



# National Transportation Safety Board Aviation Accident Final Report

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<b>Location:</b>	Murrieta, CA	<b>Accident Number:</b>	LAX08LA056
<b>Date &amp; Time:</b>	02/01/2008, 1116 PST	<b>Registration:</b>	N601KS
<b>Aircraft:</b>	Smith Zodiac 601XL	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>		<b>Injuries:</b>	1 None

**Flight Conducted Under:** Part 91: General Aviation - Personal

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## Analysis

During the takeoff climb, the engine was starved of fuel and lost power. Following the power loss, the pilot activated the auxiliary fuel pump and tried unsuccessfully to restart the engine. The pilot was turning in a 10-degree bank toward an off-airport emergency landing site in open terrain, when the left main landing gear touched down first on the upsloping terrain. About 50 feet from the initial touchdown, the nose landing gear dug into the soft terrain and separated, and the airplane came to rest on its nose. The pilot reported that prior to the loss of power, the fuel pressure gage went to zero and he received a low fuel pressure warning. He further reported that on the daytime flight, he was operating all of his electrical systems; strobes, transponder, and radios. He said he believed that with the full operation of all the electrical devices, the electrically driven fuel pump did not have sufficient amperage to run. An inspection of the airplane revealed that the carburetor bowl was empty; even though there was fuel onboard the airplane. With the fuel pump not operating, fuel was not being supplied to the carburetor, thus allowing the engine to lose power as a result of fuel starvation. When functionally checked the fuel pump operated normally. The pilot reported that there was no recent maintenance done on the airplane.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: A loss of engine power due to fuel starvation, which was induced by the electrical system lacking sufficient power to run all of the electrical devices on the airplane and the electrical fuel pump.

## Findings

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Occurrence #1: LOSS OF ENGINE POWER  
Phase of Operation: TAKEOFF - INITIAL CLIMB

### Findings

1. (C) ELECTRICAL SYSTEM - OVERLOAD
  2. (C) FUEL SYSTEM,PUMP - FAILURE,TOTAL
  3. (C) FLUID,FUEL - STARVATION
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Occurrence #2: FORCED LANDING  
Phase of Operation: EMERGENCY LANDING AFTER TAKEOFF

### Findings

4. TERRAIN CONDITION - MOUNTAINOUS/HILLY
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Occurrence #3: ON GROUND/WATER ENCOUNTER WITH TERRAIN/WATER  
Phase of Operation: LANDING - FLARE/TOUCHDOWN

### Findings

5. TERRAIN CONDITION - SOFT

## Factual Information

On February 1, 2008, at 1116 Pacific standard time, a single engine experimental Smith Zodiac 601XL, N601KS, experienced a loss of engine power on takeoff and came to rest nose down in an open field following an emergency landing adjacent to French Valley Airport (F70), Murrieta/Temecula, California. The pilot/owner operated the personal local area flight under the provisions of 14 Code of Federal Regulations (CFR) Part 91. The pilot, the sole occupant was not injured; the airplane sustained substantial damage. Visual meteorological conditions prevailed for the flight and no flight plan had been filed.

During a telephone interview and subsequent written statement, the pilot reported that he was going to fly locally in the area. He had flown the airplane about a month prior to the accident and encountered no problems. On the accident flight, the preflight was normal, and the run-up was "good." He reported that on the takeoff roll all of the gages were in the "green." He rotated the airplane at 65 miles per hour (mph), and established a normal climb rate to about 200 feet above ground level (agl), when the engine lost power and quit. The pilot stated that he activated the auxiliary fuel pump, and tried unsuccessfully to restart the engine.

The pilot stated that he banked the airplane to the left about 30 degrees and selected a landing site, while maintaining 75 mph. He noted that the terrain was undulating at his chosen landing site and he aimed for relatively flat terrain. About 2 feet above the ground he flared for landing; however, the airplane was still in a left bank about 10 degrees and the left main landing gear touched down on slightly upsloping soft terrain. About 50 feet from the initial touchdown, the nose landing gear touched down and dug into the soft dirt; it separated at the strut. The airplane spun around 180 degrees from its original direction of travel, the wing tips touched down and the airplane stopped and came to rest in a nose low attitude. The forward cockpit, engine, and cowl were damaged. The pilot also stated that there had been no recent maintenance on the airplane.

