Aviation Investigation Final Report

Location:	Twin Falls, Idaho	**Accident Number:**	WPR10LA160
Date & Time:	March 15, 2010, 11:20 Local	**Registration:**	N951DM
Aircraft:	MIGAS RV9-A	**Aircraft Damage:**	Substantial
Defining Event:	Loss of control on ground	**Injuries:**	1 Serious
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

In near calm wind conditions, the pilot reported that after he made a normal traffic pattern approach and touchdown his airplane veered "sharply left," and he was unable to redirect the airplane's course back toward the runway using right rudder and right brake. The airplane departed the left side of the runway while rolling between 25 and 30 miles per hour. Thereafter, it rolled onto an open soft dirt field adjacent to the runway's edge, the nose gear dug into the dirt, and the airplane came to rest upside down. The pilot had recent flying experience in the airplane and was current. A Federal Aviation Administration inspector examined the accident site and airplane. He reported observing evidence on the runway of nose gear shimmy. Also, he reported observing evidence that the nose gear created a furrow in the soft dirt consistent with the nose gear wheel being canted sideways before breaking in an aft direction. No mechanical malfunction or anomalies were found with the airplane's flight controls, landing gear system, or brakes. Physical evidence related to the pilot's loss of directional/steering control was not found. The pilot indicated that he does not know why the airplane's nose gear canted/twisted sideways and precluded him from maintaining directional control during rollout.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's loss of directional control during landing roll for an undetermined reason.

Findings

Aircraft	Directional control - Not attained/maintained
Not determined	(general) - Unknown/Not determined

Factual Information

History of Flight

Landing-landing roll	Loss of control on ground (Defining event)
Landing-landing roll	Runway excursion
Landing-landing roll	Nose over/nose down

On March 15, 2010, about 1120 mountain daylight time, a Migas RV9-A, N951DM, owned and operated by the pilot, nosed over during landing rollout at the Joslin Field-Magic Valley Regional Airport (TWF), Twin Falls, Idaho. Visual meteorological conditions prevailed at the time of the personal flight, and no flight plan had been filed. The amateur built experimental airplane was substantially damaged, and the airline transport pilot was seriously injured. The flight was performed under the provisions of 14 Code of Federal Regulations Part 91. The flight originated from Kennewick, Washington, about an hour earlier.

The pilot reported that his traffic pattern approach and touchdown on runway 25 at TWF were normal. Runway 25 is 8,703 feet long and 150 feet wide. The wind was from about 250 degrees at 3 knots, and the runway was dry.

According to the pilot, after touchdown the airplane veered "sharply left," and he was unable to redirect the airplane's course back toward the runway using right rudder and right brake. The airplane departed off the left side of the runway while rolling between 25 and 30 miles per hour. The airplane rolled onto an open soft dirt field adjacent to the runway's edge, the nose gear dug into the dirt, and the airplane came to rest upside down.

The pilot subsequently examined the airplane. He noted that none of its tires were flat. The nose gear assembly was broken and collapsed. The main wheel brakes were not found locked up. The pilot reported that he had experience landing on grass airstrips as well as concrete runways, and he has no idea why the airplane uncontrollably veered left during rollout.

The former airline pilot holds a Federal Aviation Administration (FAA) repairman experimental aircraft builder certificate for his airplane. The pilot also holds an FAA flight engineer certificate and type ratings in four models of Boeing turbojet airplanes. He has over 16,400 flight hours, including 143 hours in the accident airplane of which 32 hours were acquired during the preceding 90 days.

The FAA coordinator responded to the accident scene. He reported observing evidence on the runway of nose gear shimmy. The nose gear created a furrow in the soft dirt before breaking in an aft direction.

During the FAA coordinator's subsequent interview with the pilot, he reported that no evidence

of any control malfunction was detected by the pilot during his flight. The pilot indicated that he normally touches down about 65 knots, and he normally keeps the nose wheel off the ground until slowing to about 40 knots. The pilot reported that the airplane has excellent rudder control at speeds as low as 35 knots. Regarding the accident, the pilot indicated that he does not understand why his airplane veered left or why its nose gear twisted sideways and precluded him from maintaining control during rollout.

An FAA certificated aircraft mechanic also examined the airplane. He reported to the FAA coordinator that no mechanical malfunction or anomalies were found with the airplane's flight controls, landing gear, or brakes. No physical evidence related to the pilot's loss of directional or steering control was found.

Pilot Information

Certificate:	Airline transport; Flight engineer	**Age:**	68,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):	None	**Toxicology Performed:**	No
Medical Certification:	Class 3 Without waivers/limitations	**Last FAA Medical Exam:**	May 18, 2009
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	June 16, 2009
Flight Time:	16450 hours (Total, all aircraft), 143 hours (Total, this make and model), 32 hours (Last 90 days, all aircraft), 22 hours (Last 30 days, all aircraft), 4 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	MIGAS	**Registration:**	N951DM
Model/Series:	RV9-A	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	Yes
Airworthiness Certificate:	Experimental (Special)	**Serial Number:**	90558
Landing Gear Type:	Tricycle	**Seats:**	2
Date/Type of Last Inspection:	Condition	**Certified Max Gross Wt.:**	1750 lbs
Time Since Last Inspection:	20 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	142 Hrs at time of accident	**Engine Manufacturer:**	Aero Sport
ELT:	Installed, not activated	**Engine Model/Series:**	320 D2A
Registered Owner:	On file	**Rated Power:**	160 Horsepower
Operator:	On file	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	TWF,4154 ft msl	**Distance from Accident Site:**	0 Nautical Miles
Observation Time:	10:53 Local	**Direction from Accident Site:**	
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	4 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	20°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.45 inches Hg	**Temperature/Dew Point:**	6°C / -4°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Kennewick, WA (S98)	**Type of Flight Plan Filed:**	None
Destination:	Twin Falls, ID (TWF)	**Type of Clearance:**	VFR
Departure Time:	09:30 Local	**Type of Airspace:**	

Airport Information

Airport:	Joslin Field-Magic Valley Reg. TWF	**Runway Surface Type:**	Asphalt
Airport Elevation:	4154 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	25	**IFR Approach:**	None
Runway Length/Width:	8703 ft / 150 ft	**VFR Approach/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:**	None
Total Injuries:	1 Serious	**Latitude, Longitude:**	42.481945,-114.487777(est)

Administrative Information

Investigator In Charge (IIC):	Pollack, Wayne
Additional Participating Persons:	Nick Webber; Federal Aviation Administration; Boise, ID
Original Publish Date:	January 7, 2011
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=75513