

National Transportation Safety Board

Office of Aviation Safety

Denver, CO 80239



CEN20FA070

HISTORY OF FLIGHT SUMMARY

ACCIDENT

Location: Springfield, Illinois
Date: January 28, 2020
Time: 1503 central standard time
Airplane: Piper PA-60-601P, Registration No. N6071R

HISTORY OF FLIGHT

On January 28, 2020, about 1503 central standard time, a Piper PA-60-601P airplane, N6071R, was destroyed when it was involved in an accident near Springfield, Illinois. The pilot, 2 passengers, and a dog were fatally injured. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

At 1301, the flight departed Huntsville International Airport (HSV), Huntsville, Alabama, on an instrument flight rules (IFR) flight plan to Springfield Abraham Lincoln Capital Airport (SPI), Springfield, Illinois. According to automatic dependent surveillance-broadcast (ADS-B) data, the flight departed runway 18L at HSV and turned north-northwest toward SPI. The airplane subsequently climbed to 10,000 ft mean sea level (msl) and continued direct toward SPI.

At 1440:34, the pilot established radio contact with Springfield approach and reported being level at 10,000 ft msl. The approach controller replied that the pilot should expect radar vectors to join the localizer for the instrument landing system (ILS) runway 31 at SPI. At 1441:20, the approach controller told the pilot that there were a couple of pilot reports (PIREPS) for light-to-moderate mixed icing in the clouds at 3,000 ft msl and cleared the pilot to descend to maintain 3,000 ft msl. At 1441:32, the pilot reported leaving 10,000 ft msl for 3,000 ft msl. At 1441:43, the approach controller told the pilot to fly a 350° heading for vectors to the localizer. The pilot confirmed the heading change, and the airplane turned to a 350° course while still in a descent.

At 1448:54, the pilot reported that the cloud tops were at 3,000 ft msl. At 1449:00, the approach controller told the pilot, "seven one romeo, roger, thank you, seven miles from CALDE, turn left heading three four zero, maintain three thousand until established on the localizer (unintelligible) I-L-S runway three one approach." The pilot replied, "three four zero on the turn, here we go."

