



# National Transportation Safety Board Aviation Accident Final Report

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<b>Location:</b>	Nicolaus, CA	<b>Accident Number:</b>	GAA16CA303
<b>Date &amp; Time:</b>	06/01/2016, 1145 PDT	<b>Registration:</b>	N5091N
<b>Aircraft:</b>	AIR TRACTOR INC AT 502	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>	Low altitude operation/event	<b>Injuries:</b>	1 None
<b>Flight Conducted Under:</b>	Part 137: Agricultural		

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## Analysis

The pilot reported that while performing aerial application operations and flying under power lines, the airplane propeller struck a power line. Subsequently, the airplane vibrated excessively and the pilot performed an off-airport landing at a farm field.

The pilot further reported that during the landing roll, he could not maintain directional control of the airplane on the rough terrain; the airplane veered sharply to the right and the left wing impacted the ground.

The left wing sustained substantial damage.

The pilot reported there were no preimpact mechanical failures or malfunctions with the airframe or engine 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 insufficient clearance from a power line during aerial application operations, which resulted in a power line strike, a forced landing on unsuitable terrain, loss of directional control, and collision with terrain.

## Findings

<b>Aircraft</b>	Directional control - Not attained/maintained (Cause) Altitude - Not attained/maintained (Cause)
<b>Personnel issues</b>	Monitoring environment - Pilot (Cause)
<b>Environmental issues</b>	Wire - Effect on operation (Cause) Rough terrain - Contributed to outcome

## Factual Information

### History of Flight

<b>Maneuvering-low-alt flying</b>	Low altitude operation/event (Defining event) Collision with terr/obj (non-CFIT)
<b>Landing-landing roll</b>	Off-field or emergency landing Loss of control on ground Collision with terr/obj (non-CFIT)

### Pilot Information

<b>Certificate:</b>	Commercial	<b>Age:</b>	25, Male
<b>Airplane Rating(s):</b>	Single-engine Land	<b>Seat Occupied:</b>	Single
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	Unknown
<b>Instrument Rating(s):</b>	None	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 2 None	<b>Last Medical Exam:</b>	03/30/2016
<b>Occupational Pilot:</b>	Yes	<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	1000 hours (Total, this make and model)		

### Aircraft and Owner/Operator Information

<b>Aircraft Manufacturer:</b>	AIR TRACTOR INC	<b>Registration:</b>	N5091N
<b>Model/Series:</b>	AT 502	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>	1997	<b>Amateur Built:</b>	No
<b>Airworthiness Certificate:</b>	Restricted	<b>Serial Number:</b>	502B-0475
<b>Landing Gear Type:</b>	Tailwheel	<b>Seats:</b>	1
<b>Date/Type of Last Inspection:</b>	Unknown	<b>Certified Max Gross Wt.:</b>	
<b>Time Since Last Inspection:</b>		<b>Engines:</b>	1 Turbo Prop
<b>Airframe Total Time:</b>		<b>Engine Manufacturer:</b>	Pratt & Whitney
<b>ELT:</b>	Not installed	<b>Engine Model/Series:</b>	PT6
<b>Registered Owner:</b>	FARM AIR Flying Service INC	<b>Rated Power:</b>	
<b>Operator:</b>	FARM AIR Flying Service INC	<b>Air Carrier Operating Certificate:</b>	Agricultural Aircraft (137)

## Meteorological Information and Flight Plan

Observation Facility, Elevation:	KLHM, 122 ft msl	Observation Time:	1935 UTC
Distance from Accident Site:	10 Nautical Miles	Condition of Light:	Day
Direction from Accident Site:	91°	Conditions at Accident Site:	Visual Conditions
Lowest Cloud Condition:	Clear	Temperature/Dew Point:	34°C / 6°C
Lowest Ceiling:	None	Visibility	10 Miles
Wind Speed/Gusts, Direction:	6 knots, 200°	Visibility (RVR):	
Altimeter Setting:	29.82 inches Hg	Visibility (RVV):	
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	VERONA, CA (38CL)	Type of Flight Plan Filed:	Unknown
Destination:	VERONA, CA (38CL)	Type of Clearance:	VFR
Departure Time:	1130 PDT	Type of Airspace:	Class G

## Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 None		

## Preventing Similar Accidents

### Preventing Obstacle Collisions in Agricultural Operations

Accidents involving collisions with obstacles, including poles, wires, guy wires, meteorological evaluation towers (MET), 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>	Kathryn R Benhoff	<b>Adopted Date:</b>	10/27/2016
<b>Additional Participating Persons:</b>	Tim Janko; FAA; Sacramento, CA		
<b>Publish Date:</b>	10/27/2016		
<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=93368">http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=93368</a>		

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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.