



National Transportation Safety Board Aviation Accident Final Report

Location:	Beatty, NV	Accident Number:	WPR13FA001
Date & Time:	10/02/2012, 2024 PDT	Registration:	N7895W
Aircraft:	PIPER PA-28-180	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 a temporary flight restriction (TFR) was in effect for his intended destination airport and that he was unclear on whether the TFR would prevent him from landing at that airport. The TFR stated that transit operations were allowed only if a discrete code was assigned by air traffic control (ATC) before the airplane's departure. The pilot mistakenly thought he could pick up the discrete code while airborne. Because the pilot was unable to contact ATC at his intended destination during the flight and the airplane was running low on fuel, he diverted to an alternate airport. At the alternate airport, the pilot initiated a straight-in approach to the runway in darkness, over flat, featureless terrain; the pilot reported that the only airport lighting he saw was the airport beacon. During the approach, the airplane struck high tension power lines about 1 mile south of the runway. Further, according to an applicable notice to airmen, the airport that the pilot diverted to was closed when the accident occurred. The pilot most likely flew a lower than desired approach altitude due to the night time conditions and featureless terrain. The pilot reported that there were no preimpact mechanical malfunctions or failures with the airplane or engine that would have precluded normal operation.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's inadequate flight planning, subsequent loss of situational awareness, and failure to maintain clearance from the power lines during a dark night approach to a closed, unlit runway.

Findings

Personnel issues	Flight planning/navigation - Pilot (Cause) Knowledge of geographic area - Pilot (Cause) Situational awareness - Pilot (Cause)
Environmental issues	Dark - Ability to respond/compensate Wire - Effect on operation

Factual Information

HISTORY OF FLIGHT

On October 2, 2012, about 2024 Pacific daylight time, a Piper PA-28-180, N7895W, sustained substantial damage when it struck high power tension lines near the Beatty Airport (BTY) Beatty, Nevada. The airplane was registered to and operated by the pilot under the provisions of Title 14 Code of Federal Regulations Part 91. The commercial pilot, sole occupant of the airplane, was seriously injured. Visual meteorological conditions prevailed and a visual flight rules flight plan was filed for the personal flight which originated from the Reno/Stead Airport (RTS) Reno, Nevada at about 1520 with an intended destination of Henderson Executive Airport (HND), Henderson Nevada.

The pilot reported that he originally departed Snohomish County Airport in Everett, Washington with three planned fuel stops and a final destination of HND. The pilot stated that he was attempting to arrive at HND prior to a Temporary Flight Restriction (TFR) along his intended route of flight to become active. Prior to departure from RTS, the pilot was unclear on whether the TFR would prevent him from landing at HND. The TFR stated that Air Traffic Control (ATC) could authorize transit operations through the restricted area but the airplane must have a discrete transponder code assigned prior to departure. The pilot stated that about 40 miles west of the Las Vegas Very High Frequency Omnidirectional Range (VOR) he made several radio transmissions in an attempt to secure a discrete transponder code. The pilot received no response on two frequencies, one which was the recommended frequency for transit in the TFR.

The pilot further reported that due to no response from ATC, and being low on fuel with darkness closing in; he diverted to BTY. The pilot said that he initiated a straight in visual approach to runway 34 and configured the airplane for landing. As he approached the airport, he saw the airport beacon but no other airport lighting despite his attempts to activate the airfield lighting. The pilot stated that there were no mechanical malfunctions or failures with the airplane.

PERSONNEL INFORMATION

The pilot, age 69, held a commercial pilot certificate with a single-engine land and airplane instrument rating. A second-class airman medical certificate was issued on August 9, 2012, with no limitations stated. The pilot reported on the National Transportation Safety Board Form 6120.1 Pilot/Operator Aircraft Accident/Incident Report, that he had accumulated 1,528 total flight hours.

According to the pilot, besides this accident flight, he had only flown at night two previous times in the past two years. One flight was flown on November 11, 2011 and the other flight was flown on October 7, 2010.

