Aviation Investigation Final Report

Location:	DOS PALOS, California	**Accident Number:**	LAX95GA334
Date & Time:	September 12, 1995, 08:25 Local	**Registration:**	N6355U
Aircraft:	Cessna U206G	**Aircraft Damage:**	Destroyed
Defining Event:		**Injuries:**	2 Fatal
Flight Conducted Under:	Part 91: General aviation - Public aircraft		

Analysis

The aircraft was on contract to the USDA to dispense sterile Bullworm moths over selected farm fields. The pilot was required to fly at 500 feet agl and 110 knots. A pilot-rated passenger was carried on this flight so that the pilot could evaluate him for possible employment. Ground witnesses first observed the aircraft in a nose-down attitude spinning through an altitude of 500 feet agl. After two turns the aircraft stopped spinning, but continued descending in a nose-down attitude to ground impact. The aircraft crashed between two planned dispensing points in flat open farm land under VFR conditions with moderate temperatures and mild winds. Both occupants held commercial pilot certificates, were current in the aircraft, and had previously flown together on similar flights. Both pilots sustained hand/arm injuries consistent with control manipulation at impact. Both occupants were found outside the aircraft, the pilot on the right side and the pilot-rated passenger on the left. The aircraft was found to be properly loaded with no evidence found of in-flight mechanical, electrical, or structural failures/malfunctions.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: the pilot-in-command's failure to assure that adequate airspeed was maintained.

Findings

Occurrence #1: LOSS OF CONTROL - IN FLIGHT
Phase of Operation: CRUISE

Findings
1. (C) AIRSPEED(VS) - NOT MAINTAINED - PILOT IN COMMAND
2. STALL/SPIN - INADVERTENT - PILOT IN COMMAND

Occurrence #2: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: DESCENT - UNCONTROLLED

Factual Information

HISTORY OF FLIGHT

On September 12, 1995, at 0825 hours Pacific daylight time, a Cessna U206G, N6355U, collided with flat terrain while on an aerial application flight near Dos Palos, California. The aircraft was owned by Inland Crop Dusters, Inc., and was operated as a public-use aircraft under an exclusive use contract with the U. S. Department of Agriculture (USDA) when the accident occurred. The aircraft was destroyed and the commercial pilot and the pilot-rated passenger sustained fatal injuries. The flight originated in Shafter, California, at 0608 on the day of the accident. Visual meteorological conditions prevailed at the time and no flight plan was filed.

The contract between the aircraft owner and the USDA required the owner to supply aircraft and crews for an insect eradication program. The flight involved the aerial dispensing of sterile Bullworm moths over specified agricultural fields. The pilot was familiarizing the pilot-rated passenger, who was being considered for employment on the contract, with the aerial tasks to be performed.

The sole witness to the crash was located about 1.5 miles from the accident site. He reported first observing the aircraft spinning to the right in a nose-down attitude from an altitude he estimated between 500 to 600 feet agl. He stated that after the aircraft completed two rotations to the right it stopped spinning, but continued in the nose-down attitude to ground impact.

The aircraft owner reported that standing operating procedures directed the pilots to disperse the moths while at 500 feet agl and 110 mph. When flying between dispersing locations, the pilots are instructed to use a manifold pressure of 23 inches and propeller rpm of 2,300, which results in an airspeed of 120 mph. The owner said he personally verified that the pilot adhered to these procedures during previous flights when he flew with the pilot. According to the USDA representative, the accident occurred while the aircraft was en route between dispersing locations. FAA facility records disclosed no record of any communication or other services provided to the aircraft on the day of the accident. Search of the recorded radar data for the location, time, and date of the accident revealed no targets which could be associated with the aircraft.

PERSONNEL

Review of FAA Airman Record files, company records, and personal logs/documents revealed that both the pilot and pilot-rated passenger held commercial pilot and second-class medical certificates. Both pilots had recent experience in the Cessna U206 series aircraft.

In an interview, the aircraft owner said he had known the pilot for several years and during that time they had flown together on several occasions. The owner reported that the pilot was a professional who always adhered to safe operating practices.

The owner reported that he met the pilot-rated passenger prior to the day of the accident and was continuing to evaluate the possibility of hiring him as a pilot. He said that both the pilot and the prospective pilot had previously flown together on three or four dispensing operations. The pilot had not made any negative report to the owner about the passengers attitude or technical performance. The owner stated that his impression of the prospective pilot was positive and that his demeanor seemed compatible to that of the pilot.

AIRCRAFT INFORMATION

The aircraft was operated under a restricted category airworthiness certificate, which was issued due to the installation of the live moth dispensing device. The device was installed in place of the rear aircraft seats on the floor behind the pilot and co-pilot seats.

The aircraft owner reported that refuelers topped off both fuel tanks prior to departure. Based on the reported onboard fuel quantity and the estimated duration of the flight to the accident site, investigators estimated that sufficient fuel was available to complete the flight.

