National Transportation Safety Board
Aviation Accident Final Report

Location:	North Las Vegas, NV	**Accident Number:**	WPR13LA082
Date & Time:	01/02/2013, 1515 PST	**Registration:**	N3AG
Aircraft:	PIPER PA-60-602P	**Aircraft Damage:**	Substantial
Defining Event:	Hard landing	**Injuries:**	2 None
Flight Conducted Under:	Part 91: General Aviation - Instructional		

Analysis

The pilot receiving instruction conducted three full-stop landings without incident. After the fourth takeoff, the flight instructor simulated a prearranged left engine failure about 600 ft above ground level (agl). The pilot followed emergency procedures, used the checklist, and prepared to land. The pilot reported that, when the airplane was about 50 to 100 ft agl on final approach, he thought that it was a little too high, so he chose to initiate a go-around. He moved the throttle levers full forward, but neither engine responded. The flight instructor pushed the airplane's nose down, and the pilot continued the approach. On touchdown, the right main and nose landing gear collapsed. A postimpact fire ensued, which consumed most of the airplane.

Postaccident examination of the landing gear revealed that it collapsed due to bending overload consistent with a hard landing. The reason for the failure of both engines to respond to power inputs could not be determined because of the postcrash fire damage.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's failure to maintain an adequate descent rate while on final approach, which resulted in a hard landing and landing gear collapse due to overload following the failure of both engines to respond to power inputs during an attempted go-around for reasons that could not be determined due to postcrash fire damage.

Findings

Aircraft	Descent/approach/glide path - Not attained/maintained (Cause) Nose/tail landing gear - Capability exceeded
Personnel issues	Aircraft control - Pilot (Cause) Decision making/judgment - Pilot (Cause)

Factual Information

On January 2, 2013, about 1515 Pacific standard time, a Piper PA-60-602P, N3AG, veered off the runway during landing at North Las Vegas, Nevada. The pilot/owner was operating the airplane under the provisions of 14 Code of Federal Regulations (CFR) Part 91. The private pilot receiving instruction and the flight instructor were not injured; the airplane sustained substantial damage from a post-crash fire. The local instructional flight departed North Las Vegas about 1430. Visual meteorological (VMC) conditions prevailed, and no flight plan had been filed.

The pilot remained in the traffic pattern after departure, and completed three full-stop landings without incident; one was on runway 12R, and the other two were on runway 12L. As prearranged with the flight instructor prior to departure, the fourth takeoff was a simulated left engine failure about 600 feet above ground level (agl). The pilot followed emergency procedures, used the checklist, and prepared to land.

About 50-100 feet agl on final, the pilot felt that the airplane was a little too high, and elected to initiate a go-around. The propeller and mixture controls were already full forward. Movement of the throttle levers full forward resulted in neither engine increasing in power. The flight instructor pushed the nose down. The airplane shuddered about 15 feet agl, but did not stall. The pilot pulled the nose back before touchdown, and landed on the main landing gear. He stated that touchdown was not hard; it felt like a normal landing. The right wing went down immediately as if the right main landing gear had collapsed, and the airplane veered off the runway into a ditch in the infield.

The flight instructor noted that the airplane was on fire. The pilot shut down all power and the fuel mixture. It took three vigorous tries to open the upper clamshell door before the pilot and flight instructor could egress. Within a few moments of their exit, the airplane caught fire.

An airframe and powerplant (A&P) mechanic was working on the airport ramp. The A&P heard an airplane coming in for landing, and noted that the engine sounds were increasing and decreasing. He observed an airplane porpoising, and coming in fast. He thought that the airplane landed hard; the right main landing gear and nose landing gear collapsed on touchdown. The airplane caught fire within 40 to 50 feet after touchdown; it started sliding, and then it exited the runway surface.

The axle of the right main landing gear strut with the lower link still bolted to it was sent to the National Transportation Safety Board Office of Research and Engineering Materials Laboratory for examination.

A fractured piece of the piston was contained in the axle, and a portion of a fractured bolt was contained at the lower link connection to the upper link. Examination of the piston's fracture face revealed that it was oriented diagonally to the strut center line, and displayed a grainy surface with shear lips, consistent with a bending overload event. The fracture face on the lower link to upper link attachment bolt displayed grainy surfaces in a cup and cone formation with a distinct shear lip oriented in one direction, also consistent with a bending overload event.