AIRCRAFT INFORMATION

Refueling records obtained at RTS revealed that the airplane had topped off with about 28 gallons of 100 low lead fuel at about 1510, on the day of the accident.

METEOROLOGICAL INFORMATION

A review of recorded data from the automated weather observation station (AWOS) at BTY

revealed at 1952, conditions were wind calm, visibility 10 statute miles, clear sky, temperature 26 degrees Celsius, dew point minus 9 degrees Celsius, and an altimeter setting of 29.92 inches of mercury. Using the reported weather conditions and field elevation, the calculated density altitude was about 5,222 feet.

The United States Naval Observatory Moon data for Henderson, Nevada, for the day of the accident, indicated sunset at 1821 and the end of civil twilight at 1847. Moonrise was at 1943. The Phase of the Moon was waning gibbous with 93 percent of the Moon's visible disk illuminated.

COMMUNICATIONS

Review of the recorded conversation between the pilot and the Reno Flight Service Station (FSS) prior to his departure from RTS, revealed discussion about the TFR for the Las Vegas, Nevada area. The pilot stated that he was concerned about the TFR and getting into HND. He believed that he could fly into HND on the accident day and the TFR would be in effect the next day. Reno FSS advised him that the TFR was currently in effect and he needed to file the appropriate flight plan and squawk the proper code. The Reno FSS individual stated to the pilot that to get into HND he needed to be talking to ATC and squawking the code. The pilot inquired about getting the code while on the ground, however, the FSS individual advised him that ATC would want to talk to him in the air.

AIRPORT INFORMATION

Beatty Airport is a non-towered airport with a field elevation of 3169 feet. The airport was equipped with a single asphalt runway 16/34 (5,615 feet long and 60 feet wide). Runway edge lights of medium intensity are installed and are not pilot controlled. No runway end identifier lights, no touchdown point lights, and no precision approach path (PAPI) lights or visual approach slope indicator (VASI) lighting, are installed. There are no published instrument procedures for the airport.

WRECKAGE AND IMPACT INFORMATION

Examination of the accident site by a Federal Aviation Administration inspector revealed that the airplane struck the high tension power lines about 1 miles south of BTY. The power lines were about 50 feet in height and orientated in a north to south direction. The fuselage came to rest on its right side on a magnetic heading of about 225 degrees. Wreckage debris was located within about 175 feet from the main wreckage. The fuselage, engine, tail and left wing were located on the east side on the power lines. The right wing and remaining sections of the airplane were located on the west side of the power lines. The airframe, engine and inboard portions of the wings were consumed by fire. The measured elevation for the accident site was about 2,976 feet.

TEST AND RESEARCH

A post accident examination of the airframe and engine revealed no evidence of mechanical anomaly or failures that would have precluded normal operation.

Examination of the engine revealed that it remained attached to the mounting assembly and sustained thermal damage. The propeller remained attached to the crankshaft propeller flange. Both propeller blades displayed scratches and were bent aft about mid span. Examination of the engine and its components revealed no evidence of preimpact mechanical malfunction. The airframe exhibited thermal damage, buckling and crush damage of the cabin and fuselage

areas. The empennage section separated from the fuselage however, it was mostly intact with minor damage to the top portion of the vertical stabilizer and rudder. The left stabilator sustained damage and was bent downwards at about mid span. All major structure components were accounted for. The flight control system exhibited no anomalies that would have precluded normal operation.

According to the Federal Aviation Administration Pilot's Handbook of Aeronautical Knowledge (page 16-19) under the subject heading of night landing illusions; "Landing illusions occur in many forms. Above featureless terrain at night, there is a natural tendency to fly a lower-than-normal approach. Elements that cause visual obscurities such as rain, haze or a dark runway environment can also cause low approaches."

The featureless terrain illusion (page 16:9) states that "an absence of surrounding ground features, as in an overwater approach, over darkened areas, or terrain made featureless by snow, can create an illusion that the aircraft is higher than it actually is. This illusion is also referred to as the "black hole approach," causes pilots to fly a lower approach than is desired."

