

## ASRS Database Report Set

# General Aviation Flight Training Incidents

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Report Set Description.....A sampling of reports referencing General Aviation flight training.

Update Number .....33

Date of Update .....March 29, 2022

Number of Records in Report Set.....50

Records within this Report Set have been screened to assure their relevance to the topic.



TH: 262-7

**MEMORANDUM FOR: Recipients of Aviation Safety Reporting System Data**

**SUBJECT: Data Derived from ASRS Reports**

The attached material is furnished pursuant to a request for data from the NASA Aviation Safety Reporting System (ASRS). Recipients of this material are reminded when evaluating these data of the following points.

ASRS reports are submitted voluntarily. Such incidents are independently submitted and are not corroborated by NASA, the FAA or NTSB. The existence in the ASRS database of reports concerning a specific topic cannot, therefore, be used to infer the prevalence of that problem within the National Airspace System.

Information contained in reports submitted to ASRS may be clarified by further contact with the individual who submitted them, but the information provided by the reporter is not investigated further. Such information represents the perspective of the specific individual who is describing their experience and perception of a safety related event.

After preliminary processing, all ASRS reports are de-identified and the identity of the individual who submitted the report is permanently eliminated. All ASRS report processing systems are designed to protect identifying information submitted by reporters; including names, company affiliations, and specific times of incident occurrence. After a report has been de-identified, any verification of information submitted to ASRS would be limited.

The National Aeronautics and Space Administration and its ASRS current contractor, Booz Allen Hamilton, specifically disclaim any responsibility for any interpretation which may be made by others of any material or data furnished by NASA in response to queries of the ASRS database and related materials.

A handwritten signature in blue ink, appearing to read "B. Hooey".

Becky L. Hooey, Director  
NASA Aviation Safety Reporting System

## CAVEAT REGARDING USE OF ASRS DATA

Certain caveats apply to the use of ASRS data. All ASRS reports are voluntarily submitted, and thus cannot be considered a measured random sample of the full population of like events. For example, we receive several thousand altitude deviation reports each year. This number may comprise over half of all the altitude deviations that occur, or it may be just a small fraction of total occurrences.

Moreover, not all pilots, controllers, mechanics, flight attendants, dispatchers or other participants in the aviation system are equally aware of the ASRS or may be equally willing to report. Thus, the data can reflect **reporting biases**. These biases, which are not fully known or measurable, may influence ASRS information. A safety problem such as near midair collisions (NMACs) may appear to be more highly concentrated in area “A” than area “B” simply because the airmen who operate in area “A” are more aware of the ASRS program and more inclined to report should an NMAC occur. Any type of subjective, voluntary reporting will have these limitations related to quantitative statistical analysis.

One thing that can be known from ASRS data is that the number of reports received concerning specific event types represents the **lower measure** of the true number of such events that are occurring. For example, if ASRS receives 881 reports of track deviations in 2010 (this number is purely hypothetical), then it can be known with some certainty that at least 881 such events have occurred in 2010. With these statistical limitations in mind, we believe that the **real power** of ASRS data is the **qualitative information** contained in **report narratives**. The pilots, controllers, and others who report tell us about aviation safety incidents and situations in detail – explaining what happened, and more importantly, **why** it happened. Using report narratives effectively requires an extra measure of study, but the knowledge derived is well worth the added effort.

# Report Synopses

ACN: 1857879 *(1 of 50)*

### Synopsis

Light aircraft Student Pilot reported executing a go-around after encountering wake turbulence on final approach at AFW airport.

ACN: 1856213 *(2 of 50)*

### Synopsis

Flight Instructor reported a CO level warning came on during cruise and the instructor initiated an immediate return to departure airport. Instructor stated the student had physiological reactions requiring medical attention.

ACN: 1855131 *(3 of 50)*

### Synopsis

Flight instructor reported a student on a solo flight experienced a prop strike during landing.

ACN: 1855124 *(4 of 50)*

### Synopsis

Flight Instructor reported engine failure shortly after takeoff. Aircraft returned to field and landed without incident.

ACN: 1854841 *(5 of 50)*

### Synopsis

C172 pilot reported an NMAC after an aircraft turned the wrong way during a go-around and verbalized a lengthy radio call, preventing ATC from warning of traffic conflict.

ACN: 1854840 *(6 of 50)*

### Synopsis

DA40 instructor pilot reported directing the student to climb to avoid a helicopter that was cleared by Tower into the traffic pattern at the same altitude.

ACN: 1854839 *(7 of 50)*

### Synopsis

GA pilot reported an NMAC with another aircraft that had turned to a wrong heading and was quickly corrected by ATC.

ACN: 1854773 *(8 of 50)*

### Synopsis

GA student pilot reported an NMAC with a helicopter in the traffic pattern at a non-towered airport while on takeoff.

ACN: 1854764 *(9 of 50)*

### Synopsis

GA instructor pilot reported an aborted takeoff when they noticed another aircraft was taking off opposite direction on the same runway.

ACN: 1854752 *(10 of 50)*

### Synopsis

ATP Flight Instructor with student reported a CFTT event during climbout from a low approach due to a miscommunication between Pilot and ATC. Reporter stated he did not confirm the alternate departure instructions resulting in the CFTT.

ACN: 1854747 *(11 of 50)*

### Synopsis

C-172 instructor reported a student pilot on a solo flight had an NMAC event while on the landing pattern training. The student mistakenly identified the wrong aircraft to follow for landing resulting in a loss of separation and causing other aircraft to execute a go-around.

ACN: 1854231 *(12 of 50)*

### Synopsis

C172 instructor and student pilot reported poor aircraft performance shortly after takeoff led to the decision to land on the remaining runway. The aircraft ran off the runway after landing, resulting in minor injuries to the student pilot.

ACN: 1853541 *(13 of 50)*

### Synopsis

GA pilot reported an NMAC while on the downwind at non-towered EDU requiring evasive action. The pilot of the other aircraft had reportedly not been communicating properly, which contributed to the event.

ACN: 1853207 *(14 of 50)*

### Synopsis

Flight Instructor reported an area of the taxiway was fenced off and taxi lines repainted at DXE airport. Pilot states there was no NOTAM warning pilots of the change and obstruction.

ACN: 1853179 *(15 of 50)*

### Synopsis

A Flight Instructor reported an NMAC event during initial climb with opposite direction landing aircraft. Flight Instructor stated the landing aircraft provided inaccurate position radio calls.

ACN: 1852677 *(16 of 50)*

### Synopsis

GA instructor with a student pilot reported they flew into Class B airspace without a clearance.

ACN: 1852416 *(17 of 50)*

### Synopsis

PA-28 flight instructor reported engine failure during training flight. Instructor requested and was provided priority handling. Aircraft was unable to reach runway and resorted to safe forced landing on a nearby field. No injuries or aircraft damage reported.

ACN: 1852177 *(18 of 50)*

### Synopsis

Grumman Yankee flight instructor reported that the nose wheel fell off on takeoff. The instructor took all the safety precautions to slow down the aircraft before the nose gear touched down during landing and immediately removed the mixture and turned off the magnetos.

ACN: 1852168 *(19 of 50)*

### Synopsis

PA-34 Flight Instructor reported an NMAC event during cruise as ATC was slow in providing vectors, that resulted in both aircraft executing evasive maneuvers.

ACN: 1852164 *(20 of 50)*

### Synopsis

C172 flight instructor reported having to execute an evasive maneuver during an NMAC event while on visual approach as the other aircraft misidentified traffic, resulting in a loss of separation.

ACN: 1850939 *(21 of 50)*

### Synopsis

Flight Instructor reported a near miss with a UAS while in the traffic pattern and took evasive action.

ACN: 1850680 *(22 of 50)*

### Synopsis

Instructor pilot reported communications problems with ATC and asked for clarification in approach clearance while flying over terrain below approach altitude.

ACN: 1850667 *(23 of 50)*

### Synopsis



GA flight instructor with student reported an NMAC while on the approach pattern of LAF airport requiring evasive action to avoid a collision.

ACN: 1850136 *(24 of 50)*

### Synopsis

GA flight instructor with a student reported an NMAC during a visual approach after mistaking ATC instructions. The instructor was at the controls after the student experienced motion sickness.

ACN: 1850133 *(25 of 50)*

### Synopsis

Flight Instructor reported that another Pilot reported their aircraft to ATC as being too low for safe flight. The tower controller stated that was not the case and the Instructor continued the approach to landing.

ACN: 1850115 *(26 of 50)*

### Synopsis

PA-31 flight instructor reported the right engine pressure began to drop during training. The instructor decided to secure the engine, but erroneously shut down the left engine. Reporter requested assistance from ATC and was eventually able to re-start the left engine and executed a single engine landing.

ACN: 1849778 *(27 of 50)*

### Synopsis

Flight Instructor reported taking evasive action to avoid a near midair collision with another aircraft.

ACN: 1849672 *(28 of 50)*

### Synopsis

C172 Instructor Pilot reported encountering wake turbulence from a military transport aircraft on approach to MYR airport.

ACN: 1849671 *(29 of 50)*

### Synopsis

Flight Instructor and Student flying a PA-44 aircraft reported the nose landing gear collapsed during landing. On a previous flight, the aircraft had suffered a hard landing and a mechanic had made minor repairs and then released the aircraft.

ACN: 1849653 *(30 of 50)*

### Synopsis

BE-33 Flight Instructor reported the trainee turned to a heading that was different from what they had communicated to the Tower Controller and caused an NMAC.

ACN: 1849152 *(31 of 50)*

### Synopsis

Cessna 152 Flight Instructor reported they made closed traffic in the wrong direction.

ACN: 1849117 *(32 of 50)*

### Synopsis

Flight Instructor reported that during landing rollout the student lost directional control of the aircraft through misapplication of the rudder pedals and locking up the brakes. The Flight Instructor regained control of the aircraft and safely exited the runway.

ACN: 1848605 *(33 of 50)*

### Synopsis

Flight Instructor reported an NMAC during approach when another inbound aircraft did not acknowledge ATC instructions and the Tower Controller turned the first aircraft head on to the other.

ACN: 1848580 *(34 of 50)*

### Synopsis

Small Aircraft Flight Instructor reported that during taxi the wing of a transport category aircraft may have passed over the horizontal stabilizer of the smaller instructional aircraft.

Reporter stated that IND Ground Control did not notify the large aircraft of the position of the small aircraft.

ACN: 1848578 *(35 of 50)*

### Synopsis

DA40 Flight Instructor reported malfunction of Engine Control Unit (ECU) during climbout and returned to the departure airport.

ACN: 1847770 *(36 of 50)*

### Synopsis

GA flight instructor with student reported an NMAC with an aircraft traveling in opposite direction near IMS airport.

ACN: 1847587 *(37 of 50)*

### Synopsis

GA flight instructor reported an NMAC at C91 non-towered airport while practicing stalls with a student requiring evasive action.

ACN: 1847331 *(38 of 50)*

### Synopsis

C170 pilot reported a NMAC while turning crosswind in the traffic pattern when another departing aircraft made an early, unannounced crosswind turn, passing below the reporter's aircraft.

ACN: 1846935 *(39 of 50)*

### Synopsis

Flight instructor with student pilot reported having to take evasive action multiple times at MLU airport during touch and go training. The reporter stated this is a common occurrence at this location.

ACN: 1845977 *(40 of 50)*

## Synopsis

PA-44 student pilot reported returning safely to departure airport after experiencing a bird strike that potentially affected the landing gear and left engine.

ACN: 1845772 *(41 of 50)*

## Synopsis

Student pilot flying experimental aircraft reported engine power loss on final approach. Conducted off airport landing without incident.

ACN: 1845771 *(42 of 50)*

## Synopsis

Flight Instructor reported a critical ground conflict with an airport worker on the runway. The worker, in a truck, was spraying the runway area. The instructor executed an aborted takeoff to avoid a collision. Flight Instructor reported no NOTAM or advisory was given that the runway was closed.

ACN: 1845595 *(43 of 50)*

## Synopsis

SR20 flight Instructor reported a ground conflict when the student landed on a runway with opposite direction departing traffic. Reporter realized afterward they had been broadcasting landing intentions on the AWOS weather frequency instead of CTAF, which resulted in other aircraft not hearing them.

ACN: 1845429 *(44 of 50)*

## Synopsis

General aviation Flight Instructor reported a near miss with a UAS during cruise. Evasive maneuvers were taken and ATC was informed.

ACN: 1845408 *(45 of 50)*

## Synopsis

Pilot reported an off airport landing after engine power loss precluded an airport landing.

ACN: 1845405 *(46 of 50)*

### Synopsis

C172 Flight Instructor reported engine power loss and returned to the departure airport and made a successful landing.

ACN: 1844666 *(47 of 50)*

### Synopsis

DA-40 flight instructor reported an NMAC during climbout with another aircraft approaching the opposite end of the same runway, requiring evasive action. Reportedly, the pilot of the other aircraft had not made any position announcements.

ACN: 1844625 *(48 of 50)*

### Synopsis

PA-28 flight instructor reported excessive pitch up and right rudder input by the student resulted in a runway excursion during takeoff.

ACN: 1844445 *(49 of 50)*

### Synopsis

GA flight instructor reported being distracted while trying to troubleshoot a GPS information error resulting in an altitude deviation and CFTT during final approach to UES airport.

ACN: 1844113 *(50 of 50)*

### Synopsis

Pilot reported a NMAC at a non-towered airport.

