



# National Transportation Safety Board Aviation Accident Final Report

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<b>Location:</b>	Alliance, OH	<b>Accident Number:</b>	CHI08CA032
<b>Date &amp; Time:</b>	11/01/2007, 1710 EDT	<b>Registration:</b>	N5733W
<b>Aircraft:</b>	Piper PA-28-151	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>		<b>Injuries:</b>	2 None

**Flight Conducted Under:** Part 91: General Aviation - Personal

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## Analysis

The private pilot reported that the airplane's approach and touchdown on runway 27 (2,088 feet by 130 feet, turf) were uneventful. The airplane did not decelerate as he depressed the toe brake pedals, although he felt pressure through the pedals. He repositioned his feet and attempted to apply brake pressure again without any effect on braking performance. The pilot realized that the airplane was going to run off the end of the runway and decided to shutdown the engine and turnoff the master electrical switch. He was "standing on the brakes as hard as possible" when the airplane impacted an airport perimeter fence, traveled through a ditch, and onto a nearby road. The airplane was subsequently struck by a vehicle traveling on the road. The airplane received substantial damage to both wings and the engine firewall. Examination of the turf runway after the accident failed to reveal any skid markings that could be associated with the airplane's ground track. Local law enforcement surveyed the accident site and determined that the airplane touched down with 1,072 feet of runway remaining. According to the airplane's operating handbook, at maximum gross weight the airplane required about 600 feet to stop on a paved, level, and dry runway. The operating handbook did not provide landing performance data for a turf runway. Local weather observations indicated that the surface wind was from the west-northwest at 9 knots. The airplane was equipped with a hand brake and dual toe brakes. The hand brake can also be used as a parking brake in conjunction with a locking ratchet system. Once the hand brake lever is engaged, the use of toe brakes becomes ineffective. With the hand brake fully disengaged, the left brake system functioned properly when its corresponding toe brakes (pilot and co-pilot positions) were depressed during a postaccident examination. The right brake assembly had impact damage that prevented a functional test. The pilot stated that he had used the parking brake earlier in the day, but he had alternatively used the toe brakes during the engine run-up before departing on the accident flight. He concluded that the parking brake must have "partially engaged" sometime during the flight.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's inadvertent activation of the parking brake which resulted in the toe brakes becoming ineffective. Contributing to the accident was the airport perimeter fence, the ditch, and the vehicle.

## Findings

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Occurrence #1: AIRFRAME/COMPONENT/SYSTEM FAILURE/MALFUNCTION  
Phase of Operation: LANDING - ROLL

### Findings

1. (C) LANDING GEAR,PARKING BRAKE - ENGAGED
2. (C) PARKING BRAKES - INADVERTENT ACTIVATION - PILOT IN COMMAND
3. (C) LANDING GEAR,NORMAL BRAKE SYSTEM - INOPERATIVE

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Occurrence #2: OVERRUN  
Phase of Operation: LANDING - ROLL

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Occurrence #3: ON GROUND/WATER COLLISION WITH OBJECT  
Phase of Operation: LANDING - ROLL

### Findings

4. (F) OBJECT - FENCE

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Occurrence #4: ON GROUND/WATER ENCOUNTER WITH TERRAIN/WATER  
Phase of Operation: LANDING - ROLL

### Findings

5. (F) TERRAIN CONDITION - DITCH

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Occurrence #5: ON GROUND/WATER COLLISION WITH OBJECT  
Phase of Operation: LANDING - ROLL

### Findings

6. (F) OBJECT - VEHICLE

## Factual Information

### Pilot Information

<b>Certificate:</b>	Private	<b>Age:</b>	44, Male
<b>Airplane Rating(s):</b>	Multi-engine Land; Single-engine Land	<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	Seatbelt, Shoulder harness
<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 Without Waivers/Limitations	<b>Last FAA Medical Exam:</b>	10/01/2006
<b>Occupational Pilot:</b>		<b>Last Flight Review or Equivalent:</b>	03/01/2006
<b>Flight Time:</b>	473 hours (Total, all aircraft), 35 hours (Total, this make and model), 437 hours (Pilot In Command, all aircraft), 13 hours (Last 90 days, all aircraft), 7 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>	N5733W
<b>Model/Series:</b>	PA-28-151	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	No
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	28-7415081
<b>Landing Gear Type:</b>	Tricycle	<b>Seats:</b>	4
<b>Date/Type of Last Inspection:</b>	09/01/2007, Annual	<b>Certified Max Gross Wt.:</b>	2325 lbs
<b>Time Since Last Inspection:</b>		<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>	2621 Hours as of last inspection	<b>Engine Manufacturer:</b>	Lycoming
<b>ELT:</b>	Installed, not activated	<b>Engine Model/Series:</b>	O-320
<b>Registered Owner:</b>	512 Flyers, LLC.	<b>Rated Power:</b>	160 hp
<b>Operator:</b>	512 Flyers, LLC.	<b>Operating Certificate(s) Held:</b>	None

## Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	CAK, 1228 ft msl	Distance from Accident Site:	16 Nautical Miles
Observation Time:	1651 EDT	Direction from Accident Site:	270°
Lowest Cloud Condition:	Few / 6000 ft agl	Visibility	10 Miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	9 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	290°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.2 inches Hg	Temperature/Dew Point:	11 °C / -3 °C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	New Market, VA (8W2)	Type of Flight Plan Filed:	VFR
Destination:	Alliance, OH (2D1)	Type of Clearance:	None
Departure Time:	1510 EDT	Type of Airspace:	

## Airport Information

Airport:	Barber Airport (2D1)	Runway Surface Type:	Grass/turf
Airport Elevation:	1062 ft	Runway Surface Condition:	Dry
Runway Used:	27	IFR Approach:	None
Runway Length/Width:	2088 ft / 130 ft	VFR Approach/Landing:	Full Stop; Traffic Pattern

## Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:	1 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	2 None	Latitude, Longitude:	40.970833, -81.099722

## Administrative Information

Investigator In Charge (IIC):	Andrew T Fox	Report Date:	01/31/2008
Additional Participating Persons:	Scott James; Federal Aviation Administration - Cleveland FSDO; Cleveland, OH		
Publish Date:			
Note:	This accident report documents the factual circumstances of this accident as described to the NTSB.		
Investigation Docket:	NTSB accident and incident dockets serve as permanent archival information for the NTSB's investigations. Dockets released prior to June 1, 2009 are publicly available from the NTSB's Record Management Division at <a href="mailto:pubinquiry@ntsb.gov">pubinquiry@ntsb.gov</a> , or at 800-877-6799. Dockets released after this date are available at <a href="http://dms.nts.gov/pubdms/">http://dms.nts.gov/pubdms/</a> .		

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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](#).