Aviation Investigation Final Report

Location:	Heathrow, Florida	**Accident Number:**	MIA06LA019
Date & Time:	November 15, 2005, 20:53 Local	**Registration:**	N7453J
Aircraft:	Piper PA-28R-180	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	2 Minor
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The airplane collided with trees, a house and then the ground during a forced landing following a loss of engine power. According to the pilot during the preflight inspection he noted the fuel level in the left tank to be nearly full, and the fuel level in the right tank to be slightly above the tab. He further stated that after several touch-and-go landings and one full stop landing at various airports, he proceeded back to Orlando Sanford International Airport (KSFB). During descent to KSFB, the engine went to idle and was operating rough, but did not lose power. The pilot recalls advancing the mixture control to full rich, verifying that auxiliary fuel pump was in the "on" position, and that the fuel selector valve was in the left tank position. After changing the fuel selector valve to the right tank position, which had no affect on engine performance, he trimmed the airplane for 80 knots and executed an emergency descent to landing on a small community road. The airplane impacted the roof of a house and trees during the landing. The fuel selector was found halfway between the right tank and one of the off detents. Fuel was found in the fuel strainer, fuel lines in the engine compartment, and fuel distributor valve. An operational test of the fuel selector valve in the "as found" position was performed by blowing air into the gascolator inlet; resistance was noted. The same test was then performed by blowing air into the gascolator inlet with the fuel selector positioned to each respective tank, no resistance was noted. No discrepancies with the engine were noted during the postaccident examination.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: A partial loss of engine power due to undetermined reasons resulting in a forced landing in a residential area.

Findings

Occurrence #1: LOSS OF ENGINE POWER
Phase of Operation: CRUISE - NORMAL

Findings
1. (C) REASON FOR OCCURRENCE UNDETERMINED

Occurrence #2: FORCED LANDING
Phase of Operation: EMERGENCY DESCENT/LANDING

Occurrence #3: IN FLIGHT COLLISION WITH OBJECT
Phase of Operation: EMERGENCY DESCENT/LANDING

Findings
2. OBJECT - TREE(S)
3. OBJECT - RESIDENCE

Factual Information

On November 15, 2005, about 2053 eastern standard time, a Piper PA-28R-180, N7453J, registered to Magic Interiors, collided with trees, the roof of a house, then the ground during a forced landing in a residential area near Heathrow, Florida. Visual meteorological conditions prevailed at the time and no flight plan was filed for the 14 CFR Part 91 personal, local flight from Orlando Sanford International Airport (KSFB). The airplane was substantially damaged and the commercial-rated pilot and one passenger sustained minor injuries. The flight originated about 1923, from Orlando Sanford International Airport.

The pilot stated that during his preflight inspection of the airplane he noted the fuel level in the left and right fuel tanks were nearly full, and slightly above the tab, respectively. No contaminants were noted when examining each fuel tank and the fuel strainer. The engine was started with the fuel selector positioned to the right tank, and after engine start, he contacted air traffic control (ATC) and was cleared to taxi to runway 9R. He repositioned the fuel selector to the left tank and performed an engine run-up with no discrepancies reported. He was cleared for takeoff and remained in the traffic pattern for runway 9R where he performed 3 or 4 touch-and-go landings. After the last landing he exited the traffic pattern to the west and proceeded to Leesburg Regional Airport where he performed a full-stop landing on runway 31. He taxied back to runway 31, departed, and climbed to 1,000 feet. He exited the traffic pattern to the east and climbed to 2,000 feet where he reduced the throttle control to 23 inches manifold pressure and the propeller to 2,400 rpm. He also leaned the fuel/air ratio, and proceeded towards KSFB. When the flight was 9.8 miles from KSFB and near Orlando Class B airspace, he established contact with KSFB ATCT. The controller advised him to contact them when the flight was 3 miles away but the controller contacted him before then and advised of nearby traffic. He descended to 1,500 feet and approximately 1 minute later, the engine went to idle and was operating rough but did not quit. He immediately looked at the oil pressure and temperature gauges and noted both indications were in the green arc. He did not recall looking at the tachometer or the fuel flow gauge at the time of the loss of engine power.

The pilot further stated he could not recall the sequence but he "worked" the throttle control which only momentarily corrected the loss of engine power. The engine did hesitate/sputter each time he increased the throttle control. He placed the mixture control to full rich, and verified the auxiliary fuel pump was in the "on" position, and the fuel selector was on the left tank position. The fuel pump and fuel selector had been unchanged from the moment of takeoff at KSFB. He repositioned the fuel selector to the right tank which had no affect, and verified the ignition switch was in the "both" position; he did not check the magnetos. He trimmed the airplane to maintain 80 mph, and looked for a place to land. He saw I-4, but knew because of his altitude that was not an option. At 500 feet he observed lights and saw a small road in a community that was located to his left. He reported that the landing gear extended automatically which occurred because of a decrease in engine rpm, and headed towards the

road. He was committed to a landing on the road and began a turn to line up parallel. Looking to the side of the airplane as he turned, he saw a tree dead ahead covered by the darkness. He banked to avoid the tree, but knew impact with the tree would occur. The airplane impacted trees, he closed his eyes, and could not recall the ground impact. He and the passenger unbelted their seatbelts, and exited the airplane; he experienced no difficulty exiting the airplane.

