Aviation Investigation Final Report

Location:	Brigham City, Utah	**Accident Number:**	WPR21LA178
Date & Time:	April 27, 2021, 15:45 Local	**Registration:**	N350TS
Aircraft:	DIAMOND AIRCRAFT IND GMBH DA 42	**Aircraft Damage:**	Substantial
Defining Event:	Landing gear collapse	**Injuries:**	2 None
Flight Conducted Under:	Part 91: General aviation - Instructional		

Analysis

The flight instructor of the multi-engine, retractable landing gear airplane reported that, while conducting a touch-and-go landing with the student pilot at the controls, during the landing roll, the student pilot intended to raise the flaps, but instead raised the landing gear lever from the down to the up position. The right main landing gear retracted, the right wing impacted the runway surface and the airplane veered right. The flight instructor observed that the landing gear lever was in the "up" position and immediately put the lever to the "down" position. The left main landing gear partially retracted, and the airplane exited the right side of the runway. The airplane sustained substantial damage to the rudder. The flight instructor reported that there were no preaccident mechanical failures or malfunctions with the airplane that would have precluded normal operation.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

The student pilot's unintentional selection of raising the landing gear instead of the flaps during a touch-and-go landing, and the flight instructor's delayed remedial action, which resulted in the landing gear retracting during the landing roll.

Findings

Aircraft	Gear extension and retract sys - Incorrect use/operation
Personnel issues	Use of equip/system - Pilot
Personnel issues	Delayed action - Instructor/check pilot
Personnel issues	Monitoring other person - Instructor/check pilot

Factual Information

History of Flight

Landing-landing roll	Landing gear collapse (Defining event)
Landing-landing roll	Runway excursion

Pilot Information

Certificate:	Private	**Age:**	24,Male
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	3-point
Instrument Rating(s):	Airplane	**Second Pilot Present:**	
Instructor Rating(s):	None	**Toxicology Performed:**	
Medical Certification:	Class 1 Without waivers/limitations	**Last FAA Medical Exam:**	January 23, 2018
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	September 26, 2020
Flight Time:	(Estimated) 200 hours (Total, all aircraft), 27 hours (Total, this make and model), 120 hours (Pilot In Command, all aircraft), 28 hours (Last 90 days, all aircraft), 19 hours (Last 30 days, all aircraft)		

Flight instructor Information

Certificate:	Commercial; Flight instructor	**Age:**	22,Male
Airplane Rating(s):	Single-engine land; Single-engine sea	**Seat Occupied:**	Rear
Other Aircraft Rating(s):	None	**Restraint Used:**	3-point
Instrument Rating(s):	Airplane	**Second Pilot Present:**	
Instructor Rating(s):	Airplane multi-engine; Airplane single-engine	**Toxicology Performed:**	
Medical Certification:	Class 1 Without waivers/limitations	**Last FAA Medical Exam:**	August 20, 2018
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	January 21, 2021
Flight Time:	(Estimated) 546 hours (Total, all aircraft), 121 hours (Total, this make and model), 487 hours (Pilot In Command, all aircraft), 114 hours (Last 90 days, all aircraft), 60 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	DIAMOND AIRCRAFT IND GMBH	**Registration:**	N350TS
Model/Series:	DA 42	**Aircraft Category:**	Airplane
Year of Manufacture:	2005	**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	42.061
Landing Gear Type:	Retractable - Tricycle	**Seats:**	4
Date/Type of Last Inspection:	April 9, 2021 Annual	**Certified Max Gross Wt.:**	3935 lbs
Time Since Last Inspection:	72 Hrs	**Engines:**	2 Reciprocating
Airframe Total Time:	5336 Hrs at time of accident	**Engine Manufacturer:**	Continental
ELT:	C91A installed, not activated	**Engine Model/Series:**	TAE 125-02-99
Registered Owner:	UTAH STATE UNIVERSITY	**Rated Power:**	135 Horsepower
Operator:	UTAH STATE UNIVERSITY	**Operating Certificate(s) Held:**	Pilot school (141)

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	KBMC,4226 ft msl	**Distance from Accident Site:**	0 Nautical Miles
Observation Time:	15:35 Local	**Direction from Accident Site:**	175°
Lowest Cloud Condition:	Scattered / 5500 ft AGL	**Visibility**	10 miles
Lowest Ceiling:		**Visibility (RVR):**	
Wind Speed/Gusts:	12 knots / 21 knots	**Turbulence Type Forecast/Actual:**	None / None
Wind Direction:	330°	**Turbulence Severity Forecast/Actual:**	N/A / N/A
Altimeter Setting:	29.95 inches Hg	**Temperature/Dew Point:**	14°C / 2°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Logan, UT (KLGU)	**Type of Flight Plan Filed:**	None
Destination:	Brigham City, UT	**Type of Clearance:**	None
Departure Time:	15:15 Local	**Type of Airspace:**	Class G

Airport Information

Airport:	BRIGHAM CITY RGNL BMC	**Runway Surface Type:**	Asphalt
Airport Elevation:	4229 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	35	**IFR Approach:**	None
Runway Length/Width:	8900 ft / 100 ft	**VFR Approach/Landing:**	Touch and go;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:**	41.554306,-112.06225

Administrative Information

Investigator In Charge (IIC):	Gutierrez, Eric
Additional Participating Persons:	Jeffery Smith; FAA; Salt Lake City, UT
Original Publish Date:	August 20, 2021
Last Revision Date:	
Investigation Class:	Class 4
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=102988