Aviation Investigation Final Report

Location:	Bullhead City, Arizona	**Accident Number:**	WPR14LA169
Date & Time:	April 21, 2014, 14:00 Local	**Registration:**	N7880Y
Aircraft:	Piper PA30 - NO SERIES	**Aircraft Damage:**	Substantial
Defining Event:	Turbulence encounter	**Injuries:**	1 Minor
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot reported that, upon arrival at the airport, he overflew the runway, checked the wind direction, and then entered the downwind leg for a landing to the north. While turning onto final approach, the airplane encountered severe turbulence, at which time the pilot initiated a go-around by adding full power to both engines. However, he noted that "it seemed like the airplane would not fly" and that it was "like it was being pushed down." He added that he was not sure if the engines completely failed or not but that "I just know I didn't have any power." The airplane subsequently impacted terrain about 1/4 mile from the departure end of the runway and then came to rest upright. The airplane sustained substantial damage to the wings and empennage. Postaccident examination of the airplane and engine revealed no mechanical malfunctions or failures that would have precluded normal operation. Fuel was drained from both the left and right fuel tanks, and no water or sediment was observed.

The left propeller blades were found in the feathered position, and the right propeller blades were found in low pitch. The feathered propellers indicated that, despite the pilot's statement that the engine did not have power, the engine likely did have power but no thrust. Followup discussions with the pilot revealed that he had been improperly using the propeller controls as the throttles, with the throttle controls in the full-forward position, during the flight. Additionally, the pilot had pulled both propeller controls to the full-feather position upon touching down on the runway and then abruptly advanced them when he initiated a go-around rather than using the throttle as required. The pilot reported that he had an extensive amount of flight time in another airplane make and model that was configured with the propeller and throttle controls oriented in a position directly opposite their position in the accident airplane. The pilot's mismanagement of the throttle and propeller controls during the attempted go-around after encountering turbulence resulted in insufficient airspeed and degraded climb performance and a subsequent forced landing and impact with terrain.

Probable Cause and Findings

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

The pilot's mismanagement of the throttle and propeller controls during the attempted go-around after encountering turbulence, which resulted in his failure to maintain adequate airspeed and climb rate and a subsequent forced landing and impact with terrain. Contributing to the accident was the pilot's lack of knowledge about the airplane's equipment.

Findings

Personnel issues	Incorrect action sequence - Pilot
Aircraft	Airspeed - Not attained/maintained
Aircraft	Climb rate - Not attained/maintained
Personnel issues	Use of equip/system - Pilot
Aircraft	Power lever - Incorrect use/operation
Aircraft	Propeller controlling system - Incorrect use/operation
Personnel issues	Knowledge of equipment - Pilot
Environmental issues	Convective turbulence - Decision related to condition

Factual Information

History of Flight

Approach-VFR pattern final	Turbulence encounter (Defining event)
Approach-VFR go-around	Loss of lift
Approach-VFR go-around	Off-field or emergency landing
Approach-VFR go-around	Collision with terr/obj (non-CFIT)

On April 21, 2014, about 1400 mountain standard time, a Piper PA-30 airplane, N7880Y, sustained substantial damage following an uncontrolled descent and impact with terrain during an attempted go-around at the Sun Valley Airport (A20), Bullhead City, Arizona. The certified private pilot, who was the registered owner and sole occupant of the airplane, sustained minor injuries. Visual meteorological conditions prevailed for the repositioning flight, which was being operated in accordance with 14 Code of Federal Regulations Part 91, and a flight plan was not filed. The repositioning flight had departed the Lake Havasu City Airport (LII), Lake Havasu, Arizona, about 1345, with A20 as its destination.

In a statement provided to the National Transportation Safety Board (NTSB) investigator-in-charge (IIC), the 82-year old pilot reported that about 8 days prior to the accident, he and his wife had flown the airplane from A20 to LII, and while turning onto final approach the left engine failed, followed by a failure of the right engine on short final; both propellers went to feather and the pilot landed uneventfully. The pilot stated that the next day he had a local [airframe and powerplant] mechanic look at the airplane. Maintenance personnel subsequently worked on the airplane and told the pilot that it was "ready to go." As the mechanic who had worked on the airplane was not present, the pilot's wife queried another mechanic as to what had caused the problem, to which he replied that he didn't know. The pilot reported that when he went back out to the airplane and started the right engine, "…the same thing happened. The throttle was in the down position and it was screaming, and the prop back into feather." The pilot opined that he and his wife then left the airplane at the maintenance facility "…for them to figure out what was wrong." The pilot stated that a couple of days later the mechanic told him that both magnetos were being sent out to be examined. About a week later the pilot was informed that maintenance personnel had run the engines several times and that they "check out good."

The pilot reported that on the day of the accident he departed LII for A20 about 1345, and that about 12 minutes into the flight it became difficult to keep the propellers in synchronization. The pilot further stated that upon approaching A20 he flew over the airport to check the wind direction, and then turned downwind for runway 36. The pilot stated that while turning final from base leg the turbulence became extreme. He added power to stay over the runway, tried to slow down to land, but knew he would come down close to the end of the runway if he tried to land. The pilot reported that during the aborted landing and subsequent go-around he pushed the throttles full forward, "…and it seemed like the airplane would not fly. It was like being pushed down. That is when I started looking for a place to put it down." The pilot added that he wasn't sure if the engines completely failed or not, however, he said "I just know I didn't have any power."

