Aviation Investigation Final Report

Location:	Tredyffin, Pennsylvania	**Accident Number:**	ERA22LA254
Date & Time:	June 1, 2022, 15:27 Local	**Registration:**	N432CP
Aircraft:	CIRRUS DESIGN CORP SR22	**Aircraft Damage:**	Substantial
Defining Event:	Loss of engine power (partial)	**Injuries:**	2 Serious
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

According to the pilot while approaching the destination airport, the engine did not respond when he advanced the throttle. He also noted that the throttle felt “loose” and further described that the engine was still running, but that the rpm would not change. There was not sufficient engine power being produced in order for the airplane to reach the destination airport, so the pilot elected to perform an off-airport landing to a golf course. The airplane was substantially damaged during the landing, and the pilot and passenger were seriously injured.

A postaccident examination of the engine found that the engine’s controls were damaged during the accident sequence and had separated from the engine. Additionally, the throttle arm was found loosely attached to the shaft at the throttle body. The nut needed to be tightened by 1/8-turn in order to fully engage. No other anomalies were noted during the examination that would have precluded normal operation of the engine. Review of the airplane’s maintenance records revealed that the engine controls had been inspected and lubricated about 7 months and 37 flight hours before the accident, with no subsequent maintenance to those components noted. Based on the pilot’s description that the engine did not respond to throttle changes and that it felt “loose,” as well as the finding that the throttle arm was found loosely attached to the throttle shaft, it is likely that the loosening of the securing nut resulted in the pilot’s inability to control the engine, and the subsequent forced landing.

Probable Cause and Findings

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

The loosening of the throttle arm from the throttle body, which resulted in the pilot’s inability to control the engine, and a subsequent forced landing.

Findings

Aircraft	Fuel controlling system - Malfunction

Factual Information

History of Flight

Approach	Loss of engine power (partial) (Defining event)
Landing	Off-field or emergency landing

On June 1, 2022, about 1527 eastern daylight time, a Cirrus SR22, N432CP, was substantially damaged when it was involved in an accident near Wings Field Airport (LOM), Philadelphia, Pennsylvania. The private pilot and passenger received minor injuries. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

The pilot reported he departed from Georgetown Regional Airport (GGE), Georgetown, South Carolina on an instrument flight plan to LOM. The climb and en route cruise portions of the flight were uneventful. During the approach to LOM, the pilot requested the RNAV6 approach. Clearance was granted to proceed to Modena (MXE) VOR at 3,000 ft, then he was cleared for the approach to LOM. The pilot began a normal approach on autopilot, and upon reaching the final approach fix, started the descent. The pilot reported that he reduced power during the final descent, and as he attempted to increase power, the engine did not respond to throttle commands. He said that the engine was still running, but when he moved the throttle forward, the engine rpm did not increase and that the throttle lever felt “loose.” The airplane did not have enough power to make it to LOM, and the pilot decided to make a controlled, off-airport landing. The pilot subsequently performed a forced landing to a golf course. After touchdown, the airplane collided with trees at the edge of a grassy area.

Postaccident examination of the airplane by a Federal Aviation Administration inspector revealed the airplane sustained structural damage to the left wing and forward fuselage, and that the empennage was partially detached. An examination of the engine confirmed valvetrain continuity throughout the engine. No abnormalities were noted with the airplane’s ignition system. The oil system exhibited a broken turbocharger oil supply line that appeared to be impact-related as oil spillage was observed directly under the broken line. Both the upper and lower engine cowlings were inspected with no additional indication of oil leakage.

During the inspection, the throttle lever was removed and examined in detail, with no defects were noted. The throttle lever was then reinstalled. Throttle and mixture continuity checks were performed; however, both cables had sustained impact damage and were broken away from the engine. The throttle lever at the throttle body was slightly loose on the throttle shaft, which allowed the lever to slip with observed “ratcheting.” The throttle lever attaching nut (which featured a single-use integral locking mechanism) was loose and needed to be tightened approximately 1/8-turn to fully engage.

The left wing displayed damage consistent with tree impact during the landing, and the area surrounding the wing root was damp and smelled of fuel. The left wing fuel tank contained about 1 to 2 pints of residual fuel, and about 1 pint of fuel leaked from the left wing root area during the recovery from the accident site. The right fuel tank had about 20 gallons of fuel. The fuel samples taken from both fuel tanks showed no indication of water or contamination. The fuel selector was found in the left tank position, with no fuel found in the fuel lines or fuel distributor. Residual fuel was found in the fuel line between the fuel manifold and the throttle body.

A flight control continuity check found continuity in the elevators and rudder. Both outer aileron quadrants were bent forward, separating the spherical bearing from the aileron drive pin on each side, which prevented a continuity check of the aileron system.

The airplane's most recent annual inspection was completed on October 5, 2021, at an airframe total time of 1,293 hours (about 37 flight hours before the accident). The engine maintenance log entry for the inspection noted, in part, "Inspected and lubricated all engine controls." No inspections or maintenance of the airplane's engine controls were noted after that date.

Pilot Information

Certificate:	Private; Remote	**Age:**	70,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:**	
Medical Certification:	Class 3 With waivers/limitations	**Last FAA Medical Exam:**	October 30, 2021
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:	1932 hours (Total, all aircraft), 750 hours (Total, this make and model)		

Passenger Information

Certificate:		**Age:**	Female
Airplane Rating(s):		**Seat Occupied:**	Right
Other Aircraft Rating(s):		**Restraint Used:**	3-point
Instrument Rating(s):		**Second Pilot Present:**	No
Instructor Rating(s):		**Toxicology Performed:**	
Medical Certification:		**Last FAA Medical Exam:**	
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:			

Aircraft and Owner/Operator Information

Aircraft Make:	CIRRUS DESIGN CORP	**Registration:**	N432CP
Model/Series:	SR22	**Aircraft Category:**	Airplane
Year of Manufacture:	2008	**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	3254
Landing Gear Type:	Tricycle	**Seats:**	4
Date/Type of Last Inspection:	Unknown	**Certified Max Gross Wt.:**	3600 lbs
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:	1330.2 Hrs at time of accident	**Engine Manufacturer:**	Continental
ELT:	Installed	**Engine Model/Series:**	IO-550N
Registered Owner:	On file	**Rated Power:**	300 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:	KLOM,302 ft msl	**Distance from Accident Site:**	9 Nautical Miles
Observation Time:	16:15 Local	**Direction from Accident Site:**	63°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	8 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	130°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29.85 inches Hg	**Temperature/Dew Point:**	28°C / 20°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Fort Myers, FL (FMY)	**Type of Flight Plan Filed:**	IFR
Destination:	Georgetown, SC (1234)	**Type of Clearance:**	IFR
Departure Time:	08:59 Local	**Type of Airspace:**	Class G

Wreckage and Impact Information

Crew Injuries:	1 Serious	**Aircraft Damage:**	Substantial
Passenger Injuries:	1 Serious	**Aircraft Fire:**	None
Ground Injuries:		**Aircraft Explosion:**	None
Total Injuries:	2 Serious	**Latitude, Longitude:**	40.03,-75.45(est)

Administrative Information

Investigator In Charge (IIC):	Alleyne, Eric
Additional Participating Persons:	Gary Brown; FAA/FSDO; Philadelphia, PA Brad Miller; Cirrus aircraft; Duluth, MN
Original Publish Date:	June 20, 2024
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=105170