



AVIATION



HIGHWAY



MARINE



RAILROAD



PIPELINE

# Aviation Investigation Final Report

<b>Location:</b>	Apache Junction, Arizona	<b>Accident Number:</b>	WPR23FA223
<b>Date &amp; Time:</b>	June 10, 2023, 07:51 Local	<b>Registration:</b>	N759F
<b>Aircraft:</b>	COMPAGNIE DAHER TB 30 EPSILON	<b>Aircraft Damage:</b>	Destroyed
<b>Defining Event:</b>	Low altitude operation/event	<b>Injuries:</b>	2 Fatal
<b>Flight Conducted Under:</b>	Part 91: General aviation - Personal		

## Analysis

The formation of three airplanes departed about 2 hrs and 20 minutes after sunrise to fly to an airport for lunch. The accident airplane was loaded with the pilot and a passenger, a full load of fuel, and an undetermined amount of baggage when they took off. The accident pilot, flying in the No. 2 position, intended to continue flying a solo cross-country after lunch. The flight planned to fly at low altitude around a local mountainous area en route to the lunch location. The No. 3 pilot reported that, during departure and before flying around the mountains, the accident airplane was having difficulty keeping up with the other two airplanes.

Several witnesses observed the airplanes flying to the south along the west side of the mountains at a low altitude. They reported that the lead and No. 2 airplanes were close together, flying similar profiles, while the No. 3 airplane was further behind.

Both pilots reported they struggled with depth perception when flying around the mountains. The No. 3 pilot reported that just before the accident, he observed the No. 2 airplane pass under his airplane from right to left toward the terrain. The nose of the airplane pitched up and down several times, but the trajectory of the airplane did not appear to change. He said the pilot of the No. 2 airplane did not make any radio calls or report any problems before the accident.

A home security camera, facing east, captured the moment the No. 2 airplane impacted terrain. No airplanes were identifiable in the video. The video showed the west facing slopes of the mountains were shadowed and terrain features were not defined.

It is possible the airplane was not performing as well as the other two airplanes due to its loading, but the evidence was insufficient to say whether that could have been a factor in the

pilot’s ability to avoid the terrain. The evidence is consistent with the shadowing effects resulting from the positioning of the sun creating depth perception difficulties for the pilot. The pilot likely failed to recognize the significance of rising terrain in front of the airplane until there was insufficient time to avoid it, resulting in controlled flight into terrain. Contributing to the accident was the decision by all three pilots to fly at a low altitude around the mountainous terrain.

## Probable Cause and Findings

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

The pilot’s controlled flight into the mountainous terrain due to diminished depth perception as a result of the shadowing effect from the sun’s position. Contributing to the accident was the decision by all three pilots to fly low altitude around the mountainous terrain.

Findings	
Personnel issues	Decision making/judgment - Pilot
Personnel issues	Decision making/judgment - Pilot of other aircraft
Environmental issues	(general) - Effect on personnel
Aircraft	Altitude - Not attained/maintained
Environmental issues	Mountainous/hilly terrain - Awareness of condition
Environmental issues	Mountainous/hilly terrain - Ability to respond/compensate

# Factual Information

## History of Flight

Maneuvering-low-alt flying	Low altitude operation/event (Defining event)
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On June 10, 2023, at 0751 mountain standard time, a Compagnie Daher TB-30 Epsilon, N759F, was destroyed when it was involved in an accident near Apache Junction, Arizona. The pilot and passenger were fatally injured. The airplane was operated as a Title 14 *Code of Federal Regulations Part 91* personal flight.

The accident airplane was flying formation in the No. 2 position with two other TB-30 airplanes, N315GC (lead) and N130KL (No. 3), which were not carrying passengers. The flight of three airplanes departed Falcon Field Airport (FFZ), Mesa, Arizona at 0742 with a planned destination of Payson Airport (PAN), Payson, Arizona. According to the lead and No. 3 pilots, they intended to fly around the Superstition Mountains east of Mesa before flying to PAN. They intended to eat lunch at PAN and, following lunch, the passenger in the No. 2 airplane would return to FFZ in one of the other formation airplanes, and the No. 2 pilot and airplane would continue a cross-country flight to the east coast.

