Aviation Investigation Final Report

Location:	Westminister, Maryland	**Accident Number:**	ERA18LA034
Date & Time:	November 29, 2017, 09:30 Local	**Registration:**	N690RU
Aircraft:	Aero Commander 112	**Aircraft Damage:**	Substantial
Defining Event:	Landing area undershoot	**Injuries:**	1 None
Flight Conducted Under:	Part 91: General aviation - Instructional		

Analysis

The student pilot reported that, during the cross-country flight, he thought that the airplane had experienced an electrical failure, and he chose to divert to an airport. During final approach to the diversion airport, the student descended the airplane too low and then attempted to correct it by increasing engine power. Subsequently, the airplane impacted a grassy area just before the runway, which resulted in all three landing gear separating.

Examination of the wreckage revealed that the electrical system was functional but that an avionics panel had failed. The failed avionics panel likely distracted the student pilot and led to his failure to maintain a proper glidepath during the approach, which resulted in the runway undershoot. The student reported that there were no other preimpact mechanical malfunctions or failures with the airplane 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 student pilot's failure to maintain a proper glidepath during the approach due to his distraction by the failure of an avionics panel, which resulted in a runway undershoot.

Findings

Personnel issues	Aircraft control - Student/instructed pilot
Aircraft	Descent/approach/glide path - Not attained/maintained
Personnel issues	Attention - Student/instructed pilot
Aircraft	(general) - Failure

Factual Information

History of Flight

Landing	Landing area undershoot (Defining event)
Landing	Collision with terr/obj (non-CFIT)
Landing	Part(s) separation from AC

On November 29, 2017, about 0930 eastern standard time, an Aero Commander 112, N690RU, owned and operated by the student pilot, was substantially damaged during a precautionary landing at Clearview Airpark (2W2), Westminster, Maryland. The student pilot was not injured. The solo instructional flight was conducted under the provisions of Title 14 *Code of Federal Regulations* Part 91. Visual meteorological conditions prevailed and no flight plan was filed for the flight that originated from Martin State Airport (MTN), Baltimore, Maryland, about 0900. The flight was destined to Eastern WV Regional Airport (MRB), Martinsburg, West Virginia.

The student pilot reported that 2W2 was his second checkpoint along the cross-country flight. Upon reaching 2W2, the airplane experienced an electrical failure that affected the communication radios and GPS. The student pilot then elected to divert to 2W2 and entered the airport traffic pattern for runway 32, an 1,840-foot long, 30-foot wide asphalt runway. While completing landing procedures, the student pilot extended the landing gear, but did not observe the corresponding green indicator lights in the cockpit. He could not be certain if he did not see the lights due to the electrical failure or because of sun glare. While on the left base leg of the traffic pattern, the student pilot lowered the nose of the airplane to cease the stall warning horn and the airplane flew beyond the extended runway centerline; however, the student pilot corrected and aligned the airplane on final approach. While on short final approach, the airplane descended suddenly and the student pilot immediately compensated by increasing engine power, but the landing gear contacted a grass area before runway and all three landing gear separated. The airplane came to rest upright just prior to the runway.

Examination of the wreckage by a Federal Aviation Administration inspector revealed substantial damage to the fuselage. When the inspector tested the airplane's electrical system, it functioned, but the avionics panel extinguished after approximately 10 seconds of operation.

The recorded wind at an airport located about 10 miles north of the accident site, at 0925, was from 230° at 6 knots. The student pilot reported that the wind at 2W2 was from 140° at 8 knots, gusting to 12 knots, at the time of the accident.

Pilot Information

Certificate:	Student	**Age:**	62,Male
Airplane Rating(s):	None	**Seat Occupied:**	Left
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:	BasicMed	**Last FAA Medical Exam:**	
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:	179 hours (Total, all aircraft), 39 hours (Total, this make and model), 16 hours (Pilot In Command, all aircraft), 16 hours (Last 90 days, all aircraft), 3 hours (Last 30 days, all aircraft), 0 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Aero Commander	**Registration:**	N690RU
Model/Series:	112 UNDESIGNAT	**Aircraft Category:**	Airplane
Year of Manufacture:	1973	**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	33
Landing Gear Type:	Retractable - Tricycle	**Seats:**	4
Date/Type of Last Inspection:	May 12, 2017 Annual	**Certified Max Gross Wt.:**	2650 lbs
Time Since Last Inspection:	19 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	3692 Hrs at time of accident	**Engine Manufacturer:**	Lycoming
ELT:	C91 installed, not activated	**Engine Model/Series:**	IO-360
Registered Owner:	On file	**Rated Power:**	200 Horsepower
Operator:	On file	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	DMW,789 ft msl	**Distance from Accident Site:**	10 Nautical Miles
Observation Time:	09:25 Local	**Direction from Accident Site:**	190°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	6 knots /	**Turbulence Type Forecast/Actual:**	/ None
Wind Direction:	230°	**Turbulence Severity Forecast/Actual:**	/ N/A
Altimeter Setting:	30.17 inches Hg	**Temperature/Dew Point:**	12°C / 0°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Baltimore, MD (MTN)	**Type of Flight Plan Filed:**	None
Destination:	Martinsburg, WV (MRB)	**Type of Clearance:**	None
Departure Time:	09:00 Local	**Type of Airspace:**	

Airport Information

Airport:	Clearview Airpark 2W2	**Runway Surface Type:**	Asphalt
Airport Elevation:	799 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	32	**IFR Approach:**	None
Runway Length/Width:	1840 ft / 30 ft	**VFR Approach/Landing:**	Full stop;Precautionary landing;Traffic pattern

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:**	39.466945,-77.017501(est)

Administrative Information

Investigator In Charge (IIC):	Gretz, Robert
Additional Participating Persons:	Steven O'Rourke; FAA/FSDO; Baltimore, MD
Original Publish Date:	July 23, 2019
Last Revision Date:	
Investigation Class:	Class
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=96400