ADDITIONAL INFORMATION

Temporary Flight Restrictions (TFR) were issued under the number ZLA 2/9833 for the airspace surrounding the Las Vegas, Nevada area, effective September 30, 2012, through October 3, 2012. The Notice to Airmen (NOTAM) defined the National Defense Airspace area and the associated prohibited flight operations. The inner core was defined as the 8 to 10 nautical mile radius (nmr) from the Boulder navigational VORTAC 322 radial at 7 miles. Only specific listed flight operations were allowed. The outer rings were listed as between the 8/10 nmr to 30 nmr. Workload permitting Air Traffic Control (ATC) could authorize transit operations. All aircraft must be on an IFR or VFR flight plan with a discrete code assigned by an ATC facility. Aircraft must be squawking this discrete code prior to departure and at all times while in the TFR.

The accident pilot did not secure a discrete code prior to his departure to HND.

At the time of the accident, a NOTAM for BTY was active stating that the aerodrome was closed from 1300 on September 24, 2012 until 0100 November 11, 2012.

History of Flight

Approach

Controlled flight into terr/obj (CFIT) (Defining event)

Pilot Information

Certificate:	Commercial; Private	Age:	69, Male
Airplane Rating(s):	Single-engine Land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	Seatbelt, Shoulder harness
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 2 Without Waivers/Limitations	Last Medical Exam:	10/09/2012
Occupational Pilot:	No	Last Flight Review or Equivalent:	01/01/2011
Flight Time:	1528 hours (Total, all aircraft), 967 hours (Total, this make and model), 1450 hours (Pilot In Command, all aircraft), 38 hours (Last 90 days, all aircraft), 23 hours (Last 30 days, all aircraft), 12 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Manufacturer:	PIPER	Registration:	N7895W
Model/Series:	PA-28-180	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	28-1923
Landing Gear Type:	Tricycle	Seats:	4
Date/Type of Last Inspection:	09/12/2012, Annual	Certified Max Gross Wt.:	2415 lbs
Time Since Last Inspection:	25 Hours	Engines:	1 Reciprocating
Airframe Total Time:		Engine Manufacturer:	LYCOMING
ELT:	C91A installed, activated, did not aid in locating accident	Engine Model/Series:	O&VO-360 SER
Registered Owner:	HARRIS BERNARD J JR	Rated Power:	180 hp
Operator:	HARRIS BERNARD J JR	Air Carrier Operating Certificate:	None

Meteorological Information and Flight Plan

Observation Facility, Elevation:	DRA, 3314 ft msl	Observation Time:	1952 PDT
Distance from Accident Site:	45 Nautical Miles	Condition of Light:	Night/Dark
Direction from Accident Site:	292°	Conditions at Accident Site:	Visual Conditions
Lowest Cloud Condition:	Clear	Temperature/Dew Point:	26° C / -9° C
Lowest Ceiling:	None	Visibility	10 Miles
Wind Speed/Gusts, Direction:	Light and Variable, Variable	Visibility (RVR):	
Altimeter Setting:	29.92 inches Hg	Visibility (RVV):	
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Reno-Stead, NV (RTS)	Type of Flight Plan Filed:	VFR
Destination:	Henderson Exec, NV (HND)	Type of Clearance:	VFR
Departure Time:	1520 PDT	Type of Airspace:	

Airport Information

Airport:	Beatty Airport (BTY)	Runway Surface Type:	Asphalt
Airport Elevation:	3196 ft	Runway Surface Condition:	Dry
Runway Used:	34	IFR Approach:	None
Runway Length/Width:	5160 ft / 60 ft	VFR Approach/Landing:	Straight-in

Wreckage and Impact Information

Crew Injuries:	1 Serious	Aircraft Damage:	Substantial
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Serious		

Administrative Information

Investigator In Charge (IIC):	Albert P Nixon	Adopted Date:	11/06/2013
Additional Participating Persons:	Alan M McKinney; Federal Aviation Administration; Las Vegas, NV Charles Little; Piper Aircraft Inc.; Vero Beach, FL Mark Platt; Lycoming Engines; Williamsport, PA		
Publish Date:	11/06/2013		
Investigation Docket:	http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=85225		

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