



Aviation Investigation Final Report

Location:	Marana, Arizona	Accident Number:	WPR11LA049
Date & Time:	November 11, 2010, 10:35 Local	Registration:	C-GFRP
Aircraft:	Mooney M20B	Aircraft Damage:	Substantial
Defining Event:	Landing gear collapse	Injuries:	2 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot said that he completed the landing checklist, which included putting the landing gear down, while on the downwind leg for landing and that he made a final check of the landing gear handle, mixture, and propeller controls while on final approach. The approach and touchdown were normal, but, during the landing roll, the airplane came to a sudden stop on its belly. Postaccident examination revealed that the Johnson bar operating handle for the manual landing gear system was not in the fully locked position. Therefore, the landing gear was down but not locked into position during touchdown, and it subsequently collapsed during the landing roll.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot did not secure the manual landing gear operating handle, which resulted in the landing gear collapse during the landing roll.

Findings

Aircraft	Gear extension and retract sys - Incorrect use/operation
Personnel issues	Incorrect action performance - Pilot

Factual Information

History of Flight

Landing-landing roll	Landing gear collapse (Defining event)
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On November 11, 2010, about 1035 mountain standard time, a Mooney M20B, Canadian registration C-GFRP, had the landing gear collapse during landing at Marana Regional Airport, Marana, Arizona. The pilot/owner was operating the airplane under the provisions of 14 Code of Federal Regulations (CFR) Part 91. The private pilot (Canadian certificate) and one passenger were not injured. The airplane sustained substantial damage to several fuselage bulkheads during the accident sequence. The cross-country personal flight departed Phoenix Regional Airport, Maricopa, Arizona, about 0915, with a planned destination of Marana Regional Airport. Visual meteorological conditions prevailed, and no flight plan had been filed.

The pilot reported that he completed the landing checklist while on the downwind leg. The landing gear was down, flaps were deployed, and he was maintaining an approach speed of 80 miles per hour for the base leg and final approach.

The pilot stated that while on final approach he checked the gear lever, mixture, and propeller controls. He indicated that the approach and touchdown were normal. After touchdown, the airplane came to a sudden stop. He made a radio call announcing his position on the runway, and his situation. He turned the magnetos and master switch off prior to exiting the airplane. The airplane was sitting on the centerline for runway 12 with no landing gear visible.

A Federal Aviation Administration inspector examined the airplane. He stated that it was equipped with the manual gear system utilizing the Johnson bar operating handle. He determined during the examination that the handle was not in the fully locked position. Therefore, the landing gear was down, but not locked into position. Upon landing rollout, the gear collapsed back into their normal retracted position. When the landing gear retracted, the airplane dropped to the ground and skidded on the belly of the fuselage.

Pilot Information

Certificate:	Private	Age:	64, Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	None	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 3 With waivers/limitations	Last FAA Medical Exam:	March 31, 2009
Occupational Pilot:	No	Last Flight Review or Equivalent:	May 16, 2010
Flight Time:	911 hours (Total, all aircraft), 56 hours (Total, this make and model), 858 hours (Pilot In Command, all aircraft), 30 hours (Last 90 days, all aircraft), 17 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Mooney	Registration:	C-GFRP
Model/Series:	M20B	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	1798
Landing Gear Type:	Retractable - Tricycle	Seats:	4
Date/Type of Last Inspection:	May 10, 2010 100 hour	Certified Max Gross Wt.:	2450 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:	3191 Hrs as of last inspection	Engine Manufacturer:	Lycoming
ELT:	Installed, not activated	Engine Model/Series:	O-360-A1D
Registered Owner:	Terence Lumb	Rated Power:	180 Horsepower
Operator:	Terence Lumb	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	KRYN	Distance from Accident Site:	
Observation Time:	09:45 Local	Direction from Accident Site:	
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	/	Turbulence Type Forecast/Actual:	/
Wind Direction:		Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.09 inches Hg	Temperature/Dew Point:	14°C / -8°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Maricopa, AZ (A39)	Type of Flight Plan Filed:	None
Destination:	Marana, AZ (AVQ)	Type of Clearance:	None
Departure Time:	09:15 Local	Type of Airspace:	

Airport Information

Airport:	Marana Regional Airport AVQ	Runway Surface Type:	Asphalt
Airport Elevation:	2031 ft msl	Runway Surface Condition:	Dry
Runway Used:	12	IFR Approach:	None
Runway Length/Width:	6901 ft / 100 ft	VFR Approach/Landing:	Full stop;Traffic pattern

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:	32.409442,-111.21833(est)

Administrative Information

Investigator In Charge (IIC):	Plagens, Howard
Additional Participating Persons:	David Montalvo; Federal Aviation Administration FSDO; Scottsdale, AZ
Original Publish Date:	February 16, 2012
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=77821

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