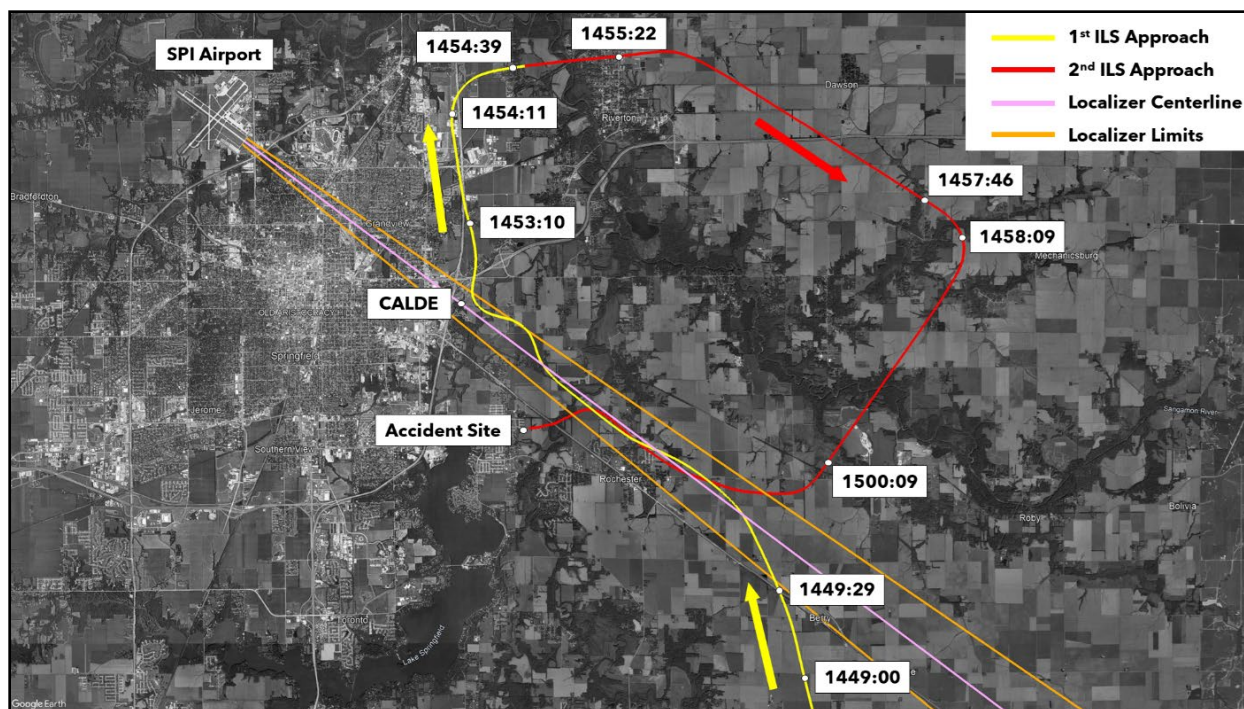


Figure 1. ADS-B Track Data with Localizer Centerline and Limits.

At 1449:29, the pilot transmitted, "and seventy one romeo, we're not picking these navs on thirty one (unintelligible) or thirty one." At that time, the airplane was still flying the assigned 340° heading to intercept the localizer and was about 0.6 nautical miles (nm) left of the localizer, as shown in Figure 1. At 1449:36, the approach controller asked the pilot to repeat his previous transmission and the pilot replied, "Yup, we still got neg nav lights on thirty one." At 1449:53, the approach controller transmitted "Aerostar seven one romeo, ah, we're getting green indications here (unintelligible) just to verify that you are on one one zero point one five on the localizer?"

At 1449:59, the airplane flew through the localizer centerline while still on the assigned 340° heading, as shown in Figure 2. After crossing through the localizer centerline, the airplane made a left turn to a 295° course.

At 1450:01, the pilot replied to the approach controller, "One one zero, three." At 1450:04, the approach controller transmitted, "And its one one zero point one five, would you like revector for the approach?" At 1450:10, the pilot asked the controller, "Is it one one zero, five?" The approach controller replied, "It is one one, ah, zero point one five. one one zero point one five. ten point one five."

At 1450:24, the approach controller asked the pilot if the airplane was established on the localizer. The pilot replied, "We are on the localizer, seven one, ah, romeo." At 1450:40, the approach controller asked the pilot if the airplane was also receiving the glideslope. The pilot replied, "Yes we are." At that time, the airplane was flying through the localizer at 2,930 ft msl while still on the 295° course and was about 3.8 nm

southeast of the locator outer marker (CALDE). At 1450:45, the approach controller told the pilot to contact the tower controller. At 1450:52, the airplane made a right turn to about 306° to rejoin the localizer centerline.

