



Aviation Investigation Final Report

Location:	Brighton, Michigan	Accident Number:	CEN09LA291
Date & Time:	May 12, 2009, 11:10 Local	Registration:	N99811
Aircraft:	Univair Ercoupe	Aircraft Damage:	Substantial
Defining Event:	Loss of control on ground	Injuries:	2 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot attempted to land, but had to execute a go-around because the airplane was too fast and far down the runway. During the second landing attempt, the airplane touched down about half way down the runway and bounced. As the airplane reached the departure end of the runway, the pilot steered the airplane off into vegetation which resulted in substantial damage to the fuselage, wings, and empennage.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's failure to attain the proper touchdown point, and his failure to initiate a go-around.

Findings

Aircraft	Descent/approach/glide path - Not attained/maintained
Personnel issues	Aircraft control - Pilot
Personnel issues	Lack of action - Pilot

Factual Information

History of Flight

Landing-flare/touchdown	Landing area overshoot
Landing-landing roll	Loss of control on ground (Defining event)
Landing-landing roll	Runway excursion
Landing-landing roll	Collision with terr/obj (non-CFIT)

HISTORY OF FLIGHT

On May 12, 2009, at 1110 eastern daylight time, a Univair Ercoupe 415-C, N99811, piloted by a sport pilot, departed the runway surface during landing and struck a lilac bush at Brighton Airport (45G), Brighton, Michigan. The airplane sustained substantial damage on impact with the bush and terrain. Visual meteorological conditions prevailed at the time of the accident. The 14 CFR Part 91 personal flight was not operating on a flight plan. The pilot and the passenger on board were uninjured. The local flight originated at 1051.

The pilot stated that the accident landing was his second attempt to land on runway 04 (3,120 feet by 24 feet, asphalt). On the first landing attempt, the airplane was a little fast and long so he aborted the landing attempt. He flew the airport traffic pattern at an indicated speed of 80 miles per hour (mph) and touched down about ½ down the runway and 10 mph too fast. He thought he could land so he did not abort the landing. While landing, the brake pedal arm broke while he was applying pressure on the arm. When the airplane reached the displaced threshold at the approach end of runway 22, he steered the airplane to the right and off the runway. The airplane then traveled through the grass, across the parallel taxiway, and back onto the grass adjacent to the northeast side of the runway. The leading edge of the left wing struck a lilac bush turning the airplane sideways. The airplane then rolled down an embankment and onto a gravel access road where the right main landing gear separated from its mount. The airplane fell striking the right wing, right vertical stabilizer, and rudder onto the ground.

PERSONNEL INFORMATION

The pilot held a sport pilot certificate with a rating/limitation for 415 Ercoupe without rudder pedals. The pilot's last logbook entry was dated May 5, 2009, at a total flight time of 137.4 hours.

The pilot's first logged flight was an instructional flight on January 15, 2005, in a Cessna 172S, provided by a flight instructor who would provide the pilot with flight instruction until 2006. The flight instructor stated the pilot later bought the Ercoupe and seemed to be focused on receiving an endorsement to land at 45G, which was where the pilot wanted to keep the airplane. The flight instructor told the pilot that landing at 45G was for experienced pilots and

that his experience level was not at that level. The flight instructor refused to provide an endorsement for landings at 45G.

On January 10, 2006, the pilot was involved in an unreported landing accident while flying the Ercoupe at Livingston County Spencer J. Hardy Airport (OZW), Howell, Michigan, that was discovered during the course of this accident investigation. After the airplane was repaired and returned to service, the pilot changed flight instructors.

The second flight instructor stated the pilot had difficulty in obtaining the proper landing picture during approach. The pilot seemed to have problems managing power, speed, and altitude, but the second flight instructor worked with the pilot so that he eventually became proficient enough to be recommended for a sport pilot practical test.

On April 21, 2007, the pilot was involved in an accident while flying the Ercoupe. The accident was investigated by the National Transportation Safety Board as case CHI07CA110. The probable cause for the accident was "The student pilot's failure to maintain proper glidepath to the runway. Contributing factors to the accident included the passenger vehicle, the rising embankment, and the airport perimeter fence."

On August 2, 2008, the pilot was issued a sport pilot certificate with the following rating/limitation: "415 Series Ercoupe Without Rudder Pedals Only Holder Does Not Meet ICAO Requirements." The designated pilot examiner (DPE), who provided the sport pilot examination and issued a temporary airman certificate to the pilot, stated that during the practical portion of the exam, the pilot performed three landings, of which two were at OZW and one was at 45G. The duration of the flight portion of the examination was 1.0 hours. FAA records of the DPE's pass/fail rate showed a 100 percent pass rate for sport pilot examination.

AIRCRAFT INFORMATION

The 1946 Univar Ercoupe 415-C, serial number 2434, airplane was registered to and operated by the pilot. The airplane was powered by a Continental C-85-12F, serial number 1596-6-12-CL30, engine. The airplane was issued a supplemental type certificate (STC) for the use of automotive gasoline.

The Model 415C Flight Manual was not located in the airplane. The Model 415D flight manual with operating limitations for the installation of the C-85-12F engine was also not in the airplane, and the pilot did not know if it was required. The pilot later provided a manual to the FAA but that manual was not the approved manual for the airplane and he also did not have the automotive gasoline STC flight manual supplement.