Recorded ADS-B data was recovered for the lead and No. 3 airplanes. The data showed that the flight proceeded eastbound until about 0748, when the flight began maneuvering to the northeast. The flight then turned right to a southeasterly heading and descended towards the west side of the Superstition Mountains (figure 1). According to the lead and No. 3 pilots, the flights took spacing before descending toward the mountains and were in a “relaxed extended trail” formation about 500 ft above the ground as they flew around the mountains.

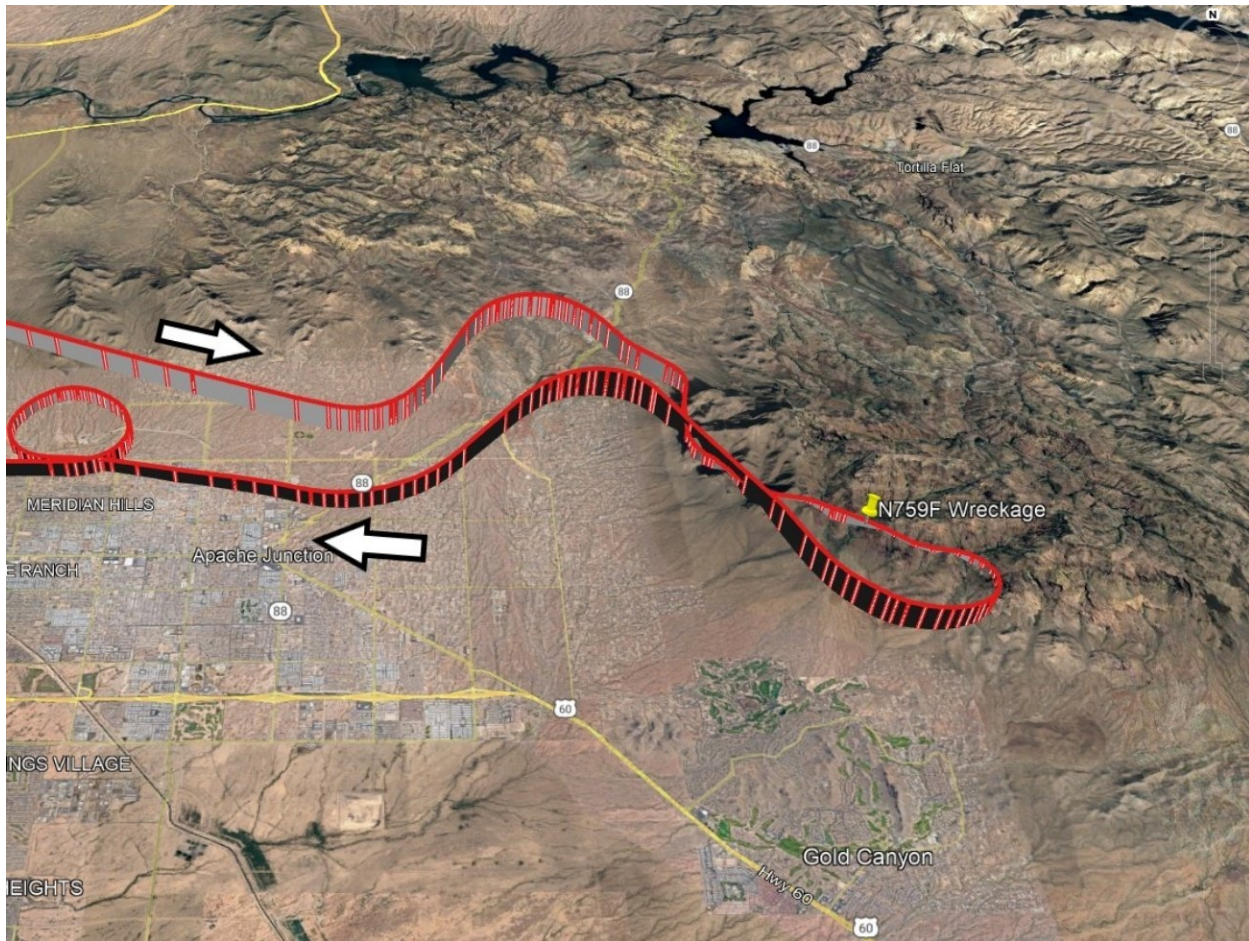


Figure 1 –Lead airplane's flight path (ADS-B Data)