# **Report Narratives**

## Time / Day

Date : 202111

## Place

Locale Reference.Airport : AFW.Airport

State Reference : TX

Altitude.AGL.Single Value : 200

## Aircraft : 1

Reference : X

ATC / Advisory.Tower : AFW

Aircraft Operator : FBO

Make Model Name : Small Aircraft, Low Wing, 1 Eng, Fixed Gear

Crew Size.Number Of Crew : 1

Operating Under FAR Part : Part 91

Flight Plan : VFR

Mission : Training

Flight Phase : Final Approach

Route In Use : Visual Approach

Route In Use : Direct

Airspace.Class D : AFW

## Aircraft : 2

Reference : Y

ATC / Advisory.Tower : AFW

Make Model Name : Any Unknown or Unlisted Aircraft Manufacturer

Flight Phase : Landing

Airspace.Class D : AFW

## Person

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : FBO

Function.Flight Crew : Single Pilot

Function.Flight Crew : Trainee

Function.Flight Crew : Pilot Flying

Qualification.Flight Crew : Student

ASRS Report Number.Accession Number : 1857879

Human Factors : Training / Qualification

## Events

Anomaly.Deviation - Track / Heading : All Types

Anomaly.Deviation / Discrepancy - Procedural : Clearance

Anomaly.Inflight Event / Encounter : Wake Vortex Encounter

Detector.Person : Flight Crew

When Detected : In-flight

Result.Flight Crew : Executed Go Around / Missed Approach

Result.Flight Crew : Took Evasive Action

## Assessments

Contributing Factors / Situations : Environment - Non Weather Related

Contributing Factors / Situations : Human Factors

Contributing Factors / Situations : Procedure

Primary Problem : Environment - Non Weather Related

## Narrative: 1

Routine solo flight, after a couple laps in the pattern I trusted Tower to separate me from wake turbulence because this was my second solo and I was focused on learning how to fly solo. I encountered wake turbulence on final approach and performed a go around, but I was off course due to the wake and it felt like if I tried to come back to runway heading it would cause an unstable scenario. Lesson learned, always caution wake turbulence.

## Synopsis

Light aircraft Student Pilot reported executing a go-around after encountering wake turbulence on final approach at AFW airport.



## Time / Day

Date : 202111

Local Time Of Day : 1801-2400

## Place

Locale Reference.ATC Facility : ZZZ.TRACON

State Reference : US

Altitude.MSL.Single Value : 5000

## Environment

Weather Elements / Visibility.Visibility : 6

Ceiling : CLR

## Aircraft

Reference : X

ATC / Advisory.TRACON : ZZZ

Aircraft Operator : FBO

Make Model Name : Any Unknown or Unlisted Aircraft Manufacturer

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 91

Mission : Training

Flight Phase : Cruise

Airspace.Class E : ZZZ1

## Component

Aircraft Component : Engine Exhaust System

Aircraft Reference : X

Problem : Malfunctioning

## Person

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Function.Flight Crew : Pilot Flying

Qualification.Flight Crew : Commercial

Qualification.Flight Crew : Flight Instructor

ASRS Report Number.Accession Number : 1856213

Human Factors : Physiological - Other

Human Factors : Time Pressure

Human Factors : Training / Qualification

Human Factors : Workload

Human Factors : Distraction

## Events

Anomaly.Aircraft Equipment Problem : Critical

Anomaly.Flight Deck / Cabin / Aircraft Event : Illness / Injury

Detector.Person : Air Traffic Control

When Detected : In-flight

Result.Flight Crew : Landed As Precaution

## Assessments

Contributing Factors / Situations : Aircraft

Primary Problem : Aircraft

### Narrative: 1

On our training flight we went out north to a practice area X. We were at about 5,000 feet MSL heading North when a CO level warning came on. My student quickly canceled the message but I was able to catch a quick glimpse of the message. At this point I decided to turn back to ZZZ and conclude the lesson. I had opened the storm window and shut off the heat/defrost. I took flight controls and started a descent down to 2,500. The descent was steep but nothing out of the usual (taking into consideration the rate of descent during a simulated emergency descent). However, on this descent my student bent over and grabbed his eye and started complaining of severe pain behind his eye. I contacted approach and informed them about the high CO level warning and that my student was in considerable pain. I requested priority for landing and a straight in approach for the RNAV XXR. We leveled off at 2,800 and proceeded towards the Initial Approach fix. During this time period I was in constant communication with my student. He remained responsive but continued to experience severe pain. I told him I would keep talking for the remainder of the approach discussing items related to the approach. I told him to listen to me to make sure I was making sense when I was talking just in case I started succumbing to the "CO" without knowing I was. During the flight inbound we both noticed a chemical smell in the cockpit. We landed the aircraft and were escorted by the firetruck and ambulance. I asked to taxi on XYL to taxiway X onto ramp. Once we were there I shutdown and had my student go into the ambulance to get checked over. They said he should go to the doctor the following day. I believe there was a leak from the exhaust into the cabin. I did have the heat/defrost on which utilizes the heat from the exhaust. I assume there might have been a crack in the exhaust system that resulted in CO coming into the cabin. Our aircraft are usually kept to a very high maintenance standard so I would not recommend anything on their part. However, I would recommend a possible redesign of the heating system/exhaust systems from the manufacturers that would make it harder for CO to get into the cabin.

### Synopsis

Flight Instructor reported a CO level warning came on during cruise and the instructor initiated an immediate return to departure airport. Instructor stated the student had physiological reactions requiring medical attention.

## Time / Day

Date : 202111

## Place

Altitude.AGL.Single Value : 0

## Aircraft

Reference : X

Aircraft Operator : FBO

Make Model Name : Yankee AA1

Crew Size.Number Of Crew : 1

Operating Under FAR Part : Part 91

Mission : Training

Flight Phase : Landing

## Person

Location Of Person : Hangar / Base

Reporter Organization : FBO

Function.Flight Crew : Instructor

Function.Flight Crew : Pilot Not Flying

Qualification.Flight Crew : Flight Instructor

ASRS Report Number.Accession Number : 1855131

## Events

Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy

Anomaly.Ground Event / Encounter : Loss Of Aircraft Control

Anomaly.Ground Event / Encounter : Ground Strike - Aircraft

Detector.Person : Flight Crew

When Detected : In-flight

Result.General : Maintenance Action

## Assessments

Contributing Factors / Situations : Human Factors

Primary Problem : Human Factors

## Narrative: 1

Student Pilot I endorsed on first solo. Second Landing resulted in a prop strike. No Injuries. Engine will need a tear down. Prop may be able to be repaired. No other injuries or damage.

## Synopsis

Flight instructor reported a student on a solo flight experienced a prop strike during landing.

## Time / Day

Date : 202111

Local Time Of Day : 0601-1200

## Place

Locale Reference.ATC Facility : ZZZ.Tower

State Reference : US

Relative Position.Angle.Radial : 304

Altitude.AGL.Single Value : 260

## Environment

Flight Conditions : VMC

Weather Elements / Visibility.Visibility : 10

Light : Daylight

## Aircraft : 1

Reference : X

Make Model Name : Skyhawk 172/Cutlass 172

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 91

Flight Plan : None

Mission : Training

Flight Phase : Initial Climb

Route In Use : None

## Aircraft : 2

Reference : Y

Make Model Name : Skyhawk 172/Cutlass 172

Crew Size.Number Of Crew : 1

Operating Under FAR Part : Part 91

Mission : Training

Flight Phase : Takeoff / Launch

## Component

Aircraft Component : Magneto/Distributor

Aircraft Reference : X

Problem : Failed

## Person

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : FBO

Function.Flight Crew : Instructor

Qualification.Flight Crew : Flight Instructor

Qualification.Flight Crew : Commercial

Experience.Flight Crew.Total : 1215

Experience.Flight Crew.Last 90 Days : 143

Experience.Flight Crew.Type : 930  
ASRS Report Number.Accession Number : 1855124

## Events

Anomaly.Aircraft Equipment Problem : Critical  
Anomaly.Deviation / Discrepancy - Procedural : Clearance  
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy  
Detector.Person : Flight Crew  
When Detected : In-flight  
Result.General : Maintenance Action  
Result.Flight Crew : Returned To Departure Airport  
Result.Flight Crew : Landed in Emergency Condition  
Result.Air Traffic Control : Provided Assistance

## Assessments

Contributing Factors / Situations : Aircraft  
Primary Problem : Aircraft

## Narrative: 1

Engine startup was completely fine, nothing out of the area during taxi either. In the runup area I noted a faint popping that was rhythmic while engine power was at 900 RPM. Aware that this might be an issue, I was focused on the runup to ensure that nothing else seemed out of the ordinary. The runup check was fine, confirmed by myself and my student, well within 150 RPMs of the expected drop. Both magnetos were also within 50 RPM of one another. After our runup check, my student talked through our standard takeoff briefing. The plan was: Cut power, brake, and taxi off if power was lost during the ground roll. Cut power, land, brake, and taxi off if power was lost after liftoff, but with enough runway remaining to land and stop (negligible time at ZZZ). Pitch for best glide, use any remaining power to fly to a landing area straight ahead if power is lost below 500 ft. AGL Pitch for best glide, bank 45 degrees to the right, use any remaining power available, and attempt to land on Runway XX if power was lost above 500 ft. AGL On the initial takeoff roll the power rose to an appropriate level for takeoff, more than 2300 RPM. There was no indication during the ground roll that an aborted takeoff was needed. The early portions of the initial climb seemed normal, then the power suddenly dropped to something below 2000 RPMs, per our memories. At this point, I took over the flight controls from my student and started to assess the situation. Mixture was full rich, throttle was full, and I made the decision based on the remaining power to return to land on Runway XX and [advised ATC]. During the turn back to Runway XX I had a minimal instrument scan so I don't recall a lot of airspeed, altitude, or power indications during that portion of flight. At one point, the stall warning horn indicator came on and I lowered the nose to maintain airspeed, but did not note what speed I was holding after the stall warning horn stopped. Throughout the turn it appeared that we didn't have sufficient power to maintain a climb. I was almost exclusively flying the plane visually and scanning for potential places to land if we did not have enough energy to get back to the runway due to the low altitude at which we experienced the drop. I did not get a reply from Tower after the call, and they had cleared a departing 172 for takeoff. As I was lining up for Runway XX Tower cleared us to land and advised the traffic to abort the takeoff and exit the runway immediately, which thankfully they did. At this point I threw in whatever flaps we had, cut the power, and came in for the landing. We had excess energy that I think was the result from nosing down after the stall horn, so the touchdown was fairly fast and flat near Taxiway XX. As soon as we touched down I applied maximum braking and was able to stop by Taxiway XY. We still had some power so we were able to taxi back to the

ramp and shut down. After these issues, Maintenance discovered that the cause was a failed magneto, and some potential issues with the spark plugs in cylinder three. The magneto was replaced as well as the spark plugs. My thoughts throughout the whole process were mainly on deciding whether or not to plan for a forced landing straight ahead, or trying to turn back. I decided to turn back based on the power that we did have, and the lack of landing options ahead of us. In the past, I had talked with another Instructor about his experience where he also lost power at ZZZ1 and he was able to return to land under partial power and below the predetermined minimum safe altitude from our typical pre-takeoff briefings. I have also previously practiced engine failures from a takeoff attitude at altitude and knew that the altitude loss we had experienced then was about 500 ft. with zero power. Based on all of this I decided the best choice would be to try to attempt to turn back to Runway XX. From that point on, after I committed to the turn I was scanning for landing areas and obstructions while attempting to maintain a pitch that would minimize our descent rate without inducing the stall warning horn. Once I was in a position where I had the airport made, my attention turned to planning on landing safely with the traffic that was on the runway. I lined up between Runway XX and Taxiway XZ, concerned that I may have to land on the taxiway to avoid the aircraft that was in the ground roll if they could not abort the takeoff. Once they cleared the runway, I did whatever I could to get the plane down with flaps and power. I do not believe there was anything that could have been done to prevent this issue from occurring beforehand, based on the normal magneto check and performance in the takeoff roll and early stages of climb. Our Maintenance staff had been following the recommended service times on the magnetos as well as spark plugs, and did a great job analyzing and correcting the issue afterwards. ZZZ Tower did a phenomenal job clearing the runway and preparing for our landing. The same is true for the pilot who made the exit from the runway shortly into his roll, and I believe he was a student pilot solo. At the end of the day, the reason this was a favorable outcome came down to proper training for all involved.

## Synopsis

Flight Instructor reported engine failure shortly after takeoff. Aircraft returned to field and landed without incident.

## Time / Day

Date : 202110

Local Time Of Day : 1201-1800

## Place

Locale Reference.ATC Facility : ZZZ.Tower

State Reference : US

Relative Position.Distance.Nautical Miles : .2

Altitude.MSL.Single Value : 800

## Environment

Flight Conditions : VMC

Weather Elements / Visibility.Visibility : 10

Light : Daylight

Ceiling.Single Value : 12000

## Aircraft : 1

Reference : X

ATC / Advisory.Tower : ZZZ

Aircraft Operator : Personal

Make Model Name : Skyhawk 172/Cutlass 172

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 91

Flight Plan : None

Mission : Training

Flight Phase : Landing

Route In Use : None

Airspace.Class D : ZZZ

## Aircraft : 2

Reference : Y

ATC / Advisory.Tower : ZZZ

Aircraft Operator : Personal

Make Model Name : Skyhawk 172/Cutlass 172

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : VFR

Mission : Training

Flight Phase : Landing

Airspace.Class D : ZZZ

## Component

Aircraft Component : VHF

Aircraft Reference : Y

Problem : Improperly Operated

## Person

Location Of Person.Aircraft : X  
Location In Aircraft : Flight Deck  
Reporter Organization : Personal  
Function.Flight Crew : Pilot Not Flying  
Function.Flight Crew : Instructor  
Qualification.Flight Crew : Commercial  
Qualification.Flight Crew : Flight Instructor  
Experience.Flight Crew.Total : 1040  
Experience.Flight Crew.Last 90 Days : 211  
Experience.Flight Crew.Type : 552  
ASRS Report Number.Accession Number : 1854841  
Human Factors : Situational Awareness  
Human Factors : Communication Breakdown  
Communication Breakdown.Party1 : Flight Crew  
Communication Breakdown.Party2 : ATC

## Events

Anomaly.Aircraft Equipment Problem : Less Severe  
Anomaly.Conflict : NMAC  
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy  
Detector.Person : Air Traffic Control  
Miss Distance.Horizontal : .2  
Miss Distance.Vertical : 300  
Were Passengers Involved In Event : N  
When Detected : In-flight  
Result.Flight Crew : Took Evasive Action

## Assessments

Contributing Factors / Situations : Aircraft  
Contributing Factors / Situations : Human Factors  
Contributing Factors / Situations : Procedure  
Primary Problem : Procedure

## Narrative: 1

While in reporting aircraft [and] was downwind for right traffic [for] RWY XX approaching XY numbers, [I saw] an aircraft (C172) that was cleared to land decided to perform a go-around. In an attempt to avoid the upwind traffic (C152-slower), the go around aircraft made an immediate right crosswind turn. The right crosswind turn placed the go around aircraft and reporting aircraft on a collision course. While this was happening, ATC queried the go-around aircraft reasons for go-around and potential need for assistance. The CFI onboard the go around aircraft responded lengthily (I was doing soft field landing and had to go around etc...) while making the right crosswind turn. The reporting aircraft's instructor took over the controls from the student and performed a wide left 360 degree turn to avoid the go around aircraft. The go around aircraft's decision to over communicate prevented ATC from announcing a potential conflict. This incident highlights the importance of see and avoid and exercising situational awareness in the traffic pattern.