Due to the postaccident fire damage, examination of the engines failed to reveal the reason why they did not respond to power input.

History of Flight

Approach-VFR pattern final	Simulated/training event
Approach-VFR go-around	Attempted remediation/recovery
Landing-flare/touchdown	Hard landing (Defining event) Landing gear collapse

Pilot Information

Certificate:	Private	**Age:**	72
Airplane Rating(s):	Multi-engine Land; Single-engine Land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	Seatbelt, Shoulder harness
Instrument Rating(s):	Airplane	**Second Pilot Present:**	Yes
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	Class 2 With Waivers/Limitations	**Last Medical Exam:**	11/27/2012
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	08/29/2012
Flight Time:	3900 hours (Total, all aircraft), 1700 hours (Total, this make and model), 3900 hours (Pilot In Command, all aircraft), 21 hours (Last 90 days, all aircraft), 4 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Flight Instructor Information

Certificate:	Flight Instructor; Commercial	**Age:**	64
Airplane Rating(s):	Multi-engine Land; Single-engine Land	**Seat Occupied:**	Right
Other Aircraft Rating(s):	Helicopter	**Restraint Used:**	Seatbelt, Shoulder harness
Instrument Rating(s):	Airplane; Helicopter	**Second Pilot Present:**	Yes
Instructor Rating(s):	Airplane Multi-engine; Airplane Single-engine; Helicopter; Instrument Airplane; Instrument Helicopter	**Toxicology Performed:**	No
Medical Certification:	Class 2 With Waivers/Limitations	**Last Medical Exam:**	03/29/2012
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	07/14/2011
Flight Time:	11535 hours (Total, all aircraft), 60 hours (Total, this make and model)		

Aircraft and Owner/Operator Information

Aircraft Manufacturer:	PIPER	**Registration:**	N3AG
Model/Series:	PA-60-602P	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	No
Airworthiness Certificate:	Normal	**Serial Number:**	60-8365018
Landing Gear Type:	Retractable - Tricycle	**Seats:**	6
Date/Type of Last Inspection:	04/10/2012, Annual	**Certified Max Gross Wt.:**	6850 lbs
Time Since Last Inspection:		**Engines:**	2 Reciprocating
Airframe Total Time:	3259 Hours	**Engine Manufacturer:**	LYCOMING
ELT:	Installed, not activated	**Engine Model/Series:**	IO-540-AA1A5
Registered Owner:	Managed Aviation Inc	**Rated Power:**	350 hp
Operator:	Managed Aviation Inc	**Air Carrier Operating Certificate:**	None

Meteorological Information and Flight Plan

Observation Facility, Elevation:	KVGT	**Observation Time:**	1619 PST
Distance from Accident Site:		**Condition of Light:**	Day
Direction from Accident Site:		**Conditions at Accident Site:**	Visual Conditions
Lowest Cloud Condition:	Clear	**Temperature/Dew Point:**	10°C / -12°C
Lowest Ceiling:	None	**Visibility**	10 Miles
Wind Speed/Gusts, Direction:	Calm	**Visibility (RVR):**	
Altimeter Setting:	30.15 inches Hg	**Visibility (RVV):**	
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	North Las Vegas, NV (VGT)	**Type of Flight Plan Filed:**	None
Destination:	North Las Vegas, NV (VGT)	**Type of Clearance:**	None
Departure Time:	1430 PST	**Type of Airspace:**	

Airport Information

Airport:	North Las Vegas (VGT)	**Runway Surface Type:**	Asphalt
Airport Elevation:	2205 ft	**Runway Surface Condition:**	Dry
Runway Used:	12L	**IFR Approach:**	None
Runway Length/Width:	4202 ft / 75 ft	**VFR Approach/Landing:**	Full Stop

Wreckage and Impact Information

Crew Injuries:	2 None	**Aircraft Damage:**	Substantial
Passenger Injuries:	N/A	**Aircraft Fire:**	On-Ground
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	2 None		

Administrative Information

Investigator In Charge (IIC):	Howard D Plagens	**Adopted Date:**	11/05/2015
Additional Participating Persons:	Robert Castillo; FAA FSDO; Las Vegas, NV		
Publish Date:	11/05/2015		
Note:	The NTSB did not travel to the scene of this accident.		
Investigation Docket:	http://dms.ntsb.gov/pubdms/search/dockList.cfm?mKey=85939		

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