Aviation Investigation Final Report

Location:	Romeo, Michigan	**Accident Number:**	CHI01LA295
Date & Time:	August 28, 2001, 14:45 Local	**Registration:**	N9047L
Aircraft:	Champion 7GCAA	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	2 Minor
Flight Conducted Under:	Part 91: General aviation - Instructional		

Analysis

The airplane sustained substantial damage during a forced landing after takeoff. The airplane departed runway 33 after a touch and go when it experienced a loss of engine power at 100 - 150 feet agl. The pilot attempted to land on runway 09 but impacted the ground on the right side of the runway. The instructor pilot reported, "... we were at approximately 100-150 feet in the air when I detected a deceleration and a reduction in engine noise...Going through a quick mental checklist I checked the throttle and applied carburetor heat, with no improvement in engine performance. Realizing a complete engine failure had occurred and that we were loosing altitude, I immediately took the controls. I lowered the nose to maintain airspeed to prevent a stall and turned to land on runway 9, the only safe area, in my opinion, to land, due to the trees and parked aircraft ahead of us. I completed the turn over the runway, loosing altitude rapidly. Touch down was at a high rate of descent with the left wing slightly up. I am not sure exactly [where] we touched down but realized that the gear had collapsed and that we were skidding to a stop." The inspection of the airplane revealed there were no anomalies to the fuel system and engine.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: the reason for the loss of engine power is undetermined.

Findings

Occurrence #1: LOSS OF ENGINE POWER
Phase of Operation: TAKEOFF - INITIAL CLIMB

Findings
1. (C) REASON FOR OCCURRENCE UNDETERMINED

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

Occurrence #3: HARD LANDING
Phase of Operation: EMERGENCY DESCENT/LANDING

Factual Information

On August 28, 2001, at 1445 eastern daylight time, a Champion 7GCAA, N9047L, sustained substantial damage during a forced landing after takeoff. The 14 CFR Part 91 local instructional flight had departed Romeo Airport (D98), Romeo, Michigan, at 1400 and was practicing takeoffs and landings. The airplane had departed runway 33 when it experienced a loss of engine power. The pilot attempted to land on runway 09 but impacted the ground to the right side of the runway. The instructor pilot and commercial pilot, who was receiving dual flight instruction, received minor injuries. Visual meteorological conditions prevailed and no flight plan was filed.

The commercial pilot, who was receiving dual instruction in the airplane, had purchased the airplane recently and had a total of 5.5 hours of flight time in the airplane. His total flight time was 1,207 hours. The pilot had a tailwheel endorsement, but wanted to practice takeoff and landings with an instructor with more tailwheel experience. The instructor pilot held an airline transport rating and had a total of 6,274 flight hours with 9.1 hours in the make and model airplane.

The pilot reported the preflight and engine start and run-up were normal. He reported the carburetor heat was "working good."

The pilot reported he practiced touch and goes on runway 36 for approximately 45 minutes. Then a touch and go was flown to runway 33 to practice crosswind landings. The pilot reported that after the airplane landed, power was applied. He reported the following:

"Engine sounded normal, rpm's came up, airspeed 60 rotate up. Very shortly power began to decrease [.] Altitude 100-150' [.] Not enough runway to return - trees and road straight ahead, no real options left [.] 45 degrees right - airplane tie down area [.] Forced to make 90 degrees +/- right turn. Airspeed good but descent rate increasing. Once out I helped [other pilot] out and shut off main fuel & electrical switches."

The instructor pilot reported the following:

"Everything appeared normal until we were at approximately 100-150 feet in the air when I detected a deceleration and a reduction in engine noise. I noticed the tachometer was reading 2100 RPM. Going through a quick mental checklist I checked the throttle and applied carburetor heat, with no improvement in engine performance. Realizing a complete engine failure had occurred and that we were loosing altitude, I immediately took the controls. I lowered the nose to maintain airspeed to prevent a stall and turned to land on runway 9, the only safe area, in my opinion, to land, due to the trees and parked aircraft ahead of us. I completed the turn over the runway, loosing altitude rapidly. Touch down was at a high rate of

descent with the left wing slightly up. I am not sure exactly [where] we touched down but realized that the gear had collapsed and that we were skidding to a stop. The plane ended up facing south."