## Synopsis

C172 pilot reported an NMAC after an aircraft turned the wrong way during a go-around and verbalized a lengthy radio call, preventing ATC from warning of traffic conflict.



## Time / Day

Date : 202110

Local Time Of Day : 1201-1800

## Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Relative Position.Distance.Nautical Miles : 0

Altitude.MSL.Single Value : 1400

## Environment

Flight Conditions : VMC

Weather Elements / Visibility.Visibility : 10

Light : Daylight

Ceiling.Single Value : 12000

## Aircraft : 1

Reference : X

ATC / Advisory.Tower : ZZZ

Aircraft Operator : Personal

Make Model Name : DA40 Diamond Star

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 91

Flight Plan : VFR

Mission : Training

Flight Phase : Landing

Route In Use : Direct

Airspace.Class E : ZZZ

## Aircraft : 2

Reference : Y

ATC / Advisory.Tower : ZZZ

Aircraft Operator : Government

Make Model Name : Helicopter

Crew Size.Number Of Crew : 1

Operating Under FAR Part : Part 91

Flight Plan : VFR

Mission : Training

Flight Phase : Landing

Airspace.Class E : ZZZ

## Person

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Personal

Function.Flight Crew : Instructor

Qualification.Flight Crew : Flight Instructor

Qualification.Flight Crew : Commercial

Experience.Flight Crew.Total : 1040

Experience.Flight Crew.Last 90 Days : 211.5  
Experience.Flight Crew.Type : 287  
ASRS Report Number.Accession Number : 1854840  
Human Factors : Situational Awareness

## Events

Anomaly.Conflict : NMAC  
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy  
Detector.Automation : Aircraft Other Automation  
Detector.Person : Air Traffic Control  
Miss Distance.Horizontal : 0  
Miss Distance.Vertical : 200  
Were Passengers Involved In Event : N  
When Detected : In-flight  
Result.Flight Crew : Took Evasive Action  
Result.Air Traffic Control : Separated Traffic  
Result.Air Traffic Control : Provided Assistance

## Assessments

Contributing Factors / Situations : Human Factors  
Contributing Factors / Situations : Procedure  
Primary Problem : Human Factors

## Narrative: 1

While the aircraft (DA40) was in the right downwind (RWY XX) performing pattern operations, a helo was cleared by Tower to enter the ramp from a cardinal direction. From the DA40's TIS, the instructor realized that both aircraft were on a converging course and altitude (TPA of 1,100). The instructor instructed the student to climb 300 ft while taking account of Class C airspace, which starts at 1,600 [feet]. The instructor and student did not see the helo from the aircraft, only on the TIS. The helo flew directly underneath the DA40. ATC did not announce potential conflict. Near miss was avoided due to TIS and mental situational awareness.

## Synopsis

DA40 instructor pilot reported directing the student to climb to avoid a helicopter that was cleared by Tower into the traffic pattern at the same altitude.

## Time / Day

Date : 202110

Local Time Of Day : 0601-1200

## Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Altitude.MSL.Single Value : 800

## Environment

Flight Conditions : VMC

Weather Elements / Visibility.Visibility : 10

Light : Daylight

Ceiling.Single Value : 12000

## Aircraft : 1

Reference : X

ATC / Advisory.Tower : ZZZ

Aircraft Operator : Personal

Make Model Name : DA40 Diamond Star

Operating Under FAR Part : Part 91

Flight Plan : VFR

Mission : Training

Flight Phase : Landing

Route In Use : Direct

Airspace.Class D : ZZZ

## Aircraft : 2

Reference : Y

ATC / Advisory.Tower : ZZZ

Aircraft Operator : Personal

Make Model Name : Any Unknown or Unlisted Aircraft Manufacturer

Crew Size.Number Of Crew : 1

Operating Under FAR Part : Part 91

Mission : Personal

Flight Phase : Final Approach

Airspace.Class D : ZZZ

## Person

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Personal

Function.Flight Crew : Instructor

Qualification.Flight Crew : Flight Instructor

Qualification.Flight Crew : Commercial

Experience.Flight Crew.Total : 1040

Experience.Flight Crew.Last 90 Days : 211

Experience.Flight Crew.Type : 280

ASRS Report Number.Accession Number : 1854839

Human Factors : Situational Awareness

## Events

Anomaly.Conflict : NMAC

Anomaly.Deviation - Track / Heading : All Types

Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy

Anomaly.Deviation / Discrepancy - Procedural : Clearance

Detector.Person : Air Traffic Control

Miss Distance.Horizontal : 0.1

Miss Distance.Vertical : 100

Were Passengers Involved In Event : N

When Detected : In-flight

Result.Air Traffic Control : Separated Traffic

## Assessments

Contributing Factors / Situations : Human Factors

Contributing Factors / Situations : Procedure

Primary Problem : Human Factors

## Narrative: 1

While the reporting aircraft was on an extended left base turn, the aircraft that was supposed to follow the reporting traffic behind turned directly towards the reporting aircraft. The distance (horizontal) between the reporting and other aircraft was approximately 200ft according to G1000 TIS. Prior to the near miss, the other aircraft's CFI reported to have the traffic to follow "in sight." When the other aircraft turned towards the reporting aircraft on base, ATC promptly instructed the other aircraft to return to downwind immediately. Due to ATC's quick response, no evasive action was needed to be performed by the reporting aircraft. Evasive maneuvers would have been difficult due to a busy pattern. ATC's sharp observation prevented the problem to deteriorate.

## Synopsis

GA pilot reported an NMAC with another aircraft that had turned to a wrong heading and was quickly corrected by ATC.

## Time / Day

Date : 202111

Local Time Of Day : 1201-1800

## Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Altitude.MSL.Single Value : 2300

## Environment

Flight Conditions : VMC

Weather Elements / Visibility.Visibility : 10

Light : Daylight

Ceiling.Single Value : 18000

RVR.Single Value : 6000

## Aircraft : 1

Reference : X

ATC / Advisory.CTAF : ZZZ

Aircraft Operator : Corporate

Make Model Name : Cheetah, Tiger, Traveler AA5 Series

Crew Size.Number Of Crew : 1

Operating Under FAR Part : Part 91

Flight Plan : VFR

Mission : Training

Flight Phase : Landing

Airspace.Class E : ZZZ

## Aircraft : 2

Reference : Y

ATC / Advisory.CTAF : ZZZ

Make Model Name : Helicopter

Crew Size.Number Of Crew : 1

## Person

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Corporate

Function.Flight Crew : Single Pilot

Qualification.Flight Crew : Private

Experience.Flight Crew.Total : 309

Experience.Flight Crew.Last 90 Days : 17

Experience.Flight Crew.Type : 18

ASRS Report Number.Accession Number : 1854773

Human Factors : Communication Breakdown

Human Factors : Confusion

Human Factors : Distraction

Human Factors : Time Pressure

Human Factors : Other / Unknown

Human Factors : Situational Awareness  
Communication Breakdown.Party1 : Flight Crew  
Communication Breakdown.Party2 : Flight Crew

## Events

Anomaly.Conflict : NMAC  
Detector.Person : Flight Crew  
Miss Distance.Vertical : 300  
Were Passengers Involved In Event : N  
When Detected : In-flight  
Result.General : None Reported / Taken

## Assessments

Contributing Factors / Situations : Human Factors  
Primary Problem : Human Factors

## Narrative: 1

I was practicing landings in Aircraft X [and] completed 6 with Flight Instructor and did 2 solo landings. ZZZ is an uncontrolled airport, fairly busy, and there was a lot of radio traffic. During the time I was flying left-hand patterns, there was a helicopter practicing landings in a right-hand pattern and was turning base over the numbers which made him very difficult to see. Also, I did not hear a radio call from the helicopter for his base turn or his turn to final. I don't know if the pilot didn't make the radio call or if he was covered by other radio transmissions. My instructor pilot confirmed that he did not hear the call either. Once I rotated on takeoff I heard "he's 300 ft. above" but that was the only part of the call I heard. It's my understanding **that the helicopter may - and I emphasize may, because I did not see him - aborted his landing and executed a right crosswind turn.** I may have been on takeoff while the helicopter was on final and/or landing but I believe I was ahead of him as I did not see any traffic on takeoff.

## Synopsis

GA student pilot reported an NMAC with a helicopter in the traffic pattern at a non-towered airport while on takeoff.

## Time / Day

Date : 202111

Local Time Of Day : 0601-1200

## Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Altitude.MSL.Single Value : 592

## Environment

Flight Conditions : VMC

Weather Elements / Visibility.Visibility : 10

Light : Daylight

Ceiling.Single Value : 10000

## Aircraft : 1

Reference : X

ATC / Advisory.CTAF : ZZZ

Aircraft Operator : Personal

Make Model Name : Cheetah, Tiger, Traveler AA5 Series

Operating Under FAR Part : Part 91

Flight Plan : VFR

Mission : Training

Flight Phase : Takeoff / Launch

Route In Use : Direct

Airspace.Class G : ZZZ

## Aircraft : 2

Reference : Y

ATC / Advisory.CTAF : ZZZ

Aircraft Operator : Personal

Make Model Name : RV-10

Crew Size.Number Of Crew : 1

Operating Under FAR Part : Part 91

Flight Plan : None

Mission : Personal

Flight Phase : Takeoff / Launch

Route In Use : None

Airspace.Class G : ZZZ

## Component

Aircraft Component : VHF

Aircraft Reference : Y

Problem : Improperly Operated

## Person

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Personal  
Function.Flight Crew : Single Pilot  
Function.Flight Crew : Pilot Flying  
Qualification.Flight Crew : Private  
Experience.Flight Crew.Total : 302.2  
Experience.Flight Crew.Last 90 Days : 50.6  
Experience.Flight Crew.Type : 178.9  
ASRS Report Number.Accession Number : 1854764  
Human Factors : Communication Breakdown  
Human Factors : Situational Awareness  
Human Factors : Confusion  
Communication Breakdown.Party1 : Flight Crew  
Communication Breakdown.Party2 : Flight Crew

## Events

Anomaly.Aircraft Equipment Problem : Less Severe  
Anomaly.Conflict : Ground Conflict, Critical  
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy  
Anomaly.Deviation / Discrepancy - Procedural : FAR  
Detector.Person : Flight Crew  
Miss Distance.Horizontal : 50  
Miss Distance.Vertical : 100  
Were Passengers Involved In Event : N  
When Detected : In-flight  
Result.Flight Crew : Took Evasive Action

## Assessments

Contributing Factors / Situations : Aircraft  
Contributing Factors / Situations : Human Factors  
Contributing Factors / Situations : Procedure  
Primary Problem : Human Factors

## Narrative: 1

While on IFR training mission, we stopped at ZZZ to refuel. The weather was VMC with calm winds. After refueling, at or about XA38, we notified ZZZ traffic of our taxiing intentions "ZZZ traffic, Aircraft X, taxiing from fuel area to Runway XX, ZZZ." via CTAF radio. Upon reaching the end of the taxiway and before entering the runway, at or about XA40, we notified CTAF of our departure intentions: "ZZZ traffic, Aircraft X, departing XX, ZZZ." Both myself and my CFII checked visually left and right and did not see any traffic on the ground nor in the air. Nothing showed on ADS-B. I taxied the plane onto Runway XX and moved the throttle to full power. As we accelerated to rotation speed, both my CFII and I spotted a low wing plane heading south, directly towards us, about 50 feet above the runway. As I was not immediately sure if they were landing or taking off, I pulled power off, began braking, and moved to the right side of the runway. The plane was taking off on Runway XY but never spoke on CTAF until after he was leaving the pattern when he identified himself as an RV10, departing to the southeast. Neither I [or] my CFII had the presence of mind to write down his tail number. After I exited the runway, my CFII double-checked to make sure that we were tuned to the correct CTAF frequency (we were). We both are certain that the RV10 never spoke on CTAF until after he took off and began to leave the pattern. My CFI checked his Stratus several times and never saw him on ADS-B, either. We taxied to Runway XY and took off without incident. As we took off, it became clear that due to runway slope and "dip" that the end of [Runway] XX could not



been from [Runway] XY. We are not sure that the RV10 ever saw us. This incident highlights the absolute necessity for proper radio communications at all times, even at so-called uncontrolled airports.

## Synopsis

GA instructor pilot reported an aborted takeoff when they noticed another aircraft was taking off opposite direction on the same runway.

## Time / Day

Date : 202111

Local Time Of Day : 0601-1200

## Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Relative Position.Distance.Nautical Miles : 2

Altitude.MSL.Single Value : 3700

## Environment

Flight Conditions : VMC

Weather Elements / Visibility.Visibility : 20

Light : Daylight

Ceiling.Single Value : 12000

RVR.Single Value : 5002

## Aircraft

Reference : X

Aircraft Operator : Corporate

Make Model Name : PA-28 Cherokee/Archer/Dakota/Pillan/Warrior

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 91

Flight Plan : IFR

Mission : Training

Flight Phase : Initial Climb

Route In Use : Vectors

Route In Use : Direct

## Person

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : FBO

Function.Flight Crew : Instructor

Function.Flight Crew : Pilot Not Flying

Qualification.Flight Crew : Commercial

Qualification.Flight Crew : Multiengine

Qualification.Flight Crew : Instrument

Qualification.Flight Crew : Flight Instructor

Experience.Flight Crew.Total : 1427

Experience.Flight Crew.Last 90 Days : 286

Experience.Flight Crew.Type : 589

ASRS Report Number.Accession Number : 1854752

Human Factors : Situational Awareness

Human Factors : Time Pressure

Human Factors : Communication Breakdown

Communication Breakdown.Party1 : Flight Crew

Communication Breakdown.Party2 : ATC

## Events

Anomaly.Deviation - Altitude : Excursion From Assigned Altitude  
Anomaly.Deviation - Track / Heading : All Types  
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy  
Anomaly.Deviation / Discrepancy - Procedural : Clearance  
Anomaly.Inflight Event / Encounter : CFTT / CFIT  
Detector.Person : Flight Crew  
Detector.Person : Air Traffic Control  
When Detected : In-flight  
Result.Flight Crew : Requested ATC Assistance / Clarification  
Result.Flight Crew : Executed Go Around / Missed Approach  
Result.Air Traffic Control : Provided Assistance

## Assessments

Contributing Factors / Situations : Human Factors  
Primary Problem : Human Factors

## Narrative: 1

Conditions were VMC clear below 12000 and visibility better than 20 miles. My student and I were cleared for approach into ZZZ. The controller requested our intentions and I stated this approach would terminate with a low approach only and runway heading then direct to destination when able. The controller acknowledged our intentions and shortly after we were authorized to change to advisory frequency. During our climbout, we checked back in with Approach and it did not sound like the same controller. He stated the missed approach procedure was a right turn. I replied we did not request the missed and were runway heading climbing. He acknowledged my reply then shortly after asked if I could maintain terrain separation until 5200. I replied affirmatively. We were then given direct destination and climb maintain 6000. After some time of being level at 6000 I was contacted regarding the possible pilot deviation. I feel that the alternate missed instructions were not confirmed by me or the controller(s) even though my intent was clear before changing to advisory that we had no intention of flying the missed procedure. This lack of clarity and possibly our intent not being relayed to the next controller, resulted in our left turn away from the terrain in question being instructed and complied with in a timely manner. We remained several miles away from any terrain and at no time was there risk to safety of flight.

