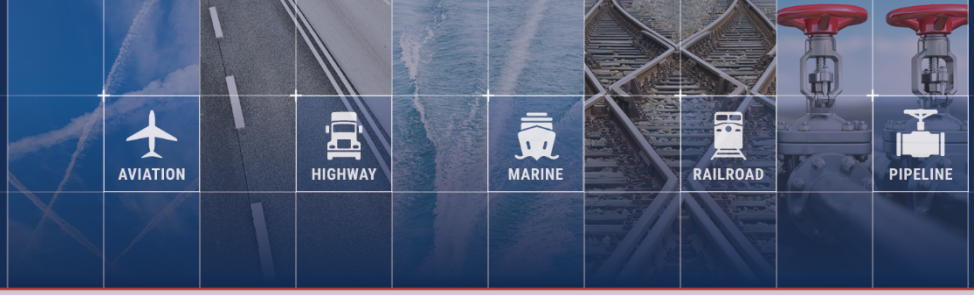

Aviation Investigation Factual Report

Location:	Gulf Shores, Alabama	**Accident Number:**	ERA17LA319
Date & Time:	August 23, 2017, 16:30 Local	**Registration:**	N97116
Aircraft:	Cessna 172	**Aircraft Damage:**	Substantial
Defining Event:	Hard landing	**Injuries:**	1 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Factual Information

On August 23, 2017, about 1630 central daylight time, a Cessna 172P, N97116, was substantially damaged during landing at the Jack Edwards Airport (JKA), Gulf Shores, Alabama. The commercial pilot was not injured. Visual meteorological conditions prevailed for the personal flight conducted under the provisions of 14 *Code of Federal Regulations* Part 91. No flight plan was filed for the flight that departed the Pensacola International Airport (PNS), Pensacola, Florida, about 1600.

The pilot stated that before he departed PNS, he noted that the elevator trim was in the full nose-up position. He reset it to the "takeoff" position and completed his before-takeoff checklist and engine run-up procedures. He said that during takeoff, he needed more back pressure on the control yoke than he was used to, so he trimmed the elevator trim tab up to reduce pressure. The flight to JKA was uneventful and he made a normal approach to runway 17. The pilot said that he reduced engine power to idle and began the landing flare. However, when he pulled back on the control yoke, the nose of the airplane did not come up as expected. The pilot described the attitude of the airplane as, "...much more flat with only slight nose up." The airplane "fell through" the last few feet above the runway, landed hard, and bounced four or five times before he could stop the airplane. He said he tried to taxi off onto a taxiway, but he was unable to steer the airplane.

A Federal Aviation Administration (FAA) aviation maintenance inspector conducted a postaccident examination of the airplane. The examination revealed the firewall was wrinkled, the nose wheel was bent, and both propeller blades were damaged from contact with the ground. The control yoke had minimal movement due to the upper yoke control tubes at the chain sprocket binding against the aluminum channel brace due to the bent firewall. The inspector also noted that the elevator trim tab cable had slack and was not rigged correctly. When the trim tab wheel was moved, the cable's center travel block was catching on the aft tail cone bulkhead. An FAA airworthiness inspector performed a second examination of the airplane and determined that despite the rigging of the elevator trim cable, he could not find evidence of a preaccident elevator control problem. An FAA operations inspector spoke to the flight instructor of the pilot who flew the accident airplane prior to the accident flight. The student had not reported any issues with landing the airplane.

About a month after the accident, the pilot flew with an FAA designated pilot examiner (DPE). According to the DPE, the pilot's landings were "very flat and never set up with a nose high attitude." On one landing, the airplane bounced and then ballooned resulting in the DPE taking control of the airplane. The DPE later spoke with the pilot's flight instructor, who told him that the pilot had a tendency to land flat. He described the pilot's landings as "on and off."

The pilot held a commercial pilot certificate for rotorcraft with an instrument rating for rotorcraft-helicopter. He was enrolled in a Rotorcraft Transition Program, where he would earn his private pilot certificate for airplane single-engine land, then obtain a commercial pilot certificate for airplane multiengine land, and then attend a new-hire class for a commercial air carrier. His last FAA first class medical certificate was issued on June 30, 2017. The pilot reported he had accrued 29 hours of flight experience in single-engine airplanes.

Weather reported at JKA, about the time of the accident, included calm wind, visibility 10 miles and clear skies.

Pilot Information

Certificate:	Commercial	**Age:**	38,Male
Airplane Rating(s):	None	**Seat Occupied:**	Left
Other Aircraft Rating(s):	Helicopter	**Restraint Used:**	3-point
Instrument Rating(s):	Helicopter	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	Class 1 Without waivers/limitations	**Last FAA Medical Exam:**	June 30, 2017
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	
Flight Time:	818 hours (Total, all aircraft), 29 hours (Total, this make and model), 567 hours (Pilot In Command, all aircraft), 60 hours (Last 90 days, all aircraft), 40 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	**Registration:**	N97116
Model/Series:	172 P	**Aircraft Category:**	Airplane
Year of Manufacture:	1984	**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	17276155
Landing Gear Type:	Tricycle	**Seats:**	4
Date/Type of Last Inspection:	August 17, 2017 100 hour	**Certified Max Gross Wt.:**	2299 lbs
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:	5539.7 Hrs as of last inspection	**Engine Manufacturer:**	LYCOMING
ELT:	Installed, not activated	**Engine Model/Series:**	O-320 SERIES
Registered Owner:	On file	**Rated Power:**	160 Horsepower
Operator:	On file	**Operating Certificate(s) Held:**	Pilot school (141)

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	JKA,17 ft msl	**Distance from Accident Site:**	0 Nautical Miles
Observation Time:	21:35 Local	**Direction from Accident Site:**	0°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	/	**Turbulence Type Forecast/Actual:**	None / None
Wind Direction:		**Turbulence Severity Forecast/Actual:**	N/A / N/A
Altimeter Setting:	29.88 inches Hg	**Temperature/Dew Point:**	25°C / 24°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Pensacola, FL (PNS)	**Type of Flight Plan Filed:**	None
Destination:	Gulf Shores, AL (JKA)	**Type of Clearance:**	VFR flight following
Departure Time:	16:00 Local	**Type of Airspace:**	Class G

Airport Information

Airport:	Jack Edwards JKA	**Runway Surface Type:**	Asphalt
Airport Elevation:	17 ft msl	**Runway Surface Condition:**	Unknown
Runway Used:	17	**IFR Approach:**	None
Runway Length/Width:	3596 ft / 75 ft	**VFR Approach/Landing:**	Full stop

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:**	30.24611,-87.700836(est)

Administrative Information

Investigator In Charge (IIC):	Read, Leah
Additional Participating Persons:	Nina McBride; FAA/FSDO; Birmingham, AL
Report Date:	February 6, 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=95990