



Aviation Investigation Final Report

Location:	Hutchinson, Minnesota	Accident Number:	GAA18CA371
Date & Time:	June 20, 2018, 11:00 Local	Registration:	N3169D
Aircraft:	AIR TRACTOR INC AT 301	Aircraft Damage:	Substantial
Defining Event:	Fuel exhaustion	Injuries:	1 None
Flight Conducted Under:	Part 137: Agricultural		

Analysis

According to the pilot in the tailwheel-equipped airplane, during an agricultural application flight, he accidentally loaded more fertilizer to disperse than he had initially planned, which made the airplane "heavy." He chose not to add fuel to prevent the airplane from being over its gross weight. During flight, the engine lost power, and the pilot conducted a forced landed in a dirt field that was water-logged due to recent storms. During the landing roll, the airplane nosed over. The pilot reported that "I misjudged what I believed to be a safe quantity of fuel remaining."

The airplane sustained substantial damage to the rudder and vertical stabilizer.

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

Probable Cause and Findings

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

The pilot's improper preflight fuel planning, which resulted in fuel exhaustion and the subsequent total loss of engine power.

Findings

Personnel issues	Fuel planning - Pilot
Aircraft	Fuel - Fluid level
Environmental issues	Wet/muddy terrain - Contributed to outcome

Factual Information

History of Flight

Prior to flight	Aircraft loading event
Maneuvering-low-alt flying	Fuel exhaustion (Defining event)
Maneuvering-low-alt flying	Loss of engine power (total)
Landing	Off-field or emergency landing
Landing	Nose over/nose down

Pilot Information

Certificate:	Commercial; Flight instructor	Age:	47,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Single
Other Aircraft Rating(s):	None	Restraint Used:	4-point
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	Airplane single-engine	Toxicology Performed:	No
Medical Certification:	Class 2 With waivers/limitations	Last FAA Medical Exam:	April 19, 2018
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	January 27, 2017
Flight Time:	(Estimated) 3350 hours (Total, all aircraft), 40 hours (Total, this make and model), 3290 hours (Pilot In Command, all aircraft), 152 hours (Last 90 days, all aircraft), 152 hours (Last 30 days, all aircraft), 9 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	AIR TRACTOR INC	Registration:	N3169D
Model/Series:	AT 301 NO SERIES	Aircraft Category:	Airplane
Year of Manufacture:	1984	Amateur Built:	
Airworthiness Certificate:	Restricted (Special)	Serial Number:	301-0569
Landing Gear Type:	Tailwheel	Seats:	1
Date/Type of Last Inspection:	April 10, 2018 Annual	Certified Max Gross Wt.:	7400 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:	as of last inspection	Engine Manufacturer:	Pratt and Whitney
ELT:	Not installed	Engine Model/Series:	R1340
Registered Owner:		Rated Power:	600 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:	KHCD,1060 ft msl	Distance from Accident Site:	2 Nautical Miles
Observation Time:	16:15 Local	Direction from Accident Site:	195°
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:	80°	Turbulence Severity Forecast/Actual:	N/A / N/A
Altimeter Setting:	29.92 inches Hg	Temperature/Dew Point:	23°C / 15°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Hutchinson, MN (HCD)	Type of Flight Plan Filed:	None
Destination:	Hutchinson, MN (HCD)	Type of Clearance:	None
Departure Time:	10:30 Local	Type of Airspace:	Class G

Airport Information

Airport:	Hutchinson Muni-Butler Field HCD	Runway Surface Type:	Dirt
Airport Elevation:	1062 ft msl	Runway Surface Condition:	Standing water;Wet
Runway Used:		IFR Approach:	None
Runway Length/Width:		VFR Approach/Landing:	Forced landing

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:	44.512779,-94.300003(est)

Administrative Information

Investigator In Charge (IIC):	Hicks, Michael
Additional Participating Persons:	Raymond A Peterson; FAA; Minneapolis, MN
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=97554

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