Aircraft gross weight and center of gravity was computed using the standard manufacturer's weight and balance form for the aircraft. It was established that the aircraft was within the prescribed limits.

WRECKAGE AND IMPACT INFORMATION

The aircraft impacted on an unobstructed, flat row agricultural field, at an elevation of 120 feet msl. The field was wet and soft. The fuel tanks were crushed and ruptured and the odor of fuel was persistent when Safety Board investigators arrived. The Fresno County Fire Department reported that there was no residual fuel in either tank when they arrived at 1000 hours. Both fuel tanks exhibited hydraulic deformation.

The nose of the aircraft was found buried in the ground at the initial impact point, and the longitudinal axis of the engine was observed in a near vertical nose-down attitude. The wreckage distribution was concentrated at the initial impact point with the longitudinal axis of the aircraft oriented on a magnetic bearing of 360 degrees. The wreckage was disturbed by emergency rescue personnel during extrication of the occupants.

All aircraft components were accounted for at the accident site. Control continuity was established and no evidence of control surface binding or chafing was observed. The elevator trim tab actuator was extended 1.85 inches, which the manufacturer's technical representative stated corresponds to a 15-degree tab up setting.

The cabin area was collapsed with the following control positions noted: mixture, propeller, and throttle controls full forward; cowl flaps open; alternate air in the automatic position; cabin heater off; and fuel selector valve positioned to the left main tank. The aircraft was equipped with functioning dual controls. Both seat belts and shoulder harnesses were installed and were cut by responding fire department units during occupant extrication efforts. The seat supports for both front seats were collapsed.

The propeller hub with two blades attached were found buried in the ground at the point of impact. The third blade was found a short distance away.

MEDICAL AND PATHOLOGICAL INFORMATION

The responding deputy coroner reported that when he arrived he found the pilot on the ground outside the right side of the aircraft, while the pilot-rated passenger was located on the left side. Autopsies were conducted by the Fresno County Coroner with samples retained for toxicological testing. Negative results for alcohol and all screened drug substances were reported for both occupants.

The coroner reported that the pilot sustained a fracture dislocation of the right thumb. The pilot-rated passenger sustained a fracture dislocation of the right thumb metacarpal-carpal joint and the right wrist joint.

TESTS AND RESEARCH

The engine was removed and shipped in a sealed container to Teledyne Continental Motors in Mobile, Alabama, for detailed examination under the supervision of an FAA inspector. The manufacturer's analytical inspection report is appended to this report and the photographs referred to therein are on file with the manufacturer. No discrepancies were identified during the examination.

ADDITIONAL INFORMATION

The aircraft wreckage was released to a representative of the USDA on December 4, 1995.

Pilot Information

Certificate:	Commercial	**Age:**	61,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Right
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	Airplane	**Second Pilot Present:**	Yes
Instructor Rating(s):	Airplane single-engine	**Toxicology Performed:**	Yes
Medical Certification:	Class 2 Valid Medical--w/ waivers/lim	**Last FAA Medical Exam:**	May 4, 1995
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	
Flight Time:	3020 hours (Total, all aircraft), 1820 hours (Total, this make and model)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	**Registration:**	N6355U
Model/Series:	U206G U206G	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Restricted (Special)	**Serial Number:**	05446
Landing Gear Type:	Tricycle	**Seats:**	2
Date/Type of Last Inspection:	August 15, 1995 100 hour	**Certified Max Gross Wt.:**	3600 lbs
Time Since Last Inspection:	96 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	7987 Hrs	**Engine Manufacturer:**	Lycoming
ELT:	Installed	**Engine Model/Series:**	IO-520-F23B
Registered Owner:	INLAND CROP DUSTERS, INC.	**Rated Power:**	300 Horsepower
Operator:	U.S. DEPT. OF AGRICULTURE	**Operating Certificate(s) Held:**	None
Operator Does Business As:		**Operator Designator Code:**	PWWG

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	MCE ,153 ft msl	**Distance from Accident Site:**	19 Nautical Miles
Observation Time:	08:49 Local	**Direction from Accident Site:**	5°
Lowest Cloud Condition:	Clear	**Visibility**	15 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	5 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	320°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30 inches Hg	**Temperature/Dew Point:**	21°C / 12°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	SHAFTER , CA (MIT)	**Type of Flight Plan Filed:**	None
Destination:		**Type of Clearance:**	None
Departure Time:	05:30 Local	**Type of Airspace:**	Class G

Airport Information

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

Wreckage and Impact Information

Crew Injuries:	1 Fatal	**Aircraft Damage:**	Destroyed
Passenger Injuries:	1 Fatal	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	2 Fatal	**Latitude, Longitude:**	37.069515,-120.630836(est)

Administrative Information

Investigator In Charge (IIC):	Crispin, Robert
Additional Participating Persons:	JAMES HALLOWS; FRESNO , CA ANDREW L HALL; WICHITA , KS MICHAEL J GRIMES; LANCASTER , CA
Original Publish Date:	July 3, 1996
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=28948