Aviation Investigation Final Report

Location:	Tok, Alaska	**Accident Number:**	ANC20LA100
Date & Time:	September 30, 2020, 19:40 Local	**Registration:**	N926LL
Aircraft:	Cessna 180	**Aircraft Damage:**	Substantial
Defining Event:	Loss of control on ground	**Injuries:**	1 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot stated that after landing, as the airplane decelerated and rudder effectiveness diminished, the airplane veered abruptly to the right. Left rudder was applied but was unsuccessful in controlling the airplane. The airplane exited the runway and the left main gear separated from the gear box resulting in substantial damage to the fuselage.

A postaccident examination revealed excessive wear, damage, and a missing component inconsistent with proper tailwheel maintenance occurring the day before the accident.

Probable Cause and Findings

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

The mechanic's failure to properly repair the tailwheel, which resulted in a malfunction of the tailwheel and a loss of directional control.

Findings

Aircraft	Nose/tail landing gear - Incorrect service/maintenance
Personnel issues	Repair - Maintenance personnel

Factual Information

History of Flight

Landing-landing roll	Loss of control on ground (Defining event)

On September 30, 2020, about 1940 Alaska daylight time, a Cessna 180H airplane, N926LL, sustained substantial damage when it was involved in an accident near Tok Junction, Alaska. The pilot was not injured. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

The pilot stated that she was landing her tailwheel-equipped airplane on an asphalt surfaced runway. After a normal touchdown in the three-point attitude, the airplane drifted to the left and right of the runway centerline but was corrected each time with the light application of the appropriate rudder pedal. As the airplane decelerated and rudder effectiveness diminished, the airplane veered abruptly to the right. Left rudder was applied but was unsuccessful in controlling the airplane. The airplane exited the runway, and the left main gear separated from the gear box, resulting in substantial damage to the fuselage.

Aircraft maintenance records revealed that on September 29, the day before the accident, the tailwheel had been repaired and the tailwheel bearings replaced.

A postaccident examination revealed that the tailwheel rotated freely to the right but was very stiff and difficult to rotate to the left. Disassembly of the tailwheel revealed that the steering arm inside radius (item #13 in figure 1 below) was heavily scored and worn. The compression spring (item #19 in figure 1 below) had sharp and damaged edges on the ends of the spring, and the spacer (item #20 or #21 in figure 1 below) was not present, which allowed for excessive movement of the spring in its assembly.

