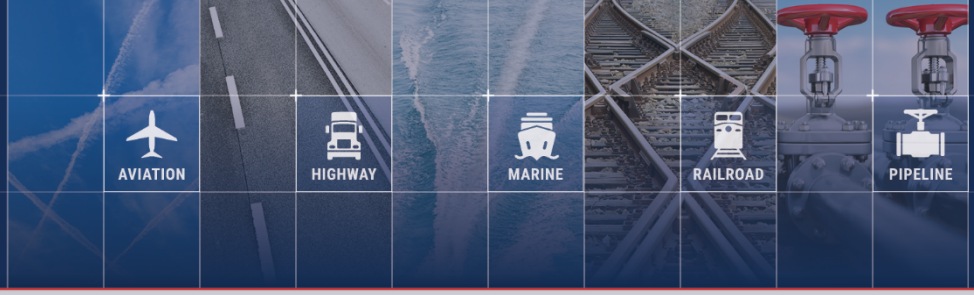

Aviation Investigation Final Report

Location:	Ruleton, Kansas	**Accident Number:**	CEN12LA558
Date & Time:	August 17, 2012, 13:45 Local	**Registration:**	N262EA
Aircraft:	Beech A36	**Aircraft Damage:**	Substantial
Defining Event:	Powerplant sys/comp malf/fail	**Injuries:**	3 None
Flight Conducted Under:	Part 91: General aviation - Executive/Corporate		

Analysis

Shortly after leveling off at a cruise altitude of 8,500 feet mean sea level, the pilot noted that the engine rpm increased to above its red line limit (2,700 rpm). The pilot was able to reduce power to 2,500 rpm but was unable to restore thrust and maintain altitude, so he made a forced landing in a nearby wheat field. During postaccident examination, the engine turbocharger controller was found covered with oil. Examination of an elbow fitting on the turbocharger wastegate control revealed that an O-ring was improperly installed and flattened, which allowed oil to seep out. When the O-ring was reseated and the elbow fitting torqued, no seepage was observed.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The improper installation of the wastegate controller O-ring, which resulted in a partial loss of engine power.

Findings

Personnel issues	Installation - Maintenance personnel
Aircraft	(general) - Incorrect service/maintenance

Factual Information

History of Flight

Prior to flight	Aircraft maintenance event
Enroute-cruise	Powerplant sys/comp malf/fail (Defining event)
Emergency descent	Off-field or emergency landing
Landing	Collision with terr/obj (non-CFIT)

On August 17, 2012, about 1345 mountain daylight time, the pilot of a Beech A36, N262EA, made a forced landing in a field near Ruleton, Kansas. The pilot and two passengers were not injured. The airplane was substantially damaged. The airplane was registered to KABAKY, LLC, Rapid City, South Dakota, and operated by 21st Century Equipment, Bridgeport, Nebraska, under the provisions of 14 Code of Federal Regulations Part 91 as a corporate/executive flight. Visual meteorological conditions prevailed at the time of the accident, and no flight plan had been filed. The local flight originated from Goodland, Kansas (KGLD), approximately 1330.

According to the pilot's accident report, there was 9 quarts of oil in the engine crankcase (12 quarts maximum capacity) prior to his departure from Sidney, Nebraska. He arrived in KGLD about 1230. He did not indicate whether he checked the oil. After boarding two passengers, he departed KGLD at 1330, en route to Fort Morgan (KFMM), Colorado. Shortly after leveling off at a cruising altitude of 8,500 feet, the pilot heard engine RPM (revolutions per minute) increase and he noted that the tachometer was at the top of the gauge. The pilot was able to reduce power to 2,500 RPM, but was unable to restore thrust or maintain altitude. He extended the landing gear and made a forced landing in a wheat field near County Roads 74 and 9, about 12 miles northwest of KGLD. Post-accident examination revealed the right wing rear spar was broken.

FAA inspectors went to the accident site and reported finding the turbocharger controller covered with oil. After the airplane was recovered to a hangar, they drained 5 quarts of oil from the crankcase.

On September 27, 2012, the turbocharger controller was examined by the NTSB at Beegles Aircraft Service in Greeley, Colorado. Oil covered the controller piping. When shop air (35-95 psi) was introduced via the oil pressure inlet hose, the wastegate control valve opened and closed normally. A soapy solution was applied to all fittings. Air bubbles were noted at the elbow fitting of the outlet hose going to the wastegate controller. The outlet fitting was loosened and removed. The O-ring was discovered flattened. It was reseated and the elbow fitting re-torqued. Shop air and a soapy solution were reapplied. No more bubbles were observed.

Examination of the airplane’s maintenance records revealed the last annual/100-hour

inspection was performed on October 10, 2011. On that date, the engine, turbocharger, controller and wastegate were overhauled. The units were reinstalled on the airplane on November 12, 2011, at a Hobbs meter time of 1,907.6 hours. Routine oil changes followed on February 1, 2012 (1,909.8 hours0, April 26, 2012 (1.962.8 hours), and June 12, 2012 (38.5 hours, after the Hobbs meter was changed on April 26).

Pilot Information

Certificate:	Airline transport; Flight instructor	**Age:**	34,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):		**Restraint Used:**	
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	Airplane multi-engine; Airplane single-engine; Instrument airplane	**Toxicology Performed:**	No
Medical Certification:	Class 1 Without waivers/limitations	**Last FAA Medical Exam:**	November 14, 2011
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	September 22, 2011
Flight Time:	2940 hours (Total, all aircraft), 130 hours (Total, this make and model), 2510 hours (Pilot In Command, all aircraft), 80 hours (Last 90 days, all aircraft), 35 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Beech	**Registration:**	N262EA
Model/Series:	A36	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	E-3417
Landing Gear Type:	Retractable - Tricycle	**Seats:**	4
Date/Type of Last Inspection:	December 11, 2011 Annual	**Certified Max Gross Wt.:**	3650 lbs
Time Since Last Inspection:	124 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	2032 Hrs at time of accident	**Engine Manufacturer:**	Continental
ELT:	Installed, not activated	**Engine Model/Series:**	IO-550-B
Registered Owner:	KABAJK, LLC	**Rated Power:**	310 Horsepower
Operator:	21st Century Equipment	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	KGLD,3657 ft msl	**Distance from Accident Site:**	7 Nautical Miles
Observation Time:	13:52 Local	**Direction from Accident Site:**	70°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	9 knots / 19 knots	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	160°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.12 inches Hg	**Temperature/Dew Point:**	26°C / 6°C
Precipitation and Obscuration:			
Departure Point:	Goodland, KS (KGLD)	**Type of Flight Plan Filed:**	None
Destination:	Fort Morgan, CO (KFMM)	**Type of Clearance:**	None
Departure Time:	13:30 Local	**Type of Airspace:**	Class G

Wreckage and Impact Information

Crew Injuries:	1 None	**Aircraft Damage:**	Substantial
Passenger Injuries:	2 None	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	3 None	**Latitude, Longitude:**	39.340473,-101.699836(est)

Administrative Information

Investigator In Charge (IIC):	Scott, Arnold
Additional Participating Persons:	Kenneth G Simonian; FAA Flight Standards District Office; Wichita, KS
Original Publish Date:	May 9, 2013
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=84733