (88) - AD Amiens-Glisys (80).

During landing, the aircraft collided with the runway.

This is the initial report from the French investigation agency: “*During landing, the aircraft collided with the runway*”.

I’m not sure exactly what that means, but hopefully next year I’ll have more information.

## NTSB Reports since Sept 2022

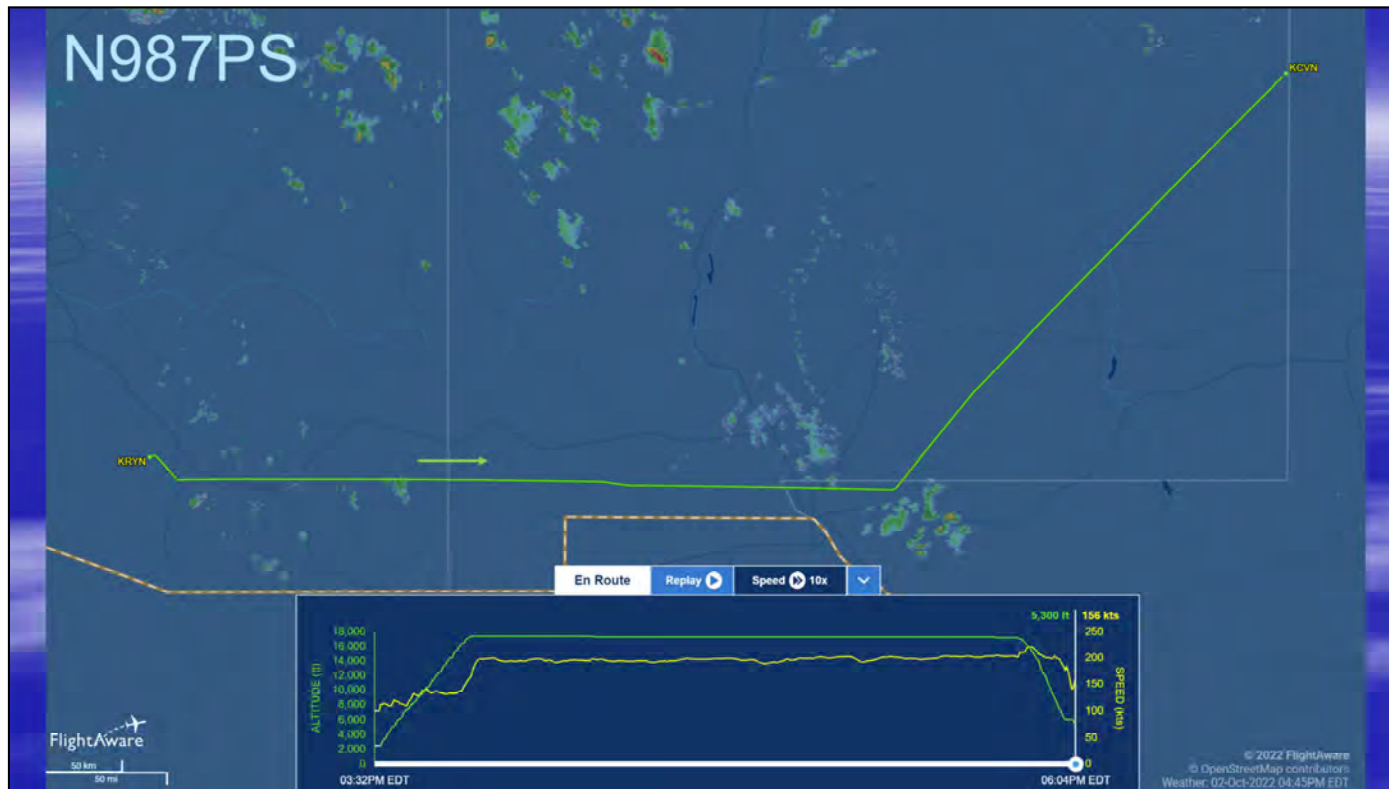
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N864JB	2/23	Mirage – takeoff climb crash	Pilot?		Spruce Creek, FL. Didn't climb.
D-ETT	3/23	Mirage – engine failure			Germany. Loss power?
N280KC	3/23	Mirage – takeoff crash			St Augustine, FL. Didn't climb.

Next is a landing go-around accident in New Mexico.

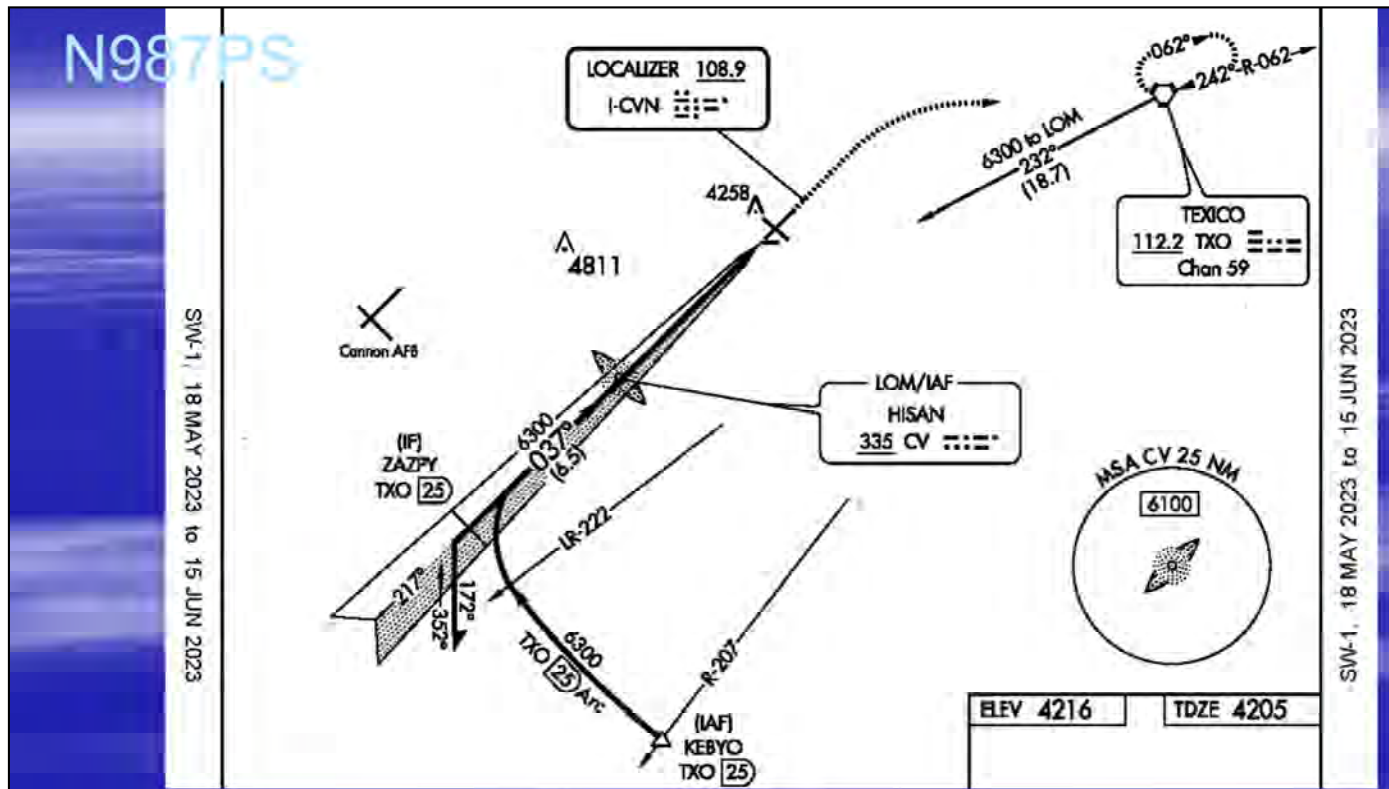




This is a '99 Mirage, flown by a pilot with over 3000 hrs in the PA46.

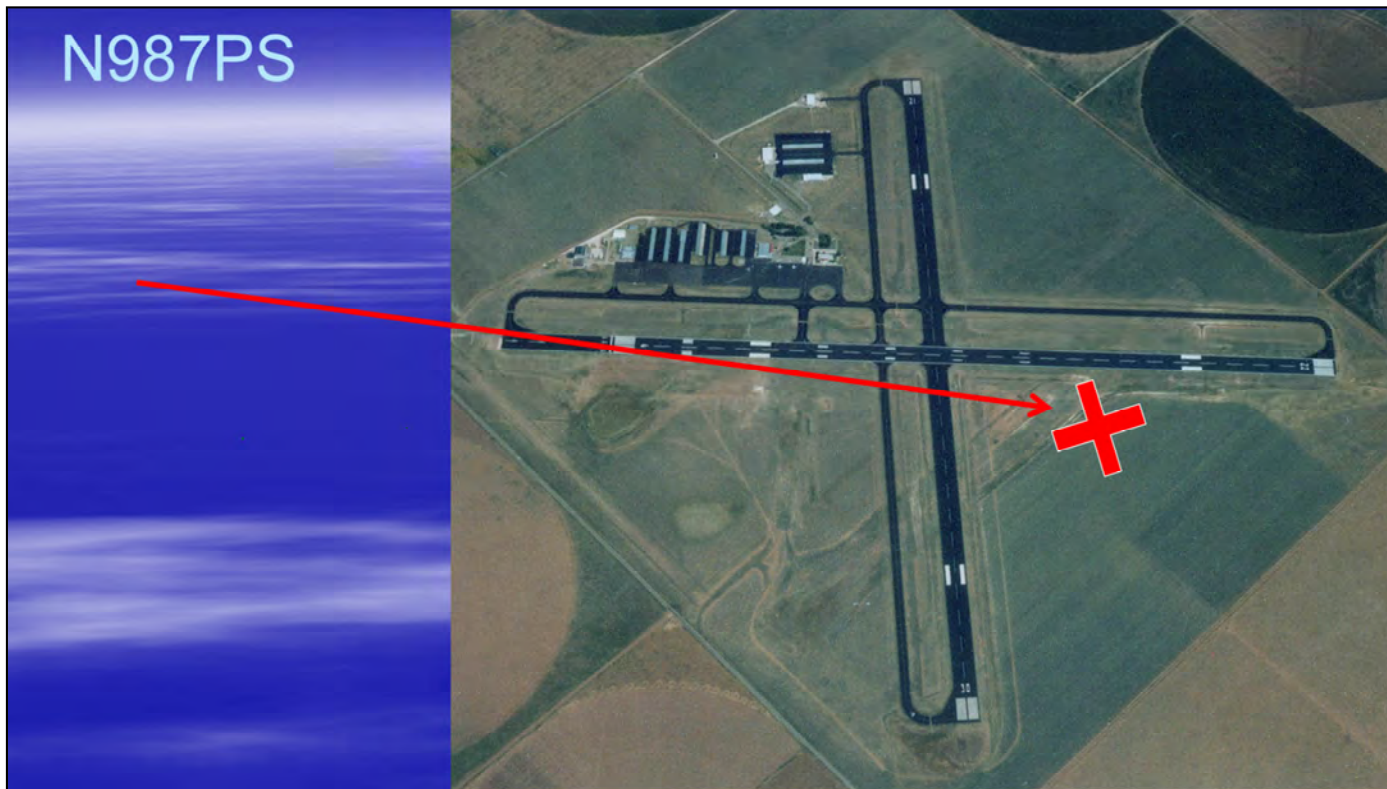


The plane made a trip from Tucson, Arizona to Clovis, New Mexico. They were actually returning from last year's MMOPA convention.



The pilot conducted a practice approach to runway 04 at Clovis.

The pilot says a crosswind blew him off course, and he elected to go around.



However, he felt a stall buffet, and then decided to land gear up in a field next to the runway.

They hit a runway sign, and there was a small fire.



N987PS



There were no injuries, but substantial plane damage.

The final NTSB report criticized the go-around procedure; specifically retracting all flaps too quickly.

Most of us don't do actual go-arounds very often at all; it's a good thing to practice at recurrent training.

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N280KC	3/23	Mirage – takeoff crash			St Augustine, FL. Didn't climb.

Next is another fatal accident.



This is a 2005 Meridian.

This plane had actually been totaled in an accident in 2010, but then was completely rebuilt a decade later by a reputable shop, and was purchased by our accident pilot 3 **weeks** prior to this accident.

The pilot did initial training with 10 hrs of ground and 15 hrs of flight time in the plane, from an expert PA46 instructor.

The pilot had 500 total hours, with 24 hrs time-in-type at the time of the accident. He had 5 actual instrument hours total in his entire flying career, one of those being an hour in high altitude cirrus clouds during the Meridian training.



This was a 1-hour flight for the pilot and his passenger, from Lincoln, Nebraska, to North Platte on an IFR flight plan.



