



National Transportation Safety Board Aviation Accident Final Report

Location:	Sylvan Grove, KS	Accident Number:	DEN07LA133
Date & Time:	08/01/2007, 1615 CDT	Registration:	N7441W
Aircraft:	Walker Lancair IV	Aircraft Damage:	Substantial
Defining Event:		Injuries:	1 Serious

Flight Conducted Under: Part 91: General Aviation - Personal

Analysis

The airplane had been fully serviced with fuel and oil prior to takeoff. During the initial climb to 10,500 feet, the electronic manifold pressure gauge malfunctioned so the pilot managed power "by throttle position." He reduced power when the number 2 cylinder head temperature increased more than the other cylinder head temperatures. Almost immediately upon leveling off, the engine lost power. When the fuel boost pump was switched to HIGH, the engine "fired and achieved lower power for 30 seconds." Mixture control manipulation restarted the engine, but after a few seconds there was "an explosion and a lot of smoke." The engine stopped but [the propeller] "appeared to be turning freely" all the way down. The pilot made a rapid descent and landed in an open field. The airplane rolled about 400 feet, crested a small rise, then struck a ground depression that collapsed the landing gear. The airplane then slid sideways for another 300 feet. The pilot used his cellular telephone to alert authorities of the accident. FAA inspectors examined the engine, a Continental TSIO-550-B-1-B (s.n. 802008), and found evidence of catastrophic engine failure. An oil line to the turbocharger wastegate actuator had come loose, causing oil starvation and high heat distress. A hole in the engine case exposed the number 5 journal and imprints from rod bolt strikes. The airplane was built in 1992. The engine had a total time of 88 hours.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: A catastrophic engine failure due to oil starvation when an oil line to the turbocharger wastegate actuator came loose. Contributing factors in this accident were the unsuitable terrain on which to make a forced landing.

Findings

Occurrence #1: LOSS OF ENGINE POWER(TOTAL) - MECH FAILURE/MALF
Phase of Operation: CRUISE - NORMAL

Findings

1. (C) LUBRICATING SYSTEM,OIL LINE - NOT SECURED
2. (C) FLUID,OIL - STARVATION
3. ENGINE ASSEMBLY,CONNECTING ROD BOLT - FAILURE

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

Occurrence #3: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: LANDING

Findings

4. (F) TERRAIN CONDITION - NONE SUITABLE
5. TERRAIN CONDITION - OPEN FIELD
6. TERRAIN CONDITION - ROUGH/UNEVEN

Factual Information

On August 1, 2007, approximately 1615 central daylight time, a Walker Lancair IV, N7441W, piloted by an airline transport-certificated pilot, was substantially damaged when it collided with terrain during a forced landing following a loss of engine power three miles southeast of Sylvan Grove, Kansas. Visual meteorological conditions prevailed at the time of the accident. The personal flight was being conducted under the provisions of Title 14 Code of Federal Regulations (CFR) Part 91 without a flight plan. The pilot was seriously injured. The cross-country flight originated at Junction City, Kansas (3JC), and was en route to Farmington, New Mexico (FMN). Its final destination was Santa Barbara, California (SBA).

The pilot had just purchased the airplane and was ferrying it home. According to the pilot's accident report dictated to an FAA inspector from his hospital bed, the airplane had been "fully serviced with fuel and oil" prior to his departure. During the initial climb to 10,500 feet, the electronic manifold pressure gauge malfunctioned so he managed power "by throttle position." He reduced power when the number 2 cylinder head temperature increased more than the other cylinder head temperatures. Almost immediately upon leveling off, the engine lost power. When the fuel boost pump was switched to HIGH, the engine "fired and achieved lower power for 30 seconds." Mixture control manipulation restarted the engine, but after a few seconds there was "an explosion and a lot of smoke." The engine stopped but [the propeller] "appeared to be turning freely" all the way down. The pilot made a rapid descent and landed in an open field. The airplane rolled about 400 feet, crested a small rise, then struck a ground depression that collapsed the landing gear and buckled the firewall. The airplane then slid sideways for another 300 feet. The pilot used his cellular telephone to alert authorities of the accident.

FAA inspectors examined the engine, a Continental TSIO-550-B-1-B (s.n. 802008), and found evidence of catastrophic engine failure. An oil line to the turbocharger wastegate actuator had come loose, resulting in oil starvation and high heat distress. A hole in the engine case exposed the number 5 journal and imprints from rod bolt strikes. The airplane was built in 1992. The engine had a total time of 88 hours.

Aircraft and Owner/Operator Information

Aircraft Manufacturer:	Walker	Registration:	N7441W
Model/Series:	Lancair IV	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	Yes
Airworthiness Certificate:	Experimental	Serial Number:	LIV-076
Landing Gear Type:	Retractable - Tricycle	Seats:	4
Date/Type of Last Inspection:	08/01/2007, Conditional	Certified Max Gross Wt.:	3550 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:	90 Hours	Engine Manufacturer:	Continental
ELT:	Installed, activated, did not aid in locating accident	Engine Model/Series:	TSIO-550-B
Registered Owner:	Bruce A. Stratton	Rated Power:	350 hp
Operator:	Bruce A. Stratton	Air Carrier Operating Certificate:	None

Meteorological Information and Flight Plan

Observation Facility, Elevation:	RSL, 1862 ft msl	Observation Time:	1553 CDT
Distance from Accident Site:	29 Nautical Miles	Condition of Light:	Day
Direction from Accident Site:	240°	Conditions at Accident Site:	Visual Conditions
Lowest Cloud Condition:	Few / 3900 ft agl	Temperature/Dew Point:	32° C / 22° C
Lowest Ceiling:	None	Visibility	10 Miles
Wind Speed/Gusts, Direction:	14 knots/ 18 knots, 150°	Visibility (RVR):	
Altimeter Setting:	29.91 inches Hg	Visibility (RVV):	
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Junction City, KS (3JC)	Type of Flight Plan Filed:	None
Destination:	Farmington, NM (FMN)	Type of Clearance:	None
Departure Time:	1355 CST	Type of Airspace:	

Wreckage and Impact Information

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

Administrative Information

Investigator In Charge (IIC): Arnold W Scott **Adopted Date:** 12/20/2007

Additional Participating Persons: Gary Watson; FAA Flight Standards District Office; Wichita, KS

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 pubinq@ntsb.gov, or at 800-877-6799. Dockets released after this date are available at <http://dms.nts.gov/pubdms/>.

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