Aviation Investigation Final Report

Location:	Merced, California	**Accident Number:**	SEA07CA130
Date & Time:	May 15, 2007, 13:15 Local	**Registration:**	N363AM
Aircraft:	Aircraft Mfg & Dev. Co. (AMD) CH 2000	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	2 None
Flight Conducted Under:	Part 91: General aviation - Instructional		

Analysis

The flight instructor said the instructional flight was to prepare the student for his stage two check, which was to be followed by his first solo flight. The student had received 41.2 hours of instruction, with 5.4 hours in this make/model aircraft. The flight instructor had planned for a simulated engine failure after takeoff; it was the flight instructor's first practice simulated engine failure after takeoff in this make/model aircraft. He pulled the throttle to idle, but the student held the yoke in the climb attitude as opposed to nosing the airplane down for best glide speed. The flight instructor said that he realized the airspeed was low and the aircraft was in a high rate of descent, but his remedial attempts did not prevent a hard landing. The airplane's firewall was wrinkled, and the empennage and horizontal stabilizer were bent.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The student pilot's inadvertent stall/mush during a simulated power loss after takeoff and the flight instructor's delayed remedial action, which resulted in a hard landing. A contributing factor was the flight instructor's lack of familiarity with the make/model of aircraft.

Findings

Occurrence #1: LOSS OF CONTROL - IN FLIGHT
Phase of Operation: TAKEOFF - INITIAL CLIMB

Findings
1. (C) STALL/MUSH - INADVERTENT - DUAL STUDENT

Occurrence #2: HARD LANDING
Phase of Operation: DESCENT - UNCONTROLLED

Findings
2. (C) REMEDIAL ACTION - DELAYED - PILOT IN COMMAND(CFI)
3. (F) LACK OF FAMILIARITY WITH AIRCRAFT - PILOT IN COMMAND(CFI)

Factual Information

The flight instructor said the instructional flight was to prepare the student for his stage two check, which was to be followed by his first solo flight. The student had received 41.2 hours of instruction, with 5.4 hours in this make/model aircraft. The flight instructor had planned for a simulated engine failure after takeoff; it was the flight instructor's first practice simulated engine failure after takeoff in this make/model aircraft. He pulled the throttle to idle, but the student held the yoke in the climb attitude as opposed to nosing the airplane down for best glide speed. The flight instructor said that he realized the airspeed was low and the aircraft was in a high rate of descent, but his remedial attempts did not prevent a hard landing. The airplane's firewall was wrinkled, and the empennage and horizontal stabilizer were bent.

Flight instructor Information

Certificate:	Commercial; Flight instructor	**Age:**	32,Male
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	Airplane	**Second Pilot Present:**	
Instructor Rating(s):	Airplane single-engine; Instrument airplane	**Toxicology Performed:**	No
Medical Certification:	Class 2 With waivers/limitations	**Last FAA Medical Exam:**	December 1, 2006
Occupational Pilot:		**Last Flight Review or Equivalent:**	
Flight Time:	512 hours (Total, all aircraft), 23 hours (Total, this make and model), 1 hours (Last 24 hours, all aircraft)		

Student pilot Information

Certificate:	Student	**Age:**	Male
Airplane Rating(s):	None	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	None	**Second Pilot Present:**	
Instructor Rating(s):		**Toxicology Performed:**	No
Medical Certification:	Class 2 Without waivers/limitations	**Last FAA Medical Exam:**	
Occupational Pilot:		**Last Flight Review or Equivalent:**	
Flight Time:	1 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Aircraft Mfg & Dev. Co. (AMD)	**Registration:**	N363AM
Model/Series:	CH 2000	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	20-1057
Landing Gear Type:	Tricycle	**Seats:**	
Date/Type of Last Inspection:		**Certified Max Gross Wt.:**	
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:		**Engine Manufacturer:**	Lycoming
ELT:		**Engine Model/Series:**	O-235-N2C
Registered Owner:	Sierra Academy of Aeronautics	**Rated Power:**	
Operator:		**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	MCE,156 ft msl	**Distance from Accident Site:**	
Observation Time:	19:53 Local	**Direction from Accident Site:**	
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	9 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	310°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:		**Temperature/Dew Point:**	27°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Atwater, CA (MER)	**Type of Flight Plan Filed:**	None
Destination:	(MER)	**Type of Clearance:**	None
Departure Time:		**Type of Airspace:**	

Airport Information

Airport:	Merced Municipal Airport MCE	**Runway Surface Type:**	Asphalt
Airport Elevation:		**Runway Surface Condition:**	Dry
Runway Used:	30	**IFR Approach:**	None
Runway Length/Width:	5903 ft / 150 ft	**VFR Approach/Landing:**	

Wreckage and Impact Information

Crew Injuries:	2 None	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	
Total Injuries:	2 None	**Latitude, Longitude:**	37.284721,-120.513885

Administrative Information

Investigator In Charge (IIC):	Struhsaker, Georgia
Additional Participating Persons:	
Original Publish Date:	July 25, 2007
Last Revision Date:	
Investigation Class:	Class
Note:	This accident report documents the factual circumstances of this accident as described to the NTSB.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=65824