



Aviation Investigation Final Report

Location:	Reno, Nevada	Accident Number:	WPR12LA422
Date & Time:	September 11, 2012, 15:00 Local	Registration:	N4434P
Aircraft:	Hawker MK 11 SEA FURY	Aircraft Damage:	Substantial
Defining Event:	Landing gear collapse	Injuries:	1 None
Flight Conducted Under:	Part 91: General aviation - Air race/show		

Analysis

The pilot reported that following an uneventful takeoff, the landing gear malfunctioned when he attempted to retract it. After several attempts, the landing gear retracted, and he performed his race course qualifying lap. Upon exiting the closed race course, he attempted to extend the landing gear. Following multiple attempts, the landing gear appeared to be down. The right main landing gear warning light was illuminated, and the pilot executed a precautionary landing. During the landing roll, the right main landing gear collapsed. Subsequently, the airplane exited the right side of the runway and came to rest upright. Examination of the airplane revealed that the landing gear rotary selector valve seal had failed, which allowed hydraulic pressure to bypass the landing gear. The bypass in hydraulic pressure would preclude the landing gear system from operating normally.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The collapse of the right main landing gear due to failure of the landing gear rotary selector valve seal.

Findings

Aircraft	Landing gear selector - Failure
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Factual Information

History of Flight

Approach-VFR pattern final	Sys/Comp malf/fail (non-power)
Landing-landing roll	Landing gear collapse (Defining event)
Landing-landing roll	Loss of control on ground
Landing-landing roll	Runway excursion

On September 11, 2012, about 1500 Pacific daylight time, a Hawker MK11 Sea Fury, N4434P, was substantially damaged when the right main landing gear collapsed during landing roll at the Reno Stead Airport (RTS), Reno, Nevada. The airplane was registered to Air Zurich LLC, Lake Zurich, Illinois, and operated by the pilot under the provisions of Title 14 Code of Federal Regulations Part 91 as Race 15. The commercial pilot, sole occupant of the airplane, was not injured. Visual meteorological conditions prevailed and no flight plan was filed for the air race flight. The local flight originated from RTS about 30 minutes prior to the time of the accident.

In a written statement to the National Transportation Safety Board (NTSB) investigator-in-charge (IIC), the pilot reported that following an uneventful takeoff, he had a malfunction with retracting the landing gear. After several attempts, the landing gear retracted, and he performed his race course qualifying lap. Upon exiting the closed race course, he attempted to extend the landing gear. After about 20 minutes of troubleshooting the landing gear, it appeared to be down, however, with the right main landing gear warning light illuminated. The pilot initiated a precautionary landing on runway 14. During the landing roll, the right main landing gear collapsed and the airplane exited the right side of the runway. Subsequently, the airplane came to rest upright adjacent to the runway.

Examination of the airplane by the NTSB IIC revealed that the right wing, right aileron, and rudder were damaged.

Further examination of the recovered airplane by a representative from Sanders Aeronautics, Lone, California, revealed that the landing gear rotary selector valve seal had failed, which allowed landing gear hydraulic pressure to bypass. The representative stated that the bypass in hydraulic pressure would preclude the landing gear retraction system from operating normally.

Pilot Information

Certificate:	Commercial	Age:	53, Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Center
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 2 With waivers/limitations	Last FAA Medical Exam:	September 4, 2012
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	January 15, 2011
Flight Time:	13000 hours (Total, all aircraft), 200 hours (Total, this make and model), 35 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Hawker	Registration:	N4434P
Model/Series:	MK 11 SEA FURY	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Experimental (Special)	Serial Number:	WH 589
Landing Gear Type:	Retractable - Tailwheel	Seats:	1
Date/Type of Last Inspection:	August 20, 2012 Annual	Certified Max Gross Wt.:	14500 lbs
Time Since Last Inspection:	5 Hrs	Engines:	1 Reciprocating
Airframe Total Time:		Engine Manufacturer:	P&W
ELT:	Not installed	Engine Model/Series:	R-4360
Registered Owner:	Air Zurich LLC	Rated Power:	3250 Horsepower
Operator:	Matthew Jackson	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	RNO,4415 ft msl	Distance from Accident Site:	12 Nautical Miles
Observation Time:	14:55 Local	Direction from Accident Site:	120°
Lowest Cloud Condition:	Scattered / 15000 ft AGL	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	/	Turbulence Type Forecast/Actual:	/
Wind Direction:		Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.04 inches Hg	Temperature/Dew Point:	28°C / -1°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Reno, NV (RTS)	Type of Flight Plan Filed:	None
Destination:	Reno, NV (RTS)	Type of Clearance:	None
Departure Time:	14:30 Local	Type of Airspace:	

Airport Information

Airport:	Reno Stead Airport RTS	Runway Surface Type:	Asphalt
Airport Elevation:	5050 ft msl	Runway Surface Condition:	Dry
Runway Used:	14	IFR Approach:	None
Runway Length/Width:	9000 ft / 150 ft	VFR Approach/Landing:	Precautionary landing;Traffic pattern

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 None	Latitude, Longitude:	39.668056,-119.876388(est)

Administrative Information

Investigator In Charge (IIC):	Cawthra, Joshua
Additional Participating Persons:	Hugh J Roche; Federal Aviation Administration; Reno, NV
Original Publish Date:	January 31, 2013
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=85067

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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](#).