



Aviation Investigation Final Report

Location:	Hondo, Texas	Accident Number:	GAA16CA462
Date & Time:	September 5, 2016, 11:20 Local	Registration:	N31627
Aircraft:	AIR TRACTOR INC AT	Aircraft Damage:	Substantial
Defining Event:	Loss of control in flight	Injuries:	1 None
Flight Conducted Under:	Part 137: Agricultural		

Analysis

The pilot reported that, while maneuvering at low altitude over a field during an agricultural application flight, the airplane struck an antenna atop a tower adjacent to the field, and the antenna wrapped around the right wing and landing gear. The pilot added that he attempted an off-airport landing, but the airplane impacted terrain. The airplane sustained substantial damage to the fuselage, empennage, and both wings.

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

In an e-mail, the tower owner's lawyer reported that the tower was used for internet and two-way communications. He added that the tower was under 200 ft above ground level and "with the antenna attached, the tower was in the mid to upper 100 [foot] range." The lawyer reported that the tower was marked and lit appropriately and was not registered due its height.

Probable Cause and Findings

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

The pilot's failure to maintain clearance from an antenna atop a tower while maneuvering at a low altitude and the airplane's subsequent impact with terrain during an attempted off-airport landing.

Findings

Personnel issues	Monitoring environment - Pilot
Environmental issues	Tower/antenna (incl guy wires) - Awareness of condition
Aircraft	Altitude - Not attained/maintained

Factual Information

History of Flight

Maneuvering-low-alt flying	Collision with terr/obj (non-CFIT)
Maneuvering-low-alt flying	Loss of control in flight (Defining event)
Emergency descent	Off-field or emergency landing

Pilot Information

Certificate:	Commercial; Private	Age:	22, Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Single
Other Aircraft Rating(s):	None	Restraint Used:	3-point
Instrument Rating(s):	None	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 2 Without waivers/limitations	Last FAA Medical Exam:	February 1, 2016
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	February 3, 2016
Flight Time:	(Estimated) 2727 hours (Total, all aircraft), 727 hours (Total, this make and model), 2714.5 hours (Pilot In Command, all aircraft), 460 hours (Last 90 days, all aircraft), 174 hours (Last 30 days, all aircraft), 4 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	AIR TRACTOR INC	Registration:	N31627
Model/Series:	AT 400	Aircraft Category:	Airplane
Year of Manufacture:	1983	Amateur Built:	
Airworthiness Certificate:	Normal; Restricted (Special)	Serial Number:	400-0506
Landing Gear Type:	Tailwheel	Seats:	1
Date/Type of Last Inspection:	March 12, 2016 Annual	Certified Max Gross Wt.:	6000 lbs
Time Since Last Inspection:		Engines:	1 Turbo prop
Airframe Total Time:	19575 Hrs as of last inspection	Engine Manufacturer:	Pratt & Whitney
ELT:	Not installed	Engine Model/Series:	PP6-27
Registered Owner:		Rated Power:	680 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:	KHDO, 920 ft msl	Distance from Accident Site:	1 Nautical Miles
Observation Time:	15:51 Local	Direction from Accident Site:	178°
Lowest Cloud Condition:	Scattered / 1100 ft AGL	Visibility	10 miles
Lowest Ceiling:	Broken / 2700 ft AGL	Visibility (RVR):	
Wind Speed/Gusts:	11 knots /	Turbulence Type Forecast/Actual:	/ None
Wind Direction:	160°	Turbulence Severity Forecast/Actual:	/ N/A
Altimeter Setting:	30.06 inches Hg	Temperature/Dew Point:	28°C / 24°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	D'HANIS, TX (4TS8)	Type of Flight Plan Filed:	None
Destination:	D'HANIS, TX (4TS8)	Type of Clearance:	None
Departure Time:	10:30 Local	Type of Airspace:	Class G

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:	29.380832,-99.17472(est)

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 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

Investigator In Charge (IIC):	Benhoff, Kathryn
Additional Participating Persons:	Robert Arispe; FAA; San Antonio, TX
Original Publish Date:	April 4, 2017
Note:	This accident report documents the factual circumstances of this accident as described to the NTSB.
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=93947

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](#).