Aviation Investigation Final Report

Location:	Primm, Nevada	**Accident Number:**	WPR16LA016
Date & Time:	October 23, 2015, 10:15 Local	**Registration:**	N310CD
Aircraft:	Cessna 310C	**Aircraft Damage:**	Substantial
Defining Event:	Midair collision	**Injuries:**	2 None
Flight Conducted Under:	Part 91: General aviation - Instructional		

Analysis

Both the multi-engine airplane and the single-engine airplane were maneuvering in the local practice area at 6,500 ft mean sea level. The flight instructor and private pilot receiving instruction on board the multi-engine airplane were performing an introductory/familiarization flight. The flight instructor reported that the airplane was on a northwesterly heading when he observed a small dot in front of him; he then saw an approaching airplane just before impact. He stated that the pilot receiving instruction, who was controlling the airplane at the time, made a slight nose-down input just before the collision. After assessing the damage as a jammed rudder, the flight instructor elected to proceed back to the departure airport, where he landed the airplane uneventfully.

The private pilot of the single-engine airplane stated that, while performing engine power checks on a southwesterly heading and while in a left turn, he heard a loud bang. He subsequently observed another airplane flying away from his position and then heard a radio transmission on the departure airport's tower frequency, advising that the pilot had been involved in a midair collision. The airplane then experienced a total loss of engine power, and the pilot subsequently performed an uneventful forced landing on a dry lake bed. Examination of the airplane revealed substantial damage to the right forward wing root area, which compromised the fuel system and resulted in the subsequent loss of engine power.

The practice area where the accident occurred was used widely for training flights, and pilots operating in the area typically monitored the common traffic advisory frequency (CTAF) of a nearby, non-tower-controlled airport. The pilots of both accident airplanes, however, were only monitoring the tower frequency of their departure airport. Had the pilots of both airplanes been more vigilant in scanning for potential traffic in the area while maneuvering, as well as monitoring and communicating their positions on the CTAF frequency, the midair collision would most likely have not occurred.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The inadequate visual lookout by the pilots of both airplanes, which resulted in a midair collision. Contributing to the accident was the pilots' failure to tune to, monitor, and communicate over the common traffic advisory frequency their relative positions while in the training area.

Findings

Personnel issues	Monitoring other aircraft - Instructor/check pilot
Personnel issues	Monitoring other aircraft - Student/instructed pilot
Personnel issues	Monitoring other aircraft - Pilot of other aircraft

Factual Information

History of Flight

Maneuvering	Midair collision (Defining event)

On October 23, 2015, about 1015 Pacific daylight time, a Cessna 310C multiengine airplane, N310CD, and a single-engine Piper PA-28-200, N9475N, collided in midair, about 5 nautical miles south of Primm, Nevada. The Cessna's certified flight instructor (CFI), who occupied the right pilot seat, and the pilot/owner receiving instruction who occupied the left pilot seat, were not injured. Additionally, the pilot of the Piper, who was the sole occupant, was not injured. Visual meteorological conditions prevailed at the time of the accident. The local flights were being operated in accordance with 14 Code of Federal Regulations Part 91, and no flight plans had been filed. Both airplanes departed the Henderson Executive Airport (HND), Henderson, Nevada, the Cessna about 0915, the Piper about 0950.

In a telephone conversation with the National Transportation Safety Board (NTSB) investigator-in-charge (IIC), the CFI of the Cessna reported that while giving the pilot/owner instruction in approach configurations at 6,500 feet mean sea level (msl), on a magnetic heading of 340 degrees, he observed a small dot in front of him, and just prior to impact he saw an approaching airplane; the CFI opined that he thought the pilot/owner had made a slight nose down control input prior to the collision. After assessing the damage to the airplane, which had resulted in a jammed rudder, the CFI contacted the HND air traffic control tower, reported the midair collision, and indicated that he would be returning to HND. The Cessna subsequently landed at HND without further incident. A postaccident examination revealed that the airplane's vertical stabilizer and rudder had sustained substantial damage.

In a telephone conversation with the NTSB IIC, the pilot of the Piper stated that he was level on a southwest heading at 6,500 msl level doing engine power checks, and as he initiated, or was already in a left turn, he heard a loud bang. The pilot reported that after the impact, he observed another airplane flying away from his position, and shortly thereafter heard a radio transmission to the HND tower from a pilot indicating that he had been involved in a midair collision, and was returning to HND. The pilot further stated that he subsequently experienced a loss of engine power, after which he elected to land on a dry lake bed. The pilot added that upon landing and during the landing roll, he had no right brake, which was the result of the right main landing gear brake line having been compromised due to the collision. Additionally, fuel was dripping from the right side of the airplane, due to a fuel line having been compromised as a result of the impact with the Cessna. It was also revealed that the right wing's forward wing root area had sustained substantial damage, as well as the left horizontal stabilizer.

