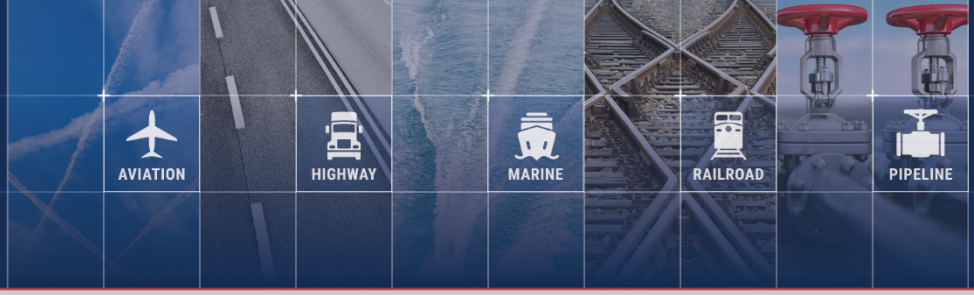

Aviation Investigation Factual Report

Location:	Dublin, Georgia	**Accident Number:**	ERA16LA092
Date & Time:	January 18, 2016, 11:45 Local	**Registration:**	N68X
Aircraft:	Piper PA 30	**Aircraft Damage:**	Substantial
Defining Event:	Landing gear not configured	**Injuries:**	2 None
Flight Conducted Under:	Part 91: General aviation - Instructional		

Factual Information

On January 18, 2016, about 1145 eastern standard time, a Piper PA-30 airplane, N68X, was substantially damaged when it was involved in an accident near Dublin, Georgia. The pilot and flight instructor were not injured. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 instructional flight.

The pilot indicated that he was receiving multiengine flight instruction from the flight instructor; they departed W. H. “Bud” Barron Airport (DBN), Dublin, Georgia, about 1015 in windy, clear conditions. Their intent was to remain in the local area to perform practice maneuvers in preparation for the pilot’s check ride for a multiengine rating.

After 45 to 50 minutes of flight, they performed a practice emergency descent from 4,500 ft mean sea level (msl) to pattern altitude and then performed a normal, full-stop landing on runway 32. After taxiing to the beginning of runway 32, they reviewed procedures for a short-field takeoff and a short-field landing. The pilot indicated that the short-field takeoff was performed per the Piper PA-30 Pilot’s Operating Handbook recommendations.

After takeoff, they joined the traffic pattern for landing. When the airplane was abeam the numbers for runway 32, they completed the prelanding checklist and ensured that the landing gear extended to the down-and-locked position. The pilot verbally called out the "GUMP" check with acknowledgment from his flight instructor and then turned onto final approach with the airspeed at 110 mph to compensate for the wind gusts.

When the airplane crossed the runway 32 threshold, the pilot further reduced power and closed the throttles. He then descended the airplane toward the runway and started his flare as the airspeed decreased. He stated that all indications of touchdown were normal with weight on wheels for about 50 yards or so, when it felt like the airplane was "shimmying," followed shortly thereafter by a "sandpaper sound" of the propellers striking the runway. The airplane then settled completely on its belly and slid to right of the centerline, where it came to a stop. The flight instructor said he smelled smoke, so the pilot moved the fuel tank valves to the off position before they exited the airplane.

During a postaccident interview 2 days after the accident, the pilot stated that he did not “pull the flaps up” and that he “can’t swear I checked the mirror,” which was located on the left nacelle of the airplane in view of the pilot to help confirm landing gear position.

According to the flight instructor, regarding the accident landing, they entered the downwind at pattern altitude and completed the checklist items, with the landing gear extended abeam the runway numbers on downwind and verified. He indicated that the green light (landing gear position indicator) was checked on downwind and final. They continued the pattern in windy conditions, and the airplane touched down about 1,000 ft from the approach end of the runway. The airplane then rolled 50 to 100 yards, at which time the pilot reached to select the wing flaps up,

simulating a short-field landing, and applied the brakes. Very shortly thereafter, the airplane "settled" on the left side, then the right side, and then straight. He noticed that the flaps were partially retracted when the airplane came to rest.

Examination of runway 32 revealed that, about 2,000 ft from the approach end, witness marks were visible that corresponded to the location of the left and right propellers on the accident airplane. About the same location, scrape marks were also visible on the runway centerline, which corresponded the airplane's belly. The scrape and propeller strike marks continued from this point, about 700 ft to where the airplane came to rest.

The airplane was moved to a hangar and placed on aircraft jacks. A Federal Aviation Administration inspector examined the wreckage and reported that the tips of one propeller blade on both the left and right propellers was bent forward, with the tip of the other blade of each propeller bent aft. Examination of the fuselage revealed that its belly was substantially damaged from the aft end of the nose landing gear wheel well, aft through the midsection of the fuselage, with numerous areas of damage to the frame and longerons. Examination of the landing gear system and the landing gear wheels revealed that that they were undamaged. During a functional test of the landing gear, the system was extended and retracted several times with no discrepancies noted.

The airplane's landing gear system was electrically operated, with the nose gear retracting aft into the nose section and the main gear retracting inboard into the wing. Limit switches were installed in the system to cut off the transmission motor when the gear was fully extended or retracted. These switches also operated gear indicator lights in the cabin.

The landing gear selector switch was located on the instrument panel to the left of the power control quadrant. To guard against inadvertent movement of the landing gear selector on the ground, the handle must be pulled aft before moving it upward. The landing gear selector handle had the shape of a wheel to distinguish it from the flap control, which had an airfoil shape.

