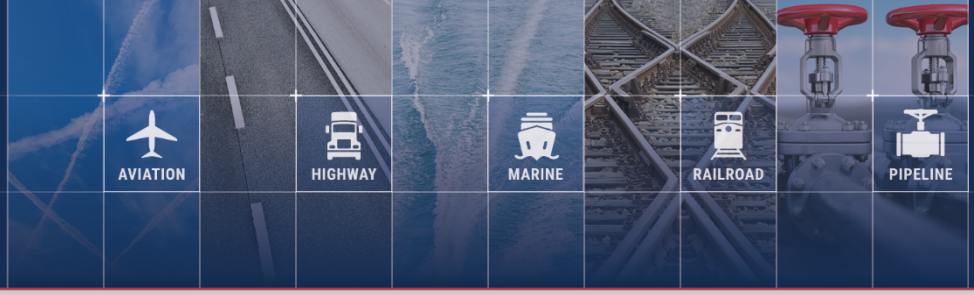

Aviation Investigation Final Report

Location:	Phoenix, Arizona	**Accident Number:**	WPR10LA357
Date & Time:	July 18, 2010, 14:02 Local	**Registration:**	N9SH
Aircraft:	Beech A36	**Aircraft Damage:**	Substantial
Defining Event:	Loss of engine power (total)	**Injuries:**	1 Serious
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot reported flying for about an hour at 10,000 feet during a maintenance test flight to break in newly installed cylinders. The pilot reduced altitude to continue operating for another hour. As he changed altitude, he switched fuel tanks. Shortly after switching tanks, the engine lost power. During the forced landing, the airplane hit an automobile. Following the accident, about 1.5 gallons of fuel were recovered from the right fuel tank, and the left fuel tank was found empty. The right fuel tank was cracked and had leaked some fuel; the left fuel tank was not damaged. During the postaccident engine examination, no mechanical failures or malfunctions were revealed that would have precluded normal operation. The loss of engine power was most likely due to the pilot's mismanagement of the fuel, resulting in fuel starvation.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: A loss of engine power during descent due to fuel starvation that resulted from the pilot's mismanagement of the fuel system.

Findings

Aircraft	Fuel - Fluid management
Personnel issues	Fuel planning - Pilot

Factual Information

History of Flight

Emergency descent	Fuel starvation
Enroute-descent	Loss of engine power (total) (Defining event)
Emergency descent	Off-field or emergency landing
Landing-landing roll	Collision with terr/obj (non-CFIT)

On July 18, 2010, at 1402 mountain standard time, a Beech A36, N9SH, was substantially damaged when it hit a automobile during an emergency landing about 1 mile west of the runway at Deer Valley Airport (DVT), Phoenix, Arizona. The private pilot, the sole occupant, received serious injuries. The driver of the vehicle, the sole occupant, received minor injuries. The maintenance test flight was conducted under the provisions of 14 Code of Federal Regulations Part 91, without a flight plan. Visual meteorological conditions prevailed. The local flight originated about 1300.

According to a Federal Aviation Administration (FAA) inspector who responded to the accident scene, the engine lost power. During the forced landing, the airplane hit an automobile. The right wing and wingtip fuel tank were substantially damaged. Both tip tanks were compromised. The inspector reported that 1.5 gallons of fuel was recovered from the right wing tank and that the left fuel tank was empty. The left wing fuel tank was not damaged; however, the right wing fuel tank was cracked and had leaked fuel.

The pilot was interviewed by an FAA inspector. The pilot reported that he had just completed a 'top overhaul' of the engine and was performing a maintenance flight to break in the new cylinders. The pilot reported flying for about an hour at 10,000 feet. He decided to descend to a lower altitude; 6,500 feet, and continue operating the engine for another hour. As he changed altitude, he switched the fuel tank; he thought that the airplane fuel gauge was sticking because he knew there was fuel in the tank, and the airplane was still flying. As he contemplated the fuel gauge, the engine stopped running. The pilot stated that he was just north of DVT and set up for a landing. As the airplane turned onto final; the pilot realized that the airplane did not have enough altitude to make it to the airport, so he decided to land on Deer Valley Road.

The engine was examined under the supervision of an FAA inspector. The inspector reported that there were no anomalies with the engine; however, the magneto would not produce a spark. Further examination of the magneto revealed a cracked magneto cap consistent with impact damage. The cap was replaced and the magneto performed as designed. An examination of the remaining aircraft systems revealed no anomalies.

The pilot did not submit the required Pilot/Operator aircraft accident/incident report form.

Pilot Information

Certificate:	Private	**Age:**	60,Male
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	None	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	Class 2 With waivers/limitations	**Last FAA Medical Exam:**	March 13, 2009
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:	950 hours (Total, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Beech	**Registration:**	N9SH
Model/Series:	A36	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	E-981
Landing Gear Type:	Retractable -	**Seats:**	
Date/Type of Last Inspection:	April 7, 2010 Annual	**Certified Max Gross Wt.:**	
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:	3322 Hrs as of last inspection	**Engine Manufacturer:**	Lycoming Engines
ELT:	Installed, not activated	**Engine Model/Series:**	TIO-540-J2BD
Registered Owner:	Reed Hatkoff	**Rated Power:**	350 Horsepower
Operator:	Reed Hatkoff	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Dawn
Observation Facility, Elevation:	DVT,1478 ft msl	**Distance from Accident Site:**	1 Nautical Miles
Observation Time:	13:53 Local	**Direction from Accident Site:**	90°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	17 knots / 20 knots	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	220°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29.82 inches Hg	**Temperature/Dew Point:**	41°C / 16°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Phoenix, AZ (DVT)	**Type of Flight Plan Filed:**	None
Destination:	Phoenix, AZ (DVT)	**Type of Clearance:**	None
Departure Time:		**Type of Airspace:**	

Airport Information

Airport:	Phoenix Deer Valley Airport DVT	**Runway Surface Type:**	
Airport Elevation:	1478 ft msl	**Runway Surface Condition:**	
Runway Used:		**IFR Approach:**	None
Runway Length/Width:		**VFR Approach/Landing:**	Forced landing;Traffic pattern

Wreckage and Impact Information

Crew Injuries:	1 Serious	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	
Total Injuries:	1 Serious	**Latitude, Longitude:**	33.688056,-112.082496(est)

Administrative Information

Investigator In Charge (IIC):	Cornejo, Tealeye
Additional Participating Persons:	David Montalvo; Federal Aviation Adminstration; Scottsdale, AZ
Original Publish Date:	August 29, 2012
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=76665