Aviation Investigation Final Report

Location:	Glenwood Springs, Colorado	**Accident Number:**	CEN20LA345
Date & Time:	August 12, 2020, 08:00 Local	**Registration:**	N9726K
Aircraft:	Stinson 108	**Aircraft Damage:**	Substantial
Defining Event:	Loss of control on ground	**Injuries:**	2 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

According to the pilot, upon touchdown, the tailwheel equipped airplane immediately “lurched” right. He said that he tried to correct, and the airplane initially veered left; however, it ultimately veered right followed by a ground loop. The airplane sustained substantial damage to the left wing. The pilot stated that neither occupant was actuating the brakes at the time of the landing.

A post-accident examination revealed that the tailwheel locking pin was sheared, which allowed the tailwheel to rotate freely more than 90°. When the pin is not engaged, the fork would have the ability to rotate and pivot independently of the steering arm and rudder input, a condition known as free-castoring.

Probable Cause and Findings

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

The pilot’s loss of directional control upon landing due to a sheared tailwheel locking pin.

Findings

Aircraft	Directional control - Not attained/maintained
Personnel issues	Aircraft control - Pilot
Aircraft	Landing gear steering system - Failure

Factual Information

History of Flight

Landing	Loss of control on ground (Defining event)

On August 12, 2020, about 0800 mountain daylight time, a Stinson 108, N9726K, was substantially damaged when it was involved in an accident near Glenwood Springs, Colorado. The pilot and the flight instructor were uninjured. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

According to the pilot, upon touchdown, the tailwheel equipped airplane immediately "lurched" right. He said that he tried to correct, and the airplane initially veered left; however, it ultimately veered right followed by a ground loop. The airplane sustained substantial damage to the left wing. The pilot stated that neither occupant was actuating the brakes at the time of the landing.

A postaccident examination revealed that the tailwheel locking pin (item #8 in figure 1 below) was sheared, which allowed the tailwheel to rotate freely more than 90°. The locking pin, when properly functioning, locks the steering arm to the tailwheel fork assembly. When the pin is not engaged, the fork has the ability to rotate and pivot independently of the steering arm and rudder input, a condition known as free-castoring.

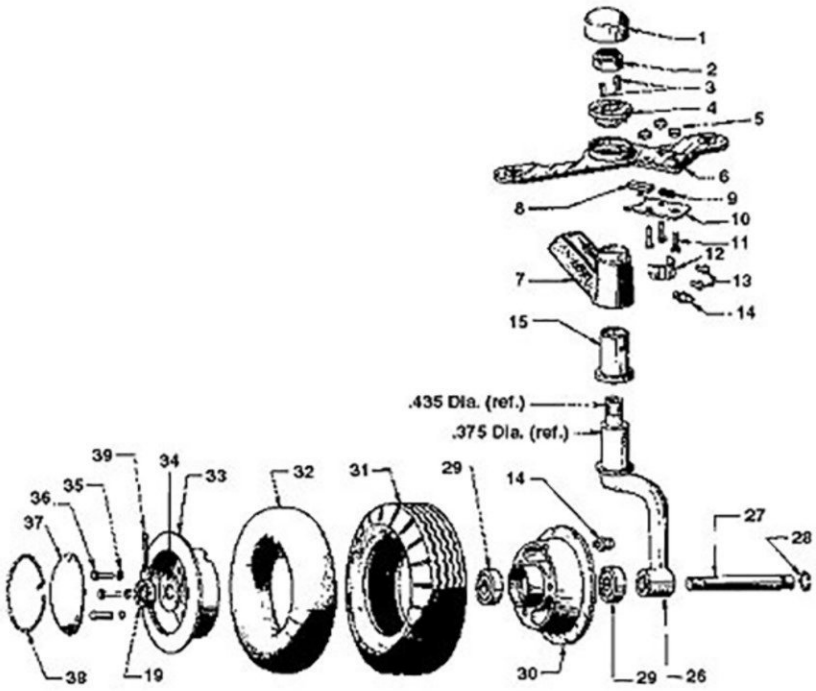

Figure 1: Maule Tailwheel Schematic

Pilot Information

Certificate:	Airline transport	**Age:**	72,Male
Airplane Rating(s):	Single-engine land; Single-engine sea; Multi-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	Glider	**Restraint Used:**	
Instrument Rating(s):	Airplane	**Second Pilot Present:**	Yes
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	Class 1 Without waivers/limitations	**Last FAA Medical Exam:**	January 18, 2018
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:	(Estimated) 18800 hours (Total, all aircraft), 1 hours (Total, this make and model), 9 hours (Last 90 days, all aircraft), 4 hours (Last 30 days, all aircraft)		

Flight instructor Information

Certificate:	Airline transport; Flight engineer; Flight instructor	**Age:**	73,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Right
Other Aircraft Rating(s):		**Restraint Used:**	4-point
Instrument Rating(s):	Airplane	**Second Pilot Present:**	Yes
Instructor Rating(s):	Airplane multi-engine; Airplane single-engine	**Toxicology Performed:**	
Medical Certification:	None	**Last FAA Medical Exam:**	
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	November 10, 2019
Flight Time:	(Estimated) 17500 hours (Total, all aircraft), 1160 hours (Total, this make and model), 6200 hours (Pilot In Command, all aircraft), 58 hours (Last 90 days, all aircraft), 18 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Stinson	**Registration:**	N9726K
Model/Series:	108 2	**Aircraft Category:**	Airplane
Year of Manufacture:	1947	**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	108-2726
Landing Gear Type:	Tailwheel	**Seats:**	4
Date/Type of Last Inspection:	June 28, 2020 Annual	**Certified Max Gross Wt.:**	2231 lbs
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:	2326 Hrs as of last inspection	**Engine Manufacturer:**	Continental
ELT:	Installed, not activated	**Engine Model/Series:**	O-470-R-25A
Registered Owner:	On file	**Rated Power:**	230 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:	K5SM,10604 ft msl	**Distance from Accident Site:**	6 Nautical Miles
Observation Time:	07:54 Local	**Direction from Accident Site:**	195°
Lowest Cloud Condition:		**Visibility**	10 miles
Lowest Ceiling:	Broken / 9000 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	11 knots / 19 knots	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	230°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.55 inches Hg	**Temperature/Dew Point:**	12°C / -3.3°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Eagle, CO (KEGE)	**Type of Flight Plan Filed:**	None
Destination:	Glenwood Springs, CO	**Type of Clearance:**	None
Departure Time:	07:30 Local	**Type of Airspace:**	

Airport Information

Airport:	Glenwood Springs Muni GWS	**Runway Surface Type:**	Asphalt
Airport Elevation:	5916 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	14	**IFR Approach:**	None
Runway Length/Width:	3305 ft / 50 ft	**VFR Approach/Landing:**	Traffic pattern

Wreckage and Impact Information

Crew Injuries:	2 None	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:		**Aircraft Explosion:**	None
Total Injuries:	2 None	**Latitude, Longitude:**	39.508335,-107.31055(est)

Administrative Information

Investigator In Charge (IIC):	Williams, David
Additional Participating Persons:	Kent Gibbons; FAA; Salt Lake City, UT
Original Publish Date:	May 6, 2022
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=101809