A green indicating light below the landing gear selector switch would illuminate when all the landing gear were down and locked. An amber light above the landing gear selector switch was the gear-up indication and would flash if the power on one engine was reduced below 12 inches of manifold pressure while the landing gear were up and locked. A warning horn would also sound.

To prevent the gear from retracting while the airplane was on the ground, an antiretraction switch on the left main gear would not allow the gear to retract until weight off the gear had allowed the strut to extend to within 3/4 of an inch of full extension.

According to the Piper PA-30 Owners Handbook, before extending the landing gear for landing, both throttle controls should be retarded to check that the landing gear warning horn is operating, and it is especially important to check that the landing gear is down when there is any distraction in the landing situation.

The handbook also advised, in part, to ascertain the landing gear is down and locked on base leg or final approach by checking the green indicator light on the instrument panel. The handbook also indicated , and that the degree of wing flap extension and touchdown speed vary with conditions, but under normal conditions, full wing flaps (27°) should be used during the final approach and landing to reduce stall speed and to permit contact with the runway at a slower speed; and for short, slow landings under

normal conditions, the pilot should to use full wing flaps and, partial power, and to should hold the nose up as long as possible before and after contacting the ground with the main wheels.

The handbook advised that typically the airplane should be flown at and airspeed of 110 miles per hour while on the base leg of the airport traffic pattern, and 100 miles per hour for final approach. It further advised, in part, that in high winds and crosswinds, it is desirable to approach a landing at higher-than-normal speed with half or no wing flaps.

The handbook also contained a caution that stated, in part, the following:

> It is possible for a pilot to inadvertently reach for the landing gear selector switch instead of the wing flap switch while there is still enough lift on the wings to keep full weight of the airplane off the wheels and thus prevent the actuation of the landing gear safety mechanism, causing retraction during the landing roll. If additional braking is not needed, the wing flaps should be retracted after the airplane has been maneuvered to a stop off the runway.

Flight instructor Information

Certificate:	Airline transport; Flight instructor	**Age:**	62,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Right
Other Aircraft Rating(s):	None	**Restraint Used:**	Lap only
Instrument Rating(s):	Airplane	**Second Pilot Present:**	Yes
Instructor Rating(s):	Airplane multi-engine; Airplane single-engine; Instrument airplane	**Toxicology Performed:**	No
Medical Certification:	Class 2 Without waivers/limitations	**Last FAA Medical Exam:**	August 11, 2015
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	November 23, 2015
Flight Time:	5001 hours (Total, all aircraft), 25 hours (Total, this make and model), 4743 hours (Pilot In Command, all aircraft), 63 hours (Last 90 days, all aircraft), 35 hours (Last 30 days, all aircraft)		

Student pilot Information

Certificate:	Private	**Age:**	60,Male
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	Lap only
Instrument Rating(s):	None	**Second Pilot Present:**	Yes
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	Class 3 Without waivers/limitations	**Last FAA Medical Exam:**	February 21, 2014
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	February 22, 2014
Flight Time:	689 hours (Total, all aircraft), 10 hours (Total, this make and model), 641 hours (Pilot In Command, all aircraft), 43 hours (Last 90 days, all aircraft), 16 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	**Registration:**	N68X
Model/Series:	PA 30 NO SERIES	**Aircraft Category:**	Airplane
Year of Manufacture:	1963	**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	30-238
Landing Gear Type:	Retractable - Tricycle	**Seats:**	4
Date/Type of Last Inspection:	October 23, 2015 Annual	**Certified Max Gross Wt.:**	2381 lbs
Time Since Last Inspection:	22.9 Hrs	**Engines:**	2 Reciprocating
Airframe Total Time:	5459.7 Hrs at time of accident	**Engine Manufacturer:**	LYCOMING
ELT:	C91A installed, not activated	**Engine Model/Series:**	IO-320-B1A
Registered Owner:	On file	**Rated Power:**	160 Horsepower
Operator:	On file	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	DBN,311 ft msl	**Distance from Accident Site:**	0 Nautical Miles
Observation Time:	11:55 Local	**Direction from Accident Site:**	
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	8 knots / 16 knots	**Turbulence Type Forecast/Actual:**	/ None
Wind Direction:	300°	**Turbulence Severity Forecast/Actual:**	/ N/A
Altimeter Setting:	30.25 inches Hg	**Temperature/Dew Point:**	7°C / -2°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Dublin, GA (DBN)	**Type of Flight Plan Filed:**	None
Destination:	Dublin, GA (DBN)	**Type of Clearance:**	None
Departure Time:	10:15 Local	**Type of Airspace:**	Class G

Airport Information

Airport:	WH "Bud" Barron Airport DBN	**Runway Surface Type:**	Asphalt
Airport Elevation:	311 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	32	**IFR Approach:**	None
Runway Length/Width:	5171 ft / 100 ft	**VFR Approach/Landing:**	Full stop;Traffic pattern

Wreckage and Impact Information

Crew Injuries:	2 None	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:		**Aircraft Explosion:**	None
Total Injuries:	2 None	**Latitude, Longitude:**	32.564723,-82.985(est)

Administrative Information

Investigator In Charge (IIC):	Gunther, Todd
Additional Participating Persons:	Steven L Davidson; FAA / FSDO; Atlanta, GA
Report Date:	
Last Revision Date:	
Investigation Class:	Class 3
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=92606