



# Aviation Investigation Final Report

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<b>Location:</b>	Monett, Missouri	<b>Accident Number:</b>	CEN16LA354
<b>Date &amp; Time:</b>	August 29, 2016, 09:30 Local	<b>Registration:</b>	N91488
<b>Aircraft:</b>	North American Navion	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>	Landing gear collapse	<b>Injuries:</b>	1 None
<b>Flight Conducted Under:</b>	Part 91: General aviation - Personal		

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## Analysis

The commercial pilot stated that, during the landing roll following a normal landing, the airplane began pulling to the right. The airplane departed the right side of the runway and traveled down an embankment and through a barbed wire fence. When the pilot inspected the airplane, he noted that the right main landing gear (MLG) had collapsed. An examination of the landing gear found that the locking mechanism had been improperly rigged. Several weeks before the accident, the airplane's right MLG was damaged in an incident and had been replaced with a serviceable unit. A review of maintenance records noted that a gear retraction test was conducted after the replacement and described as satisfactory. It is likely that during this maintenance, the landing gear was improperly rigged, which resulted in its collapse on the accident flight.

## Probable Cause and Findings

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

Maintenance personnel's failure to properly rig the right main landing gear locking mechanism, which resulted in a gear collapse during landing.

## Findings

<b>Aircraft</b>	Gear extension and retract sys - Incorrect service/maintenance
<b>Personnel issues</b>	(general) - Maintenance personnel

## Factual Information

### History of Flight

<b>Landing-landing roll</b>	Landing gear collapse (Defining event)
<b>Landing-landing roll</b>	Loss of control on ground
<b>Landing-landing roll</b>	Runway excursion
<b>Landing-landing roll</b>	Collision with terr/obj (non-CFIT)

On August 29, 2016, about 0930 central daylight time, a North American Navion airplane, N91488, departed off the side of the runway at the Monett Regional Airport (KHFJ), Monett, Missouri. The pilot was not injured and the airplane was substantially damaged. The airplane was registered to and operated by a private individual under the provisions of 14 Code of Federal Regulations Part 91 as a personal flight. Visual meteorological conditions prevailed for the flight, which operated without a flight plan. The flight originated from the Gimlin Airport (18MO), Ozark, Missouri, and was landing at KHFJ.

According to the pilot, he landed the airplane on runway 18 at KHFJ about 0930. Weather was clear and he estimated the wind at 120° at 4 knots. Following a normal approach and landing, he noticed the airplane's right wing was lower than the left wing, and the airplane began a pull to the right. The airplane departed the right side of the runway, went down an embankment and run through a barbed wire fence. When the pilot inspected the airplane, he noted that the right main landing gear (MLG) had collapsed. During recovery of the airplane, the airplane was lifted and the right MLG was extended manually and locked.

The airplane was examined by inspectors from the Federal Aviation Administration. A landing gear swing test was conducted and the landing gear had been improperly rigged. A review of the airplane's history revealed that several weeks prior to the accident, the airplane's right MLG scissor was damaged during a high speed turn.

A review of maintenance records revealed that on July 22, 2016, the airplane's right MLG scissor was replaced with a serviceable unit. A gear retraction test was conducted and described as satisfactory.

## Pilot Information

<b>Certificate:</b>	Commercial	<b>Age:</b>	70, Male
<b>Airplane Rating(s):</b>	Single-engine land	<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>	Helicopter	<b>Restraint Used:</b>	Unknown
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 3 With waivers/limitations	<b>Last FAA Medical Exam:</b>	January 22, 2015
<b>Occupational Pilot:</b>		<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>			

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	North American	<b>Registration:</b>	N91488
<b>Model/Series:</b>	Navion A	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>	1946	<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Normal; Utility	<b>Serial Number:</b>	NAV-4-119
<b>Landing Gear Type:</b>	Retractable - Tricycle	<b>Seats:</b>	4
<b>Date/Type of Last Inspection:</b>	October 26, 2015 Annual	<b>Certified Max Gross Wt.:</b>	2850 lbs
<b>Time Since Last Inspection:</b>	40 Hrs	<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>	1611 Hrs as of last inspection	<b>Engine Manufacturer:</b>	Continental
<b>ELT:</b>	Installed, not activated	<b>Engine Model/Series:</b>	IO-520-BA
<b>Registered Owner:</b>	On file	<b>Rated Power:</b>	285 Horsepower
<b>Operator:</b>	On file	<b>Operating Certificate(s) Held:</b>	None

## Meteorological Information and Flight Plan

<b>Conditions at Accident Site:</b>	Visual (VMC)	<b>Condition of Light:</b>	Day
<b>Observation Facility, Elevation:</b>	KHFJ,1316 ft msl	<b>Distance from Accident Site:</b>	0 Nautical Miles
<b>Observation Time:</b>	09:30 Local	<b>Direction from Accident Site:</b>	209°
<b>Lowest Cloud Condition:</b>	Clear	<b>Visibility</b>	10 miles
<b>Lowest Ceiling:</b>	None	<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	5 knots /	<b>Turbulence Type Forecast/Actual:</b>	/
<b>Wind Direction:</b>	120°	<b>Turbulence Severity Forecast/Actual:</b>	/
<b>Altimeter Setting:</b>	30.19 inches Hg	<b>Temperature/Dew Point:</b>	27°C / 22°C
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>	OZARK, MO (18MO)	<b>Type of Flight Plan Filed:</b>	None
<b>Destination:</b>	Monett, MO (HFJ )	<b>Type of Clearance:</b>	None
<b>Departure Time:</b>	09:00 Local	<b>Type of Airspace:</b>	

## Airport Information

<b>Airport:</b>	MONETT RGNL HFJ	<b>Runway Surface Type:</b>	Concrete
<b>Airport Elevation:</b>	1313 ft msl	<b>Runway Surface Condition:</b>	
<b>Runway Used:</b>	18	<b>IFR Approach:</b>	None
<b>Runway Length/Width:</b>	5000 ft / 75 ft	<b>VFR Approach/Landing:</b>	Full stop;Straight-in

## Wreckage and Impact Information

<b>Crew Injuries:</b>	1 None	<b>Aircraft Damage:</b>	Substantial
<b>Passenger Injuries:</b>		<b>Aircraft Fire:</b>	None
<b>Ground Injuries:</b>	N/A	<b>Aircraft Explosion:</b>	None
<b>Total Injuries:</b>	1 None	<b>Latitude, Longitude:</b>	36.906112,-94.012779

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Aguilera, Jason
<b>Additional Participating Persons:</b>	David Plum; FAA FSDO; Kansas City, MO
<b>Original Publish Date:</b>	May 1, 2017
<b>Last Revision Date:</b>	
<b>Investigation Class:</b>	<a href="#">Class</a>
<b>Note:</b>	The NTSB did not travel to the scene of this accident.
<b>Investigation Docket:</b>	<a href="https://data.ntsb.gov/Docket?ProjectID=93955">https://data.ntsb.gov/Docket?ProjectID=93955</a>

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate, and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

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](#).