The operating limitations with the installation of a Continental C-85-12F engine lists the converted airspeed indicator green arc from 58-114 mph, but the installed airspeed indicator had a green arc from 50-120 mph. The converted airspeed indicator's yellow arc is 114-144 mph, but the installed airspeed indicator had a yellow arc from 120-144 mph. The converted oil

pressure green range is 30-40 psi but the gauge had a green range from 30-60 psi. The converted oil pressure yellow range is 30-40 psi, but the installed gauge had a yellow range from 30-60 psi. The converted oil pressure gauge red line is 50 psi, but the installed gauge had a red line of 60 psi.

The airplane had a maximum gross weight of 1,260 lbs and an empty weight of 988.5 lbs. There was 20 gallons of fuel aboard. The pilot weight was 180 lbs and the passenger weight was 120 lbs. The airplane weight and balance form showed the installation of a Sensenich wood propeller in 2006, but a McCauley metal propeller was installed weighing an additional 10 pounds. This weight increase was not updated in the airplane's weight and balance data. Calculations determined the airplane was about 158 pounds over maximum gross weight at the time of the accident.

On May 8, 2006, at an airplane total time of 2,002.95 hours and a tachometer time of 182.95 hours, a maintenance entry states that airworthiness directives (AD) 93-22-05 and 81-07-06 were not complied with during a sudden stoppage inspection and that they "are to be accomplished by installer." AD 93-22-05 does not apply to model 415C airplanes. There are no entries for compliance with the ADs.

On April 10, 2009, the airplane received its last annual inspection, at an airplane total time of 2,176.0 hours and a tachometer time of 256.08 hours. ADs 2003-21-01, 59-25-05, and 57-02-01 were signed off but their revision date, method of compliance, and date/time next due as required by Federal Aviation Regulation (FAR) 91.417(2)(v) were not included.

There was no record of FAA Form 337, Major Repair and Alteration, for the installation of large rear window and baggage compartment on N99811.

The transponder test and inspection required under FAR 91.143 was last accomplished April 2007 and was due April 2009.

WRECKAGE AND IMPACT INFORMATION

The airplane damage included the left wing leading edge, which had several dents, and damage to the lower left wing skin. The left side of the fuselage, aft of the rear window, was dented and distorted. The empennage was dented and distorted. The lower right side of the vertical stabilizer was bent inwards near the horizontal stabilizer. The bottom horizontal stabilizer skin was damaged. The center section of the forward right lower wing spar was damaged. Three ribs on the outboard right wing were damaged.

Examination of the airplane confirmed flight control continuity. The brake drum actuated at both wheels while the brake system was actuated several times. The brake actuating rod (between the brake arm and master cylinder) was adjusted for minimal brake arm travel and was adjusted for minimal brake arm travel and was found bent. The pilot stated that he used the parking brake handle to pull himself up out of the seat to exit the airplane after the

accident. The parking brake handle was extended about 2.5 inches. The brake pedal arm separated just forward of the mounting bracket underneath the floor.

Examination of the brake pedal arm fracture surface was consistent with overload. No areas of fatigue were noted.

Pilot Information

Certificate:	Sport Pilot	Age:	74, Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	None	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Sport pilot	Last FAA Medical Exam:	
Occupational Pilot:	No	Last Flight Review or Equivalent:	August 2, 2008
Flight Time:	137 hours (Total, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Univair	Registration:	N99811
Model/Series:	Ercoupe 415-C	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	2434
Landing Gear Type:		Seats:	2
Date/Type of Last Inspection:	April 10, 2009 Annual	Certified Max Gross Wt.:	1260 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:	2176 Hrs as of last inspection	Engine Manufacturer:	Continental
ELT:	Installed, not activated	Engine Model/Series:	C-85-12F
Registered Owner:	Pilot	Rated Power:	85 Horsepower
Operator:	Pilot	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	OZW,962 ft msl	Distance from Accident Site:	9 Nautical Miles
Observation Time:	11:17 Local	Direction from Accident Site:	270°
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	/	Turbulence Type Forecast/Actual:	/
Wind Direction:	0°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.27 inches Hg	Temperature/Dew Point:	13°C / -3°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Brighton, MI (45G)	Type of Flight Plan Filed:	Unknown
Destination:	Brighton, MI (45G)	Type of Clearance:	None
Departure Time:	10:51 Local	Type of Airspace:	

Airport Information

Airport:	Brighton Airport 45G	Runway Surface Type:	Asphalt
Airport Elevation:	973 ft msl	Runway Surface Condition:	Dry;Unknown
Runway Used:	04	IFR Approach:	None
Runway Length/Width:	3120 ft / 24 ft	VFR Approach/Landing:	Full stop

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:	1 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	2 None	Latitude, Longitude:	42.570949,-83.749725(est)

Administrative Information

Investigator In Charge (IIC):	Gallo, Mitchell
Additional Participating Persons:	Richard Anderson; Federal Aviation Administration; Detroit, MI
Original Publish Date:	December 29, 2009
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=73820

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate, and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

The NTSB does not assign fault or blame for an accident or incident; rather, as specified by NTSB regulation, “accident/incident investigations are fact-finding proceedings with no formal issues and no adverse parties ... and are not conducted for the purpose of determining the rights or liabilities of any person” (Title 49 *Code of Federal Regulations* section 831.4). Assignment of fault or legal liability is not relevant to the NTSB’s statutory mission to improve transportation safety by investigating accidents and incidents and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report (Title 49 *United States Code* section 1154(b)). A factual report that may be admissible under 49 *United States Code* section 1154(b) is available [here](#).