## Synopsis

ATP Flight Instructor with student reported a CFTT event during climbout from a low approach due to a miscommunication between Pilot and ATC. Reporter stated he did not confirm the alternate departure instructions resulting in the CFTT.

## Time / Day

Date : 202111

Local Time Of Day : 0601-1200

## Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Altitude.AGL.Single Value : 800

## Environment

Flight Conditions : VMC

Light : Daylight

## Aircraft : 1

Reference : X

ATC / Advisory.Tower : ZZZ

Aircraft Operator : FBO

Make Model Name : Skyhawk 172/Cutlass 172

Crew Size.Number Of Crew : 1

Operating Under FAR Part : Part 91

Flight Plan : None

Mission : Training

Flight Phase : Landing

Airspace.Class D : ZZZ

## Aircraft : 2

Reference : Y

Aircraft Operator : Personal

Make Model Name : Any Unknown or Unlisted Aircraft Manufacturer

Crew Size.Number Of Crew : 1

Operating Under FAR Part : Part 91

Flight Plan : None

Mission : Training

Flight Phase : Landing

Airspace.Class D : ZZZ

## Person

Location Of Person : Company

Reporter Organization : FBO

Function.Flight Crew : Instructor

Qualification.Flight Crew : Flight Instructor

Experience.Flight Crew.Total : 42

Experience.Flight Crew.Last 90 Days : 35

Experience.Flight Crew.Type : 42

ASRS Report Number.Accession Number : 1854747

Human Factors : Confusion

Human Factors : Time Pressure

Human Factors : Situational Awareness

## Events

Anomaly.Conflict : NMAC  
Anomaly.Deviation / Discrepancy - Procedural : Clearance  
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy  
Detector.Person : Flight Crew  
Detector.Person : Air Traffic Control  
Miss Distance.Horizontal : 2  
When Detected : In-flight  
Result.Flight Crew : Took Evasive Action

## Assessments

Contributing Factors / Situations : Human Factors  
Primary Problem : Human Factors

## Narrative: 1

My student was on solo flight inside traffic pattern for ZZZ RWY XXR. Right traffic abeam the numbers on downwind. He was asked to report traffic on final in sight by Tower, but unfortunately got confused and said traffic is in sight by having contact with the traffic which was inside base- final turn number one. Added workload, confusion and lack of extensive experience, he turned inside the traffic on short final which put his aircraft in close proximity and hence the other traffic had to discontinue approach and go around. Realizing the mistake and with further instruction from ATC avoided any further incidents. Moreover, [he] received landing clearance shortly after and landed safely. The incident was reviewed with him / ATC and his authorized instructor. Takeaway from the incident includes learning more about being aware of the traffic ahead, behind and in proximity of our aircraft in high work load environments like traffic patterns and approach phases of flight. I, the instructor, will make sure that he receives extensive training on the things he was found deficient.

## Synopsis

C-172 instructor reported a student pilot on a solo flight had an NMAC event while on the landing pattern training. The student mistakenly identified the wrong aircraft to follow for landing resulting in a loss of separation and causing other aircraft to execute a go-around.

## Time / Day

Date : 202111

Local Time Of Day : 1201-1800

## Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Altitude.AGL.Single Value : 0

## Environment

Flight Conditions : VMC

Weather Elements / Visibility : Windshear

Weather Elements / Visibility.Visibility : 10

Light : Daylight

Ceiling.Single Value : 12000

## Aircraft

Reference : X

ATC / Advisory.CTAF : ZZZ

Aircraft Operator : FBO

Make Model Name : Skyhawk 172/Cutlass 172

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 91

Flight Plan : None

Mission : Training

Flight Phase : Takeoff / Launch

Route In Use : None

Airspace.Class G : ZZZ

## Person : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : FBO

Function.Flight Crew : Instructor

Function.Flight Crew : Pilot Flying

Qualification.Flight Crew : Multiengine

Qualification.Flight Crew : Flight Instructor

Qualification.Flight Crew : Commercial

Experience.Flight Crew.Total : 526

Experience.Flight Crew.Last 90 Days : 197

Experience.Flight Crew.Type : 139

ASRS Report Number.Accession Number : 1854231

Human Factors : Situational Awareness

## Person : 2

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : FBO

Function.Flight Crew : Trainee

Function.Flight Crew : Pilot Not Flying  
Qualification.Flight Crew : Student  
Experience.Flight Crew.Total : 51  
Experience.Flight Crew.Last 90 Days : 12  
Experience.Flight Crew.Type : 51  
ASRS Report Number.Accession Number : 1854233  
Human Factors : Training / Qualification

## Events

Anomaly.Deviation - Speed : All Types  
Anomaly.Ground Excursion : Runway  
Anomaly.Ground Event / Encounter : Loss Of Aircraft Control  
Anomaly.Inflight Event / Encounter : Weather / Turbulence  
Detector.Person : Flight Crew  
When Detected : In-flight  
Result.General : Physical Injury / Incapacitation  
Result.Flight Crew : Landed As Precaution

## Assessments

Contributing Factors / Situations : Human Factors  
Contributing Factors / Situations : Weather  
Primary Problem : Weather

## Narrative: 1

Weather conditions on the morning of the flight were clear with gusty winds out of the south. Winds were forecasted to increase later in the day as a cold front approached the region. Student was intending to go to basic training next week. The goal was to complete a 1.4 hour flight so the student could be signed out for the student's private pilot check ride. The instructor began a conversation with [a staff member] who flew the airplane the previous night on a cross country. The [staff member] indicated that there were no issues with the airplane when they flew. The student and instructor discussed what the goal of the flight was. The student and instructor discussed the weather conditions and how much time needed to be flown. A discussion about forecasted wind shear and turbulence took place. AIRMET's for those conditions were noted. The instructor talked to the supervisor and provided a briefing on the goal of the flight. The supervisor briefed the instructor on the conditions that were experienced when coming into the airport within the last hour. Airspeed was +/-10 KTS., winds were out of the south at pattern altitude according to the PIREP provided by the supervisor. The student began the necessary checklists and started the engine. The student didn't notice any issues with the airplane during preflight. The fuel tanks were full at 40 gallons. The student and instructor briefed the flight once more and established roles. The instructor indicated he would be PIC for the takeoff and landing and controls would be given to the student after takeoff when appropriate. The instructor then began the taxi as the student completed the rest of the checklist items. The instructor stayed on the controls for the taxi until the airplane came to a stop for the run up. The run up was initiated by the student. As the run up and before takeoff checklist were completed, the student and instructor had another discussion about the wind speed and direction. The instructor directed the student to bug the wind direction and note the speed. The student bugged 180 degrees. Wind speed was 9 KTS., gusting 19 KTS., variable between 180 and 230 degrees. The instructor called back taxi on the CTAF and rolled out to the runway to use the full length of the runway for takeoff. The instructor then completed the 180 degree turn to depart. Takeoff power was applied and set. Static RPMs were above 2300 RPM and oil pressure was around 85-90 PSI. Airspeed came alive, and

rotation was initiated around 55 KTS. and main wheels were off at 60 KTS. Airspeed began to build as the airplane crabbed into the wind. No issues with the engine were noted. As the airplane was trying to accelerate to  $V_y$ , airspeed was not building at a normal rate. The airspeed could not accelerate past 70 KTS. The airplane climbed to about halfway up the height of the surrounding trees before the aborted takeoff was initiated. It appeared that the wind had shifted to a tailwind and the aircraft was not going to gain sufficient airspeed. [The rejected takeoff] was initiated about halfway down the runway. An attempt was made to land on the remaining runway. Airspeed was not decreasing sufficiently to descend back towards the runway. Ground effect was experienced, and the airplane began to float. At that point, the instructor realized they may not be able to land on the remaining pavement. Flaps 40deg were put in about 3/4 of the way down the runway to help increase drag. The instructor realized this would momentarily increase lift and cause the aircraft to balloon. But the goal was to get the airplane as slow as possible to help with the impact. The airplane contacted the ground and ballooned up before settling back down on the remaining runway pavement. The instructor tried to brake using the toe brakes and aerodynamic braking by pulling full aft on the yoke. The airplane departed the end of the runway pavement and began rolling in the grass. As it rolled, it slowed down to roughly 20 KTS. ground speed and came to a rest in a ditch. At that point, the engine was secured, and the student and instructor were okay. The instructor made a phone call to the supervisor who came to the scene. The student and instructor exited the airplane with no issue and waited for help. The student had one injury on the knee from hitting the primer on the left side of the panel. The instructor got a cut on the hand from the carburetor heat. No other injuries were reported. Contributing factors to the incident were the wind conditions. AIRMETs for wind shear and turbulence were active at the time of the flight, but the wind speed and direction were within limits of the aircraft. External pressure to complete the flight before a deadline contributed to the decision to go on the flight. Once power was applied and the airplane was airborne, the decision to abort the takeoff was initiated as soon as possible with the given indications. Other decisions once the aborted takeoff was initiated were done with careful consideration to reduce aircraft damage and personal harm.

## Narrative: 2

[Report narrative contained no additional information.]

## Synopsis

C172 instructor and student pilot reported poor aircraft performance shortly after takeoff led to the decision to land on the remaining runway. The aircraft ran off the runway after landing, resulting in minor injuries to the student pilot.



## Time / Day

Date : 202110

Local Time Of Day : 0601-1200

## Place

Locale Reference.Airport : EDU.Airport

State Reference : CA

Relative Position.Distance.Nautical Miles : 2

Altitude.AGL.Single Value : 900

## Environment

Flight Conditions : VMC

Weather Elements / Visibility.Visibility : 99

Light : Daylight

## Aircraft : 1

Reference : X

ATC / Advisory.CTAF : EDU

Aircraft Operator : Personal

Make Model Name : Small Aircraft

Crew Size.Number Of Crew : 1

Operating Under FAR Part : Part 91

Flight Plan : None

Mission : Training

Flight Phase : Final Approach

Route In Use : Visual Approach

Airspace.Class G : EDU

## Aircraft : 2

Reference : Y

ATC / Advisory.CTAF : EDU

Make Model Name : Small Aircraft

Flight Phase : Final Approach

Airspace.Class G : EDU

## Person

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Personal

Function.Flight Crew : Single Pilot

Function.Flight Crew : Pilot Flying

Qualification.Flight Crew : Instrument

Qualification.Flight Crew : Commercial

Qualification.Flight Crew : Flight Instructor

Experience.Flight Crew.Total : 720

Experience.Flight Crew.Last 90 Days : 13

Experience.Flight Crew.Type : 355

ASRS Report Number.Accession Number : 1853541

Human Factors : Situational Awareness

Human Factors : Communication Breakdown  
Communication Breakdown.Party1 : Flight Crew  
Communication Breakdown.Party2 : Flight Crew

## Events

Anomaly.Conflict : NMAC  
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy  
Anomaly.Deviation / Discrepancy - Procedural : FAR  
Detector.Person : Flight Crew  
Miss Distance.Horizontal : 0  
Miss Distance.Vertical : 200  
When Detected : In-flight  
Result.Flight Crew : Took Evasive Action

## Assessments

Contributing Factors / Situations : Human Factors  
Primary Problem : Human Factors

## Narrative: 1

While on upwind in the pattern for Runway 17 at EDU, a faster airplane reported 4 miles inbound from the south. I assumed he would make a standard 45 entry and join behind us in the pattern, so I continued onto the crosswind, reported my position, and then turned onto the downwind. I was surprised when the other pilot reported that he too was on downwind, so I reported my position (on downwind abeam the 17 numbers) and began my descent. The other pilot did not clarify his position, and at that moment I saw an advisory on my ADS-B device that he was directly below me by 200 feet, evidently having already started his descent. I immediately arrested my descent, added power, and climbed back to TPA while bailing out of the pattern to the east of the field. I felt this was the safest direction to fly, in order to fly clear of the pattern, rather than to risk getting even closer to the other aircraft should he also choose to take evasive action. After reaching pattern altitude, I maneuvered over the university campus east of the field, at a TPA of 900 feet MSL, to re-enter the pattern on a left 45-degree entry while staying within 2 miles of the airport. It was then I realized that I was 100 feet below the minimum altitude required for VFR flight over a congested area. Even though I was within 2 miles of the airport, I now realize that I should have climbed to 1,000 feet AGL until entering the 45-degree leg to the downwind. I think this occurred due to getting saturated with what appeared to me like a very hazardous situation with a faster-moving aircraft who didn't make adequate radio calls, suddenly catching up with me in the pattern. In the future, I will anticipate that pilots may not make accurate calls with respect to their range and to seek clarification in cases like these.

## Synopsis

GA pilot reported an NMAC while on the downwind at non-towered EDU requiring evasive action. The pilot of the other aircraft had reportedly not been communicating properly, which contributed to the event.

