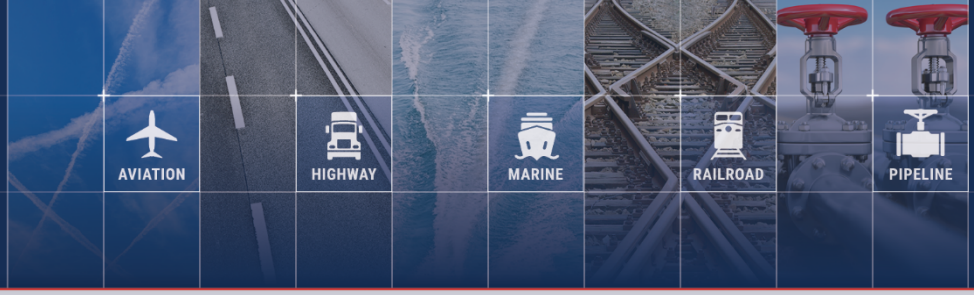

Aviation Investigation Final Report

Location:	Mesa, Arizona	**Accident Number:**	GAA18LA062
Date & Time:	October 13, 2017, 08:57 Local	**Registration:**	N965DS
Aircraft:	DIAMOND AIRCRAFT IND INC DA 40	**Aircraft Damage:**	Substantial
Defining Event:	Wildlife encounter (non-bird)	**Injuries:**	2 None
Flight Conducted Under:	Part 91: General aviation - Instructional		

Analysis

A student pilot was conducting a solo flight when the right main landing gear struck a coyote during the landing flare. The pilot contacted flight school management to inform them of the event. A visual examination that the pilot conducted did not reveal any damage, and she was instructed to fly the airplane back to the home airport. Upon landing, a flight school mechanic examined the airplane and reported seeing hair on the landing gear; the airplane remained in service.

The next morning, the airplane was dispatched for a local employment evaluation flight. The flight instructor and pilot receiving instruction completed a preflight inspection, and no anomalies were observed. The employment evaluation flight departed and consisted of instrument approaches and touch-and-go landings. After the final landing, the pilots heard an abnormal noise coming from the right main landing gear area. Postaccident examination revealed that the internal composite wing structure where the landing gear attaches was fractured.

Based on the available information, the damage to the wing structure was likely a result of the wildlife strike, which damaged the landing gear mount, and the subsequent operation of the airplane, which likely aggravated the damage.

Probable Cause and Findings

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

A coyote strike and the subsequent operation of the airplane, which led to internal composite wing structure damage.

Findings

Environmental issues	Animal(s)/bird(s) - Effect on equipment
Aircraft	Landing gear (fitting on wing) - Damaged/degraded
Aircraft	(general) - Capability exceeded

Factual Information

History of Flight

Landing-landing roll	Wildlife encounter (non-bird) (Defining event)
Prior to flight	Aircraft inspection event
Prior to flight	Preflight or dispatch event
Landing	Miscellaneous/other
Taxi-from runway	Aircraft structural failure

This report was revised on August 28, 2020. Please see the docket for this accident to view the original report.

On October 13, 2017, at 0857 mountain standard time, a Diamond Aircraft Industries DA-40 airplane, N965DS, sustained substantial damage after landing at Falcon Field Airport (FFZ), Mesa, Arizona. The flight instructor and the pilot were not injured. The airplane was registered to and operated by CAE Oxford Aviation Academy, Phoenix, Arizona, as a Title 14 *Code of Federal Regulations* Part 91 employment evaluation flight. Visual meteorological conditions prevailed, and the flight was not operated on a flight plan. The local flight originated from FFZ at 0750.

The previous evening, October 12, 2017, about 2140, a student pilot was conducting a solo flight when the right main landing gear struck a coyote during the landing flare. The pilot contacted flight school management to inform them of the event. A visual examination conducted by the pilot did not reveal any damage and she was instructed to fly the airplane back to FFZ. Upon landing, a flight school mechanic examined the airplane and told the student he saw hair in the gear. The airplane remained in service.

