Aviation Investigation Final Report

Location:	Newberg, Oregon	**Accident Number:**	SEA06LA005
Date & Time:	October 15, 2005, 12:37 Local	**Registration:**	N23887
Aircraft:	Piper PA-38-112	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	2 Serious
Flight Conducted Under:	Part 91: General aviation - Instructional		

Analysis

The flight instructor reported that he and the student picked the day to practice crosswind landings. The flight instructor recalled a successful run up and departure. The next thing the flight instructor recalled was the student telling him to "take the airplane." The instructor does not recall anything after that. The student pilot reported that the flight stayed in the traffic pattern. One successful touch-and-go was accomplished followed by a go-around. The student pilot stated that during the climb out after the go-around, he turned the aircraft to cross-wind. During the turn toward downwind, the engine lost power. The student stated that he kept control of the airplane while the instructor went through a trouble shoot/restart sequence. The student then turned the airplane over to the flight instructor. The student does not recall anything after that point. Witnesses reported that the aircraft had been doing touch-and-go landings on runway 17. The aircraft was observed to pass over a building near the runway, pitch up and make a hard banking turn to the left before stalling and colliding with the building's parking lot. Another witness stated that after the accident, he heard the right seat occupant state, "sorry I just lost it." The aircraft collided with several objects before coming to rest about 55 yards from the initial ground impact. The nearest weather reporting facility was reporting a wind from 150 degrees at 19 knots at the time of the accident. No mechanical failure or malfunction was noted during the post-accident airframe and engine examination. Damage signatures found on the airplane's propeller were consistent with the engine producing power at the time of impact.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

The flight instructor's failure to maintain airspeed while on approach for landing resulting in an inadvertent stall. Wind gusts, trees and an undetermined loss of engine power were factors.

Findings

Occurrence #1: LOSS OF ENGINE POWER
Phase of Operation: APPROACH - VFR PATTERN - DOWNWIND

Findings
1. (F) REASON FOR OCCURRENCE UNDETERMINED

Occurrence #2: LOSS OF CONTROL - IN FLIGHT
Phase of Operation: APPROACH - VFR PATTERN - FINAL APPROACH

Findings
2. (F) WEATHER CONDITION - GUSTS
3. (C) AIRSPEED - NOT MAINTAINED - PILOT IN COMMAND(CFI)
4. STALL - INADVERTENT - PILOT IN COMMAND

Occurrence #3: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: DESCENT - UNCONTROLLED

Findings
5. TERRAIN CONDITION - GROUND

Occurrence #4: ON GROUND/WATER COLLISION WITH OBJECT
Phase of Operation: LANDING

Findings
6. (F) OBJECT - TREE(S)

Factual Information

On October 15, 2005, about 1237 Pacific daylight time, a Piper PA-38-112, N23887, registered to and operated by Sportsman Airpark Inc., as a 14 CFR Part 91 instructional flight, collided with the terrain while maneuvering for landing at Sportsman Airpark, Newberg, Oregon. Visual meteorological conditions prevailed at the time and no flight plan was filed for the local flight. The aircraft was substantially damaged and the flight instructor and student pilot were seriously injured.

In a written statement, the flight instructor reported that he and the student picked the day to practice landings in the wind. The flight instructor recalls a successful run up and departure. The next thing the flight instructor recalls is the student telling him to "take the airplane." The instructor does not recall anything after this.

In a written statement, the student pilot reported that the purpose of the flight was to practice crosswind landings. The flight stayed in the traffic pattern. One successful touch-and-go was accomplished followed by a go-around. The student pilot stated that during the climb out after the go-around, he turned the aircraft to cross-wind. During the turn toward downwind, the engine quit. The student stated that he kept control of the airplane while the instructor went through a trouble shoot/restart sequence. The student then turned the airplane over to the flight instructor. The student does not recall anything after this point.

Witnesses reported that the aircraft had been doing touch-and-go landings to runway 17. The aircraft was observed to pass over a building near the runway, pitch up and appeared to make a hard banking turn to the left before stalling and colliding with the building's parking lot. The aircraft collided with several objects before coming to rest about 55 yards from the initial ground impact. The witnesses reported that the wind was from the south at approximately 15 knots plus, with gusts. Another witness stated that it appeared that the "aircraft was fighting the wind by yawing hard back and forth combined with a hard roll to starboard as it disappeared below the building..." This witness went to the accident site and stated that he heard the right seat occupant state, "Sorry, I just lost it."

The nearest weather reporting facility located in McMinnville, Oregon, approximately 10 nautical miles to the south was reporting a wind from 150 degrees at 19 knots at the time of the accident.

An airframe and engine inspection/teardown was accomplished on October 17, 2005, by the Federal Aviation Administration and investigators from The New Piper Aircraft and Textron Lycoming.