Light freezing rain  
(-FZRA)



The pilot requested the ILS-30 with vectors, and ATC gave him those, with the last clearance being 280 degrees and maintain 5000' until established. The controller then gave cancellation instructions and a change to CTAF; that was the last communication with the pilot.

[illegible]

ADS-B tracking showed that during the final minute of the flight, the plane went from a normal 500 foot/minute descent, to a 3000 ft/min descent, then a 2000 ft/min climb, and finally to a 5000 ft/min dive.



The plane crashed nose down, three miles short of the runway.  
Of course, both the pilot and his passenger died.

Clearly this was an approach loss of control accident. The pilot was very inexperienced with instrument flight, and icing may have played a role, though Scott Denstaedt posted a weather analysis where he suggested the icing was very thin.

Overall, I'd say these weather conditions were not appropriate for a pilot with so little actual instrument experience and so new to this plane. I've got a lot more instrument time than that, and I'd be very reluctant to head into 300 foot ceilings in potential icing conditions.



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N280KC	3/23	Mirage – takeoff crash			St Augustine, FL. Didn't climb.

Next is another fatal approach crash.



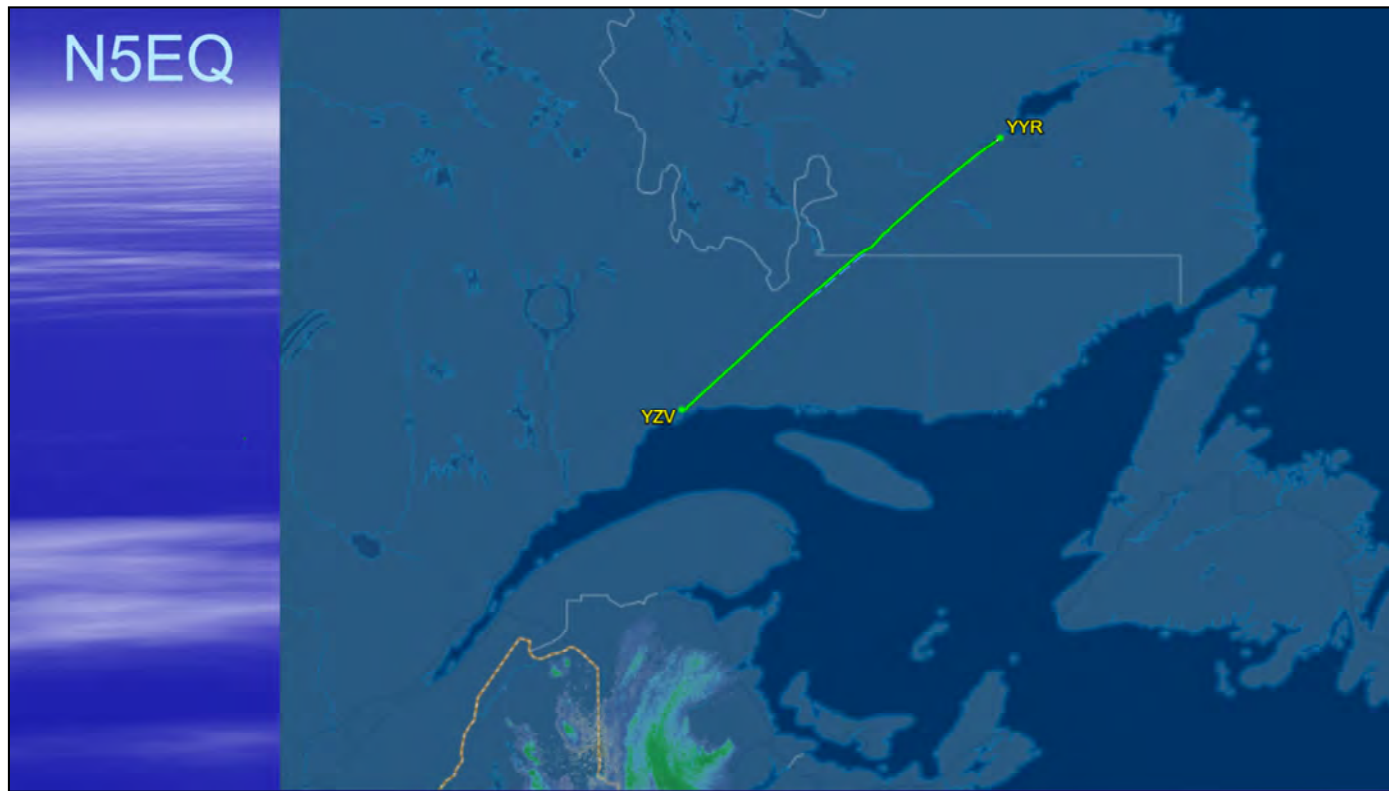
N5EQ



This is a '96 Mirage with a JetProp conversion, based in Switzerland.

The pilot had flown from Europe to the US multiple times with his wife, and they would spend a few months in the US on these trips.

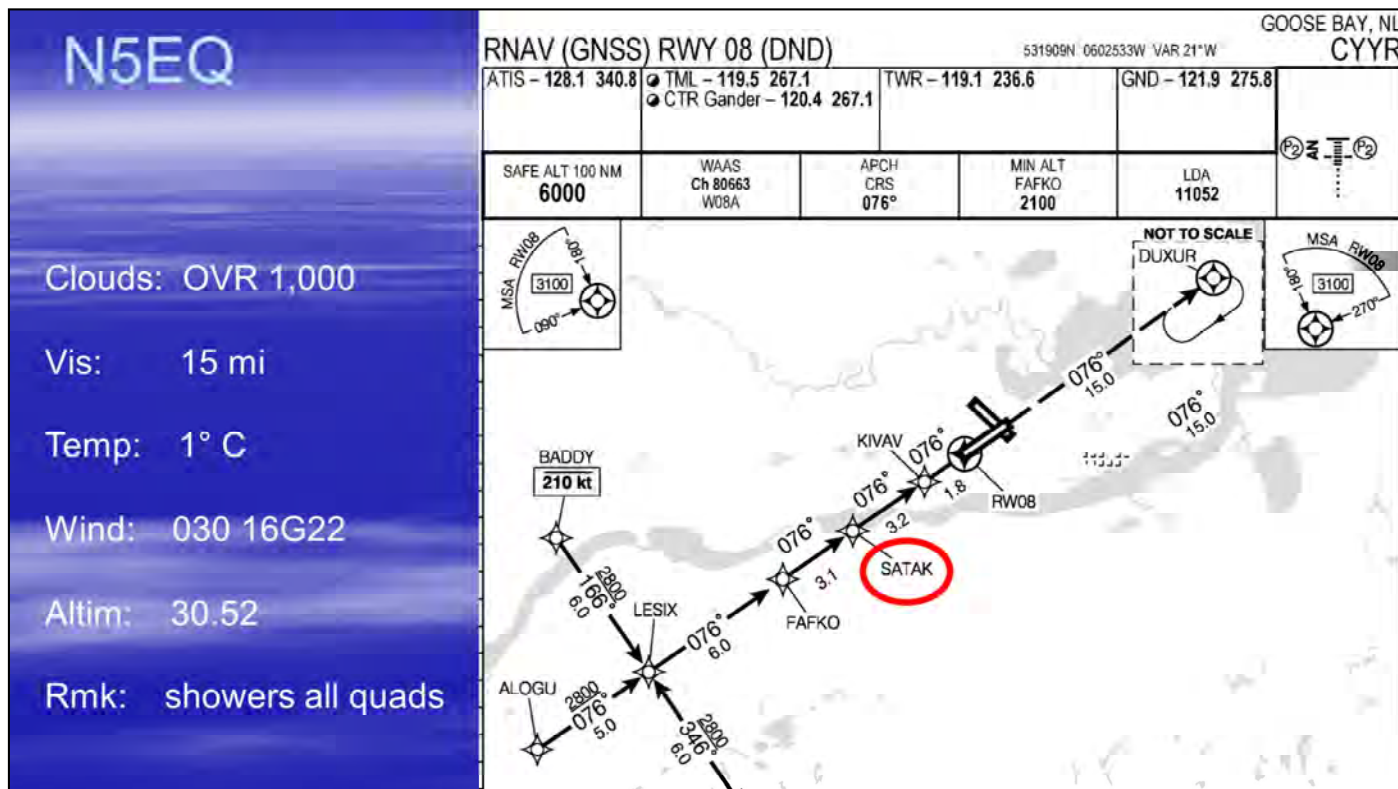
The plane flew across the Atlantic in Sept last year and spent two months in Vero Beach with just a couple of short flights at the end of its stay in Vero – so I assume this was a major maintenance event.



The plane was then apparently headed back to Europe, flying from Vero to Baltimore to New Hampshire.

The day prior to the accident, the pilot had planned to fly from New Hampshire to Goose Bay, but for unclear reasons (maybe fuel), he diverted to Quebec, where he stayed overnight.

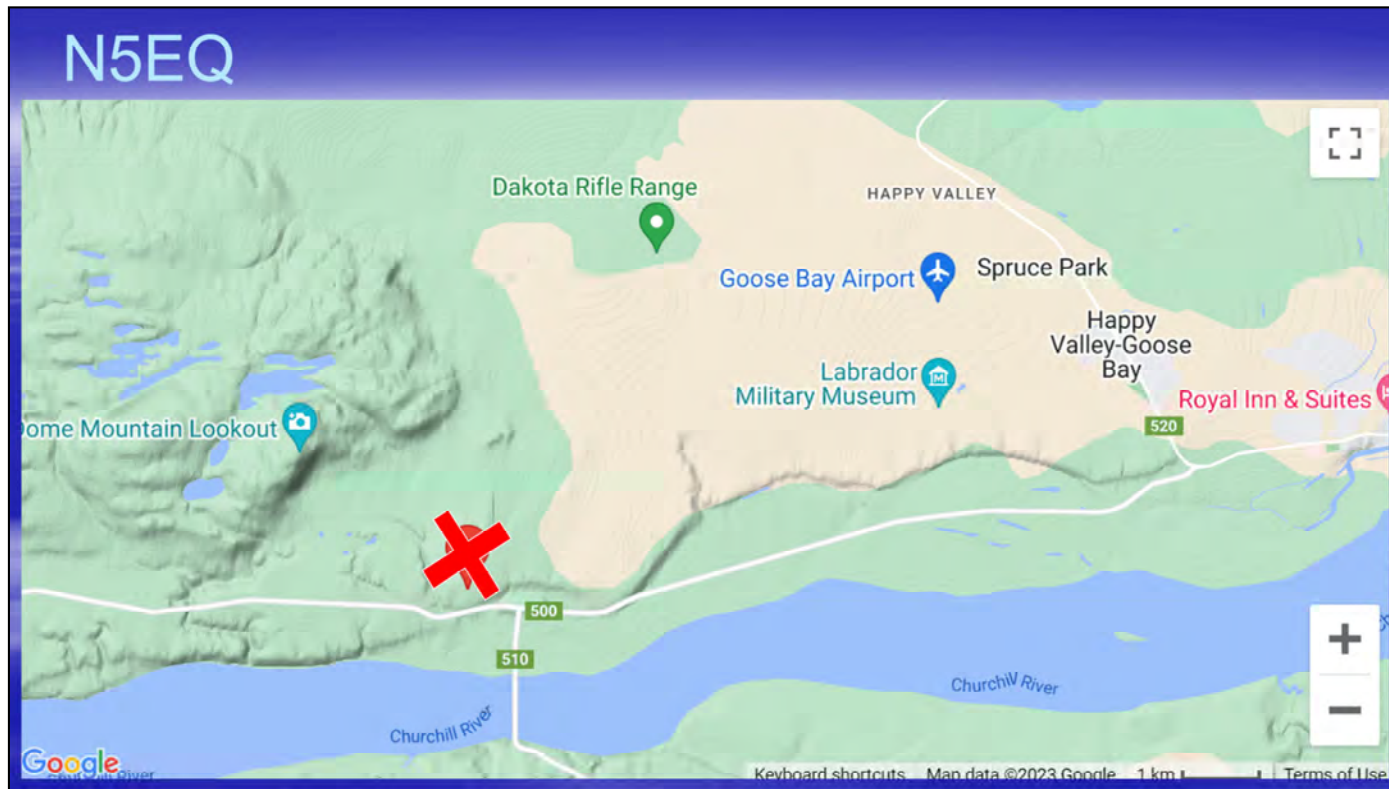
The next day's accident flight is shown here, from Quebec to Goose Bay, with the pilot and a passenger on board.



The weather observation 6 minutes before the crash was reasonable IFR, but certainly with the potential for icing.

The pilot was calmly talking to the tower, flying the RNAV-08 approach, which does have LPV vertical guidance. The pilot reported SATAK inbound, which is 5 miles from the runway.

Very shortly after that, tower lost contact with the plane. There was no emergency call from the plane.



The plane crashed 2 ½ miles short of the field, on the extended runway centerline.





