



Aviation Investigation Final Report

Location:	Springfield, Missouri	Accident Number:	CEN15LA077
Date & Time:	December 12, 2014, 17:29 Local	Registration:	N3127R
Aircraft:	NEW PIPER AIRCRAFT INC PA 32R-301T	Aircraft Damage:	Substantial
Defining Event:	Low altitude operation/event	Injuries:	2 Serious, 2 Minor
Flight Conducted Under:	Part 91: General aviation		

Analysis

After descending through a cloud layer on an instrument approach in night conditions, the private pilot reached visual meteorological conditions, cancelled his instrument flight plan, and advised air traffic control that he was proceeding directly to the destination airport. The airplane was about 2 miles from the airport and flying at an altitude about 275 ft above airport elevation when it struck and damaged the top of a 367 ft-tall cellular tower. The airplane experienced a total loss of engine power and impacted trees and terrain in a residential area. Postaccident examination of the wreckage revealed no evidence of mechanical malfunctions or failures that would have precluded normal operation.

Federal Aviation Administration guidance states that, while over a congested area, except when necessary for take-off or landing, the pilot of an airplane should maintain an altitude of 1,000 ft above the highest obstacle within a horizontal radius of 2,000 ft of the aircraft. Guidance also indicates that pilots should maintain an altitude of about 1,000 ft above airport elevation until entering the downwind leg of the traffic pattern.

Probable Cause and Findings

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

The pilot's decision to descend below the recommended altitude during approach for landing in night visual meteorological conditions, and his failure to see and avoid a lighted tower, which resulted in collision with the tower and a subsequent total loss of engine power.

Findings

Personnel issues	Incorrect action sequence - Pilot
Personnel issues	Decision making/judgment - Pilot
Aircraft	Propeller blade section - Damaged/degraded
Environmental issues	Dark - Effect on operation

Factual Information

History of Flight

Maneuvering-low-alt flying	Low altitude operation/event (Defining event)
Approach	Controlled flight into terr/obj (CFIT)
Post-impact	Part(s) separation from AC
Emergency descent	Attempted remediation/recovery
Emergency descent	Loss of engine power (partial)
Emergency descent	Loss of engine power (total)
Emergency descent	Off-field or emergency landing
Post-impact	Cabin safety event

On December 12, 2014, about 1730 central standard time, a Piper PA-32-301T, single-engine airplane, N3127R, was substantially damaged after impacting an obstruction and terrain during an approach to landing at Downtown Airport (3DW), Springfield, Missouri. The pilot and one passenger were seriously injured and the other two passengers sustained minor injuries. The airplane was registered to PPG Properties, LLC; and was operated by Integrity Home Care, Inc.; both of Springfield, Missouri. Night low visual meteorological conditions (VMC) prevailed at the time of the accident and an instrument flight rules (IFR) flight plan had been filed for the 14 Code of Federal Regulations Part 91 business flight. The airplane had departed Lee's Summit Municipal Airport (LXT), Lee's Summit, Missouri, about 1620 and was destined for 3DW.

The airplane had descended on an instrument landing system (ILS) approach to Springfield-Branson National Airport (SGF), Springfield, Missouri. After reaching VMC the pilot cancelled the IFR flight plan and advised he was proceeding direct to 3DW. The airplane was northeast bound flying at an altitude of 1,645 ft when it struck the top of a 367 ft tall cellular tower. The airplane was then about two miles southwest from 3DW. After a complete loss of engine power the airplane descended, impacted trees and terrain in a congested residential area, and came to rest upright. Several witnesses saw or heard the accident and immediately called 9-1-1 emergency.

An examination of the 17 ft. tall lightning rod on top of the tower showed impact damage, which corresponded to impact, marks on the airplane and the propeller. The separated tips of all three propeller blades and the separated portion of the left flap were found on the ground near the base of the tower. Parts of the lightning rod and its mast were found wedged in the top of the tower structure. Police officers that responded to the tower location immediately after the accident reported that the white strobe light on the top of the tower was still operating.

An examination of the airplane wreckage showed the tips of all three propeller blades were missing and there was impact damage on the left wing that breached the left wing fuel tank and penetrated from the leading edge all the way through to the front side of the spar of the left wing. There was a significant

fuel spill at the scene, but no postimpact fire. The postaccident examination of the wreckage revealed no evidence of mechanical malfunctions or failures that would have precluded normal operation.

At 1652 the automated weather observing system at SGF, located about 5 miles northwest from the accident location, reported wind from 180° at 6 knots, visibility of 10 miles, overcast clouds at 1,800 ft., temperature 11° C, dew point 7° C, with an altimeter setting of 30.26 inches of mercury. Data from the United States Naval Observatory indicated that sunset occurred at 1656, and the end of civil twilight occurred at 1725.

According to the Federal Aviation Administration (FAA) Pilot's Handbook of Aeronautical Knowledge: Chapter 14, Page 14-28, instructions for operations at a nontowered airport are that the pilot should "Enter (the traffic pattern) in level flight, abeam the midpoint of the runway, at pattern altitude (then) maintain pattern altitude until abeam approach end of the landing runway on downwind leg (and) complete (the) turn to final at least ¹/₄ mile from the runway".

The FAA Airport/ Facility Directory, North Central U. S., indicated that 3WD was a non-towered airport with a field elevation of 1,375 ft. msl. The only runway was 11/28, which was an asphalt runway 4,037 ft. long by 50 ft. wide. Runway 11 was oriented to 108 degrees magnetic, and runway 28 was oriented to 288 degrees magnetic. The traffic pattern altitude for 3DW was not published.

