



# Aviation Investigation Final Report

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<b>Location:</b>	Sequim, Washington	<b>Accident Number:</b>	WPR10LA427
<b>Date &amp; Time:</b>	August 24, 2010, 16:10 Local	<b>Registration:</b>	N5101L
<b>Aircraft:</b>	Piper PA-28-180	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>	Landing area undershoot	<b>Injuries:</b>	1 Minor
<b>Flight Conducted Under:</b>	Part 91: General aviation - Personal		

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## Analysis

As the airplane approached the uncontrolled airport for landing, the pilot became distracted by two other airplanes in the traffic pattern and by a third airplane that entered the pattern in front of him. This resulted in the pilot extending the downwind leg of his traffic pattern and maintaining traffic pattern altitude until the final approach. A fourth airplane was in the run-up area preparing to depart, which the landing pilot also noted. As the pilot turned onto the final approach, he descended with full flaps. Just before the airplane touched down, the pilot observed that the airplane was low and slow, and he increased engine power. The airplane subsequently collided with upsloping terrain short of the runway, and then veered into the airplane that was standing in the run-up area.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's failure to maintain the proper approach path and his delayed corrective actions, which resulted in an undershoot. Contributing to the accident was the pilot's distraction from other aircraft in the area.

## Findings

<b>Aircraft</b>	Descent/approach/glide path - Incorrect use/operation
<b>Aircraft</b>	Altitude - Not attained/maintained
<b>Personnel issues</b>	Delayed action - Pilot
<b>Personnel issues</b>	Attention - Pilot

## Factual Information

### History of Flight

<b>Approach-VFR pattern final</b>	Altitude deviation
<b>Approach-VFR pattern final</b>	Attempted remediation/recovery
<b>Landing-flare/touchdown</b>	Landing area undershoot (Defining event)

#### HISTORY OF FLIGHT

On August 24, 2010, about 1610 Pacific daylight time, a Piper PA-28-180, N5101L, collided with a Cessna 150J, N50464, at the Diamond Point Airstrip, Sequim, Washington. The Piper was owned and operated by its certificated private pilot. The Cessna was owned by its student pilot, and it was operated by the certificated commercial pilot who was providing flight instruction to the student. The accident occurred when the pilot flying the Piper airplane, which was attempting to land, impacted terrain short of runway 29's landing threshold. Thereafter, the Piper airplane veered into the Cessna that was holding short of the runway and was waiting for takeoff. Both airplanes were substantially damaged. The Piper pilot sustained minor injuries. His personal flight originated from Olympia, Washington, about 1530. Neither of the pilots in the Cessna were injured. Their flight was originating when the accident occurred. Visual meteorological conditions prevailed, and no flight plans were filed by any of the pilots.

The National Transportation Safety Board investigator interviewed the Piper and Cessna pilots. The Piper pilot stated, in pertinent part, that he had not previously landed at the (uncontrolled) Diamond Point Airstrip. When he approached the airstrip, there were two other airplanes in the traffic pattern, and a Cessna reported on the radio that he was taxiing for takeoff. Then, when a third airplane entered the traffic pattern in front of his airplane, he altered his approach path and did not commence a descent. Rather, he maintained his altitude and extended his pattern until he had adequate clearance from the airplane ahead, which was landing. Thereafter, the Piper pilot reduced engine power and added full flaps to descend to the proper approach path.

The Piper pilot verbally reported to the Safety Board investigator that he did not encounter any downdrafts during his approach. On final approach, he initially reduced the engine's speed to 1,700 revolutions per minute (rpm), and the airplane descended. The pilot reported that on short final approach, he likely was low and slow, so he added full engine power to arrest the descent. The pilot opined that the engine rpm did not increase before the airplane collided with upsloping terrain, short of the runway's pavement.