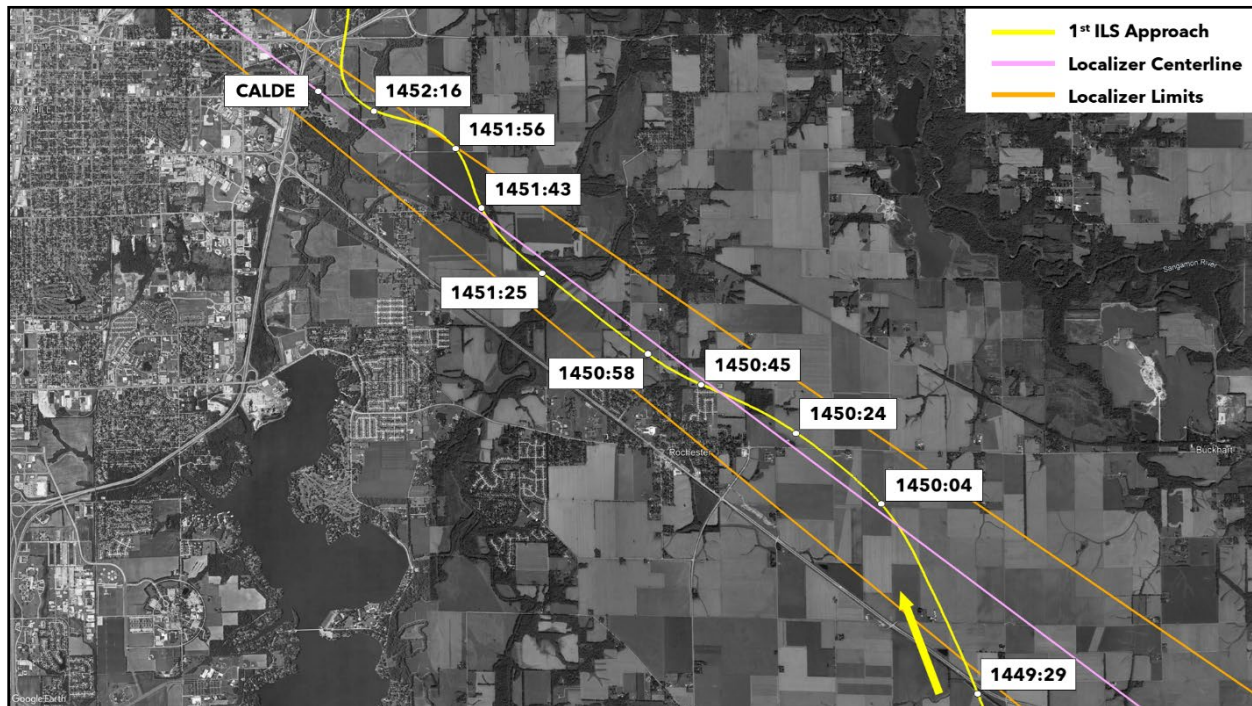


Figure 2. ADS-B Track Data for First ILS Runway 31 Approach.

At 1450:58, the pilot established contact with the tower controller. The tower controller asked the pilot if he was established on the localizer. At 1451:08, the pilot replied, "We're established, seventy one romeo." At 1451:10, the tower controller cleared the pilot to land on runway 31. At that time, the airplane was at 2,960 ft msl and was heading toward CALDE about 0.1 nm left of the localizer centerline.

At 1451:25, the tower controller told the pilot that the airplane appeared to be "slightly left of course." The pilot replied "correcting." At 1451:43, the tower controller told the pilot that the airplane appeared to be on course. At 1451:46, the pilot replied, "... it looks like we went through the course." At that time, the airplane had descended to 2,450 ft msl after it crossed through the localizer centerline on a 340° course.

At 1451:56, the tower controller transmitted, "seven one romeo, ah, cancel any clearance, climb and maintain three thousand, turn right heading three six zero." At 1452:02, the pilot replied, "Okay (unintelligible) thousand, here we go, seventy one romeo." At 1452:11, the tower controller transmitted, "seven romeo lima, again, cancel any clearance, climb and maintain three thousand, turn right heading three six zero." At 1452:16, the pilot replied, "three six zero on the turn, here we go, seventy one romeo." At 1452:37, the tower controller told the pilot, "seven one romeo, contact departure, they'll

vector you around for another, ah, approach here, you were, ah, right (and) left of course we, ah, it just didn't look safe from here so contact departure one two six point one five."

At 1453:10, the pilot reestablished contact with Springfield approach control and reported flying a 360° heading. The approach controller asked the pilot if he wanted to be vectored back to the ILS 31 instrument approach or change to the ILS 22 instrument approach. At 1453:45, the pilot replied, "How about we go back to three one?" The approach controller told the pilot to turn right to 090° for vectors to the ILS 31 approach at SPI.

At 1454:11, the approach controller asked the pilot, "are you having some issues with your nav head?" The pilot replied with a single word, "Yup." At 1454:17, the approach controller asked the pilot if he would prefer to fly an approach surveillance radar (ASR) approach instead of the ILS approach. The pilot's response was unintelligible. At 1454:27, the approach controller told the pilot that his transmissions were intermittent and asked him if the airplane was having electrical issues. At 1454:33, the pilot replied, "Ah, that's negative." At 1454:39, the pilot transmitted, "Yeah, we will just do three one over again and, ah, we're picking up a little ice." At 1454:35, the approach controller asked the pilot again if he would prefer the ASR approach instead of the ILS approach. At 1454:52, the pilot replied, "Okay, no we will try it again, it just, ah, took off when we, ah (unintelligible) when we were ah about twenty three hundred."

At 1455:22, the approach controller told the pilot to turn right to a 130° heading and asked if the airplane was still in icing conditions. The pilot replied that the airplane was above the icing conditions at 3,000 ft msl. At 1456:10, the approach controller asked the pilot if the airplane's landing gear was still extended. The pilot replied that the landing gear was still extended. At 1457:46, the approach controller told the pilot to turn right to a 220° heading. At 1458:09, the approach controller asked the pilot to verify if the airplane was receiving the localizer signal. At 1458:12, the pilot replied, "Oh yeah, we're picking up the localizer, seventy one romeo."