## Time / Day

Date : 202111

Local Time Of Day : 1201-1800

## Place

Locale Reference.Airport : DXE.Airport

State Reference : MO

Altitude.AGL.Single Value : 0

## Environment

Light : Daylight

## Aircraft

Reference : X

Aircraft Operator : Personal

Make Model Name : Small Aircraft, High Wing, 1 Eng, Fixed Gear

Crew Size.Number Of Crew : 1

Operating Under FAR Part : Part 91

Flight Plan : None

Mission : Training

Flight Phase : Taxi

Route In Use : None

Airspace.Class G : ZZZ

## Person

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Personal

Function.Flight Crew : Captain

Function.Flight Crew : Pilot Flying

Function.Flight Crew : Instructor

Qualification.Flight Crew : Multiengine

Qualification.Flight Crew : Instrument

Qualification.Flight Crew : Flight Instructor

Experience.Flight Crew.Total : 17600

Experience.Flight Crew.Last 90 Days : 110

Experience.Flight Crew.Type : 1000

ASRS Report Number.Accession Number : 1853207

Human Factors : Situational Awareness

Human Factors : Troubleshooting

Human Factors : Confusion

Human Factors : Distraction

## Events

Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy

Anomaly.Ground Event / Encounter : Other / Unknown

Detector.Person : Flight Crew

Were Passengers Involved In Event : N

When Detected : Taxi

Result.General : None Reported / Taken

## Assessments

Contributing Factors / Situations : Airport

Contributing Factors / Situations : Environment - Non Weather Related

Primary Problem : Airport

## Narrative: 1

On taxi out I noticed a large area on the taxiway was fenced off and the taxiway line had been repainted. At first I thought I must have missed it in the NOTAMs so I stopped the aircraft and reviewed the NOTAMs. The taxiway closure and unlighted fencing was NOT in the NOTAMs. Upon return to the airport I attempted to contact airport manager but his office was locked. It appears the taxiway was fenced off and the taxiway line repainted due to hangar construction adjacent to the taxiway. Without a NOTAM issued this could be hazardous, especially at night time or low visibility since the fencing is unlit.

## Synopsis

Flight Instructor reported an area of the taxiway was fenced off and taxi lines repainted at DXE airport. Pilot states there was no NOTAM warning pilots of the change and obstruction.

## Time / Day

Date : 202111

Local Time Of Day : 1201-1800

## Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Altitude.AGL.Single Value : 200

## Aircraft : 1

Reference : X

ATC / Advisory.CTAF : ZZZ

Aircraft Operator : FBO

Make Model Name : Skyhawk 172/Cutlass 172

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 91

Flight Plan : VFR

Mission : Training

Flight Phase : Initial Climb

Airspace.Class G : ZZZ

## Aircraft : 2

Reference : Y

ATC / Advisory.CTAF : ZZZ

Make Model Name : Skyhawk 172/Cutlass 172

Crew Size.Number Of Crew : 1

Flight Phase : Landing

Airspace.Class G : ZZZ

## Person

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : FBO

Function.Flight Crew : Instructor

Qualification.Flight Crew : Commercial

Qualification.Flight Crew : Flight Instructor

Experience.Flight Crew.Total : 1250

Experience.Flight Crew.Last 90 Days : 80

Experience.Flight Crew.Type : 1000

ASRS Report Number.Accession Number : 1853179

Human Factors : Communication Breakdown

Communication Breakdown.Party1 : Flight Crew

Communication Breakdown.Party2 : Flight Crew

## Events

Anomaly.Conflict : NMAC

Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy

Detector.Person : Flight Crew

Miss Distance.Horizontal : 100

Miss Distance.Vertical : 100  
When Detected : In-flight  
Result.Flight Crew : Took Evasive Action

## Assessments

Contributing Factors / Situations : Human Factors  
Primary Problem : Human Factors

## Narrative: 1

I was doing a training flight with my student. The airport we operate out is uncontrolled (XXX). The winds were very light and favoring Runway XX. Me and my student planned on taking off Runway XX. We transmit our Intentions on CTAF that we are planning taking off Runway XX. I hear the other aircraft on the radio and they say plan on landing Runway XY. Since they were coming from the north they announced that they plan over flying the field and entering the downwind. So I thought that they are probably going to be another 15 minutes give or take and not be factor. So I go ahead and do another radio call that we are departing Runway XX. So on the upwind portion of the pattern at around 500 feet AGL me and my student see the aircraft on the final for Runway XY. I Immediately take controls continue my climb and turn to the right. After investigating the incident I have discovered that the aircraft decided to enter right base for XY and land. The other aircraft did not go around they continued their approach and landed.

## Synopsis

A Flight Instructor reported an NMAC event during initial climb with opposite direction landing aircraft. Flight Instructor stated the landing aircraft provided inaccurate position radio calls.

## Time / Day

Date : 202111

Local Time Of Day : 1201-1800

## Place

Locale Reference.Airport : PHL.Airport

State Reference : PA

Relative Position.Distance.Nautical Miles : 3

Altitude.MSL.Single Value : 4500

## Environment

Flight Conditions : VMC

Weather Elements / Visibility.Visibility : 10

Light : Daylight

Ceiling : CLR

## Aircraft

Reference : X

Aircraft Operator : FBO

Make Model Name : Small Aircraft

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 91

Flight Plan : None

Mission : Training

Flight Phase : Climb

Route In Use : None

Airspace.Class B : PHL

## Person

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : FBO

Function.Flight Crew : Instructor

Function.Flight Crew : Pilot Not Flying

Qualification.Flight Crew : Multiengine

Qualification.Flight Crew : Private

Qualification.Flight Crew : Instrument

Qualification.Flight Crew : Commercial

Qualification.Flight Crew : Flight Instructor

Experience.Flight Crew.Total : 535

Experience.Flight Crew.Last 90 Days : 150

Experience.Flight Crew.Type : 39

ASRS Report Number.Accession Number : 1852677

Human Factors : Situational Awareness

Human Factors : Confusion

Human Factors : Fatigue

Analyst Callback : Attempted

## Events

Anomaly.Airspace Violation : All Types

Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy

Anomaly.Deviation / Discrepancy - Procedural : FAR

Detector.Person : Flight Crew

When Detected : In-flight

Result.Flight Crew : Exited Penetrated Airspace

## Assessments

Contributing Factors / Situations : Airspace Structure

Contributing Factors / Situations : Environment - Non Weather Related

Contributing Factors / Situations : Human Factors

Primary Problem : Human Factors

## Narrative: 1

Student pilot climbed to 4,500 feet where Class B started at 4,000 feet. Instructor did not catch the error in time and airspace was busted. The instructor had [the] student pilot descend in altitude immediately once she realized airspace was busted. Fatigue and stress were involved with student pilot. It was the last flight before the student's checkride and he was not prepared and frustrated. Instructor did not pick up on the student busting the airspace until after the airspace was busted. Instructor and student talked about this error and reviewed airspace after the flight. This was the student's first flight under the Philadelphia Class Bravo and they are now more knowledgeable of the precautions of busting airspace. Instructor also learned from this error and knows to not let it happen again.

## Synopsis

GA instructor with a student pilot reported they flew into Class B airspace without a clearance.



## Time / Day

Date : 202111

Local Time Of Day : 0601-1200

## Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Relative Position.Angle.Radial : 130

Relative Position.Distance.Nautical Miles : 4

Altitude.MSL.Single Value : 2000

## Environment

Flight Conditions : VMC

Weather Elements / Visibility.Visibility : 10

Light : Daylight

## Aircraft

Reference : X

ATC / Advisory.Tower : ZZZ

Aircraft Operator : FBO

Make Model Name : PA-28 Cherokee/Archer/Dakota/Pillan/Warrior

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 91

Flight Plan : None

Mission : Training

Flight Phase : Cruise

Route In Use : None

Airspace.Class D : ZZZ

## Component

Aircraft Component : Engine

Aircraft Reference : X

Problem : Failed

## Person

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : FBO

Function.Flight Crew : Instructor

Function.Flight Crew : Pilot Flying

Qualification.Flight Crew : Air Transport Pilot (ATP)

Qualification.Flight Crew : Instrument

Qualification.Flight Crew : Multiengine

Qualification.Flight Crew : Flight Instructor

Experience.Flight Crew.Total : 3800

Experience.Flight Crew.Last 90 Days : 90

Experience.Flight Crew.Type : 1000

ASRS Report Number.Accession Number : 1852416

Human Factors : Workload

Human Factors : Time Pressure  
Human Factors : Troubleshooting

## Events

Anomaly.Aircraft Equipment Problem : Critical  
Anomaly.Inflight Event / Encounter : Other / Unknown  
Detector.Person : Flight Crew  
When Detected : In-flight  
Result.General : Flight Cancelled / Delayed  
Result.General : Maintenance Action  
Result.Flight Crew : Landed in Emergency Condition  
Result.Flight Crew : Requested ATC Assistance / Clarification  
Result.Air Traffic Control : Provided Assistance

## Assessments

Contributing Factors / Situations : Aircraft  
Primary Problem : Aircraft

## Narrative: 1

On Date, aircraft X experienced a full power loss which led to an off airport landing approximately four miles southeast of ZZZ1. The aircraft was inspected by student and instructor prior to flight. The pre-flight inspection showed that the aircraft appeared to be in normal working condition with no visible defects. The fuel tanks were visually inspected to be full prior to flight. The fuel was drained and inspected from all three fuel drains and did not show any signs of water or other contaminants. Engine run up was completed with no signs of abnormalities. The aircraft took off on Runway XX from ZZZ1 and turned to the east. Name flew eastbound approximately 22 miles to identify checkpoints for a practice cross country. Then, to practice diverting to another airport, he flew south toward ZZZ2. About 15 miles north of ZZZ2, the diversion procedure was deemed satisfactory, the student proceeded west/southwest to practice lazy 8 maneuvers. The electric fuel pump was turned on and the fuel selector was switched around this time from the left tank to the right. No interruption to power or any other engine indications was observed. The electric fuel pump was then turned off per Piper procedures. After three satisfactory lazy 8 maneuvers were performed, the instructor slowly pulled the throttle to idle to simulate an emergency power off landing. The student then proceeded to simulate what he would do in this situation. No system (magnetos, electric fuel pump, mixture, fuel selector) was actually touched during this time, the student simply verbally acknowledged what he would do in this situation while the throttle remained at idle. After the simulated emergency was satisfactory, the aircraft climbed back to approximately 2000 feet and began proceeding direct to ZZZ1 to practice landings. The engine produced a loud "pop" noise that sounded similar to backfiring, followed by a slight decrease in RPM. At this time the instructor took control of the aircraft and began troubleshooting the aircraft. The instructor turned on the electric fuel pump, instructed the student to switch the fuel tank from the right to the left, and turned on the alternate air. The alternate air provided a slight and momentary increase in RPM. However, it did not last long and the popping from the engine continued to get worse and more frequent. The RPM also continued to steadily decrease each time the engine popped as well. The magnetos were also cycled during this time; however, no remedy attempted by the instructor made any difference in performance for the engine other than the momentary and slight increase of power during the initial application of alternate air. An initial [request for priority] was made by the instructor during this time to ZZZ1 tower for a partial power loss and engine roughness. The tower immediately cleared aircraft X to land on runway XXL. The aircraft proceeded

directly toward runway XXL while performance was slowly continuing to decrease. One more radio call was made shortly after that indicating that aircraft X may completely lose the engine upon touchdown due to continuously degrading engine performance and Tower acknowledged. As the engine performance continued to steadily decrease with no sign of relief, the instructor became aware that making it to a runway at ZZZ1 was becoming extremely unlikely. The power had continuously and steadily decreased over the course of 6 to 7 minutes. However, as soon as the RPM reached approximately 1900 RPM the entire engine completely stopped. Throttle was entirely unresponsive. A landing field was then chosen approximately 3.5 miles southeast of ZZZ1 and the instructor maneuvered to land in the field. While turning toward the field, one last call was made to tower to advise that the engine had completely failed and that we were going to land in a field. Due to the little amount of time between the complete engine failure and touchdown, full engine securing procedures were not able to be accomplished as the pilot was focused on maneuvering the aircraft safely to touchdown. After the aircraft touched down and came to a complete stop, engine securing procedures were accomplished. The pilots assessed that there was no damage to the aircraft during the landing and no injuries sustained. Local EMS arrived shortly after touchdown to assist and gather information. The chief pilot and head maintenance supervisor arrived shortly thereafter to assist as well. These statements have been recollected to the best of my knowledge and have been retold as accurately as I can possibly describe them.

## Synopsis

PA-28 flight instructor reported engine failure during training flight. Instructor requested and was provided priority handling. Aircraft was unable to reach runway and resorted to safe forced landing on a nearby field. No injuries or aircraft damage reported.

## Time / Day

Date : 202111

Local Time Of Day : 1201-1800

## Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Altitude.AGL.Single Value : 0

## Environment

Flight Conditions : VMC

Weather Elements / Visibility.Visibility : 10

Light : Daylight

Ceiling.Single Value : 4800

## Aircraft

Reference : X

ATC / Advisory.Tower : ZZZ

Aircraft Operator : Personal

Make Model Name : Yankee AA1

Crew Size.Number Of Crew : 1

Operating Under FAR Part : Part 91

Mission : Training

Flight Phase : Takeoff / Launch

Airspace.Class D : ZZZ

## Component

Aircraft Component : Nose Gear Wheel

Aircraft Reference : X

Problem : Failed

## Person

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Personal

Function.Flight Crew : Pilot Flying

Function.Flight Crew : Instructor

Qualification.Flight Crew : Flight Instructor

Qualification.Flight Crew : Instrument

Qualification.Flight Crew : Multiengine

Qualification.Flight Crew : Commercial

Qualification.Other

Experience.Flight Crew.Total : 750

Experience.Flight Crew.Last 90 Days : 174

Experience.Flight Crew.Type : 11

ASRS Report Number.Accession Number : 1852177

## Events

Anomaly.Aircraft Equipment Problem : Critical  
Anomaly.Deviation / Discrepancy - Procedural : Clearance  
Anomaly.Ground Event / Encounter : Gear Up Landing  
Result.Flight Crew : Returned To Departure Airport  
Result.Flight Crew : Landed As Precaution  
Result.Aircraft : Aircraft Damaged

## Assessments

Contributing Factors / Situations : Aircraft  
Primary Problem : Aircraft

## Narrative: 1

Upon takeoff the nose wheel tire fell off. This was made aware by a transmission from another aircraft on the field and was later verified by Tower by performing a low pass over the runway. Upon landing kept back pressure on the aircraft to slow down the aircraft as much as possible before the nose touchdown. Right before landing removed the mixture and turned off the Magnetos. This was to help reduce the chance of a fire, along with reducing the damage to the aircraft.

## Synopsis

Grumman Yankee flight instructor reported that the nose wheel fell off on takeoff. The instructor took all the safety precautions to slow down the aircraft before the nose gear touched down during landing and immediately removed the mixture and turned off the magnetos.