According to the certified flight instructor (CFI) who was providing dual instruction to his student in the Cessna, the CFI observed the Piper airplane when it was on a long final approach to the airstrip. The Cessna was located in the taxiway's run-up apron, adjacent to but clear of the runway. The CFI noted that the Piper was very low on short final approach, and it was

heading 10 to 15 degrees left of the runway's centerline extension. The CFI commented to his student that the Piper was going to crash, and within seconds it did. The Piper impacted the ground short of the runway and then veered into the Cessna. Subsequently, when the CFI spoke with the Piper pilot, the pilot stated that he had been distracted by the other airplanes in the area. He had increased engine power because he was low and slow, and he had pulled back on the yoke. However, according to the Piper pilot the airplane's rate of descent was not adequately reduced.

## Airport Information

Runway 29 has a marked landing threshold, which is displaced about 200 feet from the beginning of the runway's pavement. The distance from the runway's threshold to the end of runway 29 is about 2,135 feet. The runway is about 24 feet wide.

## Tests and Research

A Federal Aviation Administration inspector examined the airplanes and accident site and documented the scene along with other personnel. Ground scar evidence was observed that indicated the Piper touched down on an upsloping dirt embankment, about 17 feet before reaching the runway's asphalt pavement. This touchdown location was about 217 feet short of the runway's displaced threshold. A ground scar was noted in the terrain that was consistent with the Piper's right main landing gear wheel. The scar was located about 9 feet left of the runway's centerline.

Tire rub marks on the tarmac were noted. The marks were consistent with the sideways skid-like movement of the Cessna's nose wheel. The marks were located in the run-up area, and indicated that the Cessna was clear of the active runway when its right wing was impacted.

## Pilot Information

<b>Certificate:</b>	Private	<b>Age:</b>	61, Male
<b>Airplane Rating(s):</b>	Single-engine land	<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	
<b>Instrument Rating(s):</b>	None	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 3 With waivers/limitations	<b>Last FAA Medical Exam:</b>	August 4, 2009
<b>Occupational Pilot:</b>	No	<b>Last Flight Review or Equivalent:</b>	October 13, 2009
<b>Flight Time:</b>	549 hours (Total, all aircraft), 133 hours (Total, this make and model), 549 hours (Pilot In Command, all aircraft), 4 hours (Last 90 days, all aircraft), 2 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Piper	<b>Registration:</b>	N5101L
<b>Model/Series:</b>	PA-28-180	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Normal; Utility	<b>Serial Number:</b>	28-4385
<b>Landing Gear Type:</b>	Tricycle	<b>Seats:</b>	4
<b>Date/Type of Last Inspection:</b>	October 22, 2009 Annual	<b>Certified Max Gross Wt.:</b>	2400 lbs
<b>Time Since Last Inspection:</b>	8 Hrs	<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>	2825 Hrs at time of accident	<b>Engine Manufacturer:</b>	LYCOMING
<b>ELT:</b>	Installed, activated, did not aid in locating accident	<b>Engine Model/Series:</b>	O&VO-360 SER
<b>Registered Owner:</b>		<b>Rated Power:</b>	180 Horsepower
<b>Operator:</b>	On file	<b>Operating Certificate(s) Held:</b>	None

## Meteorological Information and Flight Plan

<b>Conditions at Accident Site:</b>	Visual (VMC)	<b>Condition of Light:</b>	Day
<b>Observation Facility, Elevation:</b>		<b>Distance from Accident Site:</b>	
<b>Observation Time:</b>		<b>Direction from Accident Site:</b>	
<b>Lowest Cloud Condition:</b>	Clear	<b>Visibility</b>	25 miles
<b>Lowest Ceiling:</b>	None	<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	10 knots /	<b>Turbulence Type Forecast/Actual:</b>	/
<b>Wind Direction:</b>	290°	<b>Turbulence Severity Forecast/Actual:</b>	/
<b>Altimeter Setting:</b>	30.05 inches Hg	<b>Temperature/Dew Point:</b>	24°C
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>	Olympia, WA (OLM )	<b>Type of Flight Plan Filed:</b>	None
<b>Destination:</b>	Sequim, WA (2WA1)	<b>Type of Clearance:</b>	None
<b>Departure Time:</b>	15:30 Local	<b>Type of Airspace:</b>	Class G

