Aviation Investigation Final Report

Location:	Whitewater, Kansas	**Accident Number:**	CEN18LA342
Date & Time:	August 17, 2018, 18:15 Local	**Registration:**	N9076R
Aircraft:	Cessna A188	**Aircraft Damage:**	Substantial
Defining Event:	Powerplant sys/comp malf/fail	**Injuries:**	1 None
Flight Conducted Under:	Part 137: Agricultural		

Analysis

The pilot was performing an aerial application flight with the airplane loaded with product near its maximum gross weight. As the pilot pulled up to reverse course after the second application pass, the airplane did not fly as expected. Because of his low altitude, he conducted a forced landing in the cornfield. The airplane came to rest upright and sustained substantial damage to left wing, vertical stabilizer, horizontal stabilizers, elevators, and rudder.

A postaccident examination of the engine revealed that one of the cylinders had low compression. This would have resulted in a partial loss of engine power. It is likely the airplane was at a low energy state during the pull-up maneuver to reverse direction, and the partial engine power loss would have further reduced the airplane's energy. These issues, combined with the airplane's high gross weight, would have made sustained flight difficult.

Probable Cause and Findings

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

The partial loss of engine power due to low cylinder compression, which led to the forced landing following a pull-up maneuver. Contributing to the accident was the airplane's high gross weight.

Findings

Aircraft	Recip eng cyl section - Damaged/degraded
Aircraft	(general) - Attain/maintain not possible

Factual Information

History of Flight

Maneuvering-low-alt flying	Powerplant sys/comp malf/fail (Defining event)
Maneuvering-low-alt flying	Loss of engine power (partial)
Landing	Off-field or emergency landing

****This report was modified on July 2, 2020. Please see the docket for this accident to view the original report.****

On August 17, 2018, about 1815 central daylight time, a Cessna A188 airplane, N9076R, was substantially damaged when it was involved in an accident near Whitewater, Kansas. The pilot was not injured. The airplane was operated under Title 14 *Code of Federal Regulations* Part 137 as an aerial application flight.

According to the pilot, the airplane departed on an aerial application flight from a nearby airport at 1800. The airplane was loaded with applicant bringing it near it's maximum gross weight. The flight was normal until the second application pass, As the pilot pulled up to reverse course, the airplane did not fly as expected. Due to the low altitude, the pilot attempted to dump the applicant and conducted a forced landing in the cornfield. The pilot was able to flare the airplane prior to impacting in the cornfield. The airplane came to rest upright and sustained substantial damage to left wing, vertical stabilizer, horizontal stabilizers, elevators, and rudder.

Federal Aviation Administration inspectors performed a limited examination when the airplane was removed from the cornfield and could not find any preimpact anomalies with the airframe and engine. Once recovered to a maintenance facility it was discovered that one of the engine cylinders could only hold 10 psi of pressure.

Pilot Information

Certificate:	Commercial; Private	**Age:**	21,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Single
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 2 Without waivers/limitations	**Last FAA Medical Exam:**	February 14, 2018
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	
Flight Time:	(Estimated)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	**Registration:**	N9076R
Model/Series:	A188 B	**Aircraft Category:**	Airplane
Year of Manufacture:	1975	**Amateur Built:**	
Airworthiness Certificate:	Restricted (Special)	**Serial Number:**	18802101T
Landing Gear Type:	Tailwheel	**Seats:**	
Date/Type of Last Inspection:	Unknown	**Certified Max Gross Wt.:**	
Time Since Last Inspection:		**Engines:**	
Airframe Total Time:		**Engine Manufacturer:**	
ELT:		**Engine Model/Series:**	
Registered Owner:		**Rated Power:**	
Operator:		**Operating Certificate(s) Held:**	Agricultural aircraft (137)
Operator Does Business As:	TRI-ROTOR SPRAY AND CHEMICAL INC	**Operator Designator Code:**	72TG

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:**	9 Nautical Miles
Observation Time:	17:56 Local	**Direction from Accident Site:**	299°
Lowest Cloud Condition:		**Visibility**	9 miles
Lowest Ceiling:	Broken / 4500 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	6 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	50°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.06 inches Hg	**Temperature/Dew Point:**	28°C / 19°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Newton, KS (KEWK)	**Type of Flight Plan Filed:**	None
Destination:	Newton, KS (KEWK)	**Type of Clearance:**	None
Departure Time:	18:00 Local	**Type of Airspace:**	Class E

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:**	37.999168,-97.11528(est)

Administrative Information

Investigator In Charge (IIC):	Aguilera, Jason
Additional Participating Persons:	Michael LeBlanc; FAA FSDO; Wichita, KS
Original Publish Date:	August 3, 2020
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=98108