The pilot and his wife were taken to the local hospital, where the pilot died that afternoon. The wife was in serious condition, but I believe she ultimately survived.



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D-ETTG	3/23	Mirage – engine failure			Germany. Loss power?
N280KC	3/23	Mirage – takeoff crash			St Augustine, FL. Didn't climb.

Then there's this ugly accident in Texas.



This is a lovely M600, involved in a freak accident on the ground.





The M600 had been cleared to taxi to runway 36. The plane ahead of the him had been cleared just been for takeoff.

A P-51 <CLICK> was taxiing to take off as well. That pilot knew there were two planes ahead of him. He saw the first plane take off, but didn't see the M600 on the taxiway, and rear-ended it.

N282TX



That huge P-51 prop chewed up the tail of the M600 badly.

Fortunately, there were no injuries... but I truly feel for this owner...



In case you're wondering, the damage to the P-51 was much less severe...

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N280KC	3/23	Mirage – takeoff crash			St Augustine, FL. Didn't climb.

Now our fourth fatal crash, again during an approach.





This is a JetProp conversion.



The pilot and four passengers were flying from Memphis to Yoakum, Texas, on an IFR flight plan. With the winds aloft, this was roughly a 3-hour flight.

N963MA

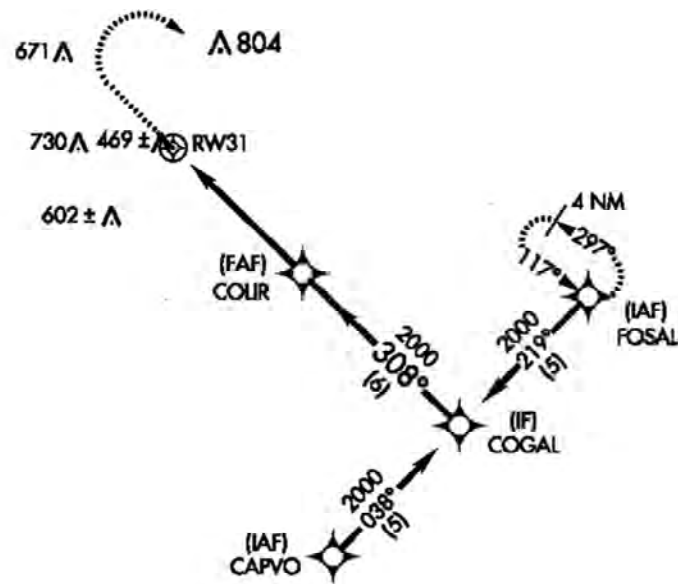


Yoakum airport is an unattended airport with no weather reporting.

At the time of the accident, the two closest reporting airports (mind you, 23 and 32 miles away respectively) were reporting scattered to clear conditions.

However, there was a patchy fog advisory for the Yoakum area that morning.

N963MA



The airplane owner-pilot lived in Yoakum, and was certainly familiar with the field.

There might well have been some fog or local clouds, because the he requested, and was cleared for, the GPS-31 at Yoakum.

This is the only instrument approach at Yoakum – a standard T-shape GPS approach with LNAV guidance and 500 foot minimums.

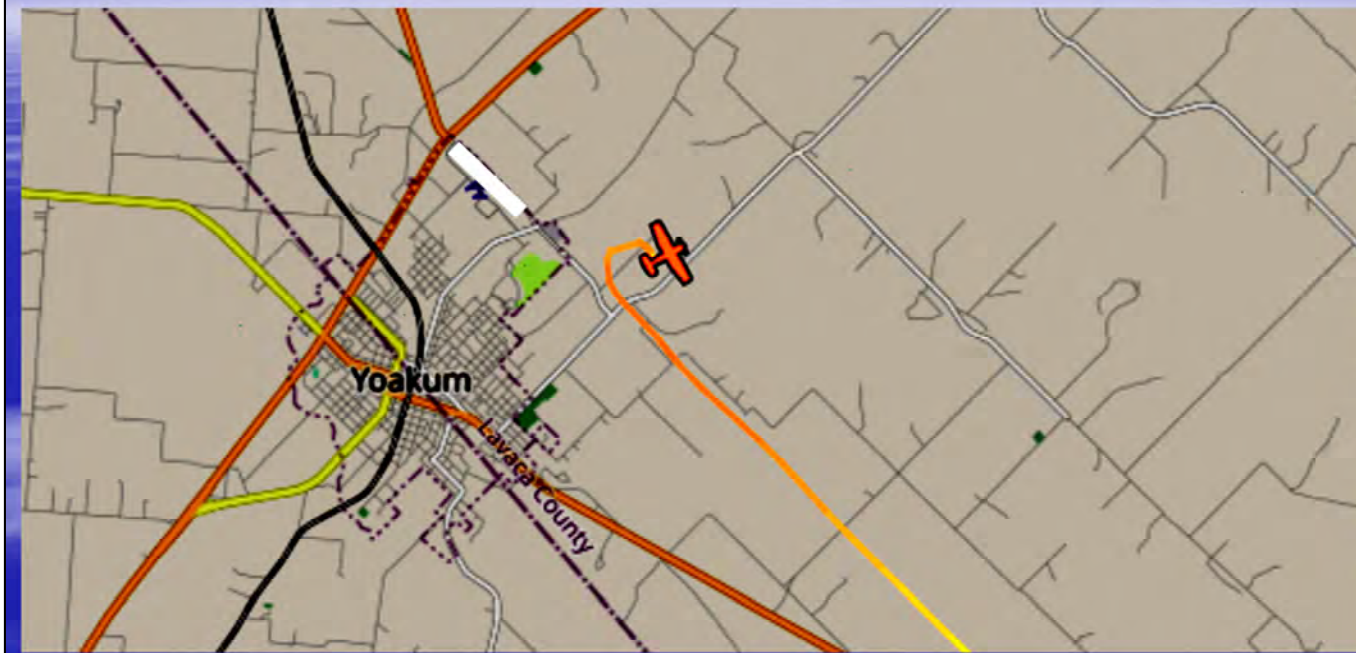




Here's our plane flying that GPS approach along the yellow track.

The airport runway is in white with the white arrow pointing at it.

N963MA



Roughly a mile from the runway, the plane abruptly turned right, descended, and crashed into a field.

# N963MA

Tue 09:34:19	29.2463	-97.0604	← 314°	134	2,050	-317 ⬇️
Tue 09:34:50	29.2593	-97.0755	← 314°	140	1,775	-735 ⬇️
Tue 09:35:08	29.2683	-97.0859	↖ 316°	151	1,450	-1,015 ⬇️
Tue 09:35:24	29.2767	-97.0949	↖ 317°	156	1,200	-364 ⬇️
Tue 09:36:18	29.3015	-97.1218	↑ 344°	124	1,025	142 ⬆️
Tue 09:36:38	29.3051	-97.1160	↘ 148°	53	1,375	239 ⬆️
Tue 09:37:52	29.3103	-97.1006	↘ 148°	55	1,400	20 ⬆️
Tue 09:39:00	<b>Arrival (T85) @ Tuesday 10:39:00 CST</b>					
Tue 09:39:00	29.3132	-97.1384	← 275°			

The plane had been fairly steady on runway heading at 134-150 kts three minutes prior to the crash.

Then the plane descends more quickly and picks up speed.

The descent is arrested and a gentle climb ensues, but with rapidly decreasing speed.

The last two ADS-B hits show a dramatic drop in groundspeed, into the 50's.

I don't know what happened at the end of this approach, but it is consistent loss of control and a stall.



The plane crashed 1.5 miles from the runway, and both wings were torn off.

Amazingly, one of the five occupants survived, and was able to exit the plane and call 911, despite serious injuries.

The other four occupants (including the pilot) died.



N963MA



I don't know why this approach went so wrong just a mile from the runway, by which point the plane was well below approach minimums.

If they entered fog, the missed here is an initial straight-ahead climb followed by a climbing right turn.

Was this just a botched missed approach, perhaps forgetting to add power?

I hope we'll know more by next year...

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D-ETTG	3/23	Mirage – engine failure			Germany. Loss power?
N280KC	3/23	Mirage – takeoff crash			St Augustine, FL. Didn't climb.

Next is the first of two similar-sounding takeoff crashes.



The first is an '86 Malibu taking off from Spruce Creek in Florida, intending to fly to Ohio.

The pilot had 50 hrs time in PA46's.





Spruce Creek is a 4000 foot private airport.

Our accident plane was taking off runway 23 in clear weather, with a mild crosswind.





The Malibu seemed to mush off the end of the runway, never climbed, and crashed on the far bank of the golf course lake just off the departure end of the runway.



The airplane was destroyed.

The two people on board survived, albeit with significant injuries.



N864JB



The final NTSB report just came out, and adds a lot of clarity to this crash.

# N864JB

## NARRATIVE HISTORY OF FLIGHT (Please type or print in ink)

Describe what occurred in chronological order, including circumstances leading to and nature of accident/incident. Describe terrain and include wreckage distribution sketch if pertinent. Attach extra sheets if needed. State departure time and location, services obtained, and intended destination. Provide as much detail as possible.

Did Arr Run up and everything OK out Good lined up on  
24 Tax RPMs up to 2600 Released Brake Staked down runway  
Then Right wing Smacked the run way and when that happened  
I pulled up Plane shot up like a rocket and stalled & pushed  
Down to try to gain Air speed as I thought I was flying and  
Didn't feel I had enough run way to ~~abort~~ the take off  
And then we smacked some trees and Hull came to rest

In his written report, the pilot says that as he was rolling, the right wing hit the runway.

He pulled up abruptly and stalled the plane, then pushed down to gain airspeed, but felt he didn't have enough runway left to abort the takeoff.

He kept trying to force the plane to fly, and hit the trees well past the end of the runway.





There was an airport surveillance camera that caught the takeoff attempt, and basically confirms the pilot's account. The plane will be coming from the right.

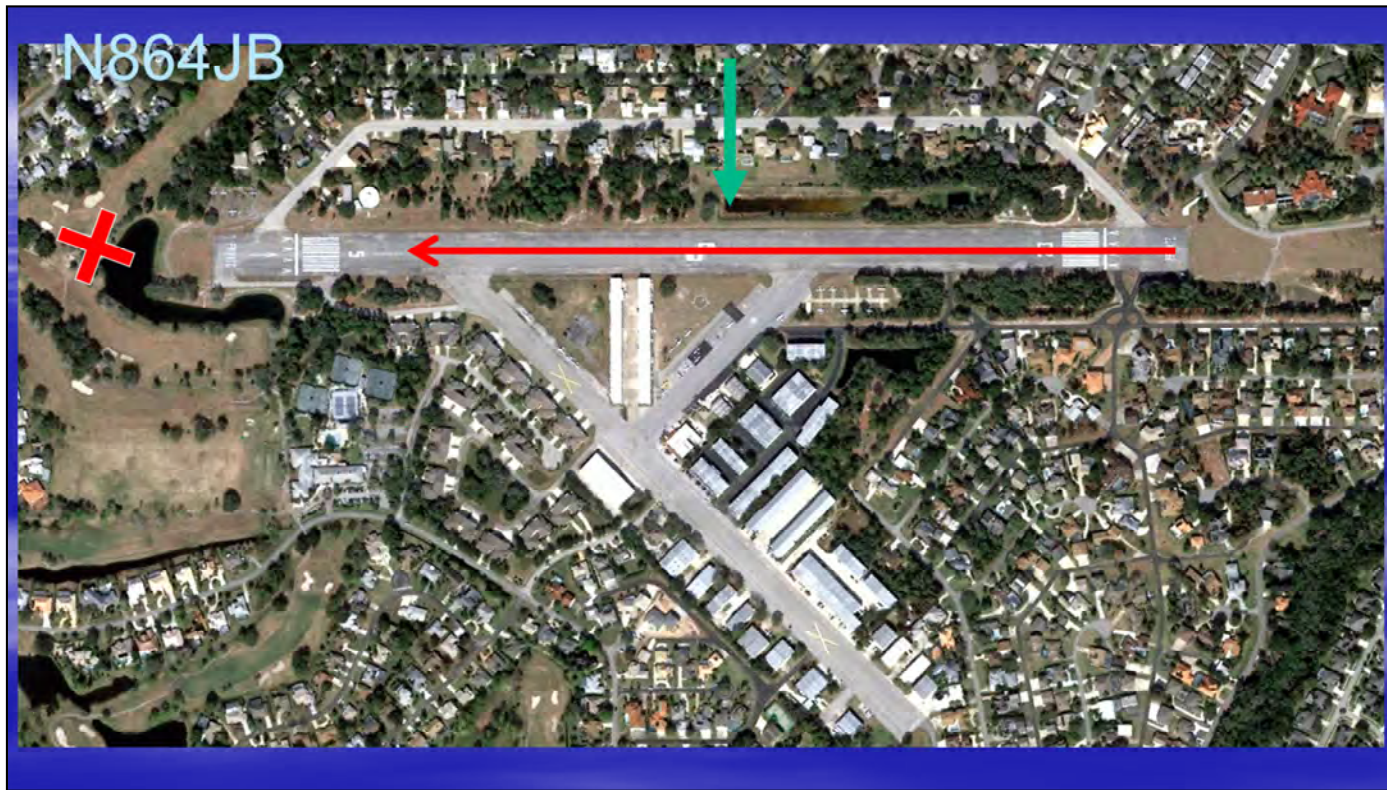
<PLAY>

It's hard to see the early part of the roll on this view, so I zoomed in to the beginning of the runway.