In a follow-up interview with the pilot, he reported that the fuel pressure gage went to zero and he received a low fuel pressure warning just prior to the engine failure. The pilot stated that he believed the electrical system was overpowered with the operation of strobes, transponder, radios, and other systems; he stated that he was "running it all." When he checked the carburetor he noted that there was no fuel in the carburetor bowl. The pilot stated that the fuel pump quit as a result of an electrical drain. In turn there was no fuel being supplied to the carburetor and thus the rest of the fuel system was starved of fuel allowing the engine to quit. He functionally checked the fuel pump and indicated that it operated normally. The pilot further reported that there was fuel onboard the airplane.

According to a responding deputy from Riverside County Sheriff's Department, the airplane came to rest about 1/4 mile southeast of the airport. The right wing was "smashed" and had multiple dents, the landing gear had separated from the airplane, and the front end of the airplane had sustained damage.

## Pilot Information

<b>Certificate:</b>	Private	<b>Age:</b>	61, Male
<b>Airplane Rating(s):</b>	Single-engine Land	<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	Seatbelt, Shoulder harness
<b>Instrument Rating(s):</b>	None	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 3	<b>Last Medical Exam:</b>	07/01/2006
<b>Occupational Pilot:</b>		<b>Last Flight Review or Equivalent:</b>	11/01/2006
<b>Flight Time:</b>	138 hours (Total, all aircraft), 13 hours (Total, this make and model), 90 hours (Pilot In Command, all aircraft), 25 hours (Last 90 days, all aircraft), 1 hours (Last 30 days, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Manufacturer:</b>	Smith	<b>Registration:</b>	N601KS
<b>Model/Series:</b>	Zodiac 601XL	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	No
<b>Airworthiness Certificate:</b>	Experimental	<b>Serial Number:</b>	6-5930
<b>Landing Gear Type:</b>	Tricycle	<b>Seats:</b>	2
<b>Date/Type of Last Inspection:</b>	11/01/2007, Conditional	<b>Certified Max Gross Wt.:</b>	1320 lbs
<b>Time Since Last Inspection:</b>		<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>		<b>Engine Manufacturer:</b>	General Motors
<b>ELT:</b>	Installed, not activated	<b>Engine Model/Series:</b>	Corvair/T1123
<b>Registered Owner:</b>	Kenneth R Smith	<b>Rated Power:</b>	100 hp
<b>Operator:</b>	Kenneth R Smith	<b>Air Carrier Operating Certificate:</b>	None

## Meteorological Information and Flight Plan

Observation Facility, Elevation:	F70, 1350 ft msl	Observation Time:	1116 PST
Distance from Accident Site:	1 Nautical Miles	Condition of Light:	Day
Direction from Accident Site:	90°	Conditions at Accident Site:	Visual Conditions
Lowest Cloud Condition:	Few / 12000 ft agl	Temperature/Dew Point:	17° C / 8° C
Lowest Ceiling:	None	Visibility	10 Miles
Wind Speed/Gusts, Direction:	6 knots, 220°	Visibility (RVR):	
Altimeter Setting:	30.02 inches Hg	Visibility (RVV):	
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Murrieta/Temecu, CA (F70)	Type of Flight Plan Filed:	None
Destination:	(F70)	Type of Clearance:	None
Departure Time:	1116 PST	Type of Airspace:	

## Airport Information

Airport:	FRENCH VALLEY (F70)	Runway Surface Type:	
Airport Elevation:	1350 ft	Runway Surface Condition:	
Runway Used:	NA	IFR Approach:	None
Runway Length/Width:		VFR Approach/Landing:	None

## Wreckage and Impact Information

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

## Administrative Information

Investigator In Charge (IIC):	Tealeye C Cornejo	Adopted Date:	07/30/2008
Additional Participating Persons:	Gabriel Serrano; Federal Aviation Administration; Riverside, CA		
Publish Date:			
Investigation Docket:	NTSB accident and incident dockets serve as permanent archival information for the NTSB's investigations. Dockets released prior to June 1, 2009 are publicly available from the NTSB's Record Management Division at <a href="mailto:pubinq@ntsb.gov">pubinq@ntsb.gov</a> , or at 800-877-6799. Dockets released after this date are available at <a href="http://dms.nts.gov/pubdms/">http://dms.nts.gov/pubdms/</a> .		

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