The following morning, October 13, 2017, the airplane was dispatched for a local flight. The dispatcher informed the flight instructor of the coyote strike the previous evening. The flight instructor and pilot receiving instruction reported completing a preflight inspection and no anomalies were observed. The employment evaluation flight consisted of instrument approaches and touch-and-go landings. After the final landing at FFZ, the pilots noticed an abnormal noise emanating from the right main landing gear area. Flight school maintenance personnel conducted a more detailed examination, which revealed that the internal composite wing structure where the landing gear attaches was fractured.

The flight school updated their event and discrepancy reporting, and airplane return to service procedures in an effort to prevent any possibility of dispatching an unairworthy airplane in the future.

Check pilot Information

Certificate:	Airline transport; Flight instructor	**Age:**	61,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Right
Other Aircraft Rating(s):	None	**Restraint Used:**	3-point
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	Airplane multi-engine; Airplane single-engine; Instrument airplane	**Toxicology Performed:**	No
Medical Certification:	Class 2 With waivers/limitations	**Last FAA Medical Exam:**	November 15, 2017
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	February 26, 2018
Flight Time:	(Estimated) 3650 hours (Total, all aircraft), 1300 hours (Total, this make and model), 3350 hours (Pilot In Command, all aircraft), 112 hours (Last 90 days, all aircraft), 31 hours (Last 30 days, all aircraft), 7 hours (Last 24 hours, all aircraft)		

Flight instructor Information

Certificate:	Commercial; Flight instructor	**Age:**	25,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):		**Restraint Used:**	Unknown
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	Airplane multi-engine; Airplane single-engine; Instrument airplane	**Toxicology Performed:**	No
Medical Certification:	Class 1 None	**Last FAA Medical Exam:**	April 4, 2017
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	
Flight Time:	976 hours (Total, all aircraft), 866 hours (Pilot In Command, all aircraft), 218 hours (Last 90 days, all aircraft), 85 hours (Last 30 days, all aircraft), 6 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	DIAMOND AIRCRAFT IND INC	**Registration:**	N965DS
Model/Series:	DA 40 UNDESIGNAT	**Aircraft Category:**	Airplane
Year of Manufacture:	2009	**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	40.1035
Landing Gear Type:	Tricycle	**Seats:**	4
Date/Type of Last Inspection:	October 6, 2017 100 hour	**Certified Max Gross Wt.:**	2646 lbs
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:	8086.4 Hrs as of last inspection	**Engine Manufacturer:**	LYCOMING
ELT:	C126 installed, not activated	**Engine Model/Series:**	IO-360
Registered Owner:	CAE OXFORD AVIATION ACADEMY PHOENIX INC	**Rated Power:**	160 Horsepower
Operator:	CAE OXFORD AVIATION ACADEMY PHOENIX INC	**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:	KFFZ,1380 ft msl	**Distance from Accident Site:**	0 Nautical Miles
Observation Time:	15:57 Local	**Direction from Accident Site:**	328°
Lowest Cloud Condition:	Clear	**Visibility**	40 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	6 knots /	**Turbulence Type Forecast/Actual:**	/ None
Wind Direction:	30°	**Turbulence Severity Forecast/Actual:**	/ N/A
Altimeter Setting:	30 inches Hg	**Temperature/Dew Point:**	24°C / -1°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	MESA, AZ (FFZ)	**Type of Flight Plan Filed:**	None
Destination:	MESA, CA (KFFZ)	**Type of Clearance:**	None
Departure Time:	07:50 Local	**Type of Airspace:**	

Airport Information

Airport:	Phoenix-Mesa Gateway IWA	**Runway Surface Type:**	Concrete
Airport Elevation:	1383 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	30R	**IFR Approach:**	None
Runway Length/Width:	9300 ft / 150 ft	**VFR Approach/Landing:**	Stop and go;Traffic pattern

Wreckage and Impact Information

Crew Injuries:	2 None	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	2 None	**Latitude, Longitude:**	33.307777,-111.655555(est)

Administrative Information

Investigator In Charge (IIC):	Hicks, Michael
Additional Participating Persons:	Pete L Kelley; FAA; Scottsdale, AZ
Original Publish Date:	September 14, 2020
Last Revision Date:	
Investigation Class:	Class
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=96390