Aviation Investigation Final Report

Location:	Newton, Kansas	**Accident Number:**	CEN19LA111
Date & Time:	March 26, 2019, 17:30 Local	**Registration:**	N76268
Aircraft:	Cessna 140	**Aircraft Damage:**	Substantial
Defining Event:	Loss of engine power (total)	**Injuries:**	1 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot reported that no engine issues were detected during the run up. He stated that, during the takeoff, the climbout engine power was "good." On the turn to downwind, the pilot noticed a slight loss of engine power. He checked the throttle position and continued the downwind leg. The pilot considered landing on the crosswind runway but felt he had engine power to make a short 180° approach to the departure runway. During the turn to final, the engine had an additional power drop, "clattered" about 3-4 seconds, and subsequently stopped. The pilot landed straight ahead in a field, where the airplane nosed over and sustained substantial damage.

A disassembly of the engine revealed that the camshaft was fractured in the area abeam the No.1 cylinder. The No. 1 connecting rod end was separated from its crankshaft journal, and the rod end exhibited discoloration consistent with lubrication distress. The liberated sections of connecting rod bearing material were found in the oil sump an exhibited discoloration consistent with lubrication distress. The oil transfer tube orifice for the No. 1 connecting rod bearing was smeared over with migrated connecting rod journal material. The migrated and smeared metal was drilled through to see if any debris was present; only metallic particles were present that were attracted by a magnet. No other blockages were found within the oil system. Scoring consistent with hard particle passage was observed within the oil pump housing. The oil filter was cut open and had one spot of dark-colored debris; no other debris found within the filter pleats. The oil suction pickup tube was disassembled and did not contain any debris.

The No. 1 connecting rod end separation is consistent with oil starvation at the rod end.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

The loss of engine power after the No. 1 connecting rod end separated as a result of oil starvation, which led to the forced landing and nose-over.

Findings

Aircraft	Recip eng cyl section - Failure
Aircraft	Oil - Fluid level

Factual Information

History of Flight

Approach	Loss of engine power (total) (Defining event)
Emergency descent	Off-field or emergency landing
Landing	Nose over/nose down

On March 26, 2019, about 1730 central daylight time, a Cessna 140 airplane, N76268, nosed over during a forced landing near the Newton City/County Airport (EWK), near Newton, Kansas, following a loss of engine power. The private pilot was uninjured. The airplane sustained substantial wing and empennage damage. The airplane was registered to and operated by the pilot as a Title 14 *Code of Federal Regulations* Part 91 personal flight. Day visual meteorological conditions prevailed in the area about the time of the accident, and the flight was not operated on a flight plan. The local flight originated from EWK.

This was the first flight after an annual inspection of the airplane. According to the pilot's accident report, the engine run up check was conducted, and the magnetos and carburetor heat were "good." During the takeoff, the climb out engine power was "good." On the turn to downwind, the pilot noticed a slight loss of engine power below "normal." He checked the throttle position and continued the downwind leg of the flight. The pilot considered a crosswind landing on runway 8/26. However, he felt he had engine power to make a short 180° approach to runway 17. During the turn to final, the engine power dropped further, it "clattered" about 3-4 seconds, and subsequently stopped. The pilot stated that the only option was to land straight ahead in a field to the north of runway 17.

A Federal Aviation Administration inspector examined the engine and found that he could only rotate the propeller through 270° of rotation. The engine was subsequently removed from the airplane, crated, and shipped to Continental Motors for a disassembly inspection. During disassembly, the No. 1 connecting rod end was found separated from its crankshaft journal and the rod end exhibited discoloration consistent with lubrication distress. Liberated sections of the No. 1 connecting rod bearing were found in the oil sump and those sections exhibited discoloration consistent with lubrication distress. The oil transfer tube orifice for the No. 1 connecting rod bearing was smeared over with migrated connecting rod journal material. The migrated and smeared metal was drilled through to see if any debris was present. Only metallic particles were present that were attracted by a magnet. The remaining oil transfer tube orifices and oil galleys were not obstructed. The remaining three connecting rods remained attached to the crankshaft. However, the connecting rod ends, and rod bearings all exhibited discoloration consistent with lubrication distress. Scoring consistent with hard particle passage was observed within the oil pump housing. The camshaft was fractured in the area abeam the separated connecting rod and the camshaft fractures surfaces appeared grainy and dull consistent with overload. The oil filter, hand dated March 22, 2019, was cut open and had one spot of dark colored debris and no other debris found within the filter pleats. The oil suction pickup tube was disassembled and it did not contain any debris.

Pilot Information

Certificate:	Private	**Age:**	68,Male
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	3-point
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:**	August 22, 2017
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	November 22, 2017
Flight Time:	1339 hours (Total, all aircraft), 40 hours (Total, this make and model)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	**Registration:**	N76268
Model/Series:	140 Undesignat	**Aircraft Category:**	Airplane
Year of Manufacture:	1946	**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	10676
Landing Gear Type:	Tailwheel	**Seats:**	2
Date/Type of Last Inspection:	March 22, 2019 Annual	**Certified Max Gross Wt.:**	1451 lbs
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:		**Engine Manufacturer:**	Continental
ELT:	Installed, not activated	**Engine Model/Series:**	C85-12
Registered Owner:	On file	**Rated Power:**	85 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:	KEWK,1532 ft msl	**Distance from Accident Site:**	0 Nautical Miles
Observation Time:	16:56 Local	**Direction from Accident Site:**	45°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	11 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	190°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.25 inches Hg	**Temperature/Dew Point:**	18°C / 7°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Newton, KS (EWK)	**Type of Flight Plan Filed:**	
Destination:	Newton, KS (EWK)	**Type of Clearance:**	None
Departure Time:	17:15 Local	**Type of Airspace:**	

Airport Information

Airport:	Newton-City-County EWK	**Runway Surface Type:**	Concrete
Airport Elevation:	1532 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	17	**IFR Approach:**	None
Runway Length/Width:	7003 ft / 100 ft	**VFR Approach/Landing:**	Forced landing

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:**	38.067779,-97.275276(est)

Administrative Information

Investigator In Charge (IIC):	Malinowski, Edward
Additional Participating Persons:	Richard Stevens; Federal Aviation Administration; Wichita, KS Nicole Charnon; Continental Motors; Mobile, AL
Original Publish Date:	January 28, 2021
Last Revision Date:	
Investigation Class:	Class 3
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=99187