<Let slide PLAY>

And from there the plane just mashed over the little lake and into the trees.



Of course, I wasn't there, but if the pilot had aborted when the right wing initially hit the runway, he would have had enough space to stop on the runway.

Alternatively, if he'd aborted at the stalled hard touchdown, which occurred at the green arrow in this picture, he might not have stopped completely on the runway, but he would have run off the end of the runway at a low speed, rather than hitting trees at just under flying speed.

My point is, under most circumstances, an aborted takeoff is better than trying to force the plane to fly, at least in terms of minimizing injuries. We saw that in the old accident with an overloaded plane that I talked about earlier.



## NTSB Reports since Sept 2022

N#	Mo/Yr	Model - Event	Cause	Fatal	Notes
N43605	9/22	Malibu – stall/spin?	Pilot	2	Flagstaff, Az. Convection.
N9190X	9/22	Malibu – landing crash?			France.
N987PS	10/22	Mirage – go-around crash	Pilot		Clovis, NM.
N234PM	11/22	Meridian - Approach LOC?	Pilot?	2	N Platte, NE. Icing?
N5EQ	12/22	Mirage – approach crash		1	Goose Bay, Canada. Weather?
N282TX	12/22	M600 – struck from behind taxi			Brookshire, TX. Rear-ended by P51.
N963MA	1/23	JetProp – approach crash	Pilot?	4	Yoakum, TX.
N864JB	2/23	Mirage – takeoff climb crash	Pilot		Spruce Creek, FL. Didn't climb.
<b>D-ETTG</b>	<b>3/23</b>	<b>Mirage – engine failure</b>			<b>Germany. Loss power?</b>
N280KC	3/23	Mirage – takeoff crash			St Augustine, FL. Didn't climb.

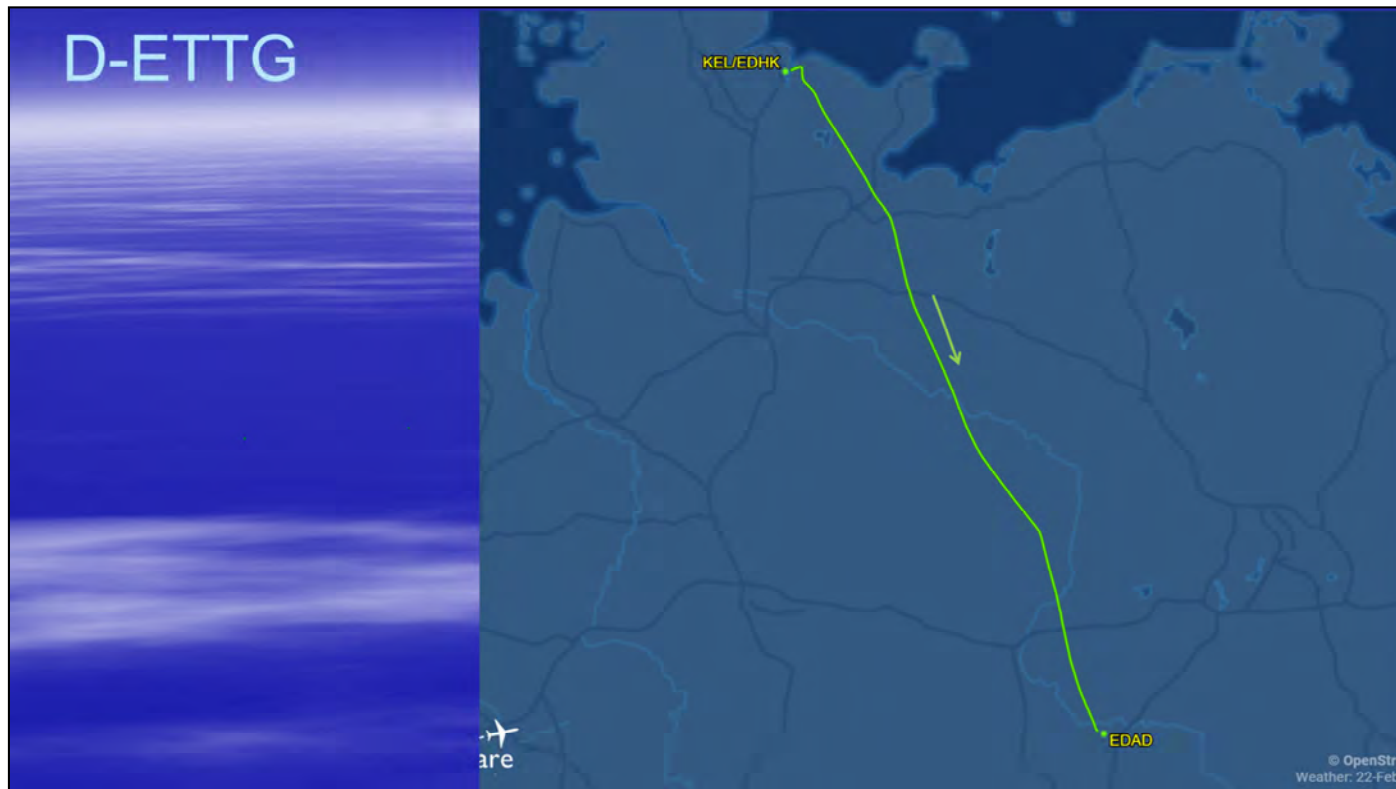
Next is a forced landing in Germany.



D-ETTG



This is a Malibu based in Germany.



The pilot and 3 passengers were flying from Kiel to Dessau.



The pilot says he was approaching his destination after the 1-hour flight, when he had engine trouble.

He put the plane down in a field not far from the airport.

D-ETTG



Fortunately, there were only minimal injuries to the four people on board.

I have no more information at this time. Again, hopefully a report will come out by next convention.



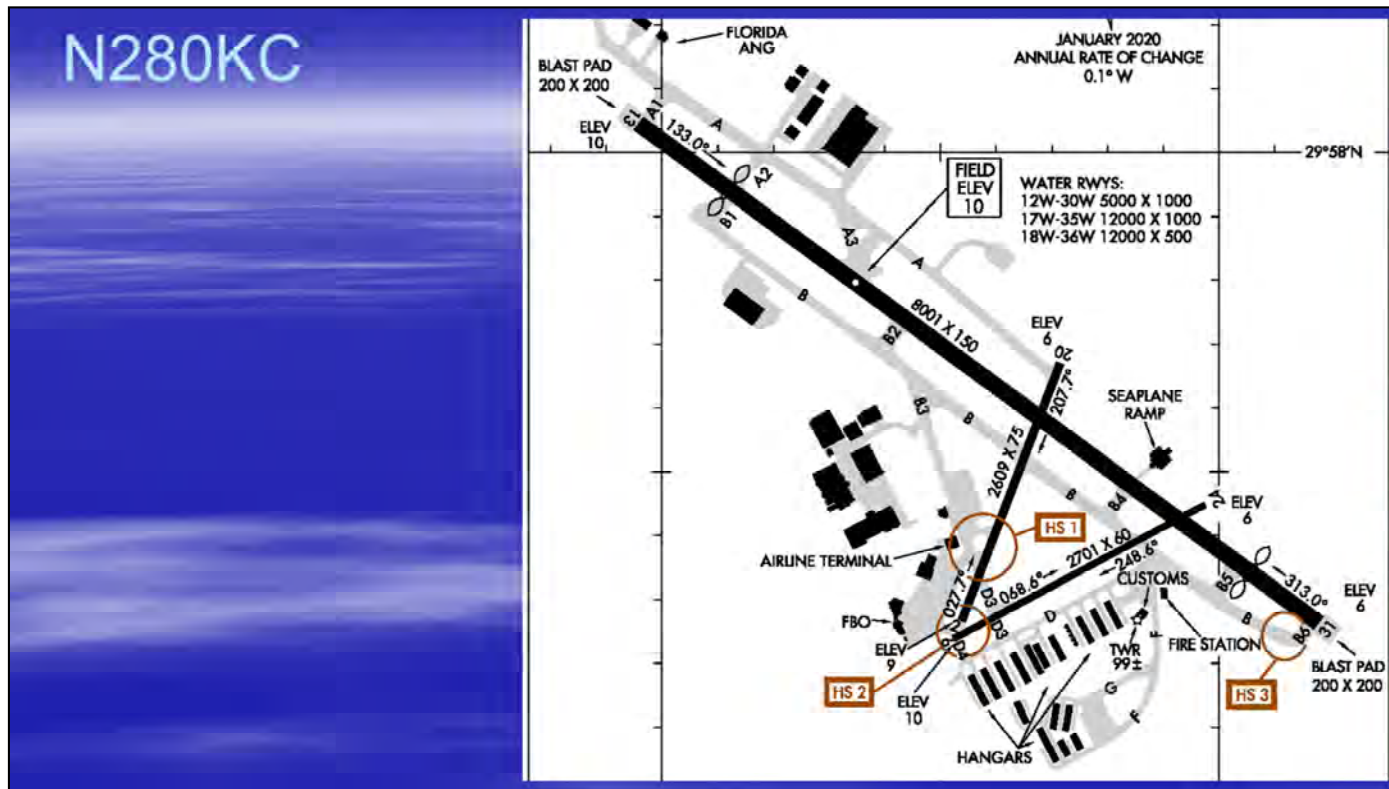
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N864JB	2/23	Mirage – takeoff climb crash	Pilot?		Spruce Creek, FL. Didn't climb.
D-ETT	3/23	Mirage – engine failure			Germany. Loss power?
<b>N280KC</b>	<b>3/23</b>	<b>Mirage – takeoff crash</b>			<b>St Augustine, FL. Didn't climb.</b>

Here's that second takeoff crash in Florida earlier this year.



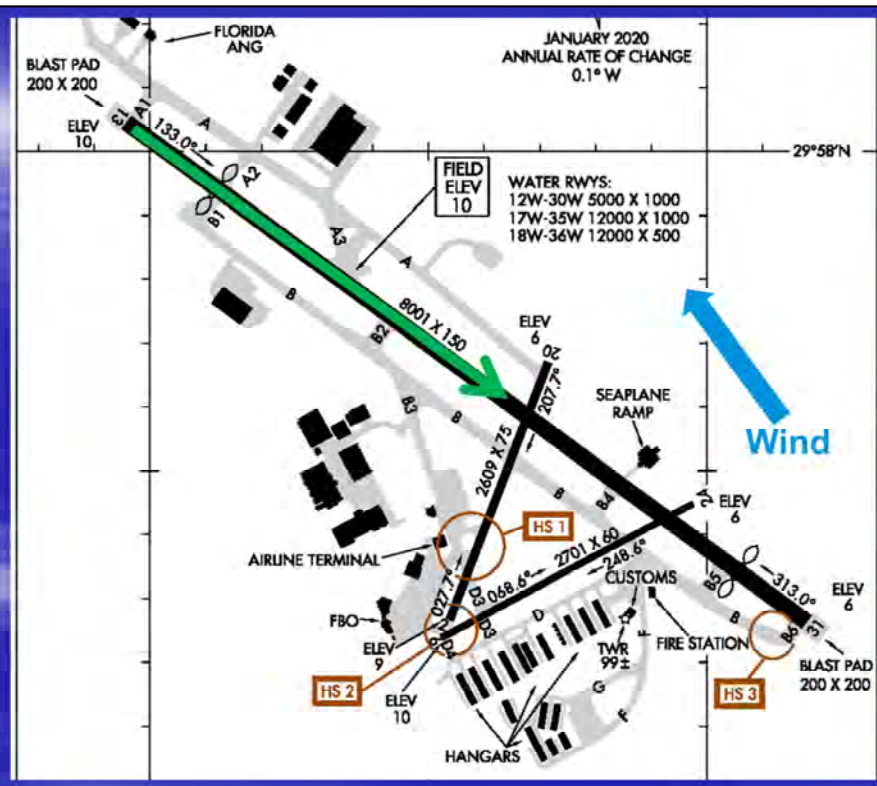
This is a 1999 Mirage.



The pilot, his wife, and their dog were taking off from St Augustine, Florida.

St Augustine airport has three runways: an 8000 foot main runway, and two shorter crossing runways of 2600 and 2700 feet.

