Aviation Investigation Final Report

Location:	Pinconning, Michigan	**Accident Number:**	CEN12LA197
Date & Time:	March 21, 2012, 19:16 Local	**Registration:**	N2389P
Aircraft:	Piper PA-22-150	**Aircraft Damage:**	Substantial
Defining Event:	Controlled flight into terr/obj (CFIT)	**Injuries:**	1 Serious
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot reported that after turning onto final approach, he encountered an "intense glare" from the setting sun in the west, which obscured his view of the runway and the threshold markers. He stated that after he had verified that the airplane was properly aligned with the runway, there was insufficient runway remaining to make a safe landing. He performed a go-around and reentered the traffic pattern. During the go-around he put on his sunglasses and installed a windshield sun-screen in an attempt to reduce the sun glare. He reported that although the glare was reduced during his second landing approach, he still could not identify the runway or the threshold markers. He aligned the airplane with what he thought was the runway and continued to descend until he unexpectedly saw trees ahead of the airplane's flight path. He immediately applied full engine power, but the airplane impacted the trees and then the ground. The pilot noted that there were no preimpact mechanical malfunctions or failures that would have precluded normal operation of the airplane.

Global positioning system position data, obtained from a handheld device found in the main wreckage, confirmed that the pilot had made two approaches to runway 27. The first approach was roughly aligned with the northern edge of the runway. The second approach was aligned about 300 feet north of the runway. The pilot's account of the accident, the recorded flight track data, and the physical evidence found at the accident site is consistent with the airplane being misaligned with the runway during final approach. Astronomical data confirmed that the sun was setting at the time of the accident and would have contributed to the pilot's inability to correctly identify the runway.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's failure to properly align his airplane with the runway during final approach. Contributing to the accident was the sunglare that obscured the pilot's view of the runway.

Findings

Aircraft	Descent/approach/glide path - Incorrect use/operation
Environmental issues	Glare - Effect on operation
Environmental issues	Tree(s) - Awareness of condition
Environmental issues	Wire - Contributed to outcome

Factual Information

History of Flight

Approach-VFR pattern final	Controlled flight into terr/obj (CFIT) (Defining event)

On March 21, 2012, at 1916 eastern daylight time, a Piper PA-22-150 airplane, N2389P, was substantially damaged while landing at Gross Airport (52I), Pinconning, Michigan. The pilot sustained serious injuries. The airplane was registered to and operated by a private individual, under the provisions of 14 Code of Federal Regulations Part 91 without a flight plan. Day visual meteorological conditions prevailed for the personal flight. The flight departed James Clements Municipal Airport (3CM), Bay City, Michigan, about 1858 with 52I as the intended destination.

The pilot reported that he entered the traffic pattern for runway 27 (2,565 feet by 100 feet, grass/turf) on a left downwind. After turning onto final approach, he encountered an "intense glare" from the setting sun in the west, which obscured his view of the runway and the threshold markers. He stated that after he had verified that the airplane was properly aligned with the runway there was insufficient runway remaining to make a safe landing. He performed a go-around and reentered the traffic pattern. During the go-around he put-on his sunglasses and installed a windshield sun-screen in an attempt to reduce the glare of the sun.

The pilot reported that although the glare was reduced during his second landing approach, he still could not identify the runway or the threshold markers. He aligned the airplane with what he thought was the runway and continued to descend until he unexpectedly saw trees ahead of the airplane's flight path. He immediately applied full engine power, but the airplane impacted the trees and then the ground. The pilot noted that there were no preimpact mechanical malfunctions or failures that would have precluded normal operation of the airplane.

The airport manager reported that his attention was drawn to the airplane when he heard the engine suddenly power up during final approach. Although he did not recall seeing the airplane impact trees, he did witness the airplane crash in the residential property located immediately north of the airport. He noted that after the accident the pilot told him that the glare of the setting sun obscured his vision during his initial landing approach, requiring a go-around and reentering the traffic pattern.

An on-site examination was completed by inspectors with the Federal Aviation Administration. Their examination revealed that the airplane had collided with trees before encountering a north/south power line that ran parallel to a nearby road. Several broken tree branches were found on the ground between the tree line and the main wreckage. Tree bark material was found embedded in the outboard portion of the left wing leading edge. A portion of the power/utility line was found wrapped around the upper portion vertical stabilizer and rudder.

The observed wreckage debris path was consistent with the airplane traveling westbound when it collided with the obstacles.

A global positioning system (GPS) handheld device was found at the accident site. The plotted GPS data was consistent with the pilot and airport manager descriptions of the accident flight path. The data confirmed that the pilot had made two approaches to runway 27. The first approach was roughly aligned with the northern edge of the runway. The second approach was aligned about 300 feet north of the runway.

The closest weather observing station was at Jack Barstow Airport (KIKW), located about 18 miles southwest of the accident site. At 1914, the KIKW automated surface observing system reported the following weather conditions: wind 220 degrees at 6 knots; visibility 10 miles; scattered clouds at 8,000 feet above ground level; temperature 29 degrees Celsius; dew point 10 degrees Celsius; altimeter setting 30.06 inches of mercury.

Astronomical data obtained from the United States Naval Observatory indicated that the local sunset was at 1950, about 34 minutes after the accident. The end of civil twilight was listed at 2019.

Pilot Information

Certificate:	Private	**Age:**	68,Male
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	None	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	Class 3 With waivers/limitations	**Last FAA Medical Exam:**	April 23, 2010
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	September 11, 2011
Flight Time:	697 hours (Total, all aircraft), 22 hours (Total, this make and model), 8 hours (Last 90 days, all aircraft), 3 hours (Last 30 days, all aircraft), 0 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	**Registration:**	N2389P
Model/Series:	PA-22-150	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	22-2780
Landing Gear Type:	Tricycle	**Seats:**	4
Date/Type of Last Inspection:	October 11, 2011 Annual	**Certified Max Gross Wt.:**	2000 lbs
Time Since Last Inspection:	25 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	3271 Hrs at time of accident	**Engine Manufacturer:**	Lycoming
ELT:	C91 installed, not activated	**Engine Model/Series:**	O-320-A2A
Registered Owner:	Gerald Walter Pergande	**Rated Power:**	150 Horsepower
Operator:	Gerald Walter Pergande	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	KIKW,635 ft msl	**Distance from Accident Site:**	15 Nautical Miles
Observation Time:	19:14 Local	**Direction from Accident Site:**	232°
Lowest Cloud Condition:	Scattered / 8000 ft AGL	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	6 knots / None	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	220°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.05 inches Hg	**Temperature/Dew Point:**	29°C / 10°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Bay City, MI (3CM)	**Type of Flight Plan Filed:**	None
Destination:	Pinconning, MI (52I)	**Type of Clearance:**	None
Departure Time:	18:58 Local	**Type of Airspace:**	Class G

Airport Information

Airport:	Gross Airport 52I	**Runway Surface Type:**	Grass/turf
Airport Elevation:	615 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	27	**IFR Approach:**	None
Runway Length/Width:	2565 ft / 100 ft	**VFR Approach/Landing:**	Traffic pattern

Wreckage and Impact Information

Crew Injuries:	1 Serious	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 Serious	**Latitude, Longitude:**	43.846942,-84.01139(est)

Administrative Information

Investigator In Charge (IIC):	Fox, Andrew
Additional Participating Persons:	Marc R Webber; Federal Aviation Administration, Grand Rapids FSDO; Grand Rapids, MI
Original Publish Date:	October 9, 2012
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=83189