Aviation Investigation Final Report

Location:	HILLSBORO, Oregon	**Accident Number:**	SEA99LA053
Date & Time:	April 17, 1999, 17:00 Local	**Registration:**	N1310A
Aircraft:	Beech 35-C33	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	2 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot was performing a touch-and-go landing. He extended the gear and checked gear down during approach, which he reported was normal. The pilot stated main gear touchdown was normal, but he had no memory of nose gear touchdown. He stated that 'the nose dropped below normal for landing roll-out' and he attempted to take off, but was too slow and the aircraft skidded to a stop in a nose-down position on the runway centerline. He stated, 'The landing gear appeared to be in a semi-retracted or collapsed position.' FAA inspectors noted abrasion damage to the main landing gear doors in a post-accident inspection, as well as nose gear overstress damage consistent with its being forcibly pushed back up into the nose wheel well. In a post-accident test, the main landing gear extended manually but the nose landing gear would not extend. The pilot reported he had not logged any pilot time in the 90 days before the accident.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: A landing gear collapse for undetermined reasons.

Findings

Occurrence #1: GEAR COLLAPSED
Phase of Operation: LANDING

Findings

1. (C) REASON FOR OCCURRENCE UNDETERMINED
2. LACK OF RECENT EXPERIENCE - PILOT IN COMMAND

Factual Information

On April 17, 1999, approximately 1700 Pacific daylight time, a Beech 35-C33, N1310A, experienced a landing gear collapse on the runway while performing a touch-and-go landing on runway 30 at Portland-Hillsboro Airport, Hillsboro, Oregon. The aircraft subsequently slid to a stop on the runway on its belly, sustaining substantial damage. The private pilot-in-command and one passenger, his wife, were not injured. Visual meteorological conditions prevailed for the 14 CFR 91 local personal flight out of Portland-Hillsboro, and no flight plan had been filed.

The pilot reported he lowered the gear on downwind at midfield, and rechecked it on base and final. The pilot stated that all gear indicated down. The pilot reported that the approach (performed with 20 degrees of flaps) and touchdown were normal. The pilot stated that the main gear touched down normally but that he had no memory of nose wheel touchdown. He stated:

...The nose dropped below normal for landing roll-out [and] I sensed something was wrong. I applied power to attempt take-off but was too slow of speed [and] rapidly slid to stop in nose down position on centerline of runway. The landing gear appeared to be in a semi- retracted or collapsed position.

The pilot stated in a telephone interview with the NTSB investigator-in-charge that the entire accident sequence happened in about 5 seconds, and that he did not remember reaching for or operating any switches (such as gear or flaps) at the time the accident happened. The pilot reported to the NTSB that he had not logged any pilot time in the 90 days preceding the accident.

FAA inspectors who examined the airplane after the accident reported to the NTSB that they found abrasion damage to the airplane's main landing gear doors, as well as overstress damage to the nose landing gear consistent with the nose gear being forcibly pushed back up into the nose wheel well. The FAA inspectors also reported that in a post-accident test, a successful manual extension of the main landing gear was accomplished, but that the nose gear did not extend during this test.

The aircraft's last annual inspection was on March 10, 1999, approximately 1 month and 15 flight hours before the accident. The airframe total time at the time of the accident was 7,067 hours. According to the aircraft logbooks, maintenance to the landing gear performed in conjunction with the March 10, 1999, annual inspection included: replacement of nose gear door hinge bushings and steel inserts; replacement of nose gear door actuator shaft rods (002-410042-1) along with both right and left hand gussets (002-410000-29 and -27); servicing of shimmy dampener; replacement of left inboard main gear wheel bearing (13889) and cup (13836) and all felts (154-00800); removal and rebuilding of right main landing gear strut,

installation of new top snap ring (RRN237C), O-rings (AN6230-B5/M83461-1-227 and MS28775-328), felt (35-815247-9), and scraper (CR 504271); and removal, cleaning, and lubrication of trunnion and torque knee bushings. The March 10, 1999, logbook entry also indicated that rivets, forward wing spar-to-belly skin, nose gear opening and right aileron hinge brackets were replaced at that time.

Portland-Hillsboro runway 30 is a 6,600 by 150 foot asphalt-surface runway, and is equipped with a visual approach slope indicator (VASI). Winds at Portland-Hillsboro were reported as variable at 3 knots at 1653.

Pilot Information

Certificate:	Private	**Age:**	54,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 Valid Medical--w/ waivers/lim	**Last FAA Medical Exam:**	April 11, 1997
Occupational Pilot:	UNK	**Last Flight Review or Equivalent:**	
Flight Time:	983 hours (Total, all aircraft), 514 hours (Total, this make and model), 983 hours (Pilot In Command, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Beech	**Registration:**	N1310A
Model/Series:	35-C33 35-C33	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Utility	**Serial Number:**	CD-1105
Landing Gear Type:	Retractable - Tricycle	**Seats:**	4
Date/Type of Last Inspection:	March 10, 1999 Annual	**Certified Max Gross Wt.:**	3050 lbs
Time Since Last Inspection:	15 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	7067 Hrs	**Engine Manufacturer:**	Continental
ELT:	Installed, not activated	**Engine Model/Series:**	IO-470-K
Registered Owner:	HILLSBORO FLYING CLUB	**Rated Power:**	225 Horsepower
Operator:		**Operating Certificate(s) Held:**	None
Operator Does Business As:		**Operator Designator Code:**	

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	HIO ,204 ft msl	**Distance from Accident Site:**	
Observation Time:	16:53 Local	**Direction from Accident Site:**	
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	3 knots / None	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	0°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30 inches Hg	**Temperature/Dew Point:**	22°C / 7°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	(HIO)	**Type of Flight Plan Filed:**	None
Destination:		**Type of Clearance:**	VFR
Departure Time:	16:55 Local	**Type of Airspace:**	Class D

Airport Information

Airport:	PORTLAND-HILLSBORO HIO	**Runway Surface Type:**	Asphalt
Airport Elevation:	204 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	30	**IFR Approach:**	None
Runway Length/Width:	6600 ft / 150 ft	**VFR Approach/Landing:**	Touch and go

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:**	45.580978,-122.910362(est)

Administrative Information

Investigator In Charge (IIC):	Nesemeier, Gregg
Additional Participating Persons:	RON CORREARD; HILLSBORO , OR
Original Publish Date:	August 3, 2000
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=46110