



Aviation Investigation Final Report

Location:	Plummer, Idaho	Accident Number:	SEA03LA066
Date & Time:	April 19, 2003, 17:15 Local	Registration:	N114MK
Aircraft:	Maule MX-7-235	Aircraft Damage:	Substantial
Defining Event:		Injuries:	2 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

During the last part of the landing roll, as the pilot was applying the brakes, the left main gear brake locked up, resulting in the tailwheel-equipped aircraft pulling hard to the left. As he tried to bring the aircraft to a stop, it nosed over onto its back. It was ultimately determined that the parking brake lock activation tab on the left brake master cylinder became stuck on the master cylinder plunger rod, resulting in a situation where the pilot was unable to reduce braking pressure on the left side. A further inspection of the system revealed that there was a burr on the master cylinder shaft. When the left brake was applied and then released, the burr lifted the parking brake locking tab, through which the cylinder shaft passes, and the spring that should press the tab back down to the unlocked position was unable to do so. This resulted in the failure of the brake to release, and it therefore remained locked in whatever had been its most fully-applied position. The malfunction was able to be duplicated during a post-accident inspection/test of the system.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The jamming of the left parking brake locking tab on a burr on the left brake master cylinder activation rod during the landing roll, resulting in the left brake becoming locked in a position where excessive braking was applied.

Findings

Occurrence #1: AIRFRAME/COMPONENT/SYSTEM FAILURE/MALFUNCTION

Phase of Operation: LANDING - ROLL

Findings

1. (C) LANDING GEAR,PARKING BRAKE - JAMMED

Occurrence #2: NOSE OVER

Phase of Operation: LANDING - ROLL

Findings

2. (C) LANDING GEAR,NORMAL BRAKE SYSTEM - LOCKED

Factual Information

On April 19, 2003, approximately 1715 Pacific daylight time, a Maule MX-7-235, N114MK, nosed over during the landing roll at a private grass airstrip near Plummer, Idaho. The commercial pilot and his passenger were not injured, but the aircraft, which is owned and operated by the pilot, sustained substantial damage. The 14 CFR Part 91 personal pleasure flight, which departed Saint Maries, Idaho, about 15 minutes earlier, was being operated in visual meteorological conditions. No flight plan was filed. There was no report of an ELT activation.

According to the pilot, during the last part of the landing roll, as he was applying the brakes, the left main gear brake locked up, resulting in the tailwheel-equipped aircraft pulling hard to the left. As he tried to bring the aircraft to a stop, it nosed over onto its back. According to the FAA Airworthiness Inspector who responded to the accident site, the parking brake lock activation tab on the left brake master cylinder became stuck on the master cylinder plunger rod, resulting in a situation where the pilot was unable to reduce braking pressure on the left side. A further inspection of the system revealed that there was a burr on the master cylinder shaft. When the left brake was applied and then released, the burr lifted the parking brake locking tab, through which the cylinder shaft passes, and the spring that should press the tab back down to the unlocked position was unable to do so. This resulted in the failure of the brake to release, and it therefore remained locked in whatever had been its most fully-applied position. The FAA Airworthiness Inspector who examined the system after the accident was able to duplicate the malfunction during his inspection (see attached FAA report).

Pilot Information

Certificate:	Commercial; Flight instructor	Age:	30, 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:	No
Instructor Rating(s):	Airplane single-engine	Toxicology Performed:	No
Medical Certification:	Class 2 Valid Medical--no waivers/lim.	Last FAA Medical Exam:	June 1, 2000
Occupational Pilot:	UNK	Last Flight Review or Equivalent:	January 8, 2003
Flight Time:	1306 hours (Total, all aircraft), 934 hours (Total, this make and model), 1238 hours (Pilot In Command, all aircraft), 9 hours (Last 90 days, all aircraft), 6 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Maule	Registration:	N114MK
Model/Series:	MX-7-235	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	10022C
Landing Gear Type:	Tailwheel	Seats:	4
Date/Type of Last Inspection:	August 3, 2002 Annual	Certified Max Gross Wt.:	2500 lbs
Time Since Last Inspection:	49 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	1166 Hrs at time of accident	Engine Manufacturer:	Lycoming
ELT:	Installed, not activated	Engine Model/Series:	IO-540-W1A5D
Registered Owner:	Kevin G. Griffin	Rated Power:	235 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:		Distance from Accident Site:	
Observation Time:		Direction from Accident Site:	
Lowest Cloud Condition:	Clear	Visibility	20 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	/	Turbulence Type Forecast/Actual:	/
Wind Direction:		Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.12 inches Hg	Temperature/Dew Point:	16°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Saint Maries, ID (S72)	Type of Flight Plan Filed:	None
Destination:	Plummer, ID	Type of Clearance:	None
Departure Time:	17:00 Local	Type of Airspace:	Class G

Airport Information

Airport:		Runway Surface Type:	Grass/turf
Airport Elevation:	2800 ft msl	Runway Surface Condition:	Dry
Runway Used:	27	IFR Approach:	None
Runway Length/Width:	1500 ft / 150 ft	VFR Approach/Landing:	Full stop

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:	1 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	2 None	Latitude, Longitude:	47.343334,-116.915

Administrative Information

Investigator In Charge (IIC): Anderson, Orrin
Additional Participating Persons: Chuck Roberts; Spokane FSDO

Original Publish Date: July 23, 2003

Last Revision Date:

Investigation Class: [Class](#)

Note:

Investigation Docket: <https://data.ntsb.gov/Docket?ProjectID=56860>

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The NTSB does not assign fault or blame for an accident or incident; rather, as specified by NTSB regulation, “accident/incident investigations are fact-finding proceedings with no formal issues and no adverse parties ... and are not conducted for the purpose of determining the rights or liabilities of any person” (Title 49 *Code of Federal Regulations* section 831.4). Assignment of fault or legal liability is not relevant to the NTSB’s statutory mission to improve transportation safety by investigating accidents and incidents and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report (Title 49 *United States Code* section 1154(b)). A factual report that may be admissible under 49 *United States Code* section 1154(b) is available [here](#).