According to a local Federal Aviation Administration operations aviation safety inspector who interviewed the pilots of both airplanes, the inspector reported that the area in which the accident occurred, near the Jean Airport (0LF), Jean, Nevada, is widely used for training. As such, a common practice is for pilots in the area to use the 0LF Common Traffic Advisory Frequency (CTAF) 122.9, while in the area to make position reports, monitor other aircraft, and to continue to do so while operating in the area. The inspector reported that none of the three pilots reported using the 0LF CTAF

frequency at any time leading up to the accident; they were monitoring the HND control tower frequency.

The FAA Airplane Flying Handbook states,

"Collision Avoidance: All pilots must be alert to the potential for midair collision and near midair collision. This concept requires that vigilance shall be maintained at all times, by each person operating an aircraft regardless of whether the operation is conducted under instrument flight rules (IFR) or visual flight rules (VFR). Most midair collision accidents and reported near midair collision incidents occur in good VFR weather conditions, and during the hours of daylight. Most of these accident/incidents occur within 5 miles of an airport, and/or near navigation aids."

Flight instructor Information

Certificate:	Airline transport; Flight instructor	**Age:**	56,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	**Toxicology Performed:**	No
Medical Certification:	Class 1 With waivers/limitations	**Last FAA Medical Exam:**	September 23, 2015
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	September 16, 2015
Flight Time:	11349 hours (Total, all aircraft), 32 hours (Total, this make and model), 10065 hours (Pilot In Command, all aircraft), 48 hours (Last 90 days, all aircraft), 25 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

Pilot Information

Certificate:	Private	**Age:**	45,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:**	June 17, 2015
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	October 30, 2015
Flight Time:	1600 hours (Total, all aircraft), 6 hours (Total, this make and model), 1520 hours (Pilot In Command, all aircraft), 7 hours (Last 90 days, all aircraft), 4 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	**Registration:**	N310CD
Model/Series:	310C C	**Aircraft Category:**	Airplane
Year of Manufacture:	1959	**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	35853
Landing Gear Type:	Retractable - Tricycle	**Seats:**	4
Date/Type of Last Inspection:	October 20, 2015 Annual	**Certified Max Gross Wt.:**	4828 lbs
Time Since Last Inspection:	1 Hrs	**Engines:**	2 Reciprocating
Airframe Total Time:	2608.8 Hrs as of last inspection	**Engine Manufacturer:**	CONT MOTOR
ELT:	C126 installed, activated, did not aid in locating accident	**Engine Model/Series:**	IO-470-D
Registered Owner:	On file	**Rated Power:**	260 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:	HND,2492 ft msl	**Distance from Accident Site:**	30 Nautical Miles
Observation Time:	09:56 Local	**Direction from Accident Site:**	25°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	3 knots /	**Turbulence Type Forecast/Actual:**	/ None
Wind Direction:		**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.11 inches Hg	**Temperature/Dew Point:**	20°C / 7°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Henderson, NV (HND)	**Type of Flight Plan Filed:**	None
Destination:	Henderson, NV (HND)	**Type of Clearance:**	None
Departure Time:	09:30 Local	**Type of Airspace:**	Class E

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:**	35.587223,-115.463607

Administrative Information

Investigator In Charge (IIC):	Little, Thomas
Additional Participating Persons:	Daniel J Teske; Federal Aviation Administration; Las Vegas, NV
Original Publish Date:	May 1, 2017
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=92220

Aviation Investigation Final Report

Location:	Primm, Nevada	**Accident Number:**	WPR16LA016
Date & Time:	October 23, 2015, 10:15 Local	**Registration:**	N9475N
Aircraft:	Piper PA 28R-200	**Aircraft Damage:**	Substantial
Defining Event:	Midair collision	**Injuries:**	1 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

Both the multi-engine airplane and the single-engine airplane were maneuvering in the local practice area at 6,500 ft mean sea level. The flight instructor and private pilot receiving instruction on board the multi-engine airplane were performing an introductory/familiarization flight. The flight instructor reported that the airplane was on a northwesterly heading when he observed a small dot in front of him; he then saw an approaching airplane just before impact. He stated that the pilot receiving instruction, who was controlling the airplane at the time, made a slight nose-down input just before the collision. After assessing the damage as a jammed rudder, the flight instructor elected to proceed back to the departure airport, where he landed the airplane uneventfully.

The private pilot of the single-engine airplane stated that, while performing engine power checks on a southwesterly heading and while in a left turn, he heard a loud bang. He subsequently observed another airplane flying away from his position and then heard a radio transmission on the departure airport's tower frequency, advising that the pilot had been involved in a midair collision. The airplane then experienced a total loss of engine power, and the pilot subsequently performed an uneventful forced landing on a dry lake bed. Examination of the airplane revealed substantial damage to the right forward wing root area, which compromised the fuel system and resulted in the subsequent loss of engine power.

The practice area where the accident occurred was used widely for training flights, and pilots operating in the area typically monitored the common traffic advisory frequency (CTAF) of a nearby, non-tower-controlled airport. The pilots of both accident airplanes, however, were only monitoring the tower frequency of their departure airport. Had the pilots of both airplanes been more vigilant in scanning for potential traffic in the area while maneuvering, as well as monitoring and communicating their positions on the CTAF frequency, the midair collision would most likely have not occurred.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The inadequate visual lookout by the pilots of both airplanes, which resulted in a midair collision. Contributing to the accident was the pilots' failure to tune to, monitor, and communicate over the common traffic advisory frequency their relative positions while in the training area.

