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FLYING LESSONS for May 16, 2026

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

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This week's LESSONS

Informed Speculation

FLYING LESSONS strives to draw education from the known circumstances of recently reports accidents—things that *might* have happened, to teach and review mitigations for those possibilities…even if they are later found not to be what happened in the specific tragedy that sparks our discussion.

At times, however, details in an investigation appear to make some possibilities more likely than others—especially if you happen to be extremely familiar with the type of aircraft involved. You can use **informed speculation**.

Such is the case in the fatal crash of a Beech F33A Bonanza April 25, 2026, in Minneapolis, Minnesota. Now, ***I could be completely wrong***. But if I were investigating this accident, prompted by **informed speculation** I would answer a single question that might point directly at one of two ***possible*** and I think likely **probable causes**.

See https://thomaspturner.com/wp-content/uploads/2026/05/2026.0425-F33A-MN.pdf

Before I ask that question, let's review the facts as currently known from the NTSB Preliminary Report:

> On April 25, 2026, about 1151 central daylight time, a Beechcraft F33A, N8032X was destroyed in an accident near Minneapolis, Minnesota. The pilot and passenger were fatally injured. The day before the accident, the pilot flew the airplane from Park Rapids Municipal Airport-Konshok Field (PKD) Park Rapids, Minnesota, to Crystal Airport (MIC) Minneapolis, Minnesota. The pilot filled the airplane with 18.7 gallons of 100 LL aviation fuel at MIC. According to the pilot's son, the pilot and his passenger were flying back to PKD when the accident occurred.
>
> Air traffic control (ATC) cleared the pilot to depart runway 32 at MIC and climb out on runway heading. The pilot correctly read back the instructions, and the airplane departed runway 32. A recording of ATC communications revealed that, **shortly after the airplane departed runway 32, the pilot said, "*abort, abort, 32X*."**
>
> Air traffic control told the pilot that he was cleared to land on any runway. Airport video surveillance captured the airplane turn left before it descended behind trees. Shortly after, a large plume of black smoke appeared from behind the tree line.
>
> Four video cameras at and around the airport captured audio and video of the airplane. The

first captured takeoff and climbout. The airplane's wings were level as it climbed out.

Video captured the impact sequence. The airplane's engine is heard before the airplane comes into frame. The sound gets louder the closer the airplane gets to the camera. The airplane impacts trees and then the ground at a near vertical nose down attitude. A video camera on the other side of the same property captured the airplane bank to the left before it impacted the trees. A fourth camera captured the airplane fly over and then turn left before it disappeared from the frame. In all four videos, the engine sound can be heard.

Two witnesses saw the airplane at the time it departed. The first said it was about 150 ft in the air, and he thought it was unusual that the landing gear was still down when the airplane was that high on the departure. Then he saw the airplane make a left turn. He thought that the airplane was returning to the airport, but then he saw the airplane lose altitude. He lost sight of the airplane but could still hear the airplane's engine. Then he heard an explosion.

The second witness reported that the takeoff did not seem abnormal; however, he thought the airplane looked low and was not climbing.

Control cable continuity for the elevator and the ailerons were traced back to the control column. Both elevator trim tab actuators measured about 1.7 in, which equated to 15° trailing edge down (nose up position.) Both flap rollers were in the retracted position. Rudder control cable continuity was established. Control cable continuity was established for the autopilot cables and attach points. Postaccident examination of the airplane confirmed that the landing gear was down upon impact.

The fuel selector was on the right tank. The engine driven fuel pump drive coupling was intact. All fittings on the fuel hoses were tight. The spark plugs were unremarkable. Crankshaft continuity was established. All cylinders were borescoped and unremarkable. The fuel metering valve and throttle assembly were thermally damaged. The fuel injector nozzles were unremarkable. The fuel manifold was disassembled and the liquid inside was consistent in smell with 100 LL. The screen was free of debris. Both magnetos supplied a spark to all terminals when rotated. The propeller blades exhibited polishing and chordwise scratches.

All this suggests the engine was operating normally up to the instant of impact. So what's the minute detail that may point to one of two possible causes?

> Both elevator trim tab actuators [were in the] 15° …nose up position.

I happen to know that there is **only *one* normal condition** in which an F33A's elevator trim would be in the 15° UP position. Either it was in that position for normal reasons and the pilot failed to reset it for the next takeoff, or it was in that position for some abnormal reason.

So, what is my question?

> Did the Bonanza in this accident have an aftermarket turbonormalizer* installed?

**A turbonormalizer is a turbocharging system designed to provide sea-level manifold pressure and approximately sea-level horsepower to altitudes as high as 18,000 feet or more, for higher true airspeeds and improved rate of climb.*

And what are the two most likely *possible* probable causes I'd first investigate using my **informed speculation?**

1. **Failure to properly set the trim before takeoff**, if a turbonormalizer was installed, or
2. **Pitch trim runaway,** if one was not.

Why do I say this? Again, **informed speculation:**

An F33A Bonanza, if trimmed for hands-off flight on final approach, usually touches down with the elevator trim near its takeoff position…about 3° up, or perhaps a degree or two more nose-up than that. ***However,*** because of added system weight in the engine compartment, a turbonormalized F33A is typically much more nose-heavy. If flown with two aboard and not a lot of baggage, its typical elevator trim position at touchdown is…12° to ***15°*** UP.

The only normal scenario for an F33A's trim to be 15° UP to when trimmed for hands-off flying on short final approach with a turbonormalizer modification and one or two persons on board with limited baggage. **Informed speculation**: If the accident airplane was turbonormalized, I think the most likely scenario is that the pilot forgot to reset trim after the last landing and it causes a radical nose-up attitude immediately after takeoff that caused an almost immediate loss of control.

In the other possible scenarios either the pilot radically mis-set the trim to this very nose-high position accidentally, the trim position marking card had slipped on the manual trim wheel and incorrectly indicated the trim was in the takeoff position; or (I speculate most likely in this case) the trim position found after impact was the result of a **pitch trim runaway**—a malfunction of the electric trim system that rapidly drove the trim to this radically nose up position, taking the airplane with it.

I've had a pitch trim runaway immediately after takeoff in an A36 Bonanza almost immediately after takeoff (I had not yet even retracted the landing gear). It pitched nose down, HARD, only a couple of wingspans above the ground. It was very dramatic. My passenger and I survived because I'd practiced the Pitch Trim Runaway quickly before engine start on the first flight of the day every time for over 20 years, including touching the trim circuit breaker without having to look for it. When I suddenly needed it, I performed the procedure without having to think about it.

See https://www.flightsafetyaustralia.com/2017/10/complacency-is-the-hunter/

I'll ease away now and let the real investigators do their job. As I said, I could be entirely wrong. And that's irrelevant. Because **the real *LESSON*** this week is this: the design and modifications of the aircraft you're flying dictate some of its unique hazards and suggests type-specific considerations for which you must create and exercise mitigations.

In plainer language, *know your airplane, its systems, characteristics and operation,* and ***practice the emergency procedures frequently*****,** and you'll be far more capable of flying it safely. About that I am not wrong.

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

Debrief

Readers write about recent *LESSONS*:

We'll focus on the many reader insights in the Debrief next week.

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

Share safer skies. Forward *FLYING LESSONS* to a friend.

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NEW THIS WEEK: Jay Apt; **(and correction, with my apologies):** Bill Farrell

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Thomas P. Turner, M.S. Aviation Safety
Flight Instructor Hall of Fame Inductee
2021 Jack Eggspuehler Service Award winner
2010 National FAA Safety Team Representative of the Year
2008 FAA Central Region CFI of the Year