At 1500:09, the approach controller transmitted, "November seven one romeo, six miles from CALDE, turn right heading two eight zero, maintain three thousand until established on the localizer, cleared I-L-S runway 31 approach." The pilot replied, "Okay, here we go, two eight oh on the turn, and three thousand until established, seventy one romeo." The airplane entered a descent from 3,000 ft msl following the approach clearance. The published glideslope intercept altitude for the ILS runway 31 approach was 2,100 ft msl.

Between 1500:35 and 1501:00, the airplane's course was about 270° as it approached the localizer from the east, as shown in Figure 3. At 1501:00, the airplane turned right to a 290° course and subsequently flew through the localizer centerline at 1501:28. When the airplane flew through the localizer centerline, about 4.4 nm from CALDE, the airplane was descending through 2,650 ft msl. The airplane continued toward CALDE slightly left

of the localizer centerline. At 1502:03, the approach controller transmitted, "Aerostar seven one romeo, is everything looking good now, we are showing you on course." At 1502:07, the pilot replied, "Yup, looking good." At 1502:11, the approach controller told the pilot to contact Springfield tower. At 1502:14, the pilot replied, "Contact tower, seventy one romeo." At that time, about 3 nm from CALDE, the airplane was descending through 2,300 ft msl and was 0.05 nm left the localizer centerline. About 5 seconds after the pilot was told to contact the tower controller, the airplane entered a left turn away from the localizer and descended below the glideslope intercept altitude (2,100 ft msl), as shown in Figure 5.

At 1502:37, the tower controller attempted to contact the pilot without any reply. At 1502:45, the tower controller again attempted to establish radio contact with the pilot. At 1502:47, the pilot replied, "We've got a prob (unintelligible)." At that time, the airplane was descending through 1,275 ft msl on a 246° course. At 1502:49, the tower controller asked the pilot if he was able to climb. There was no response from the pilot. At 1502:56, the tower controller told the pilot to climb and maintain 3,000 ft msl. There was no response from the pilot. At 1503:15, the tower controller told the pilot to climb and maintain 3,000 ft msl and to turn left to a heading of 180°. There was no response from the pilot.

At 1503:11, the final recorded ADS-B datapoint indicated the airplane was at 641 ft msl (about 66 ft above ground level) with a ground speed and ground track of 87 knots and 267°, respectively, as shown in Figure 4. During the final 5 seconds of recorded data, the airplane's descent rate rapidly changed from 1,500 fpm to about 5,450 fpm. The final ADS-B datapoint was located about 380 ft east-northeast of the airplane's initial impact with terrain.

