Aviation Investigation Final Report

Location:	STANFIELD, Arizona	**Accident Number:**	LAX95LA154
Date & Time:	April 5, 1995, 17:09 Local	**Registration:**	N3105B
Aircraft:	AYRES S2R-T34	**Aircraft Damage:**	Destroyed
Defining Event:		**Injuries:**	1 Fatal, 1 Minor
Flight Conducted Under:	Part 91: General aviation		

Analysis

THE SURVIVING PASSENGER SAID HE HAD NO MEMORY OF THE ACCIDENT FLIGHT AND WAS IN THE REAR SEAT TO OBSERVE THE USE OF A GPS-BASED GUIDANCE SYSTEM WHICH HIS COMPANY HAD PURCHASED. THE OPERATOR IS A DISTRIBUTOR FOR THE GUIDANCE SYSTEM AND WAS CONDUCTING CLASSES FOR PURCHASERS OF THE SYSTEM. THE AIRCRAFT HAD NO CHEMICALS ON BOARD. A WITNESS WAS 1 MILE FROM THE ACCIDENT SITE AND SAW THE AIRCRAFT IN A TURN NEAR THE EDGE OF A FARM FIELD, THEN SAW THE BLACK SMOKE RISING FROM THE SITE. THE AIRCRAFT WAS EXAMINED BY AN FAA AIRWORTHINESS INSPECTOR WHO SAW WIRE CONTACT SIGNATURES ON THE RIGHT MAIN LANDING GEAR AND SPREADER BOOMS. THE AIRCRAFT APPEARED TO BE TURNING FROM A SOUTHWEST TO NORTHEAST DIRECTION IN A 40-DEGREE BANKED TURN WHEN IT STRUCK FOUR 1-INCH DIAMETER ALUMINUM POWER LINES AT A FARM FIELD'S WESTERN BOUNDARY. THREE OF THE LINES WERE SEVERED. THREE SEPARATE SECTIONS OF THE WIRE HAD ENDS WITH A CUT APPEARANCE, WITH NO EVIDENCE OF DUCTILE DEFORMATION OR NECKING. THE PROPELLER DISPLAYED LEADING EDGE DAMAGE, CHORDWISE SCORING, TORSIONAL TWIST SIGNATURES, AND TIP BENDING OPPOSITE THE CAMBERED SIDE. NO EVIDENCE OF MECHANICAL DISCREPANCIES WERE FOUND.

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 an adequate visual lookout for, and clearance from, obstacles while conducting simulated aerial application operations.

Findings

Occurrence #1: IN FLIGHT COLLISION WITH OBJECT
Phase of Operation: MANEUVERING - AERIAL APPLICATION

Findings
1. OBJECT - WIRE,TRANSMISSION
2. (C) VISUAL LOOKOUT - INADEQUATE - PILOT IN COMMAND
3. (C) CLEARANCE - NOT MAINTAINED - PILOT IN COMMAND

Factual Information

On April 5, 1995, at 1709 mountain standard time, an Ayres S2R- T34, N3105B, collided with power lines near Stanfield, Arizona. The 2-place training version of the S2R aircraft was operated by Custom Farms Air Service of Stanfield, and was demonstrating a GPS-based application guidance system developed for agricultural aircraft operators. Visual meteorological conditions prevailed at the time and no flight plan was filed for the operation, which was conducted under the provisions of 14 CFR Part 91 of the Federal Aviation Regulations. The aircraft was destroyed in the collision sequence and postcrash fire. The certificated commercial pilot sustained fatal injuries; however, the passenger receiving the system demonstration incurred minor injuries. The flight originated from a private airstrip near Stanfield on the day of the accident at 1615.

The surviving passenger, who holds a commercial pilot certificate with a helicopter rating, stated that he had no memory of the accident flight. The passenger, an employee of an east coast agricultural aircraft operator, said he was seated in the rear seat and was observing the use of a GPS-based guidance system which his company had recently purchased.

