



# Aviation Investigation Final Report

<b>Location:</b>	Bedford, Massachusetts	<b>Accident Number:</b>	GAA18CA163
<b>Date &amp; Time:</b>	March 11, 2018, 12:35 Local	<b>Registration:</b>	N249FS
<b>Aircraft:</b>	Cessna 172	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>	Abnormal runway contact	<b>Injuries:</b>	2 None
<b>Flight Conducted Under:</b>	Part 91: General aviation - Personal		

## Analysis

The pilot reported that, during touchdown in crosswind conditions, it "felt like [the airplane] landed heavily on the nose wheel." He added that he taxied to park without further incident.

Postaccident examination revealed that the airplane sustained substantial damage to the fuselage.

The pilot reported that there were no preaccident mechanical failures or malfunctions with the airplane that would have precluded normal operation.

The automated weather observation system located at the accident airport reported that, about the time of the accident, the wind was from 300° at 9 knots. The pilot landed on runway 29.

## Probable Cause and Findings

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

The pilot's improper landing flare, which resulted in substantial damage.

## Findings

<b>Aircraft</b>	Landing flare - Not attained/maintained
<b>Personnel issues</b>	Aircraft control - Pilot
<b>Environmental issues</b>	Crosswind - Effect on operation

## Factual Information

### History of Flight

<b>Landing</b>	Abnormal runway contact (Defining event)
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### Pilot Information

<b>Certificate:</b>	Private	<b>Age:</b>	56,Male
<b>Airplane Rating(s):</b>	Single-engine land	<b>Seat Occupied:</b>	Right
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	3-point
<b>Instrument Rating(s):</b>	Airplane	<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>	October 3, 2016
<b>Occupational Pilot:</b>	No	<b>Last Flight Review or Equivalent:</b>	November 1, 2017
<b>Flight Time:</b>	(Estimated) 257 hours (Total, all aircraft), 254 hours (Total, this make and model), 191 hours (Pilot In Command, all aircraft), 8 hours (Last 90 days, all aircraft), 5 hours (Last 30 days, all aircraft), 1.7 hours (Last 24 hours, all aircraft)		

### Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Cessna	<b>Registration:</b>	N249FS
<b>Model/Series:</b>	172 R	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>	2005	<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Normal; Utility	<b>Serial Number:</b>	17281249
<b>Landing Gear Type:</b>	Tricycle	<b>Seats:</b>	4
<b>Date/Type of Last Inspection:</b>	Unknown	<b>Certified Max Gross Wt.:</b>	2450 lbs
<b>Time Since Last Inspection:</b>		<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>		<b>Engine Manufacturer:</b>	LYCOMING
<b>ELT:</b>	Installed, not activated	<b>Engine Model/Series:</b>	IO-360-L2A
<b>Registered Owner:</b>		<b>Rated Power:</b>	
<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>	KBED,133 ft msl	<b>Distance from Accident Site:</b>	0 Nautical Miles
<b>Observation Time:</b>	16:56 Local	<b>Direction from Accident Site:</b>	118°
<b>Lowest Cloud Condition:</b>	Scattered / 4400 ft AGL	<b>Visibility</b>	10 miles
<b>Lowest Ceiling:</b>		<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	9 knots /	<b>Turbulence Type Forecast/Actual:</b>	/ None
<b>Wind Direction:</b>	300°	<b>Turbulence Severity Forecast/Actual:</b>	/ N/A
<b>Altimeter Setting:</b>	29.96 inches Hg	<b>Temperature/Dew Point:</b>	4°C / -6°C
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>	Bedford, MA (BED )	<b>Type of Flight Plan Filed:</b>	None
<b>Destination:</b>	Bedford, MA (BED )	<b>Type of Clearance:</b>	None
<b>Departure Time:</b>	10:45 Local	<b>Type of Airspace:</b>	Class D

## Airport Information

<b>Airport:</b>	LAURENCE G HANSCOM FLD BED	<b>Runway Surface Type:</b>	Asphalt
<b>Airport Elevation:</b>	132 ft msl	<b>Runway Surface Condition:</b>	Dry
<b>Runway Used:</b>	29	<b>IFR Approach:</b>	Circling;Global positioning system;Practice
<b>Runway Length/Width:</b>	7011 ft / 150 ft	<b>VFR Approach/Landing:</b>	Full stop

## Wreckage and Impact Information

<b>Crew Injuries:</b>	1 None	<b>Aircraft Damage:</b>	Substantial
<b>Passenger Injuries:</b>	1 None	<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>	42.470275,-71.289718(est)

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Swenson, Eric
<b>Additional Participating Persons:</b>	Richard Fulton; FAA; Boston, MA
<b>Original Publish Date:</b>	June 14, 2018
<b>Note:</b>	This accident report documents the factual circumstances of this accident as described to the NTSB.
<b>Investigation Docket:</b>	<a href="https://data.nts.gov/Docket?ProjectID=96874">https://data.nts.gov/Docket?ProjectID=96874</a>

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