Aviation Investigation Final Report

Location:	PLATTSMOUTH, Nebraska	**Accident Number:**	CHI01LA184
Date & Time:	June 21, 2001, 18:05 Local	**Registration:**	N5659V
Aircraft:	Piper PA-32R-300	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	2 Minor
Flight Conducted Under:	Part 91: General aviation - Instructional		

Analysis

The student pilot was flying a practice NDB approach to runway 34. The instructor said they began descending during the procedure turn. They rolled out on the inbound heading of 354 degrees. The instructor pilot said, "I called Omaha approach and they approved a switch to Plattsmouth advisory." While he changed radio frequencies, the student pilot descended to the minimum descent altitude of 1,820 feet mean sea level. At 7 DME the instructor made the radio call to Plattsmouth advisory. The student pilot performed his pre-landing checklist at 5 DME. The gear came down, and the student pilot told the instructor pilot that he turned on the boost pump and switched tanks. The instructor pilot said he did not actually see him do this, but looked over and saw the fuel pump on and the fuel selector switched over to the left tank. The engine instruments all looked normal. At 1.8 DME, the instructor pilot said the manifold pressure and RPMs dropped, and the airplane nosed down. The instructor pilot pushed the control levers full forward and told the student pilot to run the emergency checklist. "...our speed was still only about 80 and it was obvious we were not going to make the runway. We picked up a little speed, but even best glide wouldn't get us to the runway - we were too low for that. The instructor pilot said he looked for the best possible landing site straight ahead between us and the runway. The instructor pilot moved the throttle up and down twice. He said that it seemed very loose. There was no response from the engine. The engine sounded like it was still running. The instructor pilot said they kept the flaps up so they could stretch the glide to clear a tree line. On the other side of the tree line they saw a fence with large fence posts in their path. "We both got on the controls and pulled us over the fence. On the other side the terrain angled up. We flared, the stall warning sounded, the mains hit the ground and then it seemed like the nose wheel hit hard." An examination of the airplane at the accident site revealed no anomalies. The engine was examined 8 days later and showed no anomalies.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: the loss of engine power for undetermined reasons during the approach and the inadvertent stall that occurred during the forced landing. Factors relating to this accident were the low airspeed, the uphill terrain, and the fence.

Findings

Occurrence #1: LOSS OF ENGINE POWER
Phase of Operation: APPROACH - FAF/OUTER MARKER TO THRESHOLD (IFR)

Findings
1. (C) REASON FOR OCCURRENCE UNDETERMINED

Occurrence #2: FORCED LANDING
Phase of Operation: EMERGENCY DESCENT/LANDING

Occurrence #3: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: EMERGENCY DESCENT/LANDING

Findings
2. (C) STALL/MUSH - INADVERTENT - PILOT IN COMMAND(CFI)
3. (F) OBJECT - FENCE
4. (F) AIRSPEED - LOW - PILOT IN COMMAND(CFI)
5. (F) TERRAIN CONDITION - UPHILL

Factual Information

On June 21, 2001, at 1805 central daylight time, a Piper PA-32R-300, N5659V, operated by a commercial pilot, sustained substantial damage when during a practice instrument approach to runway 34 (4,100 feet by 100 feet, dry concrete) at the Plattsmouth Municipal Airport, Plattsmouth, Nebraska, the airplane impacted the terrain. Prior to the accident, the airplane's engine lost power. Visual meteorological conditions prevailed at the time of the accident. The instructional flight was being conducted under the provisions of 14 CFR Part 91. A military visual flight rules plan was on file. The instructor pilot and dual student on board both reported minor injuries. The cross-country flight originated at Offutt Air Force Base, Nebraska, at 1700, and was filed to terminate there.

In his written statement, the instructor pilot said that the student pilot was flying a practice non-directional beacon (NDB) approach to runway 34. "During the procedure turn we started descending ..." The instructor pilot said that the student pilot turned left to the inbound heading of 354 degrees. "I called Omaha approach and they approved a switch to Plattsmouth advisory." The instructor pilot said that while he changed radio frequencies, the student pilot descended to the minimum descent altitude (MDA) for the approach of 1,820 feet mean sea level. "At 7 DME (distance measuring equipment) I made the radio call to Plattsmouth advisory." The student pilot performed his pre-landing checklist at 5 DME. The gear came down, and the student pilot told the instructor pilot that he turned on the boost pump and switched tanks. The instructor pilot said, "I did not actually see him do this, but looked over and saw the fuel pump on and the fuel selector switched over to the left tank. The engine instruments all looked normal." The instructor pilot said there was another airplane waiting to takeoff on runway 34 that told them he would wait for them to land. "I responded that we were three miles out and making a full stop landing. We were a little slow at about 80 knots and just below MDA ..." The instructor pilot said that 1 mile out, he would tell the student pilot to remove his goggles and have him execute a go around. "At 1.8 DME, the manifold pressure and RPMs dropped, and the airplane nosed down." The instructor pilot said that he pushed the control levers full forward and told the student pilot to run the emergency checklist. "...our speed was still only about 80 and it was obvious we were not going to make the runway. We picked up a little speed, but even best glide wouldn't get us to the runway - we were too low for that. I looked for the best possible landing site straight ahead between us and the runway." The instructor pilot said that he moved the throttle up and down twice. He said that it seemed very loose. There was no response from the engine. The engine sounded like it was still running. The instructor pilot said they kept the flaps up so they could stretch the glide to clear a tree line. On the other side of the tree line they saw a fence with large fence posts in their path. "We both got on the controls and pulled us over the fence. On the other side the terrain angled up. We flared, the stall warning sounded, the mains hit the ground and then it seemed like the nose wheel hit hard."