## Time / Day

Date : 202111

Local Time Of Day : 1201-1800

## Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Altitude.MSL.Single Value : 3000

## Environment

Flight Conditions : VMC

Weather Elements / Visibility.Visibility : 5

Light : Daylight

Ceiling.Single Value : 4200

## Aircraft : 1

Reference : X

ATC / Advisory.TRACON : ZZZ

Aircraft Operator : Personal

Make Model Name : PA-34-200T Turbo Seneca II

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 91

Flight Plan : IFR

Mission : Training

Flight Phase : Cruise

Route In Use : Direct

Airspace.Class E : ZZZ

## Aircraft : 2

Reference : Y

ATC / Advisory.TRACON : ZZZ

Aircraft Operator : Personal

Make Model Name : Beechcraft Twin Piston Undifferentiated or Other Model

Crew Size.Number Of Crew : 1

Operating Under FAR Part : Part 91

Flight Plan : None

Mission : Personal

Flight Phase : Cruise

Airspace.Class E : ZZZ

## Person

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Personal

Function.Flight Crew : Captain

Function.Flight Crew : Pilot Flying

Function.Flight Crew : Instructor

Qualification.Flight Crew : Commercial

Qualification.Flight Crew : Instrument

Qualification.Flight Crew : Multiengine  
Qualification.Flight Crew : Flight Instructor  
Experience.Flight Crew.Total : 5100  
Experience.Flight Crew.Last 90 Days : 75  
Experience.Flight Crew.Type : 4100  
ASRS Report Number.Accession Number : 1852168  
Human Factors : Time Pressure  
Human Factors : Communication Breakdown  
Human Factors : Human-Machine Interface  
Communication Breakdown.Party1 : Flight Crew  
Communication Breakdown.Party2 : ATC

## Events

Anomaly.Conflict : NMAC  
Detector.Automation : Aircraft TA  
Detector.Person : Flight Crew  
Miss Distance.Horizontal : 200  
Miss Distance.Vertical : 0  
When Detected : In-flight  
Result.Flight Crew : Took Evasive Action

## Assessments

Contributing Factors / Situations : Human Factors  
Contributing Factors / Situations : Procedure  
Primary Problem : Human Factors

## Narrative: 1

[I] was talking to ZZZ ATC in [the] vicinity of ZZZ1. ATC advised traffic 9 o'clock, 2 miles, same altitude. Saw traffic on ADS-B but did not have visual confirmation. Advised **ATC, no contact. ATC then directed me to climb to 3,500 - did not say immediate climb**, just climb to 3,500 ft. Initiated climb. Still scanned for traffic and no traffic observed. **While in climb, ATC - different voice - said, "STOP climb, descend." I started a** descent. ATC stated, "STOP descent, it appears traffic is breaking away." At that point, I noticed aircraft on left wing, about 200 ft. from me in a steep descending right turn to pass behind me. I identified the aircraft as a low-wing but that is all I could identify, focused on flying. I asked ATC to mark the location and that I wanted to file a report for a near-miss. Flight continued to ZZZ3 and landed without incident. I subsequently phoned the radar facility and spoke to the Supervisor about the situation. In a subsequent email, I received info from the pilot of the other aircraft, whom I know personally. His account for it is below. That was me in Aircraft Y between ZZZ2 and ZZZ1 today on the 170 heading. It was a real demonstration in how onboard traffic technology can lead us down a dangerous path. I [was] watching you on ADS-B and opted to climb to increase the separation but it looked like you had the same thought. That was followed by a rapid descent which you mirrored as well. Interesting how this incredible technology can lead into unintended consequences. My takeaway is to make an early heading change rather than altitude whenever possible. In hindsight, I probably should have taken a southwest heading initially. Also, 98% of the time I use flight following. However, today I was on a 1200 code. The aircraft was **probably blocked by the left windshield strut - I was flying right seat - as I never observed the traffic until the last minute. Perhaps if ATC would** have issued something like "BREAK/BREAK Aircraft X IMMEDIATE RIGHT CLIMB" it would have conveyed more urgency. Better yet, ATC should have provided a vector sooner. ATC Supervisor jumped in and provided the needed vectors; I understand primary ATC

controller was training a new person and that may have caused some distractions. Fortunately, [the] other pilot, ATP retired pilot with 30,000+ hours, saw me and avoided. [I recommend a] joint phone call with ATC [and] both pilots to write up an article so others can learn from it.

## Synopsis

PA-34 Flight Instructor reported an NMAC event during cruise as ATC was slow in providing vectors, that resulted in both aircraft executing evasive maneuvers.



## Time / Day

Date : 202110

Local Time Of Day : 0601-1200

## Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Altitude.MSL.Single Value : 6800

## Environment

Flight Conditions : VMC

Light : Daylight

## Aircraft : 1

Reference : X

ATC / Advisory.Tower : ZZZ

Aircraft Operator : FBO

Make Model Name : Skyhawk 172/Cutlass 172

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 91

Flight Plan : None

Mission : Training

Route In Use : Visual Approach

Airspace.Class D : ZZZ

## Aircraft : 2

Reference : Y

ATC / Advisory.Tower : ZZZ

Aircraft Operator : Personal

Make Model Name : Luscombe (Silvaire) Undifferentiated or Other Model

Crew Size.Number Of Crew : 1

Operating Under FAR Part : Part 91

Flight Plan : None

Mission : Personal

Flight Phase : Climb

Route In Use : None

Airspace.Class D : ZZZ

## Person

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : FBO

Function.Flight Crew : Instructor

Function.Flight Crew : Pilot Flying

Qualification.Flight Crew : Flight Instructor

Qualification.Flight Crew : Instrument

Qualification.Flight Crew : Commercial

Experience.Flight Crew.Total : 530

Experience.Flight Crew.Last 90 Days : 80

Experience.Flight Crew.Type : 400  
ASRS Report Number.Accession Number : 1852164  
Human Factors : Communication Breakdown  
Communication Breakdown.Party1 : Flight Crew  
Communication Breakdown.Party2 : Other

## Events

Anomaly.Conflict : NMAC  
Detector.Automation : Aircraft TA  
Detector.Person : Flight Crew  
Miss Distance.Horizontal : 200  
Miss Distance.Vertical : 100  
When Detected : In-flight  
Result.Flight Crew : Took Evasive Action

## Assessments

Contributing Factors / Situations : Human Factors  
Primary Problem : Human Factors

## Narrative: 1

My student and I had just departed Runway XXR to do some training in the traffic pattern in ZZZ. We were instructed to extend our departure leg to allow aircraft on the parallel to turn crosswind before us. After that, Aircraft Z turned crosswind. We were given clearance to turn crosswind about another mile beyond them to join left traffic for XXL to start pattern work. Aircraft Y behind me was given instruction to extend upwind and to look for **Aircraft X traffic on the crosswind leg - my student and I - and to report them in sight**. He reported that he had the Aircraft Z traffic in sight and Tower gave them instructions to turn crosswind north of the Aircraft X traffic. Aircraft Y appeared to have seen the Aircraft Z ahead of us that was already on downwind but had not seen us turning crosswind to downwind. On downwind, I heard the situation play out on the radio and became aware of a potential hazard as we approached the normal crosswind leg. I saw an aircraft on the ADS-B screen on our transponder showing it approaching from our left and **climbing with 200 - 100 feet below. I grabbed controls of the aircraft as Tower began** advising Aircraft Y of Aircraft X traffic ahead, and told him to descend 200 feet immediately. I saw the aircraft approaching us directly from the left and did a climbing left-hand chandelle to avoid the converging traffic that appeared to still be climbing. I am not certain that they saw us in time to begin a descent, which is why I did not initiate a right-hand turn as stated in Part 91 for right-of-way rules. The aircraft departed the airspace to the west and we continued flying out traffic pattern with no action towards the other aircraft from ATC.

## Synopsis

C172 flight instructor reported having to execute an evasive maneuver during an NMAC event while on visual approach as the other aircraft misidentified traffic, resulting in a loss of separation.

## Time / Day

Date : 202110

Local Time Of Day : 1201-1800

## Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Altitude.AGL.Single Value : 1200

## Environment

Flight Conditions : VMC

Weather Elements / Visibility.Visibility : 10

Light : Daylight

Ceiling.Single Value : 6500

## Aircraft : 1

Reference : X

Aircraft Operator : FBO

Make Model Name : Skyhawk 172/Cutlass 172

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 91

Flight Plan : VFR

Mission : Training

Flight Phase : Initial Approach

Airspace.Class D : ZZZ

## Aircraft : 2

Reference : Y

Make Model Name : UAV: Unpiloted Aerial Vehicle

Airspace.Class D : ZZZ

Flying In / Near / Over (UAS) : Aircraft / UAS

Flying In / Near / Over (UAS) : Airport / Aerodrome / Heliport

## Person

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : FBO

Function.Flight Crew : Instructor

Qualification.Flight Crew : Instrument

Qualification.Flight Crew : Multiengine

Qualification.Flight Crew : Flight Instructor

Qualification.Flight Crew : Commercial

Experience.Flight Crew.Total : 347

Experience.Flight Crew.Last 90 Days : 89

Experience.Flight Crew.Type : 311

ASRS Report Number.Accession Number : 1850939

Human Factors : Situational Awareness

Human Factors : Time Pressure

Human Factors : Distraction

## Events

Anomaly.Conflict : NMAC  
Anomaly.Deviation / Discrepancy - Procedural : Unauthorized Flight Operations (UAS)  
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy  
Anomaly.Deviation / Discrepancy - Procedural : FAR  
Detector.Person : Flight Crew  
Miss Distance.Horizontal : 0  
Miss Distance.Vertical : 100  
When Detected : In-flight  
Result.Flight Crew : Took Evasive Action

## Assessments

Contributing Factors / Situations : Environment - Non Weather Related  
Contributing Factors / Situations : Human Factors  
Primary Problem : Human Factors

## Narrative: 1

I was doing a flight with my private student and was in the traffic pattern for Runway XXL at ZZZ, on the third lap in the pattern I saw something in my peripheral vision. My student couldn't see it due to the altitude the engine cowling was blocking his vision, there was a drone that was at approximately 1,100 ft. I quickly pulled the yoke back to gain altitude to avoid the drone that was right in front of us. I reported it to the ZZZ Tower and they asked me questions about what happened, the drone activity was not a part of the ZZZ ATIS, and the Controllers did not see it. When I landed the plane I had to call the ZZZ Tower and give them a little more details and filed a safety report with my flight school.

## Synopsis

Flight Instructor reported a near miss with a UAS while in the traffic pattern and took evasive action.

## Time / Day

Date : 201810

## Place

Locale Reference.ATC Facility : N90.TRACON

State Reference : NY

Altitude.MSL.Single Value : 3000

## Environment

Weather Elements / Visibility : Turbulence

Weather Elements / Visibility.Visibility : 30

Light : Daylight

## Aircraft

Reference : X

ATC / Advisory.TRACON : N90

Aircraft Operator : FBO

Make Model Name : Small Aircraft, Low Wing, 1 Eng, Fixed Gear

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 91

Flight Plan : IFR

Mission : Training

Flight Phase : Initial Approach

Route In Use : Vectors

Airspace.Class D : POU

## Person

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Fractional

Function.Flight Crew : Pilot Not Flying

Function.Flight Crew : Instructor

Qualification.Flight Crew : Flight Instructor

Qualification.Flight Crew : Instrument

Qualification.Flight Crew : Commercial

Qualification.Other

Experience.Flight Crew.Total : 1800

Experience.Flight Crew.Last 90 Days : 50

Experience.Flight Crew.Type : 1000

ASRS Report Number.Accession Number : 1850680

Human Factors : Communication Breakdown

Human Factors : Situational Awareness

Communication Breakdown.Party1 : Flight Crew

Communication Breakdown.Party2 : ATC

## Events

Anomaly.ATC Issue : All Types

Anomaly.Deviation - Altitude : Excursion From Assigned Altitude

Anomaly.Deviation - Track / Heading : All Types

Anomaly.Deviation / Discrepancy - Procedural : Clearance  
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy  
Anomaly.Inflight Event / Encounter : CFTT / CFIT  
Detector.Person : Flight Crew  
Were Passengers Involved In Event : N  
When Detected : In-flight  
Result.Flight Crew : Took Evasive Action

## Assessments

Contributing Factors / Situations : Human Factors  
Contributing Factors / Situations : Procedure  
Primary Problem : Procedure

## Narrative: 1

Instructional flight years ago with really good instrument student in stage 3 of a Part 141 program. Doing cross-country IFR flight planning from ZZZ to POU and student requested to do the VOR Runway 24 approach at POU. He wanted to work on VOR navigation and using 2 OBS for a non-precision approach. I thought it was a good idea until we had some trouble with ATC that day. I don't know if date is 100% correct, but it was close to Date, which is what made me think of it this year. We requested the approach and then the Controller was very busy confusing it with the VOR-A approach into POU. After attempting to clarify, he proceeded to give us radar vectors for the approach. Both the student and I were a little confused, but went with it despite out actual attitude being less than prescribed for each quadrant of the approach plate. ATC vectoring altitudes can be lower and we were VFR in some turbulence, 10+ SM visibility and clear with no ceilings. The reason for concern was that it is a hilly area and if "Vectored to Final", it is directly over the path of the ZZZ1 traffic pattern. There was also some confusion over this instruction as 99% of the time when you are "Vectored-to-final" the 'intermediate' course is identical to the 'final' approach course with respect to heading/course changes/corrections. Did he want us to fly to the intermediate segment (course 218), intercept, and then remain on segment of published approach, or did he want us to fly to intercept 242 final approach course before that and continue with vectors? Upon looking this up in 7110 afterwards there seems to be some confusion and ambiguity with these terms when intermediate segment is not the same 'course'. Being VFR we continued as instructed, but if it were IMC this could be extremely problematic. We were low over unfamiliar terrain, irregular topography, another airport, in turbulence, and NOT on a segment of the published approach, above minimums, until passing the VOR into final. The flight continued there and back without incident and caused the student and I to look into ATC instructions, PIC compliance, instrument approaches, and safe practices during instrument procedures during our next ground lesson. I apologize for not including this form in the lesson during our ground debrief and recap of the situation. It could have been more accurate and useful had we done it with it fresh in our minds.