Several witnesses observed the airplanes flying to the south along the west side of the mountains at a low altitude. They reported that the lead and No. 2 airplanes were close together, flying similar profiles, while the No. 3 airplane was further behind. One witness stated that the lead airplane crossed a ridgeline in over 90° of bank, and that the second airplane was less aggressive than the first, and the third airplane was higher and even less aggressive. No witnesses on the ground reported observing the accident. A home security camera, facing east, captured the moment the No. 2 airplane impacted terrain. The camera was located about 2.8 miles west of the accident site and showed an area of smoke appear at the accident site. No airplanes were identifiable in the video before the impact. The video showed that the west facing slopes of the mountains were shadowed and terrain features were not defined (figure 2).





Figure 2 – Video screenshot of terrain and impact

The pilot of the No. 3 airplane reported that just before the accident, he observed the No. 2 airplane pass under the nose of his airplane from right to left, and that the nose of the airplane pitched up and down several times, but the trajectory of the airplane did not appear to change. He said the pilot of the No. 2 airplane did not make any radio calls or report any problems before the accident. He reported the accident to the pilot of the lead airplane, and they returned to FFZ.

The lead pilot and the No. 3 pilot each mentioned concerns with depth perception while flying low around the mountains. The No. 3 pilot specifically stated that he struggled with depth perception and “didn’t understand what he was seeing” regarding the terrain.

The No. 3 pilot stated the accident airplane was loaded with full fuel, baggage, and the pilot and passenger when they took off from FFZ. He noted the accident pilot asked the flight to slow down during a rejoin after departure and that the accident airplane “had difficulty keeping up” with the other two airplanes.

## Pilot Information

<b>Certificate:</b>	Private	<b>Age:</b>	46, Male
<b>Airplane Rating(s):</b>	Single-engine land; Single-engine sea	<b>Seat Occupied:</b>	Front
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	Unknown
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	Yes
<b>Medical Certification:</b>	Class 2 None	<b>Last FAA Medical Exam:</b>	April 20, 2023
<b>Occupational Pilot:</b>	No	<b>Last Flight Review or Equivalent:</b>	December 2, 2022
<b>Flight Time:</b>	(Estimated) 575 hours (Total, all aircraft), 250 hours (Total, this make and model), 489 hours (Pilot In Command, all aircraft)		

The pilot's private pilot certificate was issued February 5, 2019. His pilot's logbook contained entries of flights from May 5, 2018, to May 21, 2023. The pilot did not document any flights in mountainous terrain and annotated one flight "low level over Chesapeake" on June 5, 2021. The pilot documented numerous formation flights and that he attended two formation clinics on March 6, 2021, and December 29, 2022.

The pilot completed the Reno Air Race Association Pylon Racing Seminar (PRS) June 7, 2023. He passed all ground and flight phases of PRS.

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	COMPAGNIE DAHER	<b>Registration:</b>	N759F
<b>Model/Series:</b>	TB 30 EPSILON	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>	1988	<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Experimental (Special)	<b>Serial Number:</b>	133
<b>Landing Gear Type:</b>	Retractable - Tricycle	<b>Seats:</b>	2
<b>Date/Type of Last Inspection:</b>	February 25, 2023 Annual	<b>Certified Max Gross Wt.:</b>	
<b>Time Since Last Inspection:</b>		<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>	7730.7 Hrs as of last inspection	<b>Engine Manufacturer:</b>	Lycoming
<b>ELT:</b>	Installed	<b>Engine Model/Series:</b>	AEIO-540-L1B5D
<b>Registered Owner:</b>	SILVER FOX AVIATION LLC	<b>Rated Power:</b>	300 Horsepower
<b>Operator:</b>	On file	<b>Operating Certificate(s) Held:</b>	None