Wind: 140 @ 13 kts



This would certainly suggest a takeoff from runway 13.

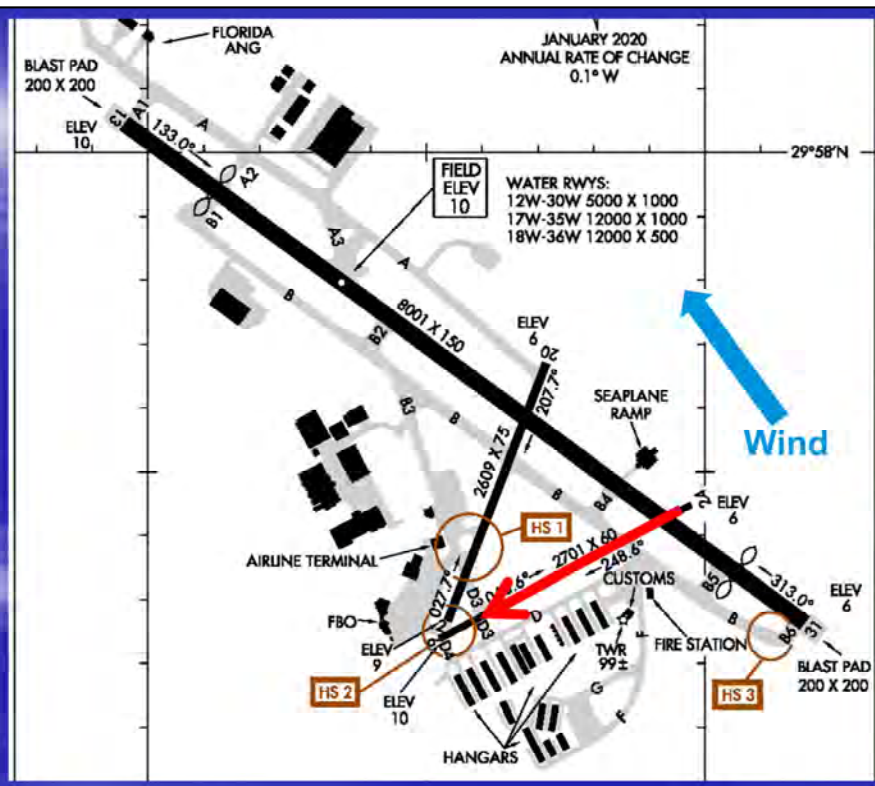


N280KC

Clear

24°C (75°F)

Wind: 140 @ 13 kts



However, the pilot elected to take off from runway 24.

This gave him a tailwind component of 4 kts, and a crosswind component of 11 kts, as well as a slight up-hill gradient of the runway.

Total speculation, but I wonder if this was because the hangars are at the south end of the airport, right next to runway 24, whereas it's over a mile taxi to runway 13, even for an intersection takeoff.

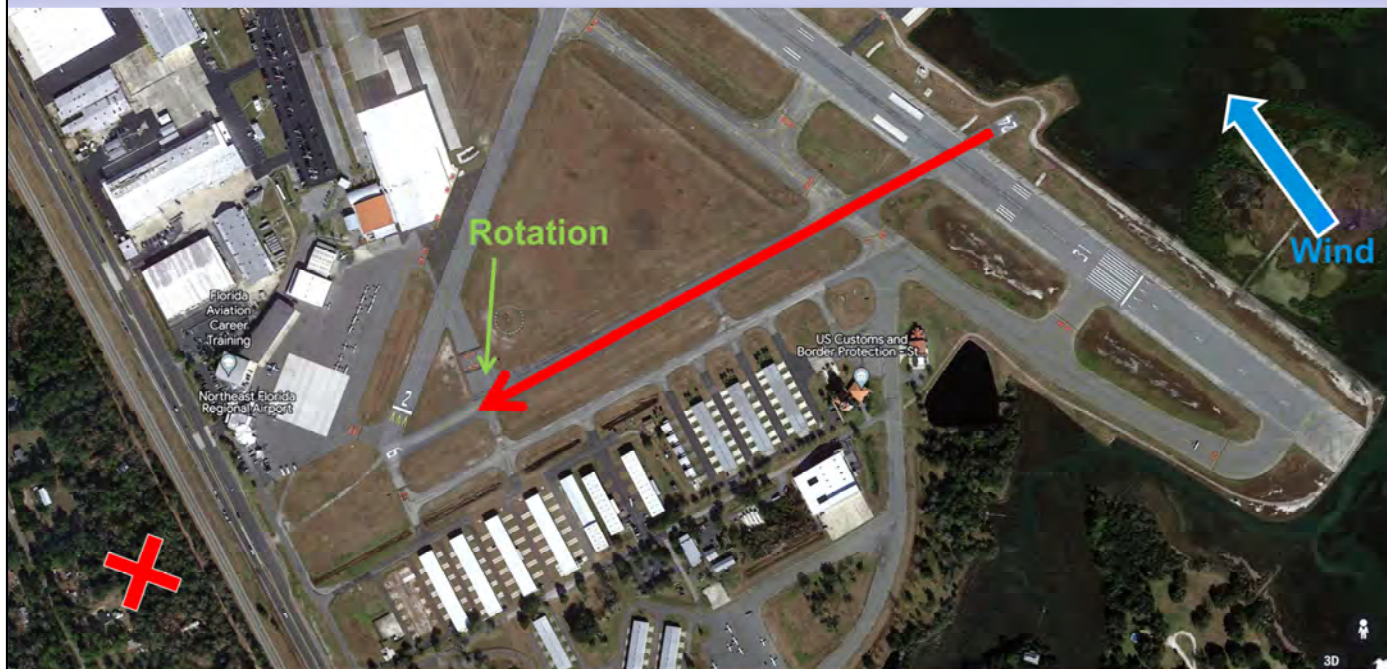
N280KC



You can see that the departure from 24 crosses a highway, and then there are 50 foot trees roughly 1000 feet from the end of the runway. Probably another reason to use the main runway.

In any case, our pilot back-taxed on 24 and proceeded to take off.

N280KC



A CFI witness says the plane rotated at the intersection of this taxiway.  
The plane cleared the end of the runway, and then pitched up sharply.

The CFI estimated it climbed to about 100 feet, and then began settling and barely cleared the streetlights as it crossed Rt 1.

The plane then struck the trees just to the left of the extended runway centerline.



N280KC



The post-crash fire was quickly extinguished, and both people were seriously injured, as was their dog.





I don't know for sure why this plane settled into the ground.

The CFI witness says it sounded like the plane was developing full power, but we don't know that.

Did the pilot see the streetlights and trees getting quickly closer and pull up too hard into a mushing stall, reminiscent of the Spruce Creek accident I talked about a few minutes ago?

This is another accident where I hope the final report tells us more...

## NTSB Reports since Sept 2022

N#	Mo/Yr	Model - Event	Cause	Fatal	Notes
N131HL	3/23	M600 – landing LODC			Thedford, NE. Veer right off runway.
N149C	5/23	Meridian – aborted t/o			St. Tropez, France. Ran off runway.
N444RR	7/23	Meridian – incapacitated pilot	Medical	1	Martha's Vineyard, MA. Gear-up.

Then we have another landing event, in Nebraska, this past March.

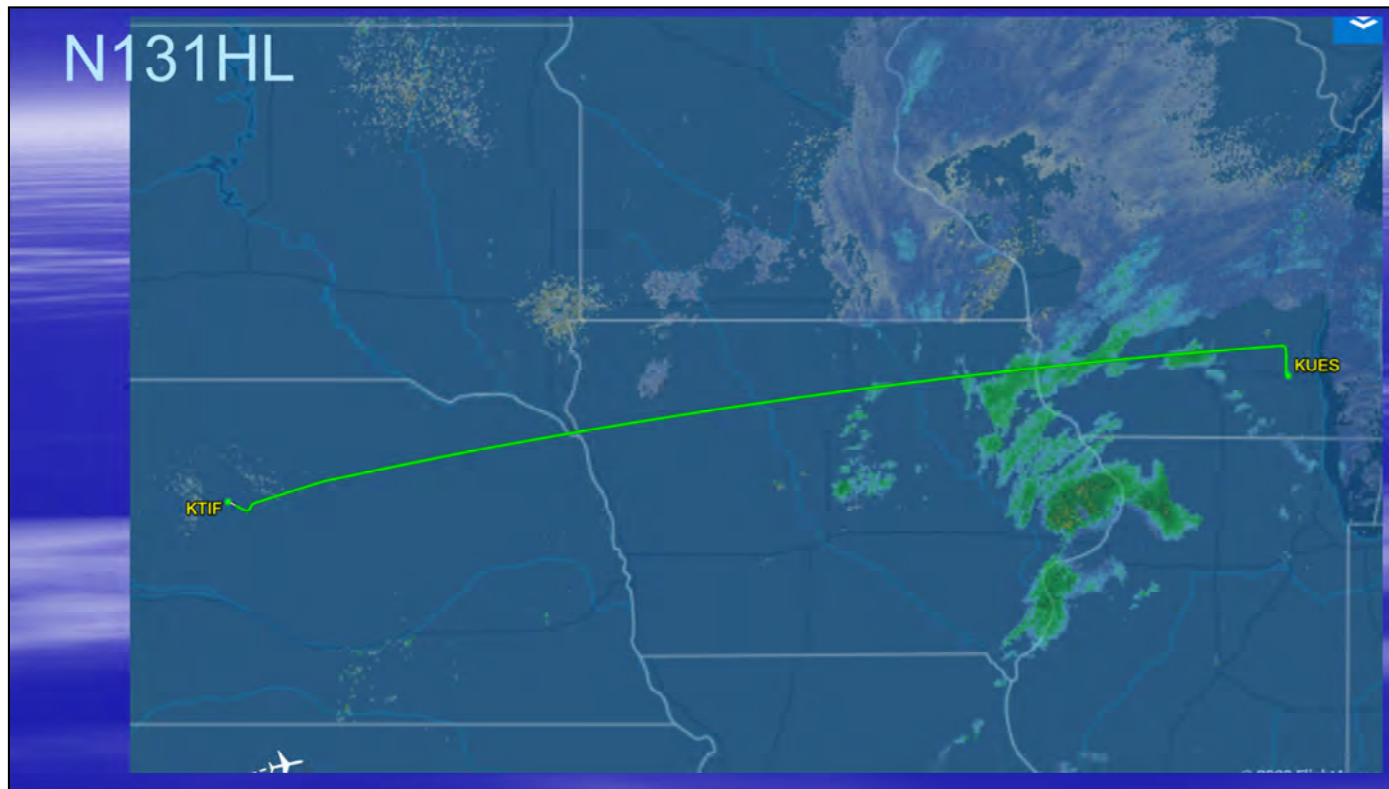
N131HL



This is an M600,

Apropos of our nose gear discussion, this is serial number 131, so built with the original nose gear design. I don't know if this plane had had a retrofit of the new nose gear design.

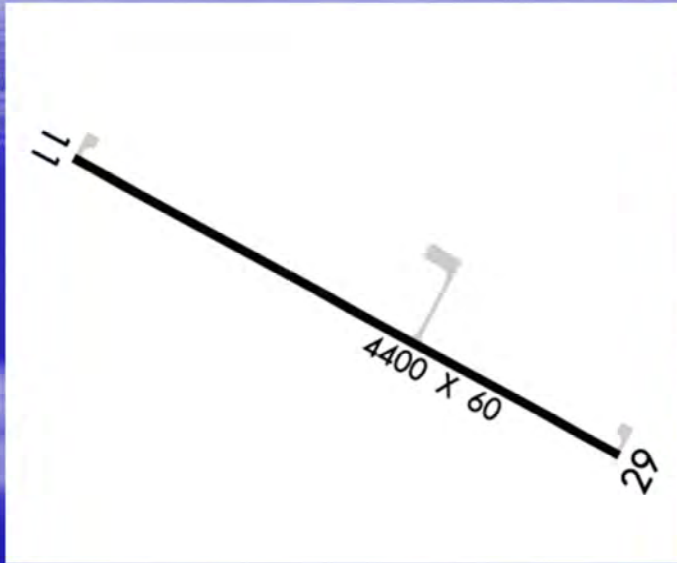




The pilot and passenger were flying from Wisconsin to Nebraska.

