



Aviation Investigation Final Report

Location:	De Land, Illinois	Accident Number:	GAA18CA415
Date & Time:	July 10, 2018, 16:45 Local	Registration:	N4509S
Aircraft:	Air Tractor AT 502	Aircraft Damage:	Substantial
Defining Event:	Abnormal runway contact	Injuries:	1 None
Flight Conducted Under:	Part 137: Agricultural		

Analysis

The pilot reported that, after an agricultural application flight, during the landing roll in a rain shower and with a crosswind, the tailwheel-equipped airplane hit a "bump" and became airborne. He added that the airplane was slow, drifted left, and touched down hard. Subsequently, the airplane exited the runway and ground looped. The pilot reported that he should have landed farther down the runway to avoid the bumps that caused the airplane to become airborne.

The airplane sustained substantial damage to the fuselage, empennage, and left wing.

The pilot reported that there were no preaccident mechanical failures or malfunctions with the airplane that would have precluded normal operation.

An automated weather observation system located about 19 nautical miles from the accident site reported that, about the time of the accident, the wind was from 260° at 12 knots. The pilot landed the airplane on runway 18.

Probable Cause and Findings

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

The pilot's selection of unsuitable terrain for landing in crosswind conditions, which resulted in the airplane inadvertently becoming airborne and a subsequent hard landing and loss of directional control.

Findings

Personnel issues	Decision making/judgment - Pilot
Personnel issues	Aircraft control - Pilot
Aircraft	Directional control - Not attained/maintained
Environmental issues	Rough terrain - Decision related to condition
Environmental issues	Crosswind - Effect on operation

Factual Information

History of Flight

Landing-landing roll	Abnormal runway contact (Defining event)
Landing	Hard landing
Landing	Loss of control on ground

Pilot Information

Certificate:	Commercial	Age:	48,Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Center
Other Aircraft Rating(s):	None	Restraint Used:	4-point
Instrument Rating(s):	None	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 2 With waivers/limitations	Last FAA Medical Exam:	November 13, 2017
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	May 10, 2017
Flight Time:	(Estimated) 2135 hours (Total, all aircraft), 454 hours (Total, this make and model), 2091 hours (Pilot In Command, all aircraft), 170 hours (Last 90 days, all aircraft), 80 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Air Tractor	Registration:	N4509S
Model/Series:	AT 502 Undesignat	Aircraft Category:	Airplane
Year of Manufacture:	1990	Amateur Built:	
Airworthiness Certificate:	Restricted (Special)	Serial Number:	502-0088
Landing Gear Type:	Tailwheel	Seats:	1
Date/Type of Last Inspection:	June 25, 2018 Annual	Certified Max Gross Wt.:	9400 lbs
Time Since Last Inspection:		Engines:	1 Turbo prop
Airframe Total Time:	8101 Hrs	Engine Manufacturer:	Pratt & Whitney
ELT:	Not installed	Engine Model/Series:	PT6A
Registered Owner:		Rated Power:	750 Horsepower
Operator:		Operating Certificate(s) Held:	Agricultural aircraft (137)

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	KDEC, 675 ft msl	Distance from Accident Site:	19 Nautical Miles
Observation Time:	21:54 Local	Direction from Accident Site:	207°
Lowest Cloud Condition:	Scattered / 4500 ft AGL	Visibility	10 miles
Lowest Ceiling:		Visibility (RVR):	
Wind Speed/Gusts:	12 knots /	Turbulence Type Forecast/Actual:	None / None
Wind Direction:	260°	Turbulence Severity Forecast/Actual:	N/A / N/A
Altimeter Setting:	30.03 inches Hg	Temperature/Dew Point:	32°C / 23°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	De Land, IL (IL80)	Type of Flight Plan Filed:	None
Destination:	De Land, IL (IL80)	Type of Clearance:	None
Departure Time:	15:30 Local	Type of Airspace:	Class G

Airport Information

Airport:	FLYING ILLINI IL80	Runway Surface Type:	Grass/turf
Airport Elevation:	710 ft msl	Runway Surface Condition:	Rough;Vegetation;Wet
Runway Used:	18	IFR Approach:	None
Runway Length/Width:	3430 ft / 100 ft	VFR Approach/Landing:	Full stop;Straight-in

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 None	Latitude, Longitude:	40.109722,-88.683052(est)

Administrative Information

Investigator In Charge (IIC):	Swenson, Eric
Additional Participating Persons:	Stanley Swank; FAA; Springfield, IL
Original Publish Date:	March 18, 2019
Note:	This accident report documents the factual circumstances of this accident as described to the NTSB.
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=97745

The National Transportation Safety Board (NTSB), established in 1967, is an independent federal agency mandated by Congress through the Independent Safety Board Act of 1974 to investigate transportation accidents, determine the probable causes of the accidents, issue safety recommendations, study transportation safety issues, and evaluate the safety effectiveness of government agencies involved in transportation. The NTSB makes public its actions and decisions through accident reports, safety studies, special investigation reports, safety recommendations, and statistical reviews.

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