## Meteorological Information and Flight Plan

<b>Conditions at Accident Site:</b>	Visual (VMC)	<b>Condition of Light:</b>	Day
<b>Observation Facility, Elevation:</b>	KFFZ, 1389 ft msl	<b>Distance from Accident Site:</b>	15 Nautical Miles
<b>Observation Time:</b>	07:54 Local	<b>Direction from Accident Site:</b>	281°
<b>Lowest Cloud Condition:</b>	Clear	<b>Visibility</b>	10 miles
<b>Lowest Ceiling:</b>	None	<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	/	<b>Turbulence Type Forecast/Actual:</b>	/
<b>Wind Direction:</b>		<b>Turbulence Severity Forecast/Actual:</b>	/
<b>Altimeter Setting:</b>	29.85 inches Hg	<b>Temperature/Dew Point:</b>	26°C / -2°C
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>	Mesa, AZ (FFZ)	<b>Type of Flight Plan Filed:</b>	None
<b>Destination:</b>	Payson, AZ (PAN)	<b>Type of Clearance:</b>	Unknown
<b>Departure Time:</b>	07:40 Local	<b>Type of Airspace:</b>	Class D

Sunrise at the accident site occurred about 0517. The National Oceanic and Atmosphere Administration solar calculator placed the sun at 080° azimuth and 30° elevation from the accident site at the time of the accident.

## Wreckage and Impact Information

<b>Crew Injuries:</b>	1 Fatal	<b>Aircraft Damage:</b>	Destroyed
<b>Passenger Injuries:</b>	1 Fatal	<b>Aircraft Fire:</b>	None
<b>Ground Injuries:</b>		<b>Aircraft Explosion:</b>	None
<b>Total Injuries:</b>	2 Fatal	<b>Latitude, Longitude:</b>	33.41882,-111.43533(est)

The accident site was not accessible by investigators due to rugged terrain. An aerial assessment of the accident site by a NTSB investigator the day of the accident revealed that the airplane impacted near-vertical terrain about 200-400 ft below a ridgeline on an easterly heading. The debris field extended about 200 ft downslope from the initial point of impact (figure 3).





Figure 3 – Accident site and debris field

The wreckage was highly fragmented. The identifiable components included portions of the cockpit, the tail section from the wing spar aft to the vertical stabilizer, flap fragments from both wings, and the left, right, and nose gear assemblies. The main landing gear appeared to be in the stowed position. The nose gear assembly was separated from the fuselage. Impact damage prevented determination of flight control continuity.

The engine was highly fragmented. Identifiable components included portions of the engine case, some engine-driven accessories, and exhaust tubes. One propeller blade was identified. About 24 inches of the blade remained. Chordwise, leading and trailing edge scratches and gouging were evident on the blade.

### **Medical and Pathological Information**

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The Pinal County Medical Examiner's Office, Florence, Arizona, performed an autopsy on the pilot's remains. The autopsy report listed the cause of death as "multiple blunt force trauma." Toxicology testing performed at the FAA Forensic Sciences Laboratory found no drugs of abuse.

## Administrative Information

Investigator In Charge (IIC):	Baker, Daniel
Additional Participating Persons:	Gary Hendrickson; FAA; Scottsdale, AZ Mark Platt; Lycoming Engines; Phoenix, AZ
Original Publish Date:	April 24, 2025
Last Revision Date:	
Investigation Class:	<a href="#">Class 3</a>
Note:	
Investigation Docket:	<a href="https://data.nts.gov/Docket?ProjectID=192347">https://data.nts.gov/Docket?ProjectID=192347</a>

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate, and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

The NTSB does not assign fault or blame for an accident or incident; rather, as specified by NTSB regulation, “accident/incident investigations are fact-finding proceedings with no formal issues and no adverse parties ... and are not conducted for the purpose of determining the rights or liabilities of any person” (Title 49 *Code of Federal Regulations* section 831.4). Assignment of fault or legal liability is not relevant to the NTSB’s statutory mission to improve transportation safety by investigating accidents and incidents and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report (Title 49 *United States Code* section 1154(b)). A factual report that may be admissible under 49 *United States Code* section 1154(b) is available [here](#).