## Airport Information

<b>Airport:</b>	Diamond Point Airstrip 2WA1	<b>Runway Surface Type:</b>	Asphalt
<b>Airport Elevation:</b>	262 ft msl	<b>Runway Surface Condition:</b>	Dry
<b>Runway Used:</b>	29	<b>IFR Approach:</b>	None
<b>Runway Length/Width:</b>	2335 ft / 24 ft	<b>VFR Approach/Landing:</b>	Full stop;Traffic pattern

## Wreckage and Impact Information

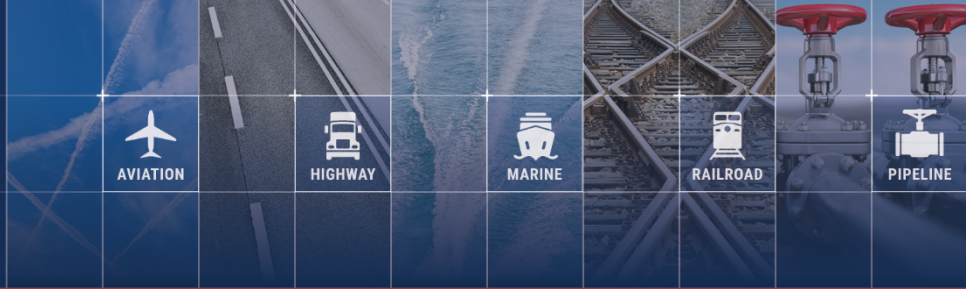
<b>Crew Injuries:</b>	1 Minor	<b>Aircraft Damage:</b>	Substantial
<b>Passenger Injuries:</b>		<b>Aircraft Fire:</b>	None
<b>Ground Injuries:</b>	N/A	<b>Aircraft Explosion:</b>	None
<b>Total Injuries:</b>	1 Minor	<b>Latitude, Longitude:</b>	48.090278,-122.924446(est)

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Pollack, Wayne
<b>Additional Participating Persons:</b>	Jennifer Audette; Federal Aviation Administration; Seattle, WA
<b>Original Publish Date:</b>	December 27, 2011
<b>Note:</b>	
<b>Investigation Docket:</b>	<a href="https://data.nts.gov/Docket?ProjectID=77072">https://data.nts.gov/Docket?ProjectID=77072</a>

The National Transportation Safety Board (NTSB), established in 1967, is an independent federal agency mandated by Congress through the Independent Safety Board Act of 1974 to investigate transportation accidents, determine the probable causes of the accidents, issue safety recommendations, study transportation safety issues, and evaluate the safety effectiveness of government agencies involved in transportation. The NTSB makes public its actions and decisions through accident reports, safety studies, special investigation reports, safety recommendations, and statistical reviews.

The Independent Safety Board Act, as codified at 49 U.S.C. Section 1154(b), precludes the admission into evidence or use of any part of an NTSB report related to an incident or accident in a civil action for damages resulting from a matter mentioned in the report. A factual report that may be admissible under 49 U.S.C. § 1154(b) is available [here](#).



