



# National Transportation Safety Board Aviation Accident Final Report

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<b>Location:</b>	Portales, NM	<b>Accident Number:</b>	GAA17CA360
<b>Date &amp; Time:</b>	06/22/2017, 1600 MDT	<b>Registration:</b>	N700LA
<b>Aircraft:</b>	AIR TRACTOR INC AT 502	<b>Aircraft Damage:</b>	Destroyed
<b>Defining Event:</b>	Loss of control in flight	<b>Injuries:</b>	1 None
<b>Flight Conducted Under:</b>	Part 137: Agricultural		

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## Analysis

The pilot reported that, during an agricultural application flight and while maneuvering at the destination field in a left turn, he realized that the airplane was not going to be able to climb over transmission lines in his flightpath. He added that he lowered the nose to fly under the transmission lines, but the "airspeed was still too low," and the airplane impacted an embankment, slid across the ground for about 100 ft, and nosed over.

The airplane was destroyed by the impact and a postcrash fire.

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

An automated weather observation station 10 nautical miles north of the accident reported, about 5 minutes before the accident, calm wind, temperature 102°F (39°C), dewpoint 43°F (6°C), and barometric setting of 29.77 inches of mercury. The calculated density altitude was 8,200 ft.

According to the Federal Aviation Administration Koch Chart, considering the surrounding temperature and field elevation, the airplane would have likely experienced a 65% decrease in the normal climb rate.

## Probable Cause and Findings

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

The pilot's decision to fly the airplane under transmission lines while maneuvering at low altitude in high-density altitude conditions, which resulted in subsequent collision with terrain.

## Findings

<b>Aircraft</b>	Altitude - Not attained/maintained (Cause)
<b>Personnel issues</b>	Aircraft control - Pilot (Cause) Decision making/judgment - Pilot (Cause)
<b>Environmental issues</b>	Wire - Effect on operation (Cause) High density altitude - Effect on operation

## Factual Information

### History of Flight

Maneuvering-low-alt flying	Other weather encounter Abrupt maneuver Loss of control in flight (Defining event) Collision with terr/obj (non-CFIT)
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### Pilot Information

Certificate:	Commercial	Age:	32, Male
Airplane Rating(s):	Single-engine Land	Seat Occupied:	Single
Other Aircraft Rating(s):	None	Restraint Used:	Unknown
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 2 With Waivers/Limitations	Last FAA Medical Exam:	02/06/2017
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	07/17/2016
Flight Time:	(Estimated) 2050 hours (Total, all aircraft), 1326 hours (Total, this make and model), 1900 hours (Pilot In Command, all aircraft), 75 hours (Last 90 days, all aircraft), 30 hours (Last 30 days, all aircraft)		

### Aircraft and Owner/Operator Information

Aircraft Make:	AIR TRACTOR INC	Registration:	N700LA
Model/Series:	AT 502 B	Aircraft Category:	Airplane
Year of Manufacture:	2004	Amateur Built:	No
Airworthiness Certificate:	Restricted	Serial Number:	502B-0700
Landing Gear Type:	Tailwheel	Seats:	1
Date/Type of Last Inspection:	05/17/2017, 100 Hour	Certified Max Gross Wt.:	9400 lbs
Time Since Last Inspection:		Engines:	1 Turbo Prop
Airframe Total Time:	6435 Hours as of last inspection	Engine Manufacturer:	P&W Canada
ELT:	Not installed	Engine Model/Series:	PT6A-34AG
Registered Owner:	KING AG LEASING INC.	Rated Power:	750 hp
Operator:	King AG Aviation Inc.	Operating Certificate(s) Held:	Agricultural Aircraft (137)

## Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	KCVS, 4295 ft msl	Distance from Accident Site:	10 Nautical Miles
Observation Time:	2158 UTC	Direction from Accident Site:	10°
Lowest Cloud Condition:	Scattered / 13000 ft agl	Visibility	10 Miles
Lowest Ceiling:		Visibility (RVR):	
Wind Speed/Gusts:	Calm /	Turbulence Type Forecast/Actual:	/ None
Wind Direction:		Turbulence Severity Forecast/Actual:	/ N/A
Altimeter Setting:	29.77 inches Hg	Temperature/Dew Point:	39° C / 6° C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	SUDAN, TX (XA05)	Type of Flight Plan Filed:	None
Destination:	SUDAN, TX (XA05)	Type of Clearance:	None
Departure Time:	1630 CDT	Type of Airspace:	Class G

## Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Destroyed
Passenger Injuries:	N/A	Aircraft Fire:	On-Ground
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 None	Latitude, Longitude:	34.263333, -103.353056 (est)

## Preventing Similar Accidents

### Preventing Obstacle Collisions in Agricultural Operations

Accidents involving collisions with obstacles, including poles, wires, guy wires, meteorological evaluation towers, or trees, are among the most common types of agricultural aircraft accidents. Some collisions involved obstacles that the pilots did not see (even during survey flights), but others involved obstacles that were known to the pilot and/or had characteristics that would make them visibly conspicuous.

Agricultural pilots should do the following:

- Maintain a quick-reference document (paper or electronic) at the operations base that contains field maps, charts, photographs, and details of all known obstacles.
- Frequently review current aeronautical charts for information about obstacles.
- Before leaving the ground, spend time becoming familiar with all available information about the target field and programming navigation equipment. Such preflight action can help reduce the potential for confusion or distraction in flight.

- Conduct aerial surveys of the target field but do not rely solely on an aerial survey to identify potential obstacles.
- Conduct regular ground surveys of fields. Some towers can be erected in hours, and obstacles can change since you last worked that field. Speak with farmers and land owners to raise awareness about obstacle hazards.
- When possible, use ground crews. They may be in a better position to see certain obstacles and help you ensure that your aircraft remains clear of them.
- Watch for shadows and irregularities in growth patterns to help identify obstacles. Use GPS and other technology to maintain awareness of obstacle locations.
- Be aware that workload, fatigue, sun glare, and distractions in the cockpit can adversely affect your ability to see, avoid, or remember obstacles. Heavier loads and higher density altitudes can affect the performance of your aircraft.

The National Agricultural Aviation Association's Professional Aerial Applicators' Support System reminds pilots that, when ferrying an aircraft or transitioning between sites, flying above 500 feet reduces obstacle collision risks: 'Ferry Above Five and Stay Alive.'

See [http://www.nts.gov/safety/safety-alerts/documents/SA\\_035.pdf](http://www.nts.gov/safety/safety-alerts/documents/SA_035.pdf) for additional resources.

The NTSB presents this information to prevent recurrence of similar accidents. Note that this should not be considered guidance from the regulator, nor does this supersede existing FAA Regulations (FARs).

### Administrative Information

<b>Investigator In Charge (IIC):</b>	Adam M Gerhardt	<b>Report Date:</b>	10/31/2017
<b>Additional Participating Persons:</b>	Steven E Miller; FAA/ FSDO; Lubbock, TX		
<b>Publish Date:</b>	10/31/2017		
<b>Note:</b>	This accident report documents the factual circumstances of this accident as described to the NTSB.		
<b>Investigation Docket:</b>	<a href="http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=95424">http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=95424</a>		

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.

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](#).