## Synopsis

Instructor pilot reported communications problems with ATC and asked for clarification in approach clearance while flying over terrain below approach altitude.

## Time / Day

Date : 202110

Local Time Of Day : 0601-1200

## Place

Locale Reference.Airport : LAF.Airport

State Reference : IN

Altitude.MSL.Single Value : 16000

## Environment

Flight Conditions : VMC

Light : Daylight

## Aircraft : 1

Reference : X

ATC / Advisory.Tower : LAF

Aircraft Operator : FBO

Make Model Name : Small Aircraft

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 91

Flight Plan : None

Mission : Training

Flight Phase : Landing

Airspace.Class D : LAF

## Aircraft : 2

Reference : Y

ATC / Advisory.Tower : LAF

Make Model Name : Small Aircraft

Airspace.Class D : LAF

## Person

Location Of Person.Aircraft : X

Function.Flight Crew : Instructor

Function.Flight Crew : Pilot Not Flying

Qualification.Flight Crew : Flight Instructor

Qualification.Flight Crew : Commercial

Experience.Flight Crew.Total : 690

Experience.Flight Crew.Last 90 Days : 100

ASRS Report Number.Accession Number : 1850667

Human Factors : Communication Breakdown

Human Factors : Confusion

Communication Breakdown.Party1 : Flight Crew

Communication Breakdown.Party2 : ATC

## Events

Anomaly.ATC Issue : All Types

Anomaly.Conflict : NMAC

Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy  
Detector.Person : Flight Crew  
Miss Distance.Horizontal : 400  
Miss Distance.Vertical : 400  
When Detected : In-flight  
Result.Flight Crew : Took Evasive Action  
Result.Air Traffic Control : Issued New Clearance  
Result.Air Traffic Control : Provided Assistance

## Assessments

Contributing Factors / Situations : Human Factors  
Contributing Factors / Situations : Procedure  
Primary Problem : Human Factors

## Narrative: 1

For a training flight with a student, I was told when 10 miles out by LAF Tower to report 3 miles north for right traffic Runway 28. When reporting 3 miles north, Tower gave an amendment to my instructions and switched me over to the left downwind for Runway 5. This was simple enough as it required a standard 45 degree entry into the left downwind. As we approached 2 miles, Tower gave instructions to Aircraft Y to take off of Runway 28 which was full length. As we entered the left downwind for 5, we spotted Aircraft Y on the upwind of 28 which directly crosses into the left downwind of Runway 5. As it became apparent that the aircraft's good climb rate would have resulted in a near midair collision, I assumed the controls from the student and executed an immediate right 360 turn to avoid the aircraft which was on a perpendicular collision course. I stated to Tower we were taking evasive action and making a right 360 for collision avoidance. In the right 360, Tower then switched Aircraft Y to left traffic Runway 5, which in turn placed them in sequence before us to land. Once established on the downwind we resumed normal operations and landed without incident. Tower never acknowledged the risk of having an aircraft taking off on a crossing runway to us.

## Synopsis

GA flight instructor with student reported an NMAC while on the approach pattern of LAF airport requiring evasive action to avoid a collision.



## Time / Day

Date : 202110

Local Time Of Day : 1201-1800

## Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Relative Position.Angle.Radial : 240

Relative Position.Distance.Nautical Miles : 4

Altitude.MSL.Single Value : 1500

## Environment

Flight Conditions : VMC

Light : Daylight

Ceiling : CLR

## Aircraft : 1

Reference : X

ATC / Advisory.Tower : ZZZ

Aircraft Operator : FBO

Make Model Name : Skyhawk 172/Cutlass 172

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 91

Flight Plan : None

Mission : Training

Flight Phase : Cruise

Route In Use : Visual Approach

Airspace.Class D : ZZZ

## Aircraft : 2

Reference : Y

Make Model Name : Any Unknown or Unlisted Aircraft Manufacturer

Airspace.Class D : ZZZ

## Person

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : FBO

Function.Flight Crew : Instructor

Function.Flight Crew : Pilot Flying

Qualification.Flight Crew : Flight Instructor

Qualification.Flight Crew : Instrument

Qualification.Flight Crew : Multiengine

Qualification.Flight Crew : Commercial

Experience.Flight Crew.Total : 470

Experience.Flight Crew.Last 90 Days : 58.3

Experience.Flight Crew.Type : 35

ASRS Report Number.Accession Number : 1850136

Human Factors : Communication Breakdown

Human Factors : Situational Awareness  
Communication Breakdown.Party1 : Flight Crew  
Communication Breakdown.Party2 : ATC

## Events

Anomaly.Flight Deck / Cabin / Aircraft Event : Illness / Injury  
Anomaly.Conflict : NMAC  
Detector.Person : Flight Crew  
Detector.Person : Air Traffic Control  
Miss Distance.Vertical : 500  
When Detected : In-flight  
Result.Flight Crew : Took Evasive Action

## Assessments

Contributing Factors / Situations : Human Factors  
Primary Problem : Human Factors

## Narrative: 1

I was giving flight instruction. A few minutes before reporting 10 miles west from ZZZ my student told me that he was feeling motion sickness and decided to give me the flight controls. I took the flight controls and the communications. I reported 10 miles west of the airport and the Controller told me to report and enter the right base for Runway XX. I misunderstood the communications and thought that he asked me to report three miles west of the airport. Before reporting three miles from the airport I noticed that there was an aircraft flying closer to me but at a lower altitude. After that the Controller repeated the original instructions. At that moment I realized that I misunderstood his instructions. Then he asked me just to enter the pattern following that traffic and land. When I landed and exit from the runway, ATC asked me to call Tower.

## Synopsis

GA flight instructor with a student reported an NMAC during a visual approach after mistaking ATC instructions. The instructor was at the controls after the student experienced motion sickness.

## Time / Day

Date : 202110

Local Time Of Day : 1201-1800

## Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Relative Position.Distance.Nautical Miles : 1

Altitude.AGL.Single Value : 200

## Environment

Flight Conditions : VMC

Weather Elements / Visibility.Visibility : 10

Light : Daylight

Ceiling.Single Value : 5000

## Aircraft

Reference : X

ATC / Advisory.Tower : ZZZ

Aircraft Operator : Personal

Make Model Name : Skyhawk 172/Cutlass 172

Operating Under FAR Part : Part 91

Flight Plan : None

Mission : Training

Flight Phase : Landing

Airspace.Class D : ZZZ

## Person

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Personal

Function.Flight Crew : Pilot Flying

Function.Flight Crew : Instructor

Qualification.Flight Crew : Flight Instructor

Qualification.Flight Crew : Commercial

Qualification.Flight Crew : Instrument

Experience.Flight Crew.Total : 636.9

Experience.Flight Crew.Last 90 Days : 186

Experience.Flight Crew.Type : 380

ASRS Report Number.Accession Number : 1850133

Human Factors : Situational Awareness

## Events

Anomaly.Deviation - Altitude : Excursion From Assigned Altitude

Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy

Anomaly.Deviation / Discrepancy - Procedural : Clearance

Anomaly.Inflight Event / Encounter : CFTT / CFIT

Detector.Person : Other Person

Were Passengers Involved In Event : N

When Detected : In-flight

Result.General : None Reported / Taken

## Assessments

Contributing Factors / Situations : Human Factors

Primary Problem : Human Factors

## Narrative: 1

I was conducting a training flight with a student pilot. I was teaching how to stay on glide path for landing, and how to correct when the airplane is high or low. This time we came in low, another aircraft noticed and mentioned to Tower that they thought we were too low, ZZZ Tower told the other aircraft "They're fine". Which we were, we had ample clearance over the obstacles at the end of Runway XXR approach. Had we gotten to an unsafe altitude I as acting PIC was ready to take the controls and execute a go-around maneuver.

## Synopsis

Flight Instructor reported that another Pilot reported their aircraft to ATC as being too low for safe flight. The tower controller stated that was not the case and the Instructor continued the approach to landing.

## Time / Day

Date : 202110

Local Time Of Day : 0601-1200

## Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Relative Position.Angle.Radial : 300

Relative Position.Distance.Nautical Miles : 22

Altitude.MSL.Single Value : 4000

## Environment

Flight Conditions : Mixed

Weather Elements / Visibility.Visibility : 10

Ceiling.Single Value : 1200

## Aircraft

Reference : X

ATC / Advisory.TRACON : ZZZ

Make Model Name : PA-31 Navajo/Chieftan/Mojave/T1040

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 91

Flight Plan : IFR

Mission : Training

Flight Phase : Cruise

Airspace.Class E : ZZZ1

## Component

Aircraft Component : Engine

Aircraft Reference : X

Problem : Malfunctioning

## Person

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Function.Flight Crew : Captain

Function.Flight Crew : Pilot Not Flying

Function.Flight Crew : Instructor

Qualification.Flight Crew : Air Transport Pilot (ATP)

Qualification.Flight Crew : Instrument

Qualification.Flight Crew : Multiengine

Qualification.Flight Crew : Flight Instructor

Experience.Flight Crew.Total : 16000

Experience.Flight Crew.Last 90 Days : 50

Experience.Flight Crew.Type : 50

ASRS Report Number.Accession Number : 1850115

Human Factors : Other / Unknown

Human Factors : Situational Awareness

Human Factors : Training / Qualification

## Events

Anomaly.Aircraft Equipment Problem : Critical  
Anomaly.Inflight Event / Encounter : Weather / Turbulence  
Detector.Person : Flight Crew  
When Detected : In-flight  
Result.Flight Crew : Landed in Emergency Condition  
Result.Flight Crew : Inflight Shutdown  
Result.Air Traffic Control : Issued New Clearance  
Result.Air Traffic Control : Provided Assistance

## Assessments

Contributing Factors / Situations : Aircraft  
Contributing Factors / Situations : Human Factors  
Primary Problem : Human Factors

## Narrative: 1

I was in the left seat and the student was in the right seat and the pilot flying (PF). We were in contact with approach coordinating a clearance for maneuvering to conduct our training when we noticed that manifold pressure was dropping on the right engine. A scan of engine instruments revealed low oil pressure and high oil temperature. I began to secure the right engine IAW the low oil pressure checklist and the engine securing procedure. When a successful feather was accomplished, and I moved the mixture to idle-cutoff we both realized that I had erroneously shut down the left engine. I attempted an immediate restart IAW the engine airstart checklist. This start attempt was unsuccessful. The right engine was running smoothly but speed was approaching Vyse. I immediately confessed this situation to ATC, [requested priority handling], and obtained a clearance for a descent and direct ZZZ. I re-secured the left engine to prevent engine flooding and decrease drag. As we began our descent and turn direct ZZZ, TIS-B did not indicate traffic in our intended flight path. During the descent I briefed the PF on the plan, and we developed the following shared mental model: Plan A was to safely exit the base of the clouds, quickly assess any potential obstructions and select the best forced landing area. Once that plan was successfully in place, a second air start could be attempted. I communicated this plan to ATC. When we broke out of the clouds, we implemented that plan to a successful air start. We began a climb, obtained an updated clearance, and secured the right engine. During localizer intercept I transferred aircraft control to myself and conducted a single engine ILS and landing in ZZZ. When an instructor pilot with as much experience as I shuts down the wrong engine, the obvious question is why? The reality is that no pilot regardless of experience is immune to error. I have been providing extensive training over the last two months in both cockpit procedures trainers (CPT's) and actual aircraft. In both of these situations, I am the one who chooses which engine gets shut down, it is only a simulation, and it scarcely matters which one I choose. This is not a safe mindset to have since it is possible to negatively transfer it to an actual emergency. From now on, when giving simulated emergencies, I will use the following procedure. While looking at the engine instruments (rather than the throttles), choose which one I want to simulate failure on, then use the same verification procedure on engine controls that I would use in an actual emergency. This way I am maintaining a habit pattern that will transfer positively to actual engine emergencies.

## Synopsis

PA-31 flight instructor reported the right engine pressure began to drop during training. The instructor decided to secure the engine, but erroneously shut down the left engine.

Reporter requested assistance from ATC and was eventually able to re-start the left engine and executed a single engine landing.

## Time / Day

Date : 202110

Local Time Of Day : 1201-1800

## Place

Locale Reference.ATC Facility : ZAN.ARTCC

State Reference : AK

Altitude.MSL.Single Value : 1500

## Environment

Flight Conditions : VMC

Weather Elements / Visibility.Visibility : 10

Light : Daylight

Ceiling.Single Value : 8000

## Aircraft : 1

Reference : X

ATC / Advisory.Center : ZAN

Aircraft Operator : Personal

Make Model Name : Skyhawk 172/Cutlass 172

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 91

Flight Plan : None

Mission : Training

Flight Phase : Cruise

Route In Use : None

Airspace.Class E : ZAN

## Aircraft : 2

Reference : Y

Make Model Name : Any Unknown or Unlisted Aircraft Manufacturer

Crew Size.Number Of Crew : 1

Airspace.Class E : ZAN

## Person

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Personal

Function.Flight Crew : Instructor

Function.Flight Crew : Pilot Not Flying

Qualification.Flight Crew : Flight Instructor

Qualification.Flight Crew : Instrument

Qualification.Flight Crew : Multiengine

Qualification.Flight Crew : Commercial

Experience.Flight Crew.Total : 360

Experience.Flight Crew.Last 90 Days : 70

Experience.Flight Crew.Type : 280

ASRS Report Number.Accession Number : 1849778

Human Factors : Communication Breakdown



Human Factors : Situational Awareness  
Communication Breakdown.Party1 : Flight Crew  
Communication Breakdown.Party2 : Flight Crew

## Events

Anomaly.Conflict : NMAC  
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy  
Detector.Automation : Aircraft Other Automation  
Detector.Person : Flight Crew  
Miss Distance.Vertical : 100  
Were Passengers Involved In Event : N  
When Detected : In-flight  
Result.Flight Crew : Took Evasive Action

## Assessments

Contributing Factors / Situations : Human Factors  
Contributing Factors / Situations : Procedure  
Primary Problem : Human Factors

## Narrative: 1

Cleared area to perform ground reference maneuvers. While maneuvering, plane came up right on top of us and did not veer from our location. The other aircraft did not have ADS-B Out equipment, which is typical in the area.

## Synopsis

Flight Instructor reported taking evasive action to avoid a near midair collision with another aircraft.