In a statement provided to the NTSB IIC, an airframe and powerplant mechanic located at LII, who had worked on the airplane about a week prior to the accident when the pilot reported that both engines had quit on final approach to LII, reported that when he first looked at the airplane, the right propeller [control lever] was pulled back into the feather position. The mechanic stated that he started the engine and that it ran normal; he also noted that the right fuel selector was placed in between detents. The mechanic opined that when he spoke with the pilot, the pilot seemed confused about what lever controlled the manifold pressure (MAP), and [which one controlled] the engine revolutions per minute (RPM). The mechanic stated that the pilot said that he had previously owned a Beechcraft Baron, in which the throttles and propeller levers are opposite the position that they are on the PA-30; the throttle is in the middle and the propeller controls are on the left side. The mechanic further stated that during the conversations with both the pilot and his wife, it appeared that there was a lot of confusion about what was happening. The mechanic reported that he is an airline transport pilot and a flight instructor with thousands of hours, and he could not make sense of what the pilot was telling him. The accident pilot then asked him to look at it [the airplane] again, which he did, and reported that the right engine magneto had a drop of about 300 rpm. The mechanic subsequently removed both magnetos and had them sent to Arizona Air-Craftsman for repair. After the repair, the mechanic checked the compression, magneto harness, and the spark plugs, which were in good condition. Both engines were then run from idle to full power, with operational checks deemed normal. Additionally, the left mixture cable was found to be stiff, but a pressure lube of the cable resulted in the operation being normal. The mechanic also replaced the right mixture rod end because it was broken. The mechanic further reported that he ran the engines at least 5 times to full power, cycled the propellers multiple times back to an idle, and every time both engines operated normally. Oil pressure was good and the engines seemed to make good power. Magneto drops were within limits.

In a report submitted to the NTSB IIC, as well as in a telephone conversation the day following the accident, a Federal Aviation Administration airworthiness inspector reported that during an interview with the pilot, it was discovered that the pilot had improperly used the propeller controls as throttle controls, with both throttles in the full forward position for the entire time of the flight. The inspector stated that the pilot had retarded both propeller controls to full feather upon touching down on the runway, and then abruptly advanced them to initiate the go-around; the pilot had used the throttle and propeller controls directly opposite in the manner in which they should have been used. The inspector reported that the left propeller blades were in the feathered position, and that the right propeller blades were observed in low pitch. The inspector further reported that it was learned that the pilot had an extensive amount of flight time in a Beechcraft Baron multiengine airplane, in which the configuration of the propeller and throttle controls are directly opposite that of the accident airplane's propeller/throttle control configuration.

A postaccident examination of the airplane by the inspector revealed that flight and engine control continuity were confirmed, the fuel system appeared to have a sufficient quantity available, and that the fuel tanks were sumped with no contaminants observed to be present in the fuel drained. Additionally, the inspector reported that both engines were visually inspected with no anomalies noted that would have precluded normal operation. No anomalies with the airplane were reported that would have precluded normal operation.

The weather reporting facility at the Laughlin/Bullhead International Airport (IFP), Bullhead City, Arizona, which is located about 9 nautical miles north of the accident side, indicated that from about 30

minutes prior to the time of the accident until about 30 minutes after the accident, winds were from the southwest at between 8 to 12 knots, with sustained gusts of 19 knots.

Pilot Information

Certificate:	Private	**Age:**	82
Airplane Rating(s):	Single-engine land; Multi-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 With waivers/limitations	**Last FAA Medical Exam:**	August 8, 2013
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	May 22, 2012
Flight Time:	9000 hours (Total, all aircraft), 1850 hours (Total, this make and model), 9000 hours (Pilot In Command, all aircraft), 3 hours (Last 90 days, all aircraft), 1 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	**Registration:**	N7880Y
Model/Series:	PA30 - NO SERIES	**Aircraft Category:**	Airplane
Year of Manufacture:	1965	**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	30-965
Landing Gear Type:	Retractable - Tricycle	**Seats:**	6
Date/Type of Last Inspection:	September 12, 2013 Annual	**Certified Max Gross Wt.:**	3600 lbs
Time Since Last Inspection:	4 Hrs	**Engines:**	2 Reciprocating
Airframe Total Time:	5235.3 Hrs as of last inspection	**Engine Manufacturer:**	Lycoming
ELT:	Installed, not activated	**Engine Model/Series:**	IO-320-B1A
Registered Owner:	Anthony Degennaro	**Rated Power:**	160 Horsepower
Operator:	Anthony Degennaro	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	IFP,701 ft msl	**Distance from Accident Site:**	10 Nautical Miles
Observation Time:	13:35 Local	**Direction from Accident Site:**	360°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	8 knots / 19 knots	**Turbulence Type Forecast/Actual:**	/ None
Wind Direction:	210°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29.9 inches Hg	**Temperature/Dew Point:**	34°C / 3°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Lake Havasu, AZ (HII)	**Type of Flight Plan Filed:**	None
Destination:	Bullhead City, AZ (A20)	**Type of Clearance:**	None
Departure Time:	13:24 Local	**Type of Airspace:**	Class E

Airport Information

Airport:	Sun Valley A20	**Runway Surface Type:**	Asphalt
Airport Elevation:	725 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	36	**IFR Approach:**	None
Runway Length/Width:	3700 ft / 42 ft	**VFR Approach/Landing:**	Forced landing;Traffic pattern

Wreckage and Impact Information

Crew Injuries:	1 Minor	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 Minor	**Latitude, Longitude:**	35.000934,-114.560142(est)

Administrative Information

Investigator In Charge (IIC):	Little, Thomas
Additional Participating Persons:	Bruce Thompson; Federal Aviation Administration; Las Vegas, NV
Original Publish Date:	March 17, 2015
Last Revision Date:	
Investigation Class:	Class
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=89090