The operator stated that the company is a distributor for the guidance system and was conducting training classes for purchasers of the system. The company reported that the aircraft did not have chemicals on board, and the purpose of the flight was to familiarize the students with system operation during typical aerial application operations.

One ground witness was located 1 mile away from the accident site. He observed the aircraft in a turn near the edge of a farm field, then saw the black smoke rising from the accident site.

The aircraft was examined by a Federal Aviation Administration (FAA) airworthiness inspector from the Scottsdale, Arizona, Flight Standards District Office. He reported observing wire contact signatures on the right main landing gear and spreader booms. The aircraft appeared to be traveling from a southwest to northeast direction when it contacted four 1-inch diameter aluminum power lines strung between poles at the western boundary of a farm field. Three of the lines were noted to be severed.

The inspector noted that the wire contact signatures on the spreader boom leading edge were oriented on a 45-degree angle to the vertical axis and pointed in toward the fuselage. Three separate sections of the wire were observed to have ends with a cut appearance, with no evidence of ductile deformation or necking evident.

The propeller was observed to display leading edge damage, chordwise scoring, torsional twist signatures, and tip bending opposite the cambered side.

The inspector stated that he found no evidence of mechanical discrepancies in his examination.

Pilot Information

Certificate:	Commercial	**Age:**	50,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Front
Other Aircraft Rating(s):	Helicopter	**Restraint Used:**	
Instrument Rating(s):	Airplane; Helicopter	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	Yes
Medical Certification:	Class 2 Valid Medical--w/ waivers/lim	**Last FAA Medical Exam:**	April 1, 1994
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	
Flight Time:	17000 hours (Total, all aircraft), 2100 hours (Total, this make and model), 16790 hours (Pilot In Command, all aircraft), 50 hours (Last 90 days, all aircraft), 30 hours (Last 30 days, all aircraft), 3 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	AYRES	**Registration:**	N3105B
Model/Series:	S2R-T34 S2R-T34	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Restricted (Special)	**Serial Number:**	T34-136DC
Landing Gear Type:	Tailwheel	**Seats:**	2
Date/Type of Last Inspection:	April 28, 1994 Annual	**Certified Max Gross Wt.:**	6000 lbs
Time Since Last Inspection:	867 Hrs	**Engines:**	1 Turbo prop
Airframe Total Time:	3535 Hrs	**Engine Manufacturer:**	P&W
ELT:	Not installed	**Engine Model/Series:**	PT6A-34AG
Registered Owner:	CFS AIRCRAFT TRUST	**Rated Power:**	750 Horsepower
Operator:	WALTON ENTERPRISES OF ARIZONA	**Operating Certificate(s) Held:**	
Operator Does Business As:	CUSTOM FARMS AIR SERVICE	**Operator Designator Code:**	WTOG

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:		**Distance from Accident Site:**	
Observation Time:		**Direction from Accident Site:**	
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	3 knots / None	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	290°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29 inches Hg	**Temperature/Dew Point:**	31°C / -4°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:		**Type of Flight Plan Filed:**	None
Destination:		**Type of Clearance:**	None
Departure Time:	16:15 Local	**Type of Airspace:**	Class G

Airport Information

Airport:		**Runway Surface Type:**	
Airport Elevation:		**Runway Surface Condition:**	
Runway Used:	0	**IFR Approach:**	
Runway Length/Width:		**VFR Approach/Landing:**	None

Wreckage and Impact Information

Crew Injuries:	1 Fatal	**Aircraft Damage:**	Destroyed
Passenger Injuries:	1 Minor	**Aircraft Fire:**	On-ground
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 Fatal, 1 Minor	**Latitude, Longitude:**	

Administrative Information

Investigator In Charge (IIC):	Rich, Jeff
Additional Participating Persons:	GEORGE BEAN; SCOTTSDALE , AZ
Original Publish Date:	September 12, 2000
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=28000