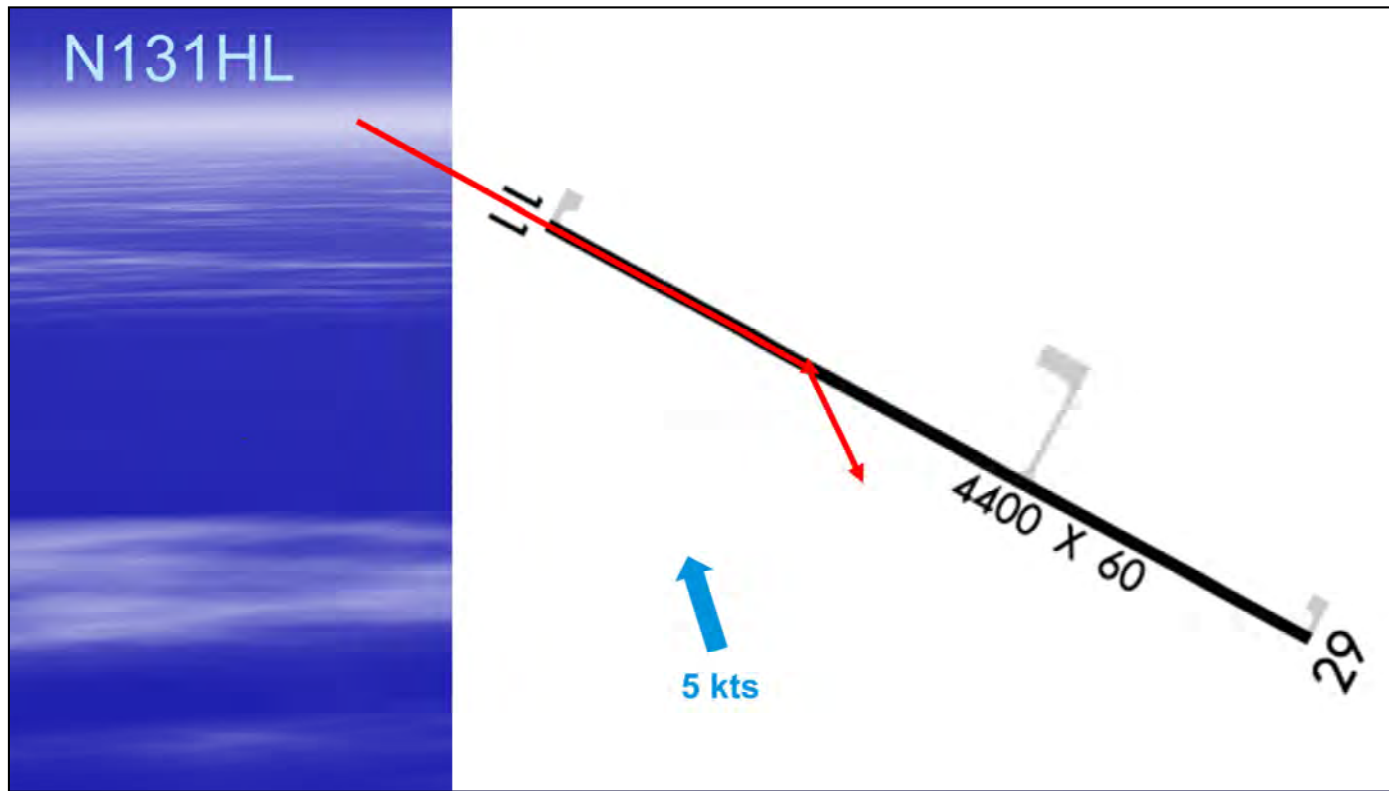


N131HL



They were landing at Thedford in beautiful weather, with clear skies and a 5 knot wind from 140.

Thedford has a 4400 foot runway in good condition.



The pilot landed, presumably on 11, given the winds.

When the nose wheel touched down, the plane pulled right, and ran off the runway.

The gear collapsed, and there was significant left wing damage (which is why it's on the accident list).

Thankfully, there were no injuries.

That's all the information I have currently – again, hopefully we'll know more by next year.

## NTSB Reports since Sept 2022

N#	Mo/Yr	Model - Event	Cause	Fatal	Notes
N131HL	3/23	M600 – landing LODC			Thedford, NE. Veer right off runway.
<b>N149C</b>	<b>5/23</b>	<b>Meridian – aborted t/o</b>			<b>St. Tropez, France. Ran off runway.</b>
N444RR	7/23	Meridian – incapacitated pilot	Medical	<b>1</b>	Martha's Vineyard, MA. Gear-up.

Next is an aborted take-off in France.

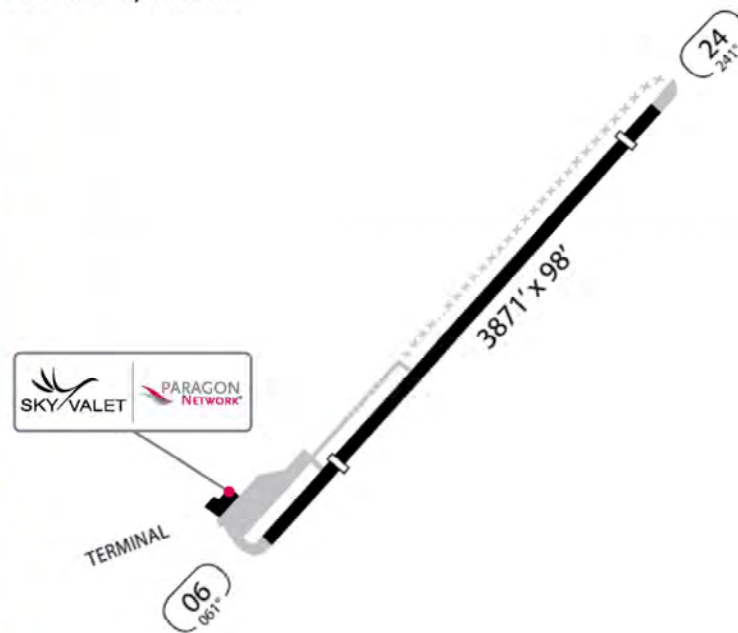


This is a 2012 Meridian.



N149C

La Môle-Saint-Tropez Airport (LFTZ/LTT)  
La Môle, France



The pilot and passenger were taking off from St Tropez, but the engine didn't sound right, so they elected to abort the take-off.



They overran the runway, hit a small fence, and the nose gear collapsed...

And once again, at this point, I have no information about what might have been the issue, if any, with the engine...

## NTSB Reports since Sept 2022

N#	Mo/Yr	Model - Event	Cause	Fatal	Notes
N131HL	3/23	M600 – landing LODC			Thedford, NE. Veer right off runway.
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<b>N444RR</b>	<b>7/23</b>	<b>Meridian – incapacitated pilot</b>	<b>Med</b>	<b>1</b>	<b>Martha's Vineyard, MA. Gear-up.</b>

Finally, there is the recent pilot incapacitation at Martha's Vineyard.



This is a 2008 Meridian.



N444RR



The pilot and his passenger were flying from White Plains to Martha's Vineyard, just under a 1-hr flight.

# N444RR



The 79-yr old pilot became incapacitated while on a missed approach, in good weather. His passenger said he “blacked out” and she took over the controls.

The passenger was not a pilot, but I don’t know if she had any pinch-hitter type experience or prior lessons. LiveATC doesn’t have Martha’s Vineyard tower tapes available, so I couldn’t listen in.

In any case, the passenger took over, flew a few circles around the airport area, and then landed on airport property.



The gear-up landing was off-runway, and the plane sustained significant damage. But the passenger flying was not injured. The pilot died five days later in a Boston hospital.

All around a great job by the passenger. This is a good outcome for a rare, but very scary, situation...

## NTSB Reports since Sept 2022

N#	Mo/Yr	Model - Event	Cause	Fatal	Notes
N131HL	3/23	M600 – landing LODC			Thedford, NE. Veer right off runway.
N149C	5/23	Meridian – aborted t/o			St. Tropez, France. Ran off runway.
N444RR	7/23	Meridian – incapacitated pilot	Medical	1	Martha's Vineyard, MA. Gear-up.
<b>N4372L</b>	<b>12/22</b>	<b>JetProp – landing NLG collapse</b>			<b>Staniel Cay, Bahamas. Bent actuator.</b>

Normally, I limit my reviews to NTSB-documented accidents.

However, for completeness, there is an additional landing accident that is well documented, just not by the FAA or NTSB, for reasons that I can't really explain, since it's an N-registered plane.

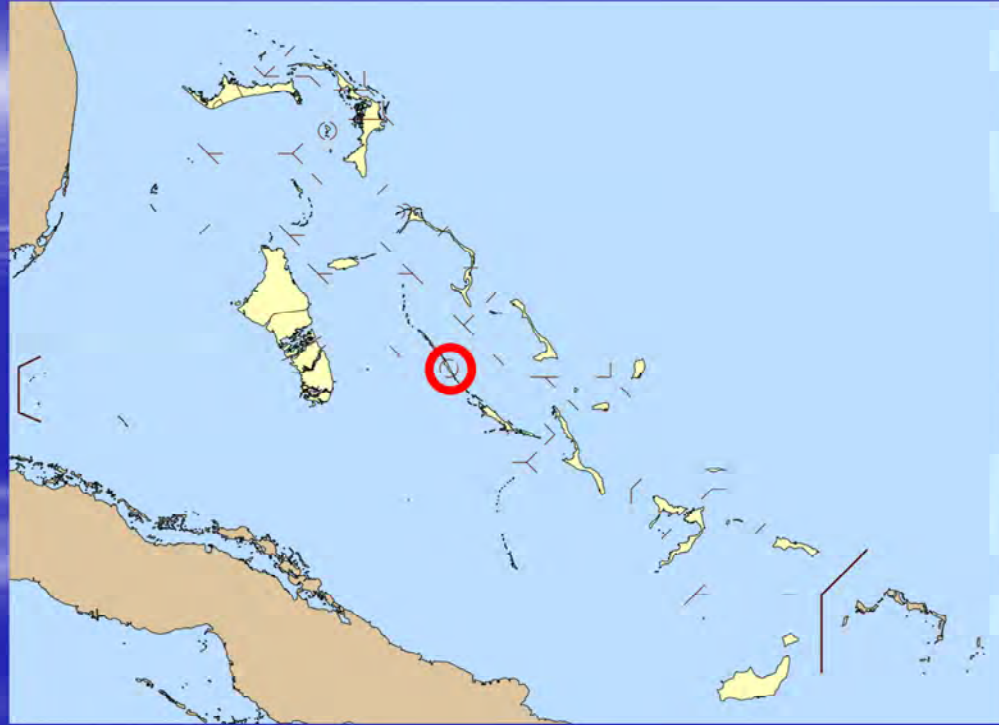


N4372L



This is a 1989 Malibu with a JetProp conversion.

N4372L



After a relatively short flight within the Bahamas, the ATP-rated pilot and his passenger were landing in Staniel Cay, in VFR weather with gusty winds.

N4372L



According to the rather rudimentary Bahamas accident report, the pilot reported a wind gust right around touchdown, but an otherwise normal landing, and then 200 feet down the runway when the nose wheel touched down, the nose gear collapsed.

N4372L



The nose gear actuator rod was bent 70 degrees. The Bahamas report implies this was the cause of the gear collapse, but that misses the question of why and how was the rod bent in the first place.

In any case, on FlightAware the plane is back flying all over the SouthEast US, so that's good. And Valerie Steen will be discussing this mishap at 4:30 this afternoon in a breakout session.



## Summary (accidents)

- **5 fatalities:** 3 IMC appr crash; 1 probable weather encounter; 1 pilot incapacitation
- 5 other landing accidents
  - 2-3 losses directional control
  - 1 nose gear collapse
  - 1 go-around that didn't
- 2 takeoff failure to climb
- 2 apparent engine issues after takeoff
- 1 aborted takeoff running off end of runway
- 1 rear-ended while taxiing

Here is a summary of these 16 accidents.

As has been true for decades, accidents on IMC approaches have a high fatality rate.

And as also been the case for years, note the predominance of landing accidents.

There are several accidents here that might have a mechanical cause, though we don't know that for sure yet.

## Summary Lessons

- Stay sharp on instrument approaches !!!
- Respect convection & icing !!!!
- Stay sharp on landing
- Fly the plane until coming to rest, whether on or off a runway

Over the last few years I've used this take-home lessons slide, and there's really not much to change this year.

Every year we have at least one fatal accident during an IMC approach, and this year is no different.

Almost every year as well, we have someone fly into convection or significant icing, usually with a fatal outcome.

VFR landing accidents are usually not fatal, but they remain pervasive in the fleet.

And as I repeat every year, if you can land off-airport, under control, not in a stall/spin, you have a very good chance of surviving.

## Incidents since Sept 2022

Incident Type	Number
Landing loss of directional control (2 Meridians, 2 M600, 3 Malibu/Mirage)	7
Taxi incident	1
Windshield blowout	1

Concerning incidents, many do not show up in FAA databases for a long time. So I've compiled from official listings and news reports or other sources.

None of the 9 incidents I show on this slide above are actually up yet in the FAA incidents database, but all are documented to some extent.

The number of landing incidents certainly catches your attention; at least two of these were associated with flat tires.

