Aviation Investigation Final Report

Location:	Richland, Washington	**Accident Number:**	SEA05LA179
Date & Time:	August 22, 2005, 08:35 Local	**Registration:**	N7546T
Aircraft:	American Champion (ACAC) 7KCAB	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	1 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot, who had just finished practicing a series of aerobatic maneuvers, was descending back toward the airport when the engine suddenly quit. He attempted to restart the engine, which momentarily fired, but it did not stay running. The propeller, which initially was windmilling after the power loss, eventually came to a stop, and the pilot was unable to get the engine to rotate by activating the starter. He therefore made a power-off forced landing in a nearby open field, and although the flare and touchdown were uneventful, during the landing roll, the aircraft encountered a pair of eight inch high berms and nosed over onto its back. A post accident inspection of the aircraft and engine determined that the fitting that attaches the oil pressure gauge line to the engine had come loose, and oil had escaped from the area around the fitting. Further inspection revealed that the loss of oil lead to extensive thermal and mechanical damage to the primary lower end engine components, and that the engine had seized as a result of that damage. A review of the aircraft records did not reveal any recent maintenance in which the oil pressure measuring system would have been expected to have been manipulated.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The oil pressure gauge line fitting coming loose from the engine, resulting in the loss of oil to the point where internal engine components were starved for oil, leading to extensive internal

damage and seizing of the engine. Factors include a set of eight inch high berms in the field where the pilot found it necessary to execute his forced landing.

Findings

Occurrence #1: AIRFRAME/COMPONENT/SYSTEM FAILURE/MALFUNCTION
Phase of Operation: DESCENT - NORMAL

Findings
1. (C) LUBRICATING SYSTEM,OIL TUBING - LOOSE
2. (C) FLUID,OIL - LEAK
3. (C) FLUID,OIL - STARVATION
4. (C) POWERPLANT - SEIZED

Occurrence #2: FORCED LANDING
Phase of Operation: EMERGENCY DESCENT/LANDING

Occurrence #3: ON GROUND/WATER ENCOUNTER WITH TERRAIN/WATER
Phase of Operation: EMERGENCY LANDING

Findings
5. (F) TERRAIN CONDITION - BERM

Occurrence #4: NOSE OVER
Phase of Operation: LANDING - ROLL

Factual Information

On August 22, 2005, approximately 0835 Pacific daylight time, an American Champion 7KCAB, N7546T, nosed over during a forced landing in an open field about three miles north of Richland, Washington. The private pilot, who was the sole occupant, was not injured, but the aircraft, which is owned and operated by the pilot, sustained substantial damage. The local 14 CFR Part 91 personal pleasure flight, which departed Richland about 35 minutes prior to the accident, was being operated in visual meteorological conditions. No flight plan had been filed. The ELT, which was activated by the accident sequence, was turned off at the scene.

According to the pilot, he had just finished practicing a series of aerobatic maneuvers, and was descending back toward the airport when the engine suddenly quit. He attempted to restart the engine, which momentarily fired, but it did not stay running. The propeller, which initially was windmilling after the power loss, eventually came to a stop, and the pilot was unable to get the engine to rotate by activating the starter. He therefore made a power-off forced landing in a nearby open field. Although the flare and touchdown were uneventful, during the landing roll, the aircraft encountered a pair of eight inch high berms, that appeared to have been created by a bulldozer, and subsequently nosed over onto its back.

A post-accident inspection of the aircraft and engine determined that the fitting that attaches the oil pressure gauge line to the engine had come loose, and oil had escaped from the area around the fitting. Further inspection revealed that the loss of oil lead to extensive thermal and mechanical damage to the primary lower end engine components, and that the engine had seized as a result of that damage. A review of the aircraft records did not reveal any recent maintenance in which the oil pressure measuring system would have been expected to have been manipulated.

Pilot Information

Certificate:	Private	**Age:**	66,Male
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Front
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:**	June 1, 2004
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	October 1, 2004
Flight Time:	677 hours (Total, all aircraft), 275 hours (Total, this make and model), 677 hours (Pilot In Command, all aircraft), 57 hours (Last 90 days, all aircraft), 22 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	American Champion (ACAC)	**Registration:**	N7546T
Model/Series:	7KCAB	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	287-70
Landing Gear Type:	Tailwheel	**Seats:**	2
Date/Type of Last Inspection:	December 1, 2003 Annual	**Certified Max Gross Wt.:**	1650 lbs
Time Since Last Inspection:	118 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	3540 Hrs at time of accident	**Engine Manufacturer:**	Lycoming
ELT:	Installed, activated, did not aid in locating accident	**Engine Model/Series:**	IO-320-E2A
Registered Owner:	Bryan F. Gore	**Rated Power:**	150 Horsepower
Operator:		**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:		**Distance from Accident Site:**	
Observation Time:		**Direction from Accident Site:**	
Lowest Cloud Condition:	Clear	**Visibility**	20 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	/	**Turbulence Type Forecast/Actual:**	/
Wind Direction:		**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:		**Temperature/Dew Point:**	21°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Richland, WA (KRLD)	**Type of Flight Plan Filed:**	None
Destination:	(KRLD)	**Type of Clearance:**	None
Departure Time:	08:00 Local	**Type of Airspace:**	

Wreckage and Impact Information

Crew Injuries:	1 None	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 None	**Latitude, Longitude:**	46.367221,-119.306388

Administrative Information

Investigator In Charge (IIC):	Anderson, Orrin
Additional Participating Persons:	Donnie Ware; Spokane FSDO
Original Publish Date:	October 27, 2005
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=62288