Aviation Investigation Final Report

Location:	Tomahawk, Wisconsin	**Accident Number:**	CHI01LA200
Date & Time:	July 8, 2001, 15:00 Local	**Registration:**	N103DL
Aircraft:	Cessna 175	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	3 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The airplane sustained substantial damage on impact with trees during initial climb. The pilot and two passengers were uninjured.

The pilot aborted two takeoffs. The pilot indicated, "This time I changed my route to get a longer run (3). I step taxied to the southwest corner of the lake accelerating to the east and departed to the north to maximize the length of my takeoff run. This time I lifted off cleanly with good airspeed. Initially I climbed well, but after a bit my climb rate slowed. At a point several hundred yards from shore I realized I may not clear the trees. I did not feel I had enough room to safely turn the aircraft back, so I elected to maintain my direction and increase my angle of attack little by little to try to clear the trees and keep the aircraft flying. I cleared the first row of trees, but dragged my left float through a tree top at which point the aircraft stalled falling off to the left, striking a tree with my left float. The aircraft slide down this same tree coming to rest at its base." The pilot listed no "mechanical malfunction failure" on his statement. At 2055, density altitude was 3,705 feet above mean sea level. The pilot's safety recommendation was, "Less weight, cooler outside temp, better wind." The pilot stated that he did not perform a density altitude calculation prior the the accident flight.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The inadequate preflight preparation that did not include calculating the density altitude and the pilot not maintaining clearance from the second row of trees on initial climb. Factors include those trees and the high density altitude present at the time of the accident.

Findings

Occurrence #1: IN FLIGHT COLLISION WITH OBJECT
Phase of Operation: TAKEOFF - INITIAL CLIMB

Findings
1. (F) OBJECT - TREE(S)
2. (C) CLEARANCE - NOT MAINTAINED - PILOT IN COMMAND
3. (F) WEATHER CONDITION - HIGH DENSITY ALTITUDE
4. (C) PREFLIGHT PLANNING/PREPARATION - INADEQUATE - PILOT IN COMMAND

Factual Information

On July 8, 2001, about 1500 central daylight time, a Cessna 175, N103DL, piloted by a private pilot, sustained substantial damage on impact with trees on initial climbout from Dear Lake, near Tomahawk, Wisconsin. The personal flight was operating under 14 CFR Part 91. Visual meteorological conditions prevailed at the time of the accident. No flight plan was on file. The pilot and two passengers reported no injuries. The flight was originating at the time of the accident and was destined for Ham Lake, Minnesota.

The pilot's written statement stated, "Because the wind was light I decided to put aircraft on the step heading south and do a step turn heading north. I aborted this first takeoff attempt early, because I did not use enough lake and knew I would not have enough room to takeoff (1). I kept aircraft on the step followed the east shoreline south turning aircraft north again and accelerated for takeoff. This time I lifted aircraft off water at too low of an airspeed. Realizing that I could not accelerate and climb out in time I aborted this attempt (2). I set the aircraft back down on the water keeping it on the step. This time I changed my route to get a longer run (3). I step taxied to the southwest corner of the lake accelerating to the east and departed to the north to maximize the length of my takeoff run. This time I lifted off cleanly with good airspeed. Initially I climbed well, but after a bit my climb rate slowed. At a point several hundred yards from shore I realized I may not clear the trees. I did not feel I had enough room to safely turn the aircraft back, so I elected to maintain my direction and increase my angle of attack little by little to try to clear the trees and keep the aircraft flying. I cleared the first row of trees, but dragged my left float through a tree top at which point the aircraft stalled falling off to the left, striking a tree with my left float. The aircraft slide down this same tree coming to rest at its base." The pilot listed no "mechanical malfunction failure" on his statement. (See appended statement and sketch.)

At 1455, the Merrill Municipal Airport (RRL), near Merrill, Wisconsin, weather was: Wind 270 degrees at 7 knots; visibility 10 statute miles; sky condition broken 6,000 feet broken 7,000 feet; temperature 32 degrees C; dew point 18 degrees C; altimeter 29.87 inches of mercury.

At 1455, density altitude at RRL was 3,705 feet above mean sea level.

The pilot's safety recommendation was, "Less weight, cooler outside temp, better wind."

The pilot stated that he did not perform a density altitude calculation prior the the accident flight.

Pilot Information

Certificate:	Private	**Age:**	44,Male
Airplane Rating(s):	Single-engine land; Multi-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:	Class 3 Valid Medical--no waivers/lim.	**Last FAA Medical Exam:**	October 27, 2000
Occupational Pilot:	UNK	**Last Flight Review or Equivalent:**	June 1, 2000
Flight Time:	1126 hours (Total, all aircraft), 296 hours (Total, this make and model), 970 hours (Pilot In Command, all aircraft), 43 hours (Last 90 days, all aircraft), 10 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	**Registration:**	N103DL
Model/Series:	175	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	55913
Landing Gear Type:	Float	**Seats:**	4
Date/Type of Last Inspection:	August 1, 2000 Annual	**Certified Max Gross Wt.:**	2350 lbs
Time Since Last Inspection:	46 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	3190 Hrs	**Engine Manufacturer:**	Lycoming
ELT:	Installed, not activated	**Engine Model/Series:**	O-360-A1A
Registered Owner:	Daniel J. Kedrowski	**Rated Power:**	180 Horsepower
Operator:		**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	RRL,1317 ft msl	**Distance from Accident Site:**	17 Nautical Miles
Observation Time:	14:55 Local	**Direction from Accident Site:**	166°
Lowest Cloud Condition:		**Visibility**	10 miles
Lowest Ceiling:	Broken / 6000 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	7 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	270°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29.87 inches Hg	**Temperature/Dew Point:**	32°C / 18°C
Precipitation and Obscuration:			
Departure Point:	Tomahawk, WI	**Type of Flight Plan Filed:**	None
Destination:	Ham Lake, MN	**Type of Clearance:**	None
Departure Time:	15:00 Local	**Type of Airspace:**	Class G

Wreckage and Impact Information

Crew Injuries:	1 None	**Aircraft Damage:**	Substantial
Passenger Injuries:	2 None	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	3 None	**Latitude, Longitude:**	45.469402,-89.719917(est)

Administrative Information

Investigator In Charge (IIC):	Malinowski, Edward
Additional Participating Persons:	Tim Derner; Federal Aviation Administration; Milwaukee, WI
Original Publish Date:	November 23, 2001
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=53266