## Summary (accidents + incidents)

- **5 fatalities:** 3 IMC appr crash; 1 weather; 1 incapacitation
- **5 + 7 = 12** landing occurrences
  - 9-10 losses directional control
  - 2 nose gear collapse
  - 1 go-around that didn't
- 2 takeoff failures to climb
- 2 apparent engine issues after takeoff
- 2 taxi occurrences (1 rear-ended & 1 taxi surface collapse)
- 1 aborted takeoff running off end of runway
- 1 windshield blowout

If you add the incidents to the accidents over the past 12 months, the landing mishaps really stand out.



## Landing Accidents + Incidents since Sept 2022

Type	Number
Landing loss of directional control	
Incidents	7
Accidents	6
(2 Meridians, 4 M600, 6 Malibu/Mirage, 1 JetProp)	
 Nose gear collapse (Mirage)	 1

Landing control mishaps were dominated by the turbine models last year. This year the turbines and pistons had almost the same number of runway excursions.

Note that there are more M600's than Meridians, despite the Meridian fleet being much larger. This doesn't reach statistical significance, but it is interesting...

Let's look at landing loss of directional control in a bit more detail.

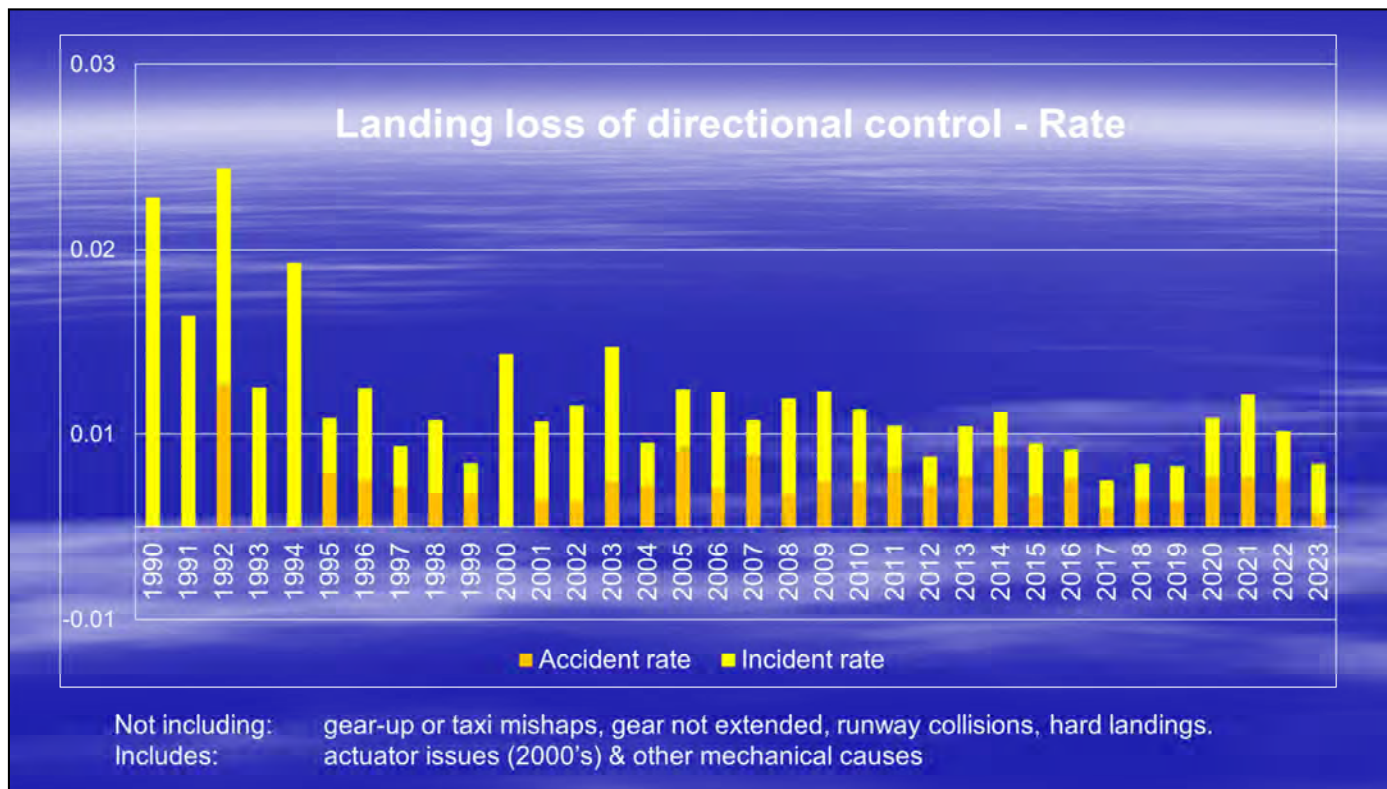


Here are landing excursions over the past 33 years. This chart presents raw annual counts.

You can see this landing control issue has been around as long as the PA46 itself...

Clearly the number of these occurrences have increased over time.

But remember that the number of planes flying was about 280 in 1990, vs almost 2400 this year.



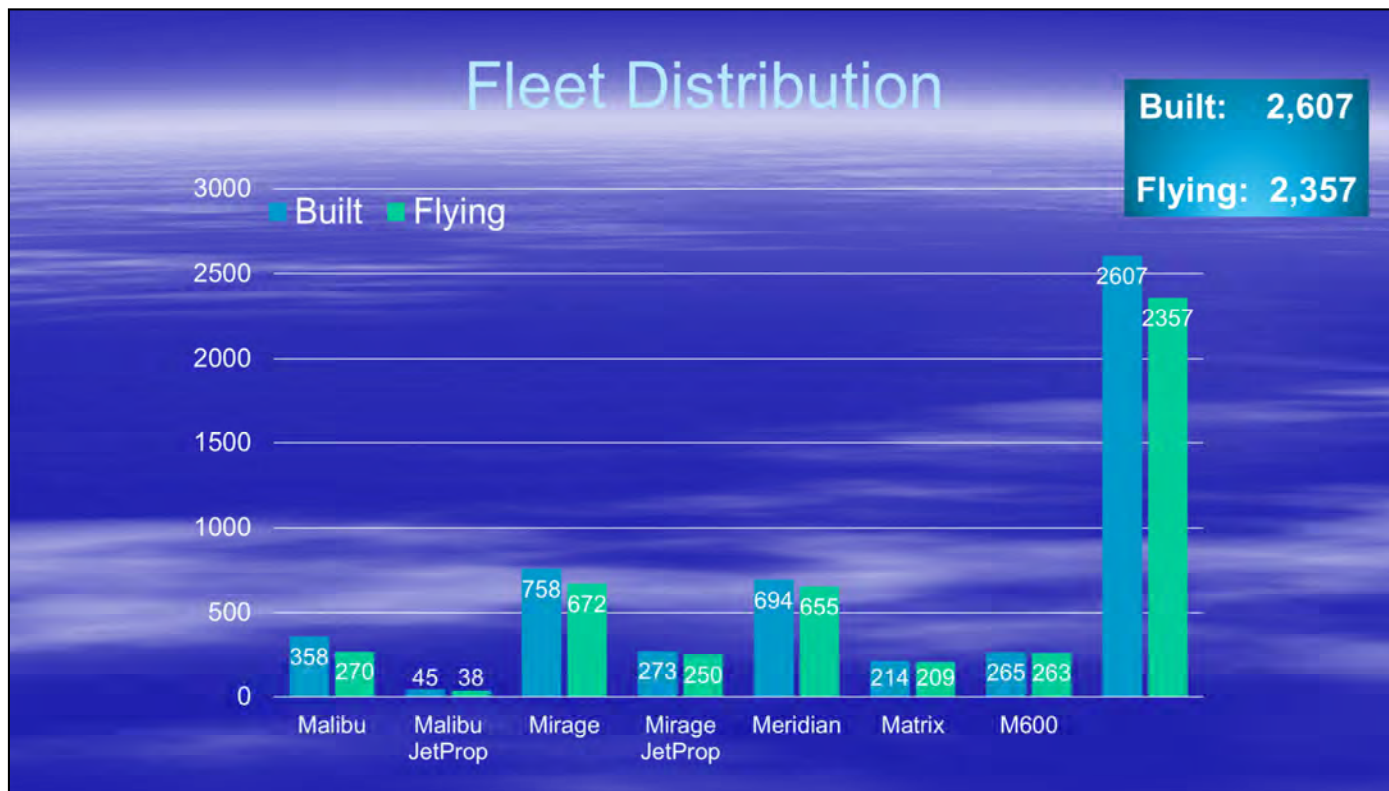
Here's exactly the same data, but presented as a **rate** of landing control issue per flying plane each year.

Looking at this, it's hard to make the case that things have changed much after the first 10 years of the PA46.

These runway excursions are clearly multi-factorial: pilot technique, engine mount issues, nose gear rigging, tire pressure, landing speed, and so on.

But as I mentioned near the beginning of this presentation, it will be very interesting to track the landing records of M600's after the nose gear redesign going forward.

I would not be at all surprised to see those models are less likely to have losses of directional control.

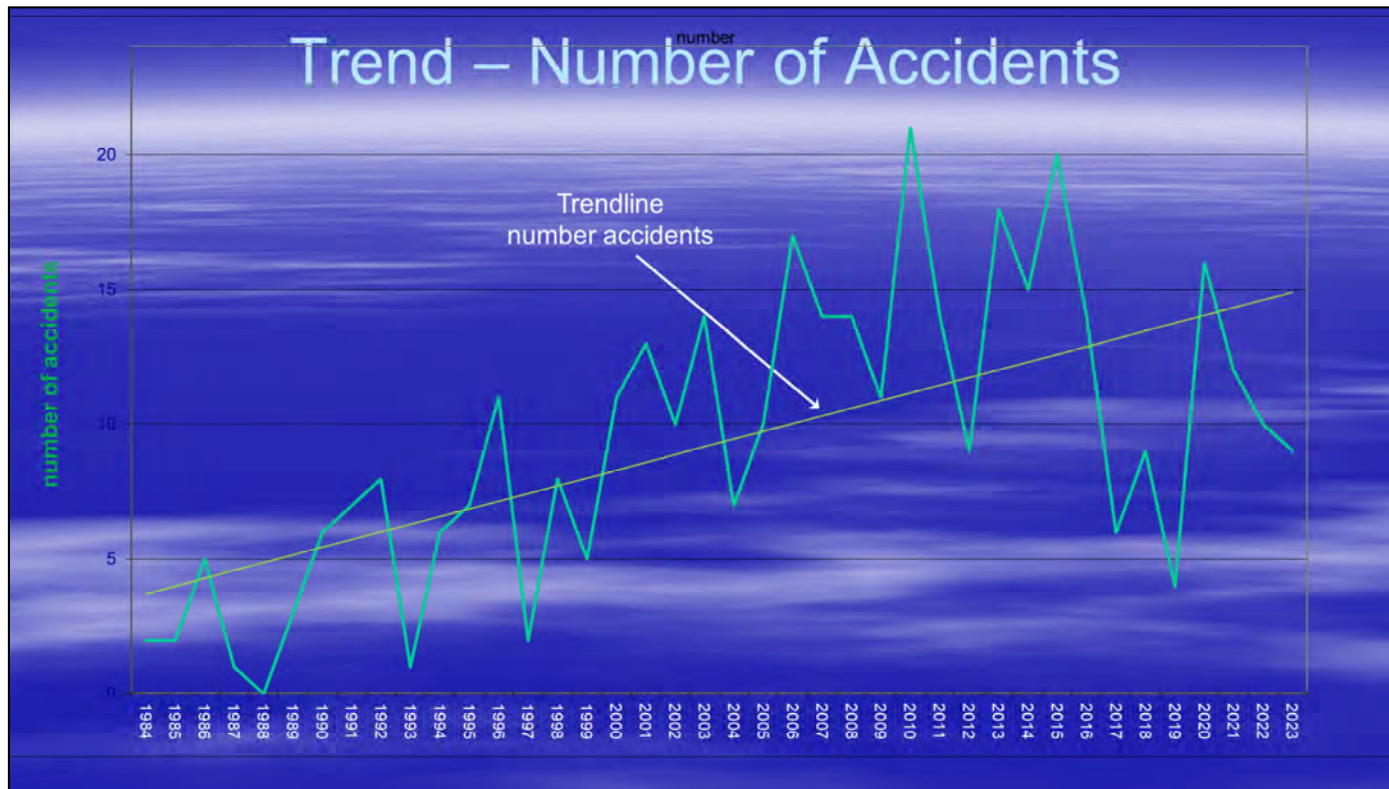


Let me conclude with a big picture overview.

My sincere thanks to Dave McVinnie for these fleet numbers. How many of each model were built, and how many are still registered as flying. Dave is the master of PA46 fleet statistics; he tracks every serial number built.

We have a total, as of this summer, of <CLICK> roughly 2357 planes flying worldwide.