During the airframe inspection, it was noted that the left wing skins were separated from the

main spar. The inboard rear wing walk section remained in-place. About three and-a-half feet inboard of the wing tip, the leading edge displayed a circular impact deformation. The fuel tank was destroyed. The aileron was attached, but displayed impact damage. The balance weight remained attached. The bell crank separated and both aileron cables remained attached to the bell crank. Control continuity was established to the aileron torque tube assembly. The flap remained attached to the hinges. The flap rod was bent and separated at the flap attachment point and displayed impact damage.

The right wing skins separated from the main spar. The inboard rear walk section remained in-place. About three and-a-half feet inboard from the wing tip the leading edge displayed a circular impact deformation. The fuel tank was destroyed. The aileron was attached to the outboard section of the wing and was separated from the inboard wing at the inboard hinge. The bell crank was separated from its attachment point and one cable remained attached. Control continuity was established to the aileron torque tube assembly. The flap remained attached at the hinges. The flap rod was bent and separated at the flap attachment point and displayed impact damage.

The empennage remained attached to the fuselage. The rudder, vertical fin and stabilator remained attached. Rudder continuity was established from the rudder to the rudder pedals. The right tip of the stabilator displayed impact damage. Stabilator continuity was established from the stabilator forward to the control column.

The engine remained attached to the airframe at the firewall and displayed impact damage. The firewall and engine mounts were damaged. The carburetor heat cable was separated by impact damage. The carburetor was removed and disassembled. Blue colored fuel remained in the fuel bowl. The carburetor floats remained intact. The carburetor inlet screen was clear of contaminants. The engine driven fuel pump was disassembled and the diaphragm was intact. Manual crankshaft rotation was obtained and accessory gearing and valve train continuity was established. Suction and compression was noted to all cylinders. The spark plugs displayed normal operating signatures. Both magnetos produced a spark during rotation.

The propeller separated from the crankshaft flange and the flange was bent aft on one side. The blades displayed chord wise scratches and impact damage from about mid-span to the tip. One blade remained straight, while the other blade's outboard section displayed a tight 360 degree twist.

Flight instructor Information

Certificate:	Commercial; Flight instructor	**Age:**	46,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	**Toxicology Performed:**	No
Medical Certification:	Class 2	**Last FAA Medical Exam:**	April 1, 2005
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	October 1, 2003
Flight Time:	1280 hours (Total, all aircraft), 56 hours (Total, this make and model), 1086 hours (Pilot In Command, all aircraft), 89 hours (Last 90 days, all aircraft), 20 hours (Last 30 days, all aircraft)		

Student pilot Information

Certificate:		**Age:**	
Airplane Rating(s):		**Seat Occupied:**	
Other Aircraft Rating(s):		**Restraint Used:**	
Instrument Rating(s):		**Second Pilot Present:**	Yes
Instructor Rating(s):		**Toxicology Performed:**	No
Medical Certification:		**Last FAA Medical Exam:**	
Occupational Pilot:		**Last Flight Review or Equivalent:**	
Flight Time:			

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	**Registration:**	N23887
Model/Series:	PA-38-112	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	38-79A1062
Landing Gear Type:	Tricycle	**Seats:**	2
Date/Type of Last Inspection:	September 1, 2005 Annual	**Certified Max Gross Wt.:**	1670 lbs
Time Since Last Inspection:	7 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	5216 Hrs at time of accident	**Engine Manufacturer:**	Lycoming
ELT:	Installed, activated, did not aid in locating accident	**Engine Model/Series:**	O-235-L2
Registered Owner:	Sportsman Airpark	**Rated Power:**	112 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:	MMV,214 ft msl	**Distance from Accident Site:**	22 Nautical Miles
Observation Time:	11:53 Local	**Direction from Accident Site:**	180°
Lowest Cloud Condition:		**Visibility**	10 miles
Lowest Ceiling:	Overcast / 2100 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	19 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	150°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29.81 inches Hg	**Temperature/Dew Point:**	16°C / 11°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Newberg, OR (2S6)	**Type of Flight Plan Filed:**	None
Destination:		**Type of Clearance:**	None
Departure Time:		**Type of Airspace:**	

Airport Information

Airport:	Sportsman Airpark 2S6	**Runway Surface Type:**	Asphalt
Airport Elevation:	178 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	17	**IFR Approach:**	None
Runway Length/Width:	2745 ft / 50 ft	**VFR Approach/Landing:**	Traffic pattern

Wreckage and Impact Information

Crew Injuries:	2 Serious	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	2 Serious	**Latitude, Longitude:**	45.283332,-122.951942

Administrative Information

Investigator In Charge (IIC):	Eckrote, Debra
Additional Participating Persons:	Erik Ramseyer; FAA/FSDO; Hillsboro, OR Gregory Erikson; Textron Lycoming; Wayne, IL Charles R Little; New Piper Aircraft; Chino Hills, CA
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Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=62669