A Federal Aviation Administration inspector examined the airplane at the accident site. The airplane was resting upright in a field approximately 1/2 mile south of the approach end to runway 34. The airplane's left wing was bent upward and aft at the fuselage attach bolts. The outer portion of the left wing's leading edge was bent inward. The right wing's leading edge near the wing tip was bent inward and down. The left side of the fuselage at the wing root was crushed upward and buckled outward. The bottom cowling and forward fuselage were crushed upward, bent left, and aft. The engine mounts and engine were bent left. Both of the propeller blades were bent slightly aft. The nose gear and left main landing gear were collapsed and broken aft. Flight control continuity was confirmed. The airplane's engine was retained for further examination.

The airplane's engine was examined at Omaha, Nebraska, on June 29, 2001. The engine was successfully run on a test stand and showed no anomalies.

Pilot Information

Certificate:	Commercial; Flight instructor	**Age:**	67,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Right
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	Airplane	**Second Pilot Present:**	Yes
Instructor Rating(s):	Airplane multi-engine; Airplane single-engine; Instrument airplane	**Toxicology Performed:**	No
Medical Certification:	Class 1 Valid Medical--w/ waivers/lim	**Last FAA Medical Exam:**	December 1, 2000
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	June 20, 2001
Flight Time:	1840 hours (Total, all aircraft), 31 hours (Total, this make and model), 1700 hours (Pilot In Command, all aircraft), 90 hours (Last 90 days, all aircraft), 30 hours (Last 30 days, all aircraft)		

Student pilot Information

Certificate:	Private	**Age:**	31,Male
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	None	**Second Pilot Present:**	Yes
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	Class 3 None	**Last FAA Medical Exam:**	August 31, 2000
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	November 30, 2000
Flight Time:	156 hours (Total, all aircraft), 4 hours (Total, this make and model), 94 hours (Pilot In Command, all aircraft), 5 hours (Last 90 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	**Registration:**	N5659V
Model/Series:	PA-32R-300	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	32R-7780354
Landing Gear Type:	Retractable - Tricycle	**Seats:**	6
Date/Type of Last Inspection:	February 28, 2001 Annual	**Certified Max Gross Wt.:**	3600 lbs
Time Since Last Inspection:	40 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	5050 Hrs at time of accident	**Engine Manufacturer:**	Lycoming
ELT:	Installed, activated, did not aid in locating accident	**Engine Model/Series:**	IO-540-K1G5D
Registered Owner:	OFFUTT AIR FORCE BASE AERO CLUB	**Rated Power:**	300 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:	OFF,1048 ft msl	**Distance from Accident Site:**	12 Nautical Miles
Observation Time:	17:55 Local	**Direction from Accident Site:**	355°
Lowest Cloud Condition:	Scattered / 7000 ft AGL	**Visibility**	7 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	7 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	330°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.1 inches Hg	**Temperature/Dew Point:**	24°C / 10°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	OFFUTT AFB, NE (OFF)	**Type of Flight Plan Filed:**	Military VFR
Destination:	PLATTSMOUTH, NE (PMV)	**Type of Clearance:**	VFR
Departure Time:	17:00 Local	**Type of Airspace:**	Class D

Airport Information

Airport:	PLATTSMOUTH MUNICIPAL AIRPORT PMV	**Runway Surface Type:**	Concrete
Airport Elevation:	1201 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	34	**IFR Approach:**	ADF/NDB;Practice
Runway Length/Width:	4100 ft / 100 ft	**VFR Approach/Landing:**	None

Wreckage and Impact Information

Crew Injuries:	2 Minor	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	2 Minor	**Latitude, Longitude:**	41.000198,-95.890403(est)

Administrative Information

Investigator In Charge (IIC):	Bowling, David
Additional Participating Persons:	EILEEN VAN LENT; FEDERAL AVIATION ADMINISTRATION; LINCOLN, NE
Original Publish Date:	October 23, 2001
Last Revision Date:	
Investigation Class:	Class
Note:	The NTSB traveled to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=52572