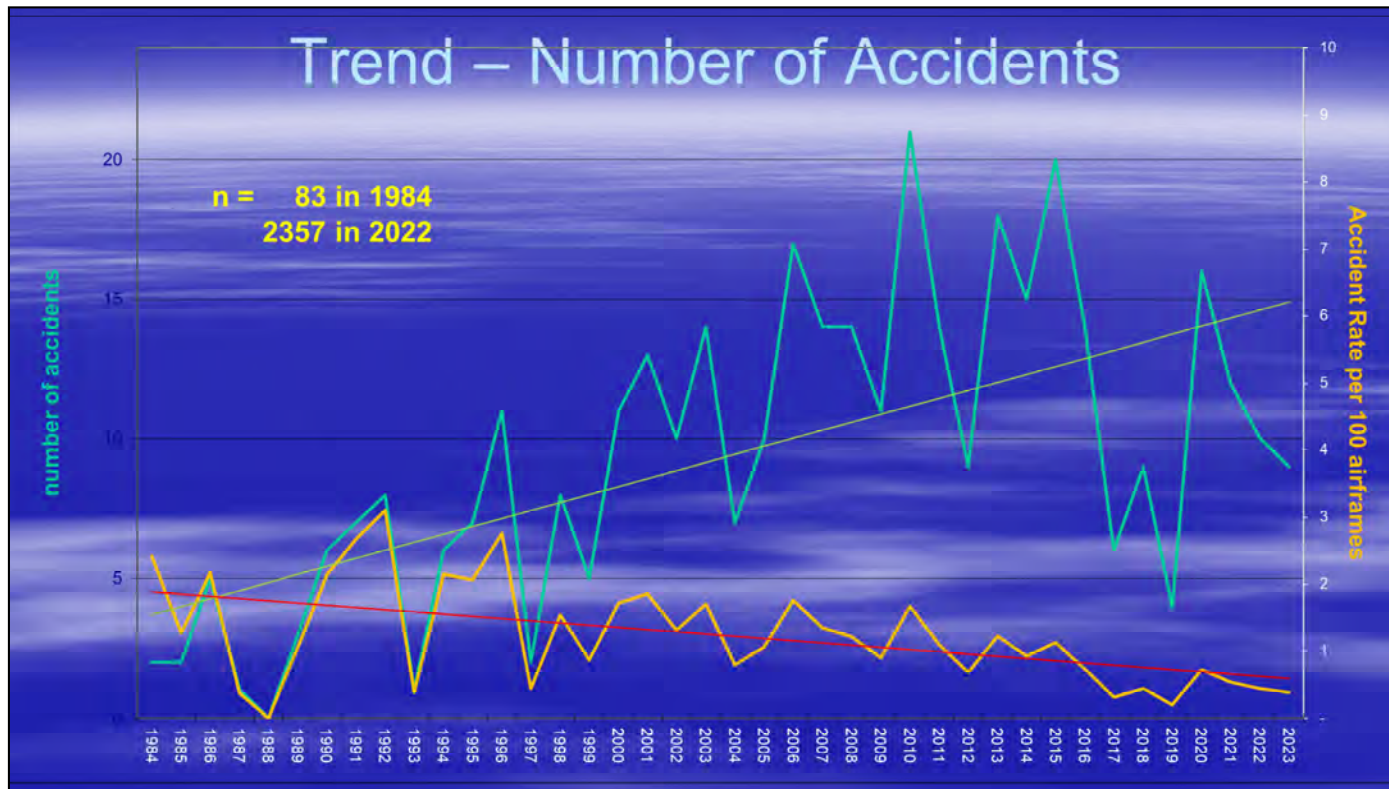




Here are the NTSB accident numbers from 1984 to the present, by calendar year (rather than convention year).

The number of accidents was generally increasing until six years ago. We then had an encouraging three years of decreased accidents. Then, 2020 and 2021 went back up; but the past two year have been slightly better.

But let's also look at the accident rate.

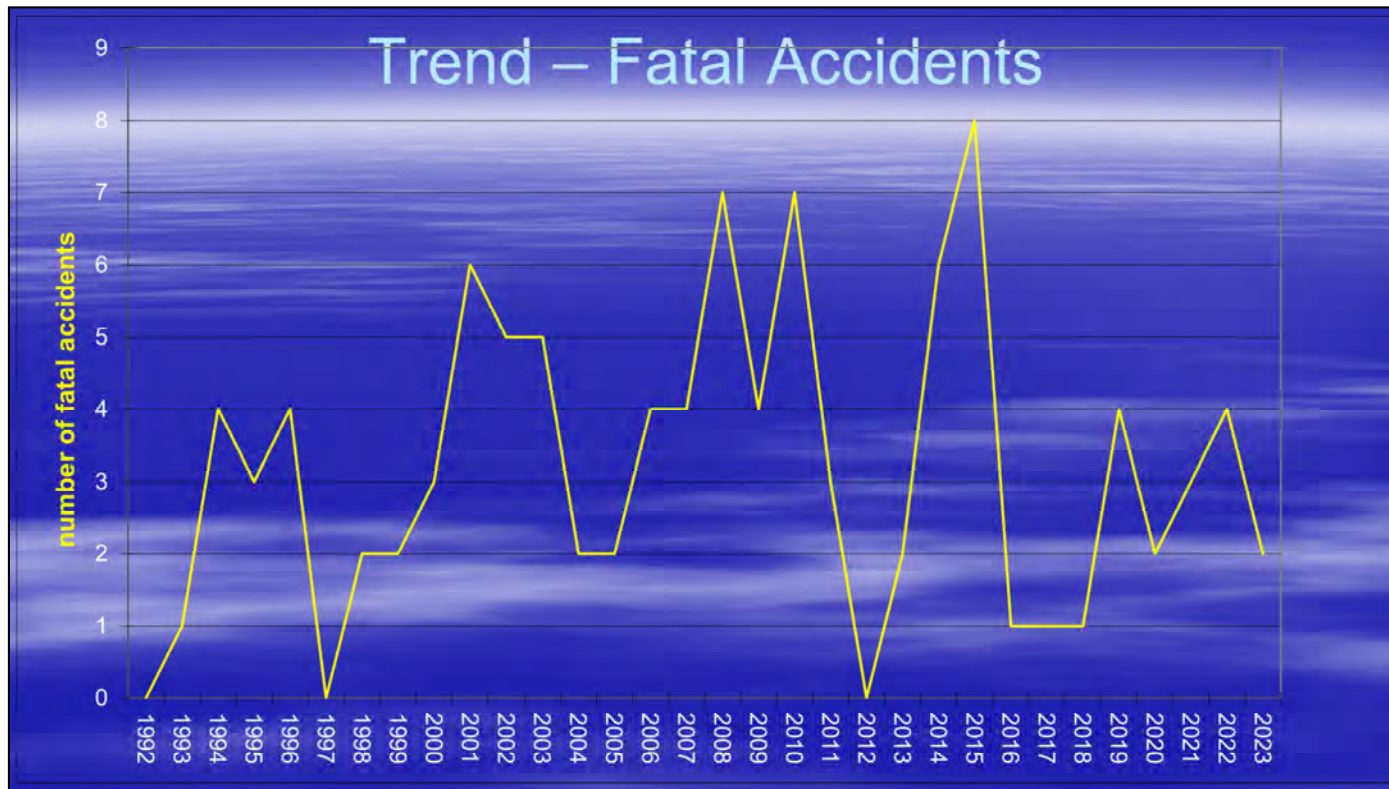


Since the FAA doesn't publicly estimate hours flown for individual general aviation models, I've used accident rate per flying PA46 aircraft as a surrogate – that's the orange line, with the slowly decreasing trend line.

So, over time, our accident rate is dropping, which is good.

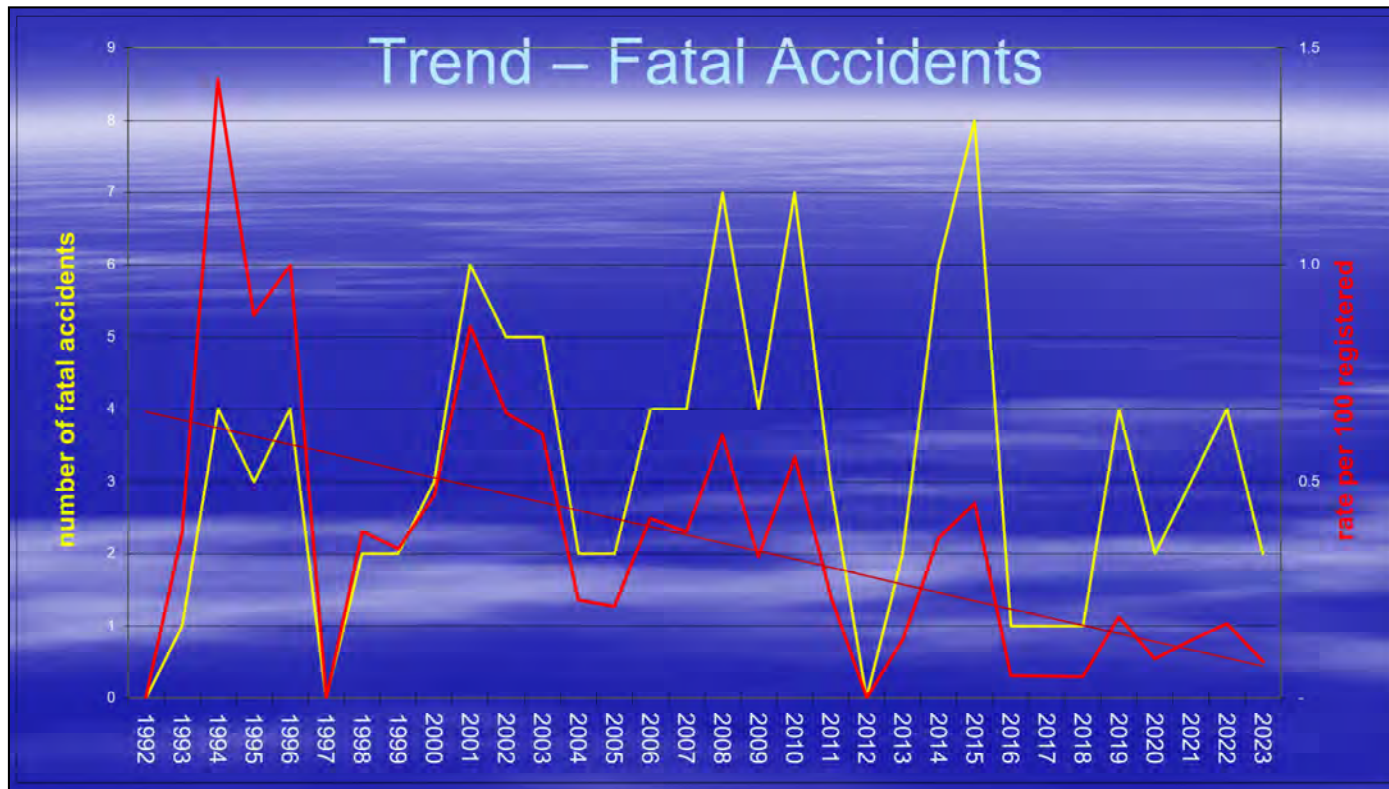
This slow decline is about the same as that seen throughout general aviation, from the latest Nall Report. Again, you see lower numbers in 2017-19, and then back up to the trendline.

We can do better...



Here are the counts of **fatal** accidents from 1992 to the present, by calendar year.

You can see that we had kept fatalities down to just one a year from 2016-2018, but jumped back up over the past 4 years. Hopefully, we will not have another fatal this calendar year.



The fatalities rate per 100 flying aircraft is the red line, with a decreasing trend line.

We shouldn't lose sight of the fact that we've reduced the PA46 fatal accident rate by over 85% since the early days of the PA46, and our fatal accident trend line is going down faster than GA as a whole.

Nevertheless, Zero fatal accidents should be our goal...



## Summary Lessons

- Stay sharp on instrument approaches !!!
- Respect convection & icing !!!!
- Stay sharp on landing
- Fly the plane until coming to rest, whether on or off a runway

Going back to take-aways...

Approaches in actual weather are some of the most dangerous things we routinely do.

Historically, convection and ice have been major killers of PA46 flyers.

Nexrad is NOT all you need to know about weather, and FIKI does NOT mean invulnerable to ice.

Landing is the phase of flight that most frequently bites us.

PA46's have a very strong fuselage that can take a lot, as long as you don't hit something completely unyielding.

At least 65% of PA46 accidents are  
due to Pilot error, or poor Pilot  
judgement.

Use the MMOPA FRAT.

Train frequently with experts.

Err on the side of caution.

I'll close by remembering that we are the weak link in aviation safety.

Do preflight risk assessments, train frequently and well, and don't take dumb chances.



Thank You!

Fly Safe!

Use the FRAT.

Train frequently.

Err on the side of caution.

Thanks very much.

I'll post these slides on the website in the next week or so.

Be safe out there!!