Aviation Investigation Final Report

Location:	Heber, California	**Accident Number:**	WPR13LA125
Date & Time:	February 15, 2013, 16:00 Local	**Registration:**	N716T
Aircraft:	Temco D-16A	**Aircraft Damage:**	Substantial
Defining Event:	Fuel exhaustion	**Injuries:**	1 Minor
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot departed for what he anticipated would be a 1-hour cross-country flight. The airplane's two engines were supplied with fuel from a single main tank that he said contained 42 gallons at departure; however, he did not check the fuel quantity during his preflight inspection.. The pilot estimated the airplane burned 20 gallons of fuel per hour. As he neared his destination, both engines simultaneously stopped producing power. He turned on both fuel boost pumps, and both engines restarted. After about 1 minute, they shut down once again. He performed a forced landing to a muddy field. Postaccident examination of the airplane revealed no fuel in the airplane's main fuel tank and no indications of fuel leaks.

The airplane had just received an annual inspection. Fuel records indicated that 20 gallons were added to the airplane's main fuel tank 13 days before the annual inspection was signed off. The accident flight was the first flight since the annual inspection, and the airplane's hour meter reading at the time of the accident indicated it had been flown 1.5 hours since the inspection was completed. The pilot said that he encountered a 30-knot headwind on the flight and that he had mistakenly programmed his GPS for the VORTAC, which was about 7 nautical miles past his destination airport. Regardless, had the pilot performed an adequate preflight inspection of the main fuel tank and adequate preflight calculations, he would have likely determined before departure that there was inadequate fuel to reach his destination.

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 cruise flight due to fuel exhaustion. Contributing to the accident was the pilot's inadequate preflight and fuel planning.

Findings

Aircraft	Fuel - Fluid level
Personnel issues	Fuel planning - Pilot
Personnel issues	Preflight inspection - Pilot

Factual Information

History of Flight

Enroute-cruise	Fuel exhaustion (Defining event)

On February 15, 2013, about 1600 Pacific standard time, a Temco D-16A (Twin Navion), N716T, was substantially damaged during a forced landing following the simultaneous loss of total power from both engines near Heber, California. The private pilot, the sole occupant, received minor injuries. The pilot/owner was operating the airplane under the provisions of 14 Code of Federal Regulations Part 91. Visual meteorological conditions prevailed for the personal cross-country flight, which had originated from Chino, California, about 1.5 hours before the accident. A flight plan had not been filed.

The pilot said that "on or about" February 1, 2013, he pulled the airplane out of its hangar at Chino Airport and ran the engines for about 15 minutes to allow him to drain the oil in preparation for an annual inspection. The pilot further said that "at this time, the fuel truck arrived and we filled the main fuel tank." (Review of fuel receipts indicated that the airplane was fueled with 20 gallons of 100LL aviation gasoline on January 29, 2013). Over the next several days, the pilot and his mechanic performed an owner-assisted annual inspection. The mechanic said that upon completion of the inspection, the airplane needed a new battery, so he did not perform post-inspection engine runs. The next day the owner/pilot installed a new battery and checked the fuel system for leaks and found none. Additionally, the mechanic had requested the owner/pilot perform engine runs. The completion of this was confirmed by the pilot/owner by telephone. The annual was signed off by the mechanic on February 12, 2013, at an hour meter time of 1,732 hours (airframe total time 2,933 hours).

On February 15, 2013, the pilot was planning to fly to Imperial County Airport, Imperial, California. The pilot said he departed with 42 gallons of fuel in the main tank. He thought his flight time would be about 1 hour, and the airplane had an average fuel burn rate of 20 gallons per hour. As he approached his destination, both engines "quit" simultaneously. He turned on both fuel boost pumps, and both engines restarted. After about 1 minute they shut down once again. He performed a forced landing to a freshly irrigated carrot field. During the landing roll, in the soft, muddy field, the left wing sustained substantial damage.

Postaccident recovery of the airplane, in the presence of a Federal Aviation Administration inspector, revealed no fuel in the airplane's tanks and no indications of fuel leaks. The lack of damage to both propellers indicated that the engines were not running at the time of touch down. The airplane's Hobbs meter read 1,733.5, indicating that the airplane had flown 1.5 hours since the annual inspection.

A friend of the pilot, who had a hangar next to the pilot's hangar at Chino Airport, reported that the airplane had two nacelle fuel tanks and two wing tip tanks that fed to a single main fuel tank, which was located in the right wing root. After the accident, he asked the pilot if he had "stuck" the main fuel tank before flight to determine the quantity of fuel, and the pilot replied "no, because he had plenty of fuel." The pilot told him that he thought it would take him less than 50 minutes to fly the 130-nautical-mile flight. The pilot also told him that he had encountered a 30-knot headwind on the flight and that he had

mistakenly programmed his GPS for the Imperial VORTAC, which was about 7 nautical miles past the Imperial County Airport.

Pilot Information

Certificate:	Private	**Age:**	76
Airplane Rating(s):	Single-engine land; Multi-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 3 With waivers/limitations	**Last FAA Medical Exam:**	May 2, 2011
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	November 15, 2012
Flight Time:	7700 hours (Total, all aircraft), 750 hours (Total, this make and model), 7700 hours (Pilot In Command, all aircraft), 10 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Temco	**Registration:**	N716T
Model/Series:	D-16A	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	TTN-84
Landing Gear Type:	Retractable - Tricycle	**Seats:**	4
Date/Type of Last Inspection:	February 12, 2013 Annual	**Certified Max Gross Wt.:**	3600 lbs
Time Since Last Inspection:		**Engines:**	2 Reciprocating
Airframe Total Time:	3000 Hrs	**Engine Manufacturer:**	Lycoming
ELT:	Installed, not activated	**Engine Model/Series:**	O-320
Registered Owner:	HAMILTON GAY M	**Rated Power:**	150 Horsepower
Operator:	HAMILTON GAY M	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	IPL,-54 ft msl	**Distance from Accident Site:**	6 Nautical Miles
Observation Time:	15:53 Local	**Direction from Accident Site:**	330°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	/	**Turbulence Type Forecast/Actual:**	/
Wind Direction:		**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.15 inches Hg	**Temperature/Dew Point:**	24°C / -8°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Chino, CA (CNO)	**Type of Flight Plan Filed:**	None
Destination:	Imperial, CA (IPL)	**Type of Clearance:**	None
Departure Time:	15:00 Local	**Type of Airspace:**	

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:**	32.751667,-115.518608(est)

Administrative Information

Investigator In Charge (IIC):	Struhsaker, James
Additional Participating Persons:	Thomas C Marquez; FAA FSDO; San Diego, CA
Original Publish Date:	June 2, 2014
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=86240