Findings

Personnel issues	Monitoring other aircraft - Pilot
Personnel issues	Monitoring other aircraft - Pilot of other aircraft

Factual Information

History of Flight

Maneuvering	Midair collision

On October 23, 2015, about 1015 Pacific daylight time, a Cessna 310C multiengine airplane, N310CD, and a single-engine Piper PA-28-200, N9475N, collided in midair, about 5 nautical miles south of Primm, Nevada. The Cessna's certified flight instructor (CFI), who occupied the right pilot seat, and the pilot/owner receiving instruction who occupied the left pilot seat, were not injured. Additionally, the pilot of the Piper, who was the sole occupant, was not injured. Visual meteorological conditions prevailed at the time of the accident. The local flights were being operated in accordance with 14 Code of Federal Regulations Part 91, and no flight plans had been filed. Both airplanes departed the Henderson Executive Airport (HND), Henderson, Nevada, the Cessna about 0915, the Piper about 0950.

In a telephone conversation with the National Transportation Safety Board (NTSB) investigator-in-charge (IIC), the CFI of the Cessna reported that while giving the pilot/owner instruction in approach configurations at 6,500 feet mean sea level (msl), on a magnetic heading of 340 degrees, he observed a small dot in front of him, and just prior to impact he saw an approaching airplane; the CFI opined that he thought the pilot/owner had made a slight nose down control input prior to the collision. After assessing the damage to the airplane, which had resulted in a jammed rudder, the CFI contacted the HND air traffic control tower, reported the midair collision, and indicated that he would be returning to HND. The Cessna subsequently landed at HND without further incident. A postaccident examination revealed that the airplane's vertical stabilizer and rudder had sustained substantial damage.

In a telephone conversation with the NTSB IIC, the pilot of the Piper stated that he was level on a southwest heading at 6,500 msl level doing engine power checks, and as he initiated, or was already in a left turn, he heard a loud bang. The pilot reported that after the impact, he observed another airplane flying away from his position, and shortly thereafter heard a radio transmission to the HND tower from a pilot indicating that he had been involved in a midair collision, and was returning to HND. The pilot further stated that he subsequently experienced a loss of engine power, after which he elected to land on a dry lake bed. The pilot added that upon landing and during the landing roll, he had no right brake, which was the result of the right main landing gear brake line having been compromised due to the collision. Additionally, fuel was dripping from the right side of the airplane, due to a fuel line having been compromised as a result of the impact with the Cessna. It was also revealed that the right wing's forward wing root area had sustained substantial damage, as well as the left horizontal stabilizer.

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frequency at any time leading up to the accident; they were monitoring the HND control tower frequency.

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Pilot Information

Certificate:	Private	**Age:**	59,Male
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	Glider	**Restraint Used:**	3-point
Instrument Rating(s):	None	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	Class 3 With waivers/limitations	**Last FAA Medical Exam:**	January 7, 2014
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	February 8, 2014
Flight Time:	169 hours (Total, all aircraft), 52 hours (Total, this make and model), 114 hours (Pilot In Command, all aircraft), 4 hours (Last 90 days, all aircraft), 1 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	**Registration:**	N9475N
Model/Series:	PA 28R-200 200	**Aircraft Category:**	Airplane
Year of Manufacture:	1969	**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	28R-35192
Landing Gear Type:	Retractable - Tricycle	**Seats:**	4
Date/Type of Last Inspection:	June 5, 2015 Annual	**Certified Max Gross Wt.:**	2600 lbs
Time Since Last Inspection:	52 Hrs	**Engines:**	1
Airframe Total Time:	4558.36 Hrs at time of accident	**Engine Manufacturer:**	LYCOMING
ELT:	C91 installed, not activated	**Engine Model/Series:**	I0360 SER
Registered Owner:	On file	**Rated Power:**	0 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:	HND,2492 ft msl	**Distance from Accident Site:**	30 Nautical Miles
Observation Time:	09:56 Local	**Direction from Accident Site:**	25°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	3 knots /	**Turbulence Type Forecast/Actual:**	/ None
Wind Direction:		**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.11 inches Hg	**Temperature/Dew Point:**	20°C / 7°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Henderson, NV (HND)	**Type of Flight Plan Filed:**	None
Destination:	Henderson, NV (HND)	**Type of Clearance:**	None
Departure Time:	09:50 Local	**Type of Airspace:**	Class E

Wreckage and Impact Information

Crew Injuries:	1 None	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 None	**Latitude, Longitude:**	35.587223,-115.463607

Administrative Information

Investigator In Charge (IIC):	Little, Thomas
Additional Participating Persons:	Daniel J Teske; Federal Aviation Administration; Las Vegas, NV
Original Publish Date:	May 1, 2017
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=92220