



AVIATION



HIGHWAY



MARINE



RAILROAD



PIPELINE

Aviation Investigation Final Report

Location:	Bakersfield, California	Accident Number:	WPR23LA217
Date & Time:	June 5, 2023, 16:00 Local	Registration:	N6174W
Aircraft:	AIR TRACTOR INC AT-502B	Aircraft Damage:	Substantial
Defining Event:	Collision during takeoff/land	Injuries:	1 Minor
Flight Conducted Under:	Part 137: Agricultural		

Analysis

According to the pilot, he configured the flaps to 20° while he waited for the aerial application airplane to take on 50 gallons of fuel and 400 pounds of fertilizer. He taxied onto the 2,600 ft long asphalt runway, for his 4th aerial application flight of the day. The pilot applied brakes and full power before he released the brakes to initiate the takeoff roll. About 1,300 ft down the runway, the airplane remained on the ground. The pilot applied back pressure to the control stick and the airplane ascended about 10 feet above ground level. The airplane would not climb, and the pilot applied full flaps. The airplane subsequently settled back onto the remaining 1/3rd of the runway. The pilot reported that he did not observe any cockpit instrument cautions or warnings illuminated. The airplane overran the departure end of the runway and collided with trees.

The manufacturer's airplane flight manual (AFM) contains a warning that stated, when taking off from a short-field runway, full flaps should not be used during the takeoff sequence. The use of full flaps creates large amounts of drag, lengthens the ground roll, and impairs climb performance.

The pilot submitted an NTSB Form 6120.1, Pilot Aircraft Accident Report, but did not include pages 9 and 10, which encompassed the pilot's narrative, and his assertion regarding a mechanical malfunction during the sequence of events.

Probable Cause and Findings

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

The pilot's improper use of flaps during the takeoff sequence which resulted in a runway overrun and collision with trees.

Findings

Personnel issues	Decision making/judgment - Pilot
Aircraft	Climb capability - Capability exceeded
Aircraft	Configuration - Incorrect use/operation
Environmental issues	Tree(s) - Effect on equipment

Factual Information

History of Flight

Takeoff	Miscellaneous/other
Takeoff	Collision during takeoff/land (Defining event)

Pilot Information

Certificate:	Commercial	Age:	60,Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Front
Other Aircraft Rating(s):	None	Restraint Used:	Unknown
Instrument Rating(s):	None	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	
Medical Certification:	Class 2 With waivers/limitations	Last FAA Medical Exam:	March 1, 2023
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	March 7, 2022
Flight Time:	(Estimated) 5847.1 hours (Total, all aircraft), 770.2 hours (Total, this make and model), 5847.1 hours (Pilot In Command, all aircraft), 100 hours (Last 90 days, all aircraft), 33 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	AIR TRACTOR INC	Registration:	N6174W
Model/Series:	AT-502B	Aircraft Category:	Airplane
Year of Manufacture:	1996	Amateur Built:	
Airworthiness Certificate:	Restricted (Special)	Serial Number:	502B-0351
Landing Gear Type:	Tailwheel	Seats:	1
Date/Type of Last Inspection:	April 1, 2023 100 hour	Certified Max Gross Wt.:	8000 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:	8699 Hrs	Engine Manufacturer:	P&W
ELT:		Engine Model/Series:	PT6A
Registered Owner:	WHEELER RIDGE AVIATION INC	Rated Power:	500 Horsepower
Operator:	WHEELER RIDGE AVIATION INC	Operating Certificate(s) Held:	Agricultural aircraft (137)
Operator Does Business As:	WHEELER RIDGE AVIATION INC	Operator Designator Code:	RQLG

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	KBFL, 490 ft msl	Distance from Accident Site:	21 Nautical Miles
Observation Time:	15:54 Local	Direction from Accident Site:	353°
Lowest Cloud Condition:	Clear	Visibility	7 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	15 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	330°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29.71 inches Hg	Temperature/Dew Point:	27°C / 11°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Bakersfield, CA	Type of Flight Plan Filed:	None
Destination:	Bakersfield, CA	Type of Clearance:	None
Departure Time:		Type of Airspace:	Class G

Airport Information

Airport:	Company Airstrip 0	Runway Surface Type:	Asphalt
Airport Elevation:	500 ft msl	Runway Surface Condition:	Dry
Runway Used:	27	IFR Approach:	None
Runway Length/Width:	2500 ft / 50 ft	VFR Approach/Landing:	None

Wreckage and Impact Information

Crew Injuries:	1 Minor	Aircraft Damage:	Substantial
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:		Aircraft Explosion:	None
Total Injuries:	1 Minor	Latitude, Longitude:	35.082813,-119.00267(est)

Administrative Information

Investigator In Charge (IIC):	Hicks, Michael
Additional Participating Persons:	Jeremy Alexander; FAA; Fresno, CA
Original Publish Date:	April 4, 2024
Last Revision Date:	
Investigation Class:	Class 4
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=192320

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](#).