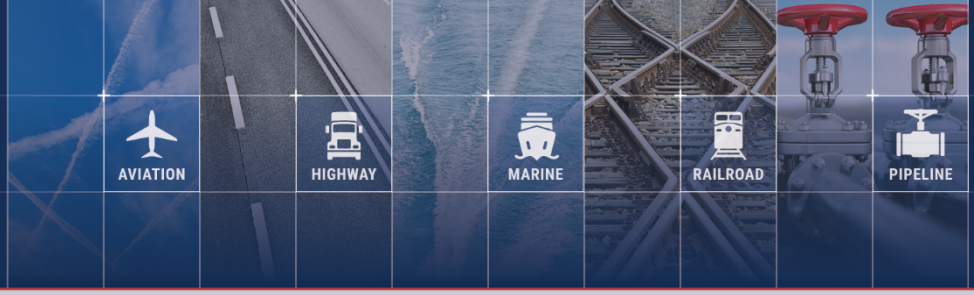

Aviation Investigation Factual Report

Location:	Glendale, Arizona	**Accident Number:**	WPR10LA039
Date & Time:	October 30, 2009, 11:30 Local	**Registration:**	N811RJ
Aircraft:	SAUER KR-2S	**Aircraft Damage:**	Substantial
Defining Event:	Fuel starvation	**Injuries:**	1 Minor
Flight Conducted Under:	Part 91: General aviation - Flight test		

Factual Information

On October 30, 2009, at 1130 mountain standard time, a Sauer KR-2S experimental homebuilt airplane, N811RJ, sustained substantial damage during a forced landing following a loss of engine power near Glendale, Arizona. The commercial pilot, the sole occupant, received minor injuries. The pilot was operating the airplane under the provisions of 14 Code of Federal Regulations Part 91. Visual meteorological conditions prevailed for the aircraft's first flight, which was originating at the time of the accident. A flight plan had not been filed.

The pilot said that immediately after takeoff, at approximately 300 feet above ground level, the airspeed began to decrease. He lowered the airplane's nose to maintain airspeed. He then noticed that the engine's rpm was decreasing. The pilot performed a forced landing straight ahead, and during the rollout, the airplane impacted a berm. Both wings were displaced aft and the bottom of the fuselage was broken.

The owner/builder of the airplane reported that the airplane's 20-gallon fuel tank was located between the firewall and the instrument panel. There were eight gallons of fuel in it at the time of the accident. The fuel system was gravity feed to the carburetor. The fuel tank's vent line passed through the firewall into the engine compartment and terminated near the bottom of the aircraft. The owner/builder reported that the engine's cooling air flow exited the engine compartment at the same location as the fuel tank's vent line. He further reported that he believed the exiting airflow may have created a negative pressure in the tank, which reduced the fuel flow to the engine during flight.

Two Federal Aviation Administration inspectors examined the experimental Corvair 164 CID engine with the builder. They found no anomalies that would have prevented normal engine operation.

Pilot Information

Certificate:	Commercial; Flight instructor	**Age:**	34,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	Airplane multi-engine; Airplane single-engine	**Toxicology Performed:**	No
Medical Certification:	Class 2 Without waivers/limitations	**Last FAA Medical Exam:**	December 15, 2008
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	September 14, 2009
Flight Time:	2612 hours (Total, all aircraft), 2534 hours (Pilot In Command, all aircraft), 85 hours (Last 90 days, all aircraft), 25 hours (Last 30 days, all aircraft), 4 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	SAUER	**Registration:**	N811RJ
Model/Series:	KR-2S	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	Yes
Airworthiness Certificate:	Experimental (Special)	**Serial Number:**	001
Landing Gear Type:	Tricycle	**Seats:**	2
Date/Type of Last Inspection:	October 30, 2009 Condition	**Certified Max Gross Wt.:**	980 lbs
Time Since Last Inspection:	0 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	1 Hrs at time of accident	**Engine Manufacturer:**	Corvair
ELT:	Installed, not activated	**Engine Model/Series:**	164 CID
Registered Owner:	SAUER ROBERT E TRUSTEE	**Rated Power:**	160 Horsepower
Operator:	SAUER ROBERT E TRUSTEE	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	GEU,1071 ft msl	**Distance from Accident Site:**	
Observation Time:	11:47 Local	**Direction from Accident Site:**	
Lowest Cloud Condition:	25000 ft AGL	**Visibility**	20 miles
Lowest Ceiling:	Broken / 25000 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	6 knots / None	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	120°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.14 inches Hg	**Temperature/Dew Point:**	17°C / -10°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Glendale, AZ (GEU)	**Type of Flight Plan Filed:**	Unknown
Destination:	Glendale, AZ (GEU)	**Type of Clearance:**	None
Departure Time:	11:30 Local	**Type of Airspace:**	

Airport Information

Airport:	Glendale Municipal Airport GEU	**Runway Surface Type:**	
Airport Elevation:	1071 ft msl	**Runway Surface Condition:**	
Runway Used:		**IFR Approach:**	None
Runway Length/Width:		**VFR Approach/Landing:**	Forced landing

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:**	33.526943,-112.29528(est)

Administrative Information

Investigator In Charge (IIC):	Struhsaker, James
Additional Participating Persons:	Paula Behrend; Federal Aviation Adminsitration; Scottsdale, AZ
Report Date:	December 7, 2009
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=74987