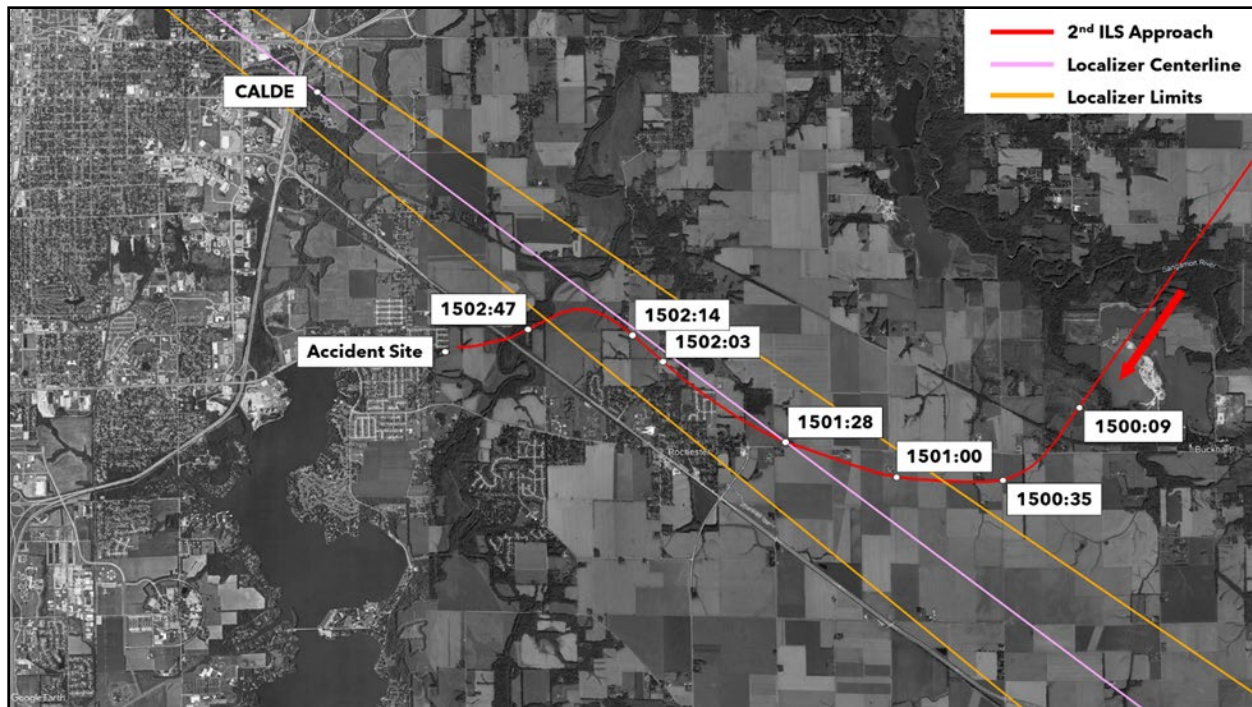


Figure 3. ADS-B Track Data for Second ILS Runway 31 Approach.

