

Aviation Investigation Final Report

Location: HOUSTON, Texas Accident Number: FTW99LA178

Date & Time: July 1, 1999, 20:40 Local Registration: N5788

Aircraft: Piper PA-24-260 Aircraft Damage: Substantial

Defining Event: 4 None

Flight Conducted Under: Part 91: General aviation - Personal

Analysis

The pilot failed to maintain the proper descent rate during a VFR approach, in dusk light conditions, following a complete loss of engine power, and the airplane undershot the runway. The airplane was on the downwind leg at 1,100 feet agl and was abeam the runway numbers when the pilot extended the landing gear. Simultaneously, she heard a loud bang and noticed a loss of engine power. The pilot advanced the throttle and realized that the engine had lost total power. The pilot stated that she trimmed the airplane to attain the best glide speed, but did not verify the airspeed during the ensuing forced landing. She added that the airplane was descending 'too fast,' and she needed 'more trim to relieve back pressure, but decided to muscle it as best [she] could and try not to stall the airplane.' Subsequently, the airplane's nose wheel contacted a cement drainage ditch at the approach end of the runway. Following the accident, the engine was test run in the airframe and found to operate within the manufacturer's specifications.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's failure to maintain the proper descent rate during a forced landing, which resulted in a runway undershoot. Factors were the total loss of engine power for an undetermined reason and the dusk light conditions.

Findings

Occurrence #1: LOSS OF ENGINE POWER

Phase of Operation: APPROACH - VFR PATTERN - DOWNWIND

Findings

1. (F) REASON FOR OCCURRENCE UNDETERMINED

Occurrence #2: FORCED LANDING

Phase of Operation: DESCENT - EMERGENCY

Findings

2. (C) PROPER DESCENT RATE - NOT MAINTAINED - PILOT IN COMMAND

Occurrence #3: UNDERSHOOT

Phase of Operation: EMERGENCY DESCENT/LANDING

Occurrence #4: IN FLIGHT COLLISION WITH TERRAIN/WATER

Phase of Operation: EMERGENCY DESCENT/LANDING

Findings

3. (F) LIGHT CONDITION - DUSK

4. TERRAIN CONDITION - DITCH

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Factual Information

On July 1, 1999, at 2040 central daylight time, a Piper PA-24-260 airplane, N5788, was substantially damaged when it impacted terrain following a complete loss of engine power while executing a VFR approach to the West Houston Airport near Houston, Texas. The commercial pilot, who was one of four partners who owned the airplane, and her three passengers were not injured. Dusk visual meteorological conditions prevailed for the Title 14 Code of Federal Regulations Part 91 personal flight and a flight plan was not filed. The flight originated from the New Braunfels Municipal Airport, New Braunfels, Texas, at 1950.

According to the pilot and a fuel receipt, the airplane was "topped off" with 18 gallons of 100LL aviation fuel at New Braunfels. Subsequently, the airplane departed New Braunfels for Houston.

The 357-hour pilot reported that the airplane was on a VFR approach to runway 15 at the West Houston Airport. The airplane was on a left downwind leg, level at 1,100 feet agl, and abeam the runway numbers when she extended the landing gear. Simultaneously she heard a "loud bang" and noticed a loss of engine power. The instrument panel lights "flickered," and the illumination in the cockpit failed. The pilot then advanced the throttle and realized that the engine had lost total power. The pilot stated that she trimmed the airplane to attain the best glide speed, but did not verify the airspeed during the ensuing forced landing. She added that the airplane was descending "too fast," and she needed "more trim to relieve back pressure, but decided to muscle it as best [she] could and try not to stall the airplane." Subsequently, the airplane's nose wheel contacted a cement drainage area at the approach end of the runway and collapsed. The left main landing gear penetrated the wing structure, and the airplane slid approximately 250 feet down the runway, coming to a stop upright.

The pilot reported that the following light and weather conditions existed at the time of the accident: dusk light, visibility greater than 10 miles, clear skies, and wind from 150 degrees at 15 knots.

The airplane was equipped with a 260-horsepower Lycoming IO-540-D engine, which was examined and test run at Caulkins Aero, Houston, Texas, under the supervision of an FAA inspector. The spark plugs, magnetos, oil filter, and air filter were examined before the test run and no anomalies were noted. The fuel selector valve "worked free and correct through all of its ranges," and fuel was present in each of the four fuel tanks. The engine was run in the airframe for a total of 28 minutes at various rpm and manifold pressure settings, including the maximum power setting. The engine operated within manufacturer's specifications. For further details reference the enclosed FAA inspector's statement.

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Pilot Information

Certificate:	Commercial	Age:	Female
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 3 Valid Medicalw/ waivers/lim	Last FAA Medical Exam:	August 27, 1997
Occupational Pilot:	UNK	Last Flight Review or Equivalent:	
Flight Time:	357 hours (Total, all aircraft), 27 hours (Total, this make and model), 241 hours (Pilot In Command, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	Registration:	N5788
Model/Series:	PA-24-260 PA-24-260	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	24-4580
Landing Gear Type:	Retractable - Tricycle	Seats:	4
Date/Type of Last Inspection:	November 1, 1998 Annual	Certified Max Gross Wt.:	3100 lbs
Time Since Last Inspection:	112 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	4775 Hrs	Engine Manufacturer:	Lycoming
ELT:	Installed, not activated	Engine Model/Series:	IO-540D
Registered Owner:	DAVID A. PYLE	Rated Power:	260 Horsepower
Operator:		Operating Certificate(s) Held:	None
Operator Does Business As:		Operator Designator Code:	

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Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Dusk
Observation Facility, Elevation:		Distance from Accident Site:	
Observation Time:		Direction from Accident Site:	
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	15 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	150°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:		Temperature/Dew Point:	
Precipitation and Obscuration:	No Obscuration; No Precipita	ation	
Departure Point:	NEW BRAUNFELS , TX (BAZ)	Type of Flight Plan Filed:	None
Destination:	(IWS)	Type of Clearance:	None
Departure Time:	19:50 Local	Type of Airspace:	Class G

Airport Information

Airport:	WEST HOSUTON IWS	Runway Surface Type:	Asphalt
Airport Elevation:	112 ft msl	Runway Surface Condition:	Dry
Runway Used:	15	IFR Approach:	None
Runway Length/Width:	3955 ft / 75 ft	VFR Approach/Landing:	Traffic pattern

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:	3 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	4 None	Latitude, Longitude:	29.610641,-95.119094(est)

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Administrative Information

Investigator In Charge (IIC): Snyder, Georgia

Additional Participating Persons:

Original Publish Date: June 22, 2000

Last Revision Date: Investigation Class: Class
Note: https://data.ntsb.gov/Docket?ProjectID=46681

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.

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