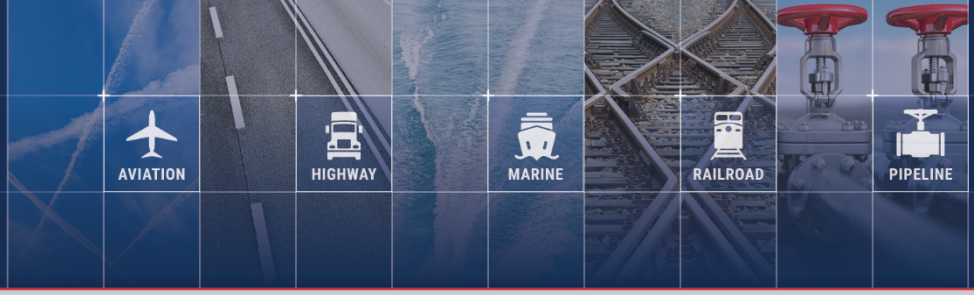

Aviation Investigation Final Report

Location:	Meadow Lake Airport, Colorado	**Accident Number:**	CEN09LA278
Date & Time:	May 4, 2009, 13:07 Local	**Registration:**	N17TD
Aircraft:	Glasflugel H201B	**Aircraft Damage:**	Substantial
Defining Event:	Glider tow event	**Injuries:**	1 Serious
Flight Conducted Under:	Part 91: General aviation - Flight test		

Analysis

The glider flight was being conducted to test the operation of a prototype winch launch system utilizing a computer aided launch control (CALC) hydrostatic system. During the launch, a programming anomaly within CALC limited the maximum winch speed to 32 miles per hour, causing the winch cable to release as the glider climbed away from the ground. The pilot pushed the nose of the glider down, but insufficient altitude was available to recover the glider. The glider impacted the runway in a level attitude, cracking the fuselage.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: A programming anomaly within the winch's computer aided launch control system, which incorrectly limited the maximum winch speed during launch of the glider.

Findings

Aircraft	(general) - Not specified
Aircraft	Airspeed - Attain/maintain not possible

Factual Information

History of Flight

Prior to flight	Miscellaneous/other
Takeoff	Glider tow event (Defining event)
Takeoff	Aerodynamic stall/spin
Landing-flare/touchdown	Hard landing

On May 5, 2009, at 1307 mountain daylight time, a Glasflugel Libelle H201B model glider, N17TD, was substantially damaged during a forced landing following an attempted winch assisted takeoff. The private pilot was seriously injured. The flight was being conducted under the provisions of Title 14 Code of Federal Regulations Part 91 without a flight plan. The local flight was departing from Meadow Lake Airport (00V), Colorado Springs, Colorado. Visual meteorological conditions prevailed at the time of the accident.

The flight was being conducted to test the operation of a prototype Hydrowinch, LLC Club Series winch launch system. The pilot stated that during the launch the glider suddenly stopped accelerating and the tow cable disconnected. Video of the accident sequence showed the glider becoming airborne in approximately 30 feet and reaching a maximum height of about 20 feet. The tow cable parachute, which inflates after release from the glider, was seen to inflate as the glider started to become airborne. The glider then nosed over, changed to a level attitude, and impacted the runway. Examination of the glider revealed the fuselage cracked aft of the cockpit.

The winch was powered by a diesel engine connected to a computer controlled hydrostatic drive system. The hydrostatic drive system was controlled by a computer aided launch control (CALC) system. CALC was designed to adjust winch acceleration and maximum speed produced through the hydrostatic system based on glider type and weight. In the case of the Glasflugel Libelle H201B, acceleration force should have been limited to about 50 percent of system capability and a desired speed of 65 miles per hour. A review of the computer data for the accident launch showed the computer limited maximum speed to 50 percent, or 32 miles per hour, as opposed to the acceleration force. The winch had conducted seven successful launches in 2008 before suffering a mechanical break down and subsequently having a new computer installed. The accident flight was the second flight operation for the repaired unit. The first attempted flight operation after repair resulted in an aborted takeoff due to a non-CALC related, winch operator error.

Pilot Information

Certificate:	Private	**Age:**	23,Male
Airplane Rating(s):	None	**Seat Occupied:**	Single
Other Aircraft Rating(s):	Glider	**Restraint Used:**	
Instrument Rating(s):	None	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	Class 2 Without waivers/limitations	**Last FAA Medical Exam:**	September 18, 2008
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	April 20, 2009
Flight Time:	285 hours (Total, all aircraft), 1 hours (Total, this make and model), 240 hours (Pilot In Command, all aircraft), 4 hours (Last 90 days, all aircraft), 4 hours (Last 30 days, all aircraft), 0 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Glasflugel	**Registration:**	N17TD
Model/Series:	H201B	**Aircraft Category:**	Glider
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	556
Landing Gear Type:	Retractable - N/A	**Seats:**	1
Date/Type of Last Inspection:	May 3, 2009 Annual	**Certified Max Gross Wt.:**	
Time Since Last Inspection:		**Engines:**	0
Airframe Total Time:		**Engine Manufacturer:**	
ELT:	Not installed	**Engine Model/Series:**	
Registered Owner:	On file	**Rated Power:**	
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:		**Distance from Accident Site:**	
Observation Time:		**Direction from Accident Site:**	
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	5 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	20°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29.94 inches Hg	**Temperature/Dew Point:**	13°C
Precipitation and Obscuration:			
Departure Point:	Meadow Lake, CO (OOV)	**Type of Flight Plan Filed:**	None
Destination:	Meadow Lake, CO (OOV)	**Type of Clearance:**	None
Departure Time:	13:07 Local	**Type of Airspace:**	

Airport Information

Airport:	Meadow Lake OOV	**Runway Surface Type:**	Asphalt
Airport Elevation:	6874 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	15	**IFR Approach:**	None
Runway Length/Width:	6000 ft / 60 ft	**VFR Approach/Landing:**	None

Wreckage and Impact Information

Crew Injuries:	1 Serious	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 Serious	**Latitude, Longitude:**	39.030059,-104.480224(est)

Administrative Information

Investigator In Charge (IIC):	Baker, Daniel
Additional Participating Persons:	Christopher Lang; FAA; Denver, CO
Original Publish Date:	September 30, 2009
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=73780