# Aviation Investigation Final Report

<b>Location:</b>	Sequim, Washington	<b>Accident Number:</b>	WPR10LA427
<b>Date &amp; Time:</b>	August 24, 2010, 16:10 Local	<b>Registration:</b>	N50464
<b>Aircraft:</b>	Cessna 150J	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>	Landing area undershoot	<b>Injuries:</b>	2 None
<b>Flight Conducted Under:</b>	Part 91: General aviation - Personal		

## Analysis

As the airplane approached the uncontrolled airport for landing, the pilot became distracted by two other airplanes in the traffic pattern and by a third airplane that entered the pattern in front of him. This resulted in the pilot extending the downwind leg of his traffic pattern and maintaining traffic pattern altitude until the final approach. A fourth airplane was in the run-up area preparing to depart, which the landing pilot also noted. As the pilot turned onto the final approach, he descended with full flaps. Just before the airplane touched down, the pilot observed that the airplane was low and slow, and he increased engine power. The airplane subsequently collided with upsloping terrain short of the runway, and then veered into the airplane that was standing in the run-up area.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's failure to maintain the proper approach path and his delayed corrective actions, which resulted in an undershoot. Contributing to the accident was the pilot's distraction from other aircraft in the area.

## Findings

<b>Personnel issues</b>	(general) - Pilot of other aircraft
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## Factual Information

### History of Flight

Standing-engine(s) operating      Ground collision

#### HISTORY OF FLIGHT

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The National Transportation Safety Board investigator interviewed the Piper and Cessna pilots. The Piper pilot stated, in pertinent part, that he had not previously landed at the (uncontrolled) Diamond Point Airstrip. When he approached the airstrip, there were two other airplanes in the traffic pattern, and a Cessna reported on the radio that he was taxiing for takeoff. Then, when a third airplane entered the traffic pattern in front of his airplane, he altered his approach path and did not commence a descent. Rather, he maintained his altitude and extended his pattern until he had adequate clearance from the airplane ahead, which was landing. Thereafter, the Piper pilot reduced engine power and added full flaps to descend to the proper approach path.

The Piper pilot verbally reported to the Safety Board investigator that he did not encounter any downdrafts during his approach. On final approach, he initially reduced the engine's speed to 1,700 revolutions per minute (rpm), and the airplane descended. The pilot reported that on short final approach, he likely was low and slow, so he added full engine power to arrest the descent. The pilot opined that the engine rpm did not increase before the airplane collided with upsloping terrain, short of the runway's pavement.

According to the certified flight instructor (CFI) who was providing dual instruction to his student in the Cessna, the CFI observed the Piper airplane when it was on a long final approach to the airstrip. The Cessna was located in the taxiway's run-up apron, adjacent to but clear of the runway. The CFI noted that the Piper was very low on short final approach, and it was heading 10 to 15 degrees left of the runway's centerline extension. The CFI commented to his student that the Piper was going to crash, and within seconds it did. The Piper impacted the



ground short of the runway and then veered into the Cessna. Subsequently, when the CFI spoke with the Piper pilot, the pilot stated that he had been distracted by the other airplanes in the area. He had increased engine power because he was low and slow, and he had pulled back on the yoke. However, according to the Piper pilot the airplane's rate of descent was not adequately reduced.

### Airport Information

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### Tests and Research

A Federal Aviation Administration inspector examined the airplanes and accident site and documented the scene along with other personnel. Ground scar evidence was observed that indicated the Piper touched down on an upsloping dirt embankment, about 17 feet before reaching the runway's asphalt pavement. This touchdown location was about 217 feet short of the runway's displaced threshold. A ground scar was noted in the terrain that was consistent with the Piper's right main landing gear wheel. The scar was located about 9 feet left of the runway's centerline.

Tire rub marks on the tarmac were noted. The marks were consistent with the sideways skid-like movement of the Cessna's nose wheel. The marks were located in the run-up area, and indicated that the Cessna was clear of the active runway when its right wing was impacted.