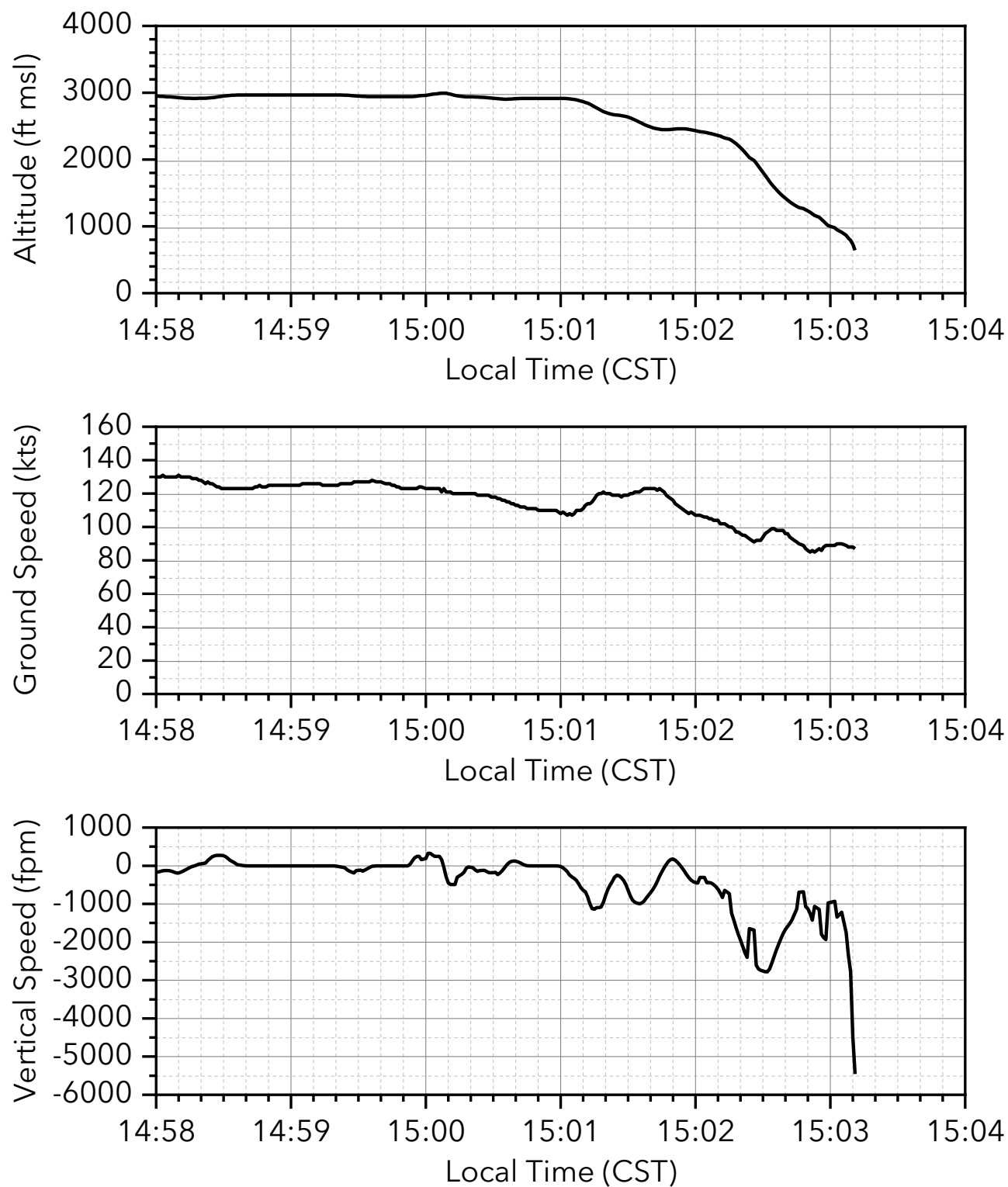


Figure 4. Altitude, Ground Speed, and Vertical Speed Data for the Second ILS Approach.

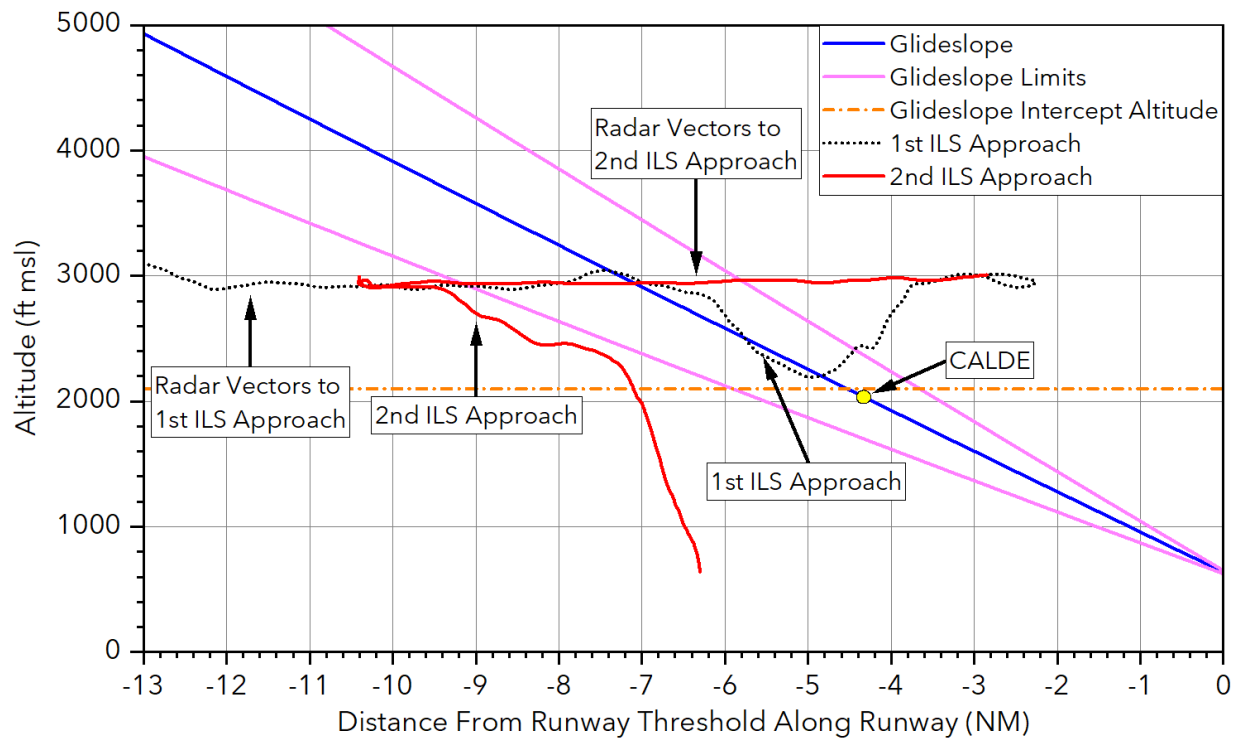


Figure 5. Airplane Altitude with Glideslope Reference.