Post accident examination of the wreckage by an FAA airworthiness inspector revealed that both wings were separated at the wing roots. The left wing was located close to the main wreckage of the aircraft and was dripping fuel from a fractured fuel line, which the local fire department attempted to stop by plugging the line. The right wing was located in a tree and did not appear to contain any fuel. The fuel selector was found halfway between the right tank and one of the off detents and did not show any signs of impact damage. No fuel stains were noted aft of either fuel cap or on the bottom skin of either wing and no fuel contamination was found. Fuel was found in the fuel strainer. The ignition switch was found in the both position, and the throttle, mixture, and propeller controls were found connected, in the full forward positions, with no binding noted. An operational test of the fuel selector valve in the "as found" position was performed by blowing air into the gascolator inlet line; resistance was noted. Air was then blown into the gascolator inlet line with the fuel selector placed to the left and right positions; no resistance was noted.

Post accident testing of the engine and fuel system by an FAA inspector revealed the air induction system was free of obstructions and the engine oil quantity was full. Fuel was noted in flexible fuel lines in the engine compartment and also in the fuel distributor valve. Crankshaft, camshaft, and valve train continuity was confirmed. Suction and compression was noted to all cylinders, and spark was noted at all spark plugs during engine rotation. With battery power applied, the auxiliary fuel pump was activated and fuel flow was noted from all fuel injector nozzles.

The passenger in the airplane is the holder of a restricted FAA issued foreign based private pilot certificate with airplane single engine land rating. At the time of the accident she was reportedly seated in the right front seat with access to flight controls; the pilot-in-command reported she did not touch the flight controls at any time during the flight.

The NTSB requested through the pilot's attorney to have the passenger complete the "Second Pilot Information" blocks on the NTSB "Pilot/Operator Aircraft Accident Report" form, and also to prepare a detailed statement. The request was not complied with.

Pilot Information

Certificate:	Commercial; Flight instructor	**Age:**	37,Male
Airplane Rating(s):	Multi-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	Airplane	**Second Pilot Present:**	
Instructor Rating(s):	Airplane single-engine	**Toxicology Performed:**	No
Medical Certification:	Class 1 Without waivers/limitations	**Last FAA Medical Exam:**	January 1, 2003
Occupational Pilot:	UNK	**Last Flight Review or Equivalent:**	January 1, 2005
Flight Time:	511 hours (Total, all aircraft), 147 hours (Total, this make and model), 421 hours (Pilot In Command, all aircraft), 58 hours (Last 90 days, all aircraft), 50 hours (Last 30 days, all aircraft), 7 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	**Registration:**	N7453J
Model/Series:	PA-28R-180	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	28R-30803
Landing Gear Type:	Retractable - Tricycle	**Seats:**	4
Date/Type of Last Inspection:	May 1, 2005 Annual	**Certified Max Gross Wt.:**	2500 lbs
Time Since Last Inspection:	47 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	5700 Hrs at time of accident	**Engine Manufacturer:**	Lycoming
ELT:	Installed, not activated	**Engine Model/Series:**	IO-360
Registered Owner:	Magic Interiors	**Rated Power:**	180 Horsepower
Operator:	Dwayne Harris	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Night
Observation Facility, Elevation:	KSFB	**Distance from Accident Site:**	7 Nautical Miles
Observation Time:	20:53 Local	**Direction from Accident Site:**	85°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	5 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	110°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.14 inches Hg	**Temperature/Dew Point:**	21°C / 18°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Sanford, FL (KSFB)	**Type of Flight Plan Filed:**	None
Destination:	(KSFB)	**Type of Clearance:**	None
Departure Time:	19:23 Local	**Type of Airspace:**	

Wreckage and Impact Information

Crew Injuries:	1 Minor	**Aircraft Damage:**	Substantial
Passenger Injuries:	1 Minor	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	2 Minor	**Latitude, Longitude:**	28.763055,-81.368057

Administrative Information

Investigator In Charge (IIC):	Monville, Timothy
Additional Participating Persons:	Leroy A Stromenger; FAA Flight Standards District Office; Orlando, FL Robert Martellotti; The New Piper Aircraft, Inc.; Vero Beach, FL
Original Publish Date:	February 28, 2006
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=62836