### Flight instructor Information

<b>Certificate:</b>	Commercial; Flight instructor	<b>Age:</b>	60, Male
<b>Airplane Rating(s):</b>	Single-engine land; Single-engine sea	<b>Seat Occupied:</b>	Right
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	Airplane single-engine; Instrument airplane	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 2 With waivers/limitations	<b>Last FAA Medical Exam:</b>	August 1, 2010
<b>Occupational Pilot:</b>	No	<b>Last Flight Review or Equivalent:</b>	March 17, 2009
<b>Flight Time:</b>	4159 hours (Total, all aircraft), 43 hours (Total, this make and model), 4107 hours (Pilot In Command, all aircraft), 55 hours (Last 90 days, all aircraft), 17 hours (Last 30 days, all aircraft), 0 hours (Last 24 hours, all aircraft)		

## Student pilot Information

<b>Certificate:</b>	Student	<b>Age:</b>	64, Male
<b>Airplane Rating(s):</b>	None	<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	
<b>Instrument Rating(s):</b>	None	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 3 With waivers/limitations	<b>Last FAA Medical Exam:</b>	August 1, 2010
<b>Occupational Pilot:</b>	No	<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>			

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Cessna	<b>Registration:</b>	N50464
<b>Model/Series:</b>	150J	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Normal; Utility	<b>Serial Number:</b>	15069321
<b>Landing Gear Type:</b>	Tricycle	<b>Seats:</b>	2
<b>Date/Type of Last Inspection:</b>	February 2, 2010 Annual	<b>Certified Max Gross Wt.:</b>	1600 lbs
<b>Time Since Last Inspection:</b>	5 Hrs	<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>	5475 Hrs at time of accident	<b>Engine Manufacturer:</b>	CONT MOTOR
<b>ELT:</b>	Installed, not activated	<b>Engine Model/Series:</b>	0-200 SERIES
<b>Registered Owner:</b>		<b>Rated Power:</b>	100 Horsepower
<b>Operator:</b>	On file	<b>Operating Certificate(s) Held:</b>	None

## Meteorological Information and Flight Plan

<b>Conditions at Accident Site:</b>	Visual (VMC)	<b>Condition of Light:</b>	Day
<b>Observation Facility, Elevation:</b>		<b>Distance from Accident Site:</b>	
<b>Observation Time:</b>		<b>Direction from Accident Site:</b>	
<b>Lowest Cloud Condition:</b>	Clear	<b>Visibility</b>	25 miles
<b>Lowest Ceiling:</b>	None	<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	10 knots /	<b>Turbulence Type Forecast/Actual:</b>	/
<b>Wind Direction:</b>	290°	<b>Turbulence Severity Forecast/Actual:</b>	/
<b>Altimeter Setting:</b>	30.05 inches Hg	<b>Temperature/Dew Point:</b>	24°C
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>	Sequim, WA (2WA1)	<b>Type of Flight Plan Filed:</b>	None
<b>Destination:</b>	Sequim, WA (2WA1)	<b>Type of Clearance:</b>	None
<b>Departure Time:</b>		<b>Type of Airspace:</b>	Class G

## Airport Information

<b>Airport:</b>	Diamond Point Airstrip 2WA1	<b>Runway Surface Type:</b>	Asphalt
<b>Airport Elevation:</b>	262 ft msl	<b>Runway Surface Condition:</b>	Dry
<b>Runway Used:</b>	29	<b>IFR Approach:</b>	None
<b>Runway Length/Width:</b>	2335 ft / 24 ft	<b>VFR Approach/Landing:</b>	Full stop;Traffic pattern

## Wreckage and Impact Information

<b>Crew Injuries:</b>	2 None	<b>Aircraft Damage:</b>	Substantial
<b>Passenger Injuries:</b>		<b>Aircraft Fire:</b>	None
<b>Ground Injuries:</b>	N/A	<b>Aircraft Explosion:</b>	None
<b>Total Injuries:</b>	2 None	<b>Latitude, Longitude:</b>	48.090278,-122.924446(est)

## Administrative Information

**Investigator In Charge (IIC):** Pollack, Wayne

**Additional Participating Persons:** Jennifer Audette; Federal Aviation Administration; Seattle, WA

**Original Publish Date:** December 27, 2011

**Note:**

**Investigation Docket:** <https://data.nts.gov/Docket?ProjectID=77072>

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