



Aviation Investigation Final Report

Location:	Wilton, California	Accident Number:	WPR22LA015
Date & Time:	October 14, 2021, 16:00 Local	Registration:	N857PF
Aircraft:	WSK-MIELEC AN-2TD	Aircraft Damage:	Substantial
Defining Event:	Loss of control in flight	Injuries:	2 Serious, 2 Minor
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot stated that the departure started normally but that, after becoming airborne, the airplane controls were not responding to his inputs as expected. The airplane continued to pitch up in a nose-high attitude and he was unable to push the control yoke forward, which he described as feeling like he was “stretching” cables with forward pressure. With the airplane’s pitch uncontrollable, he elected to make a rapid maneuver toward an unpopulated area. The airplane descended into trees; after coming to a stop, a fire erupted.

A postaccident examination of the flight control system revealed no definitive evidence of preimpact mechanical malfunctions or failures. Because the elevator system was extensively damaged and was partially consumed by fire, the investigation was not able to determine the cause of the pitch control anomaly.

The airplane’s weight and center of gravity (CG) could not be confirmed. The burned remains of items found in the airplane could not be identified and the location of those items at impact could not be confirmed.

Probable Cause and Findings

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

The pilot’s inability to control the airplane’s pitch during departure for reasons that could not be determined because of the extensive fragmentation and thermal damage the airplane sustained in the accident sequence.

Findings

Aircraft	(general) - Unknown/Not determined
Aircraft	Pitch control - Attain/maintain not possible

Factual Information

History of Flight

Takeoff	Sys/Comp malf/fail (non-power)
Takeoff	Loss of control in flight (Defining event)

On October 14, 2021, about 1600 Pacific daylight time, a WSK Mielec AN-2TD, N857PF, was substantially damaged when it was involved in an accident near Wilton, California. The pilot and one passenger sustained serious injuries and the other two passengers sustained minor injuries. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

The pilot stated that he configured the airplane for takeoff and had flaps down and the elevator trim was neutral. The departure started normally but, after becoming airborne, the airplane controls were not responding to his inputs as expected. The airplane continued to pitch up in a nose-high attitude and he was unable to push the control yoke forward, which he described as feeling like he was “stretching” cables with forward pressure. The pilot set the electric trim to full nose-down but it had no effect. With the airplane’s pitch uncontrollable, he saw an open area and elected to make a rapid maneuver toward the area. He added full left rudder and aileron and the airplane banked left. The airplane descended into trees; after coming to a stop, a fire erupted. The back door would not open due the deformation of the airframe so he broke a front window. The pilot and passengers all climbed out the window and the airplane continued to burn.

There were two witnesses located at the airport that took videos of the airplane departing. One video showed the airplane just prior to the takeoff roll. The tailwheel is positioned backward and, as the airplane starts the roll, the tailwheel swivels and the airplane moves to the right of the runway (see Figure 1 below).



Figure 1: The Airplane Starting the Takeoff Roll

The airplane then veered to the left of the runway and became airborne shortly thereafter. In the approximate 10 seconds that followed, the airplane pitched up at an increasingly higher and higher angle-of-attack. The airplane then made a sharp left turn and goes behind the trees as it descends (see Figure 2 below).



Figure 2: The Airplane Airborne

The ground track, ground speed, altitude, angle of attack and roll angle of an airplane that crashed shortly after takeoff were estimated based on a video recorded with a handheld phone. The ground speed of the airplane went as low as 19 knots shortly after it started a left turn and a rapid descent toward ground impact. At that time, the airplane reached its maximum above ground level (AGL) altitude of 170 feet and the angle of attack of its wings was estimated to be 22.5°.

Engine speed, estimated via spectrum analysis of sound recorded by two cameras, was 2150 rpm several seconds after liftoff and 2200 rpm when the airplane was already descending toward ground impact. The specified engine speed at takeoff for the WSK Mielec AN-2TD is 2200 rpm.

A postaccident examination of the flight control system revealed no evidence of preimpact mechanical malfunctions or failures. The elevator system was extensively damaged and was partially consumed by fire. The No. 5 lower pulley gang was found loose in the wreckage with its cover still attached; the No. 5 upper pulley gang had the elevator cables passing through it. The No. 9 pulley gang has an s-hook attached, which appeared to be a tie down for item in the airplane. There were several markings and abrasions on the cable lengths consistent with rubbing or abrasions. The elevator bellcrank remained intact, with all four elevator cables connected to their respective arms. Control continuity was maintained from the bellcrank to the elevator control surfaces.

