



AVIATION



HIGHWAY



MARINE



RAILROAD



PIPELINE

Aviation Investigation Final Report

Location:	Malden, Missouri	Accident Number:	GAA18CA446
Date & Time:	July 20, 2018, 17:00 Local	Registration:	N46CH
Aircraft:	Cessna 310	Aircraft Damage:	Substantial
Defining Event:	Hard landing	Injuries:	1 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot reported that, while landing, the airplane "hit some turbulence," and it "felt like the bottom dropped out." Subsequently, the airplane landed hard.

The airplane sustained substantial damage to the right wing front spar.

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

The pilot reported that the wind was light and variable. The automated weather observation system about 19 nautical miles from the accident site reported that, about the time of the accident, the wind was from 220° at 7 knots, gusting to 15 knots. The pilot landed the airplane on runway 18.

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 in gusting wind conditions, which resulted in a hard landing.

Findings

Aircraft	Landing flare - Not attained/maintained
Personnel issues	Aircraft control - Pilot
Environmental issues	Gusts - Effect on operation

Factual Information

History of Flight

Landing	Other weather encounter
Landing	Hard landing (Defining event)

Pilot Information

Certificate:	Private	Age:	70,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	Lap only
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Sport pilot Without waivers/limitations	Last FAA Medical Exam:	
Occupational Pilot:	No	Last Flight Review or Equivalent:	July 20, 2018
Flight Time:	(Estimated) 2500 hours (Total, all aircraft), 2500 hours (Pilot In Command, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	Registration:	N46CH
Model/Series:	310 P	Aircraft Category:	Airplane
Year of Manufacture:	1969	Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	310P0146
Landing Gear Type:	Retractable - Tricycle	Seats:	6
Date/Type of Last Inspection:	November 9, 2017 Annual	Certified Max Gross Wt.:	5203 lbs
Time Since Last Inspection:		Engines:	2 Reciprocating
Airframe Total Time:	4946.9 Hrs at time of accident	Engine Manufacturer:	Continental
ELT:	Installed, not activated	Engine Model/Series:	IO-470-V
Registered Owner:		Rated Power:	260 Horsepower
Operator:	On file	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	KPOF,327 ft msl	Distance from Accident Site:	19 Nautical Miles
Observation Time:	21:53 Local	Direction from Accident Site:	303°
Lowest Cloud Condition:	Few / 8000 ft AGL	Visibility	10 miles
Lowest Ceiling:		Visibility (RVR):	
Wind Speed/Gusts:	7 knots / 15 knots	Turbulence Type Forecast/Actual:	None / None
Wind Direction:	220°	Turbulence Severity Forecast/Actual:	N/A / Unknown
Altimeter Setting:	29.8 inches Hg	Temperature/Dew Point:	34°C / 22°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Birmingham, AL (BHM)	Type of Flight Plan Filed:	None
Destination:	Sioux City, IA (SUX)	Type of Clearance:	None
Departure Time:	11:00 Local	Type of Airspace:	Class G

Airport Information

Airport:	Malden Rgnl MAW	Runway Surface Type:	Asphalt
Airport Elevation:	294 ft msl	Runway Surface Condition:	Dry
Runway Used:	18	IFR Approach:	None
Runway Length/Width:	5011 ft / 100 ft	VFR Approach/Landing:	Full stop;Straight-in

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 None	Latitude, Longitude:	36.600555,-89.992225(est)

Administrative Information

Investigator In Charge (IIC):	Swenson, Eric
Additional Participating Persons:	Andrew Strader; FAA; St. Ann, MO
Original Publish Date:	March 18, 2019
Note:	This accident report documents the factual circumstances of this accident as described to the NTSB.
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=97904

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](#).