According to FAA Aeronautical Circular AC 90-66A "Recommended standard traffic patterns and practices for aeronautical operations at airports without operating control towers", Paragraph 8 (c): "It is recommended that airplanes observe a 1,000-ft. above ground level (AGL) traffic pattern altitude".

Filot information			
Certificate:	Private	Age:	58,Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	3-point
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 3 Unknown	Last FAA Medical Exam:	September 3, 2013
Occupational Pilot:	No	Last Flight Review or Equivalent:	October 22, 2014
Flight Time:	(Estimated) 1350 hours (Total, all aircraft), 18 hours (Total, this make and model), 1350 hours (Pilot In Command, all aircraft), 30 hours (Last 90 days, all aircraft), 15 hours (Last 30 days, all		

aircraft), 2 hours (Last 24 hours, all aircraft)

Pilot Information

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Passenger Information

Certificate:		Age:	Male
Airplane Rating(s):		Seat Occupied:	Right
Other Aircraft Rating(s):		Restraint Used:	3-point
Instrument Rating(s):		Second Pilot Present:	No
Instructor Rating(s):		Toxicology Performed:	No
Medical Certification:		Last FAA Medical Exam:	
Occupational Pilot:	No	Last Flight Review or Equivalent:	
Flight Time:			

Passenger Information

Certificate:		Age:	Male
Airplane Rating(s):		Seat Occupied:	Left
Other Aircraft Rating(s):		Restraint Used:	3-point
Instrument Rating(s):		Second Pilot Present:	No
Instructor Rating(s):		Toxicology Performed:	No
Medical Certification:		Last FAA Medical Exam:	
Occupational Pilot:	No	Last Flight Review or Equivalent:	
Flight Time:			

Passenger Information

Certificate:	Age:	Female
Airplane Rating(s):	Seat Occupied:	Right
Other Aircraft Rating(s):	Restraint Used:	3-point
Instrument Rating(s):	Second Pilot Present:	No
Instructor Rating(s):	Toxicology Performed:	No
Medical Certification:	Last FAA Medical Exam:	
Occupational Pilot: No	Last Flight Review or Equivalent:	
Flight Time:		

Aircraft and Owner/Operator Information

Aircraft Make:	NEW PIPER AIRCRAFT INC	Registration:	N3127R
Model/Series:	PA 32R-301T	Aircraft Category:	Airplane
Year of Manufacture:	2005	Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	3257406
Landing Gear Type:	Retractable - Tricycle	Seats:	6
Date/Type of Last Inspection:	August 11, 2014 Annual	Certified Max Gross Wt.:	3600 lbs
Time Since Last Inspection:	25 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	388 Hrs at time of accident	Engine Manufacturer:	Lycoming
ELT:	C91A installed, activated, did not aid in locating accident	Engine Model/Series:	TIO-540-AH1A
Registered Owner:	PPG PROPERTIES LLC	Rated Power:	300 Horsepower
Operator:	INTEGRITY HOME CARE, INC.	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Night
Observation Facility, Elevation:	KSGF,1270 ft msl	Distance from Accident Site:	6 Nautical Miles
Observation Time:	16:52 Local	Direction from Accident Site:	283°
Lowest Cloud Condition:	1800 ft AGL	Visibility	10 miles
Lowest Ceiling:	Overcast / 1800 ft AGL	Visibility (RVR):	
Wind Speed/Gusts:	6 knots / None	Turbulence Type Forecast/Actual:	/
Wind Direction:	180°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.26 inches Hg	Temperature/Dew Point:	11°C / 7°C
Precipitation and Obscuration:	No Obscuration; No Precipitat	tion	
Departure Point:	LEE'S SUMMIT, MO (LXT)	Type of Flight Plan Filed:	IFR
Destination:	Springfield, MO (3DW)	Type of Clearance:	VFR flight following
Departure Time:	16:20 Local	Type of Airspace:	Class G

Airport Information

Airport:	DOWNTOWN 3DW	Runway Surface Type:	Asphalt
Airport Elevation:	1374 ft msl	Runway Surface Condition:	Dry
Runway Used:	11	IFR Approach:	ILS;Visual
Runway Length/Width:	4037 ft / 50 ft	VFR Approach/Landing:	Full stop;Straight-in

Wreckage and Impact Information

Crew Injuries:	1 Serious	Aircraft Damage:	Substantial
Passenger Injuries:	1 Serious, 2 Minor	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	2 Serious, 2 Minor	Latitude, Longitude:	37.218055,-93.26583(est)

Administrative Information

Investigator In Charge (IIC):	Latson, Thomas
Additional Participating Persons:	Marvin L Moore; FAA Kansas City FSDO; Kansas City, MO Donald L Halbert; FAA Kansas City FSDO; Kansas City , MO Michael McClure; Piper Aircraft, Inc.; Vero Beach, FL John Butler; Lycoming Engines; Williamsport, PA Dan Boggs; Hartzell Propeller, Inc.; Piqua, OH
Original Publish Date:	June 20, 2017
Last Revision Date:	
Investigation Class:	<u>Class</u>
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=90498

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate, and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

The NTSB does not assign fault or blame for an accident or incident; rather, as specified by NTSB regulation, "accident/incident investigations are fact-finding proceedings with no formal issues and no adverse parties ... and are not conducted for the purpose of determining the rights or liabilities of any person" (Title 49 *Code of Federal Regulations* section 831.4). Assignment of fault or legal liability is not relevant to the NTSB's statutory mission to improve transportation safety by investigating accidents and incidents and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report (Title 49 *United States Code* section 1154(b)). A factual report that may be admissible under 49 *United States Code* section 1154(b) is available here.