A Federal Aviation Administration Airworthiness Inspector examined the airplane. He reported the fuel system exhibited continuity. He could not examine the vent system since the fire department had put material in the system to prevent fuel leaks.

The engine was inspected and the crankshaft rotated freely when the propeller was turned, yielding equal compression on all four cylinders. The engine impulse coupling was operating, and spark was generated by turning the propeller. The intake and exhaust system were intact. All engine controls were connected and worked properly. The throttle moved from stop to stop. The mixture control went from stop to stop. The carburetor heat would not move due to damage to the heat box.

Pilot Information

Certificate:	Commercial; Flight instructor	**Age:**	52,Male
Airplane Rating(s):	Single-engine land; Single-engine sea; Multi-engine land	**Seat Occupied:**	Front
Other Aircraft Rating(s):	Helicopter	**Restraint Used:**	
Instrument Rating(s):	Airplane; Helicopter	**Second Pilot Present:**	Yes
Instructor Rating(s):	Airplane single-engine; Helicopter; Instrument airplane; Instrument helicopter	**Toxicology Performed:**	No
Medical Certification:	Class 2 Valid Medical--w/ waivers/lim	**Last FAA Medical Exam:**	August 15, 2001
Occupational Pilot:	UNK	**Last Flight Review or Equivalent:**	January 31, 2001
Flight Time:	1207 hours (Total, all aircraft), 6 hours (Total, this make and model), 852 hours (Pilot In Command, all aircraft), 217 hours (Last 90 days, all aircraft), 82 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

Student pilot Information

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

Aircraft and Owner/Operator Information

Aircraft Make:	Champion	**Registration:**	N9047L
Model/Series:	7GCAA	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Aerobatic; Normal	**Serial Number:**	217-70
Landing Gear Type:	Tailwheel	**Seats:**	2
Date/Type of Last Inspection:	April 2, 2001 Annual	**Certified Max Gross Wt.:**	1650 lbs
Time Since Last Inspection:	16 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	1793 Hrs	**Engine Manufacturer:**	Lycoming
ELT:	Installed, activated, did not aid in locating accident	**Engine Model/Series:**	O-320-A2B
Registered Owner:	Carl Harris	**Rated Power:**	150 Horsepower
Operator:		**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	MTC,580 ft msl	**Distance from Accident Site:**	14 Nautical Miles
Observation Time:	14:55 Local	**Direction from Accident Site:**	160°
Lowest Cloud Condition:	Few / 4000 ft AGL	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	11 knots / 0 knots	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	360°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29.95 inches Hg	**Temperature/Dew Point:**	26°C / 9°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Romeo, MI (D98)	**Type of Flight Plan Filed:**	None
Destination:		**Type of Clearance:**	None
Departure Time:	14:00 Local	**Type of Airspace:**	Class E

Airport Information

Airport:	Romeo State Airport D98	**Runway Surface Type:**	Asphalt
Airport Elevation:	745 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	33	**IFR Approach:**	None
Runway Length/Width:	4795 ft / 50 ft	**VFR Approach/Landing:**	Forced landing

Wreckage and Impact Information

Crew Injuries:	2 Minor	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	2 Minor	**Latitude, Longitude:**	42.849563,-83.040924(est)

Administrative Information

Investigator In Charge (IIC):	Silliman, Jim
Additional Participating Persons:	Charles Roberts; FAA; Belleville, MI
Original Publish Date:	October 24, 2002
Last Revision Date:	
Investigation Class:	Class
Note:	The NTSB traveled to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=53136