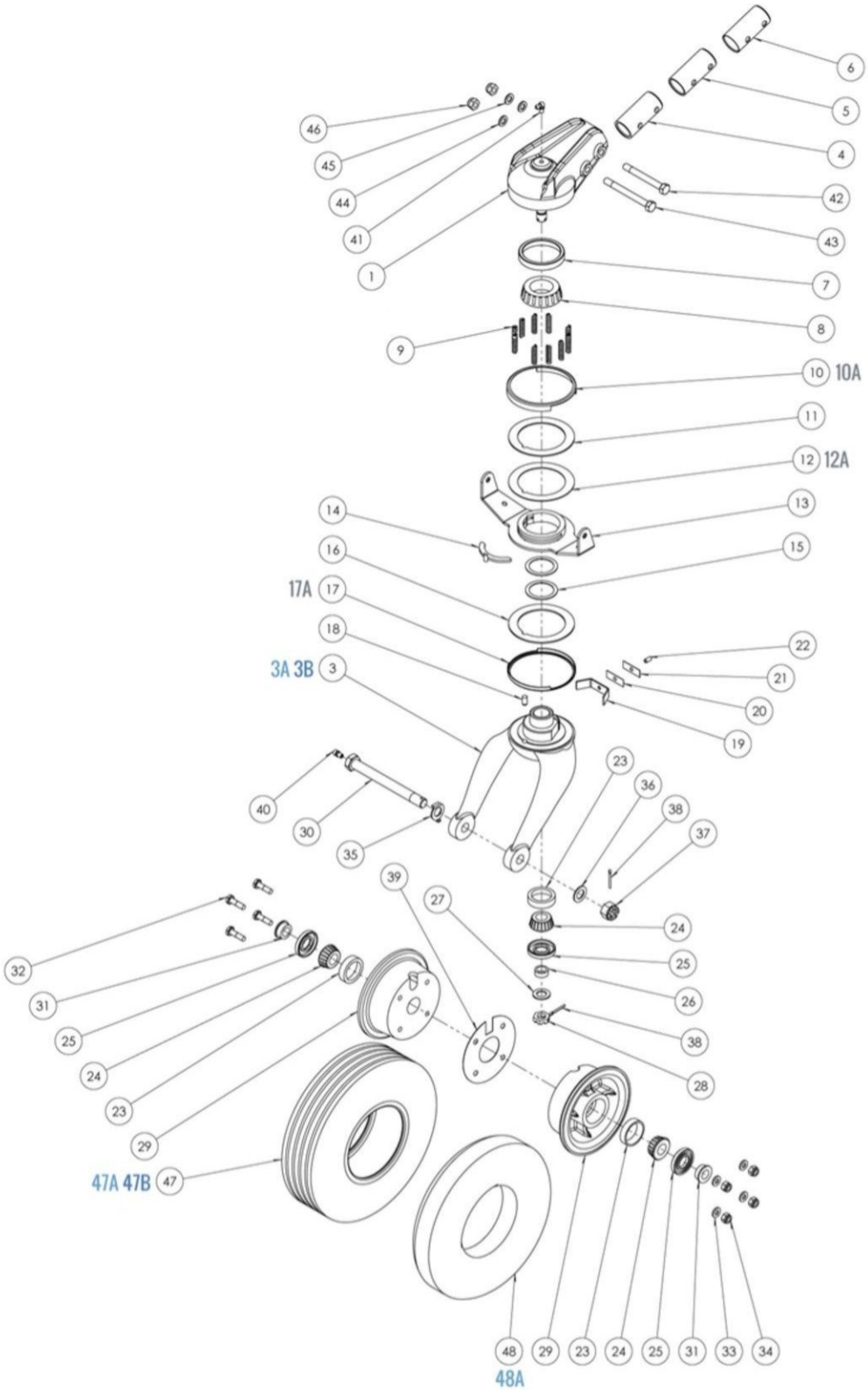

Figure 1 - Scott 3400 series tailwheel parts illustration.

Pilot Information

Certificate:	Commercial; Private	**Age:**	43,Female
Airplane Rating(s):	Single-engine land; Single-engine sea; Multi-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	Unknown
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	
Medical Certification:	Class 1 Without waivers/limitations	**Last FAA Medical Exam:**	June 2, 2020
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	April 4, 2020
Flight Time:	1765 hours (Total, all aircraft), 264 hours (Total, this make and model), 1398 hours (Pilot In Command, all aircraft), 87 hours (Last 90 days, all aircraft), 34 hours (Last 30 days, all aircraft), 3 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	**Registration:**	N926LL
Model/Series:	180 H	**Aircraft Category:**	Airplane
Year of Manufacture:	1964	**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	18051470
Landing Gear Type:	Tailwheel	**Seats:**	2
Date/Type of Last Inspection:	August 28, 2020 Annual	**Certified Max Gross Wt.:**	2800 lbs
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:	5471.1 Hrs at time of accident	**Engine Manufacturer:**	Continental
ELT:	C126 installed, not activated	**Engine Model/Series:**	O-470-R
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:	PAOR,1713 ft msl	**Distance from Accident Site:**	34 Nautical Miles
Observation Time:	18:53 Local	**Direction from Accident Site:**	130°
Lowest Cloud Condition:		**Visibility**	10 miles
Lowest Ceiling:		**Visibility (RVR):**	
Wind Speed/Gusts:	3 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	330°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29.67 inches Hg	**Temperature/Dew Point:**	6°C / -1°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Willow, AK (PAUO)	**Type of Flight Plan Filed:**	None
Destination:	Tok, AK	**Type of Clearance:**	None
Departure Time:	17:00 Local	**Type of Airspace:**	Class G

Airport Information

Airport:	Tok Junction Airport 6K8	**Runway Surface Type:**	Asphalt
Airport Elevation:	1643 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	25	**IFR Approach:**	None
Runway Length/Width:	2509 ft / 50 ft	**VFR Approach/Landing:**	Full stop

Wreckage and Impact Information

Crew Injuries:	1 None	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:		**Aircraft Explosion:**	None
Total Injuries:	1 None	**Latitude, Longitude:**	63.329514,-142.95368

Administrative Information

Investigator In Charge (IIC):	Banning, David
Additional Participating Persons:	
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=102108