

CROSS-CHECKING INSTRUMENT ERRORS

Why did the pilot in this accident fail to establish and maintain a positive climb rate? One answer might be found in a well-known error of the attitude indicator.

According to the FAA's *Instrument Flying Handbook*, FAA-H-8083-15-1, "[a]ttitude indicators are free from most errors, but depending upon the speed with which the erection system functions, there may be a slight nose-up indication during a rapid acceleration and a nose-down indication during a rapid deceleration."

Rapid acceleration leading to the attitude indicator presenting a nose-up indication is certainly a possibility in this accident: The record demonstrates the airplane had a groundspeed of more than 200 knots within a nautical mile of beginning the takeoff roll.

Errors like this are well understood and pilots are trained not only to expect them but to use other instruments—the vertical-speed indicator and altimeter, in this case—to help establish and maintain the desired airplane attitude. We'll never know why the accident pilot didn't climb, but failing to cross-check the AI could be one reason.