The airplane's weight and center of gravity (CG) could not be confirmed. The burned remains of items found in the airplane could not be identified and their location at impact could not be confirmed. The pilot estimated that the airplane was loaded about 1,000 pounds below the maximum gross weight. He had it loaded with two coolers, three motorcycles and camping gear. He had strapped all the items in place and did not believe they shifted during rotation.

Pilot Information

Certificate:	Airline transport; Commercial; Flight instructor	Age:	39, Male
Airplane Rating(s):	Single-engine land; Single-engine sea; Multi-engine land; Multi-engine sea	Seat Occupied:	Left
Other Aircraft Rating(s):	Helicopter	Restraint Used:	Unknown
Instrument Rating(s):	Airplane; Helicopter	Second Pilot Present:	No
Instructor Rating(s):	Airplane multi-engine; Airplane single-engine; Helicopter; Instrument airplane	Toxicology Performed:	
Medical Certification:	Class 1 Without waivers/limitations	Last FAA Medical Exam:	May 20, 2020
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	June 2, 2021
Flight Time:	(Estimated) 9811 hours (Total, all aircraft), 70 hours (Total, this make and model), 8737 hours (Pilot In Command, all aircraft), 83 hours (Last 90 days, all aircraft), 54 hours (Last 30 days, all aircraft), 3 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	WSK-MIELEC	Registration:	N857PF
Model/Series:	AN-2TD	Aircraft Category:	Airplane
Year of Manufacture:	1969	Amateur Built:	
Airworthiness Certificate:	Experimental (Special)	Serial Number:	1G10857
Landing Gear Type:	Tailwheel	Seats:	12
Date/Type of Last Inspection:	October 10, 2021 Condition	Certified Max Gross Wt.:	12000 lbs
Time Since Last Inspection:	8 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	3500 Hrs at time of accident	Engine Manufacturer:	ASz
ELT:	Installed, not activated	Engine Model/Series:	ASz-62lr
Registered Owner:	Priority Farms	Rated Power:	
Operator:	On file	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	KSAC, 25 ft msl	Distance from Accident Site:	15 Nautical Miles
Observation Time:	15:53 Local	Direction from Accident Site:	301°
Lowest Cloud Condition:	Clear	Visibility:	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	11 knots /	Turbulence Type Forecast/Actual:	None / None
Wind Direction:	330°	Turbulence Severity Forecast/Actual:	N/A / N/A
Altimeter Setting:	30.04 inches Hg	Temperature/Dew Point:	25°C / -3°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Wilton, CA	Type of Flight Plan Filed:	None
Destination:	Reno, NV	Type of Clearance:	None
Departure Time:		Type of Airspace:	

Airport Information

Airport:	ALTA MESA AIRPARK 3CN7	Runway Surface Type:	Asphalt
Airport Elevation:	125 ft msl	Runway Surface Condition:	Dry
Runway Used:	16/34	IFR Approach:	None
Runway Length/Width:	2600 ft / 40 ft	VFR Approach/Landing:	None

Wreckage and Impact Information

Crew Injuries:	1 Serious	Aircraft Damage:	Substantial
Passenger Injuries:	1 Serious, 2 Minor	Aircraft Fire:	On-ground
Ground Injuries:		Aircraft Explosion:	Unknown
Total Injuries:	2 Serious, 2 Minor	Latitude, Longitude:	38.38192,-121.22357

Administrative Information

Investigator In Charge (IIC):	Keliher, Zoe		
Additional Participating Persons:	Jeffery Snyder; Federal Aviation Administration; Fresno, CA		
Original Publish Date:	October 19, 2023	Investigation Class:	3
Note:	The NTSB did not travel to the scene of this accident.		
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=104128		

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The Independent Safety Board Act, as codified at 49 U.S.C. Section 1154(b), precludes the admission into evidence or use of any part of an NTSB report related to an incident or accident in a civil action for damages resulting from a matter mentioned in the report. A factual report that may be admissible under 49 U.S.C. § 1154(b) is available [here](#).