## Time / Day

Date : 202110

Local Time Of Day : 1201-1800

## Place

Locale Reference.Airport : MYR.Airport

State Reference : SC

Relative Position.Distance.Nautical Miles : 1

Altitude.AGL.Single Value : 300

## Environment

Flight Conditions : VMC

Light : Daylight

## Aircraft : 1

Reference : X

ATC / Advisory.Tower : MYR

Aircraft Operator : FBO

Make Model Name : Skyhawk 172/Cutlass 172

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 91

Flight Plan : None

Mission : Training

Flight Phase : Final Approach

Route In Use : Visual Approach

Airspace.Class C : MYR

## Aircraft : 2

Reference : Y

ATC / Advisory.Tower : MYR

Aircraft Operator : Military

Make Model Name : Military Transport

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 91

Mission : Training

Flight Phase : Final Approach

Airspace.Class C : MYR

## Person

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : FBO

Function.Flight Crew : Instructor

Function.Flight Crew : Pilot Not Flying

Qualification.Flight Crew : Multiengine

Qualification.Flight Crew : Instrument

Qualification.Flight Crew : Commercial

Qualification.Flight Crew : Flight Instructor

Experience.Flight Crew.Total : 1080

Experience.Flight Crew.Last 90 Days : 187  
ASRS Report Number.Accession Number : 1849672  
Human Factors : Training / Qualification  
Human Factors : Distraction  
Human Factors : Confusion  
Analyst Callback : Attempted

## Events

Anomaly.ATC Issue : All Types  
Anomaly.Inflight Event / Encounter : Wake Vortex Encounter  
Detector.Person : Flight Crew  
When Detected : In-flight  
Result.General : None Reported / Taken

## Assessments

Contributing Factors / Situations : Environment - Non Weather Related  
Contributing Factors / Situations : Procedure  
Primary Problem : Procedure

## Narrative: 1

In short, the Tower Controller created a situation in which I felt I was out of options, and ultimately led to a wake turbulence / jet blast encounter for my student and me. I was providing flight instruction in a Cessna 172 while my student was flying the RNAV 36 at MYR (the student was wearing a view limiting device and I was responsible for looking outside, see & avoid, etc). As we were approximately 3-4 nautical miles out from Runway 36, a Navy Aircraft Y was in the tower pattern for touch-and-goes, and the Tower Controller cleared the Aircraft Y for a short approach in front of us. This was a day with winds aloft from approximately 270, so the Aircraft Y had a tail wind on the base leg. The Aircraft Y's short approach was still a rather wide base, and it appeared to be in a steady descending turn straight toward us at approximately the same altitude as us. I asked Tower if the Aircraft Y was turning towards us; Tower acknowledged they were making a short approach ahead of us; I responded that the angle looked a little close; Tower issued the Aircraft Y a traffic advisory to look for us on a 3-mile final, to which the Aircraft Y responded they had us in sight. My student continued his approach under the hood. Once the Aircraft Y turned final (I would estimate approximately 1.5 miles ahead of us, at approximately 300 ft AGL), Tower instructed the Aircraft Y to go around. I am unsure of why the go-around was given to the Aircraft Y. I was worried about wake turbulence and began to cycle through options in my head: -I determined I couldn't go around upwind, because I would have to outclimb the short approach of an Aircraft Y to avoid wake turbulence -I determined I couldn't go around straight ahead, because the Aircraft Y had applied takeoff thrust and I cannot out-climb a Aircraft Y in a C172 -I determined I couldn't go around downwind, because the wake turbulence would be blown downwind; additionally, there's a busy tour helicopter helipad just east of the runway 36 threshold so I didn't want to conflict with any helicopter traffic. In the short amount of time this took to unfold, I determined none of the above alternatives were acceptable, which left me having my student continue the approach and just hoping the wake turbulence and jet blast had blown downwind. It is the first time I've ever felt helpless in an airplane, and it really rattled me when I got on the ground and reflected on it. We continued the approach and at approximately 300ft AGL we experienced sharp, jolting turbulence for approximately one second. I believe we were lucky and did not hit the epicenter of the wake turbulence / jet blast, as I know it can flip a light GA aircraft or cause catastrophic damage. After the encounter, my student continued the approach and made a normal landing. In my state of

disbelief, I failed to inform Tower of the wake turbulence encounter. After reflecting on the incident, I think both Tower and I could have made better decisions to avoid the encounter, and maybe even the Aircraft Y as well: -I may have had a case of "get-there-itis," as the only scenarios that ran through my head involved continuing forward in some capacity. I believe my best course of action would have been to take controls from my student and execute a go around with a 90-degree left turn, or a left 180 degree turn. It never crossed my mind to turn around, and I will always consider that as an option going forward. -If Tower had been more cognizant of wake turbulence, they likely would not have given a Aircraft Y a short approach in front of a Cessna on final approach - Additionally, if Tower had instructed us to go around, rather than the Aircraft Y, I believe this would have been a non-event. -It is hard for me to tell, but the Aircraft Y performed a pretty wide short approach so maybe they should have kept it a little tighter or declined the short approach. -I don't believe Tower ever gave us a wake turbulence warning after giving the Aircraft Y a short approach. I have been instructing out of MYR in Cessnas for XX years so I am very cognizant of wake turbulence even without "Caution Wake Turbulence" warnings from controllers, but I would be worried if a student pilot solo was in that same situation got overwhelmed or couldn't properly visualize the wake turbulence.

## Synopsis

C172 Instructor Pilot reported encountering wake turbulence from a military transport aircraft on approach to MYR airport.

## Time / Day

Date : 202110

Local Time Of Day : 1201-1800

## Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Altitude.AGL.Single Value : 0

## Environment

Flight Conditions : VMC

Weather Elements / Visibility.Visibility : 10

Light : Daylight

## Aircraft

Reference : X

Aircraft Operator : Personal

Make Model Name : PA-44 Seminole/Turbo Seminole

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 91

Flight Plan : VFR

Mission : Training

Flight Phase : Landing

Route In Use : Visual Approach

Airspace.Class G : ZZZ

## Component

Aircraft Component : Nose Gear

Aircraft Reference : X

Problem : Malfunctioning

## Person : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Personal

Function.Flight Crew : Instructor

Qualification.Flight Crew : Multiengine

Qualification.Flight Crew : Commercial

Qualification.Flight Crew : Flight Instructor

Qualification.Flight Crew : Instrument

Experience.Flight Crew.Total : 1465

Experience.Flight Crew.Last 90 Days : 127

Experience.Flight Crew.Type : 163

ASRS Report Number.Accession Number : 1849671

## Person : 2

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Personal  
Function.Flight Crew : Pilot Flying  
Qualification.Flight Crew : Commercial  
Qualification.Flight Crew : Instrument  
Experience.Flight Crew.Total : 510  
Experience.Flight Crew.Last 90 Days : 50  
Experience.Flight Crew.Type : 40  
ASRS Report Number.Accession Number : 1850105

## Events

Anomaly.Aircraft Equipment Problem : Critical  
Anomaly.Deviation / Discrepancy - Procedural : Maintenance  
Anomaly.Ground Event / Encounter : Ground Strike - Aircraft  
Detector.Person : Flight Crew  
When Detected : In-flight  
Result.General : Maintenance Action  
Result.General : Flight Cancelled / Delayed  
Result.Aircraft : Aircraft Damaged

## Assessments

Contributing Factors / Situations : Aircraft  
Contributing Factors / Situations : Procedure  
Primary Problem : Ambiguous

## Narrative: 1

On [Date], Aircraft X suffered from a hard landing, which resulted in nose wheel locking issue. The airplane went into Maintenance and got out that same day ([Date]). On [Date1] [two days later], the next flight took place, as part of student's MEL (Multi-Engine Land) add-on training. That was the first flight since the airplane left Maintenance. When we put the master switch on, we had indications of a nose wheel issue. We restart the master switch, and the indications disappear. I decided to takeoff - knowing that the Maintenance checked on this problem and verified the plane was safe to fly. We had a normal takeoff, normal flight where we practice maneuvers, and then we came back to practice traffic patterns. We had a normal landing. We taxied back to the runway - and didn't have any indications for landing gear issue. We took off again, had to do 1 go around due to traffic on the runway, and came back for 1 last landing. We had the gear down on midfield downwind, with all the indications showing that the gear is down and lock. I personally verified that indication - on downwind, base and final as I always do. We did a short field landing to the 1,000 ft. mark. We had a normal approach and landing. Main wheels touched first, and the moment the nosewheel touched the ground, it collapsed. I took the controls immediately, shutting the engines off, announced on the CTAF, and evacuate the airplane after securing it.

## Narrative: 2

I was practicing a mock check ride with my CFI on [Date], we started from ZZZ around XA: 10 and flew to [the practice] area which is southwest of ZZZ1 to practice some maneuvers, we came back around XB:00 after a short flight to practice a couple of landings, the landing was incident free. We taxied back and took off for the second pattern work, the whole pattern looked wonderful, on short final we saw a aircraft just landed and still on runway so my CFI instructed me to go around which I did at once, during my second attempt to land, I engaged the landing gear mid-field and I even told my CFI three green, no red and one on mirror, my downwind, base and final approach went perfect, on

short final I reduced my speed to 75 kts. for a short field landing and aimed for the 1000 ft. marker, I idled both the engines before 200 ft. to the 1000 ft. marker and the aircraft came to a slow touchdown, I touched down with the main gears first and kept the nose gear up for another 50 ft. to further slow down. When I dropped the nose gear the nose sank down and touched down the runway, the nose landing gear did not show any resistance, my CFI took control at this point and kept the aircraft on the runway as it was drifting right, he then made the announcement on the CTAF to close the runway before shutting off the master switch I had earlier flown this same aircraft [two days prior] with another Instructor, that is when we came to know that this aircraft suffered a hard landing that morning and it set the unsafe landing gear alert, the Mechanic did stop by and did some minor repairs before our flight and cleared us for that flight but requested us to bring the aircraft back to hangar after we are done, which we did. I see from the log book that between both my flights no other pilot flew this aircraft.

## Synopsis

Flight Instructor and Student flying a PA-44 aircraft reported the nose landing gear collapsed during landing. On a previous flight, the aircraft had suffered a hard landing and a mechanic had made minor repairs and then released the aircraft.

## Time / Day

Date : 202110

Local Time Of Day : 0601-1200

## Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Relative Position.Angle.Radial : 300

Relative Position.Distance.Nautical Miles : 3

Altitude.MSL.Single Value : 2500

## Environment

Flight Conditions : VMC

Weather Elements / Visibility.Visibility : 10

Light : Daylight

## Aircraft : 1

Reference : X

ATC / Advisory.Tower : ZZZ

Aircraft Operator : Personal

Make Model Name : Bonanza 33

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 91

Flight Plan : None

Mission : Training

Flight Phase : Initial Climb

Route In Use : None

Airspace.Class D : ZZZ

## Aircraft : 2

Reference : Y

Make Model Name : Any Unknown or Unlisted Aircraft Manufacturer

Crew Size.Number Of Crew : 1

Flight Phase : Initial Approach

Airspace.Class D : ZZZ

## Person

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Personal

Function.Flight Crew : Instructor

Function.Flight Crew : Pilot Not Flying

Qualification.Flight Crew : Air Transport Pilot (ATP)

Qualification.Flight Crew : Flight Instructor

ASRS Report Number.Accession Number : 1849653

Human Factors : Communication Breakdown

Human Factors : Situational Awareness

Communication Breakdown.Party1 : Flight Crew

Communication Breakdown.Party2 : Flight Crew



## Events

Anomaly.ATC Issue : All Types

Anomaly.Conflict : NMAC

Anomaly.Deviation / Discrepancy - Procedural : Clearance

Detector.Automation : Air Traffic Control

Detector.Person : Flight Crew

Miss Distance.Vertical : 500

When Detected : In-flight

Result.Air Traffic Control : Issued Advisory / Alert

## Assessments

Contributing Factors / Situations : Human Factors

Primary Problem : Human Factors

## Narrative: 1

Upon takeoff the Pilot told the Tower that we would fly westbound off Runway XXL. Shortly after liftoff and climbing out, the pilot, without saying anything to me, turned the airplane to a northwest heading. An inbound airplane in close proximity passed below us going the opposite direction. We saw it but at the same time it startled the Tower Controller who showed it as a conflict on his radar in the Tower. He was disturbed at the fact that we turned to the northwest instead of heading west as he had expected.

## Synopsis

BE-33 Flight Instructor reported the trainee turned to a heading that was different from what they had communicated to the Tower Controller and caused an NMAC.

## Time / Day

Date : 202110

Local Time Of Day : 0601-1200

## Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Altitude.MSL.Single Value : 1600

## Environment

Flight Conditions : VMC

Weather Elements / Visibility.Visibility : 10

Light : Daylight

Ceiling : CLR

## Aircraft

Reference : X

Aircraft Operator : FBO

Make Model Name : Cessna 152

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 91

Flight Plan : None

Mission : Training

Flight Phase : Climb

Route In Use : None

## Person

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : FBO

Function.Flight Crew : Instructor

Function.Flight Crew : Pilot Not Flying

Qualification.Flight Crew : Multiengine

Qualification.Flight Crew : Private

Qualification.Flight Crew : Instrument

Qualification.Flight Crew : Commercial

Qualification.Flight Crew : Flight Instructor

Experience.Flight Crew.Total : 614

Experience.Flight Crew.Last 90 Days : 20

Experience.Flight Crew.Type : 75

ASRS Report Number.Accession Number : 1849152

Human Factors : Communication Breakdown

Communication Breakdown.Party1 : Flight Crew

Communication Breakdown.Party2 : Flight Crew

Analyst Callback : Completed

## Events

Anomaly.Deviation - Track / Heading : All Types

Anomaly.Deviation / Discrepancy - Procedural : Clearance

Detector.Person : Flight Crew  
When Detected : In-flight  
Result.General : None Reported / Taken

## Assessments

Contributing Factors / Situations : Human Factors  
Primary Problem : Human Factors

## Narrative: 1

My student and I were turning base to final when my student was cleared for the touch and go and the Tower told us to make right traffic after touch and go. My student read back the landing clearance and did not read back right traffic. I came over the radio and read back the remainder of the call for right traffic to be made. I was talking to my student the whole way down to landing. I was talking a lot to them as they were putting in too much crosswind correction. They were a little behind the aircraft, so I was helping. Upon takeoff we cleaned everything up and took off and incidentally made a mistake and turned left traffic. We did not realize the mistake that had been made until after we were midfield left downwind. Tower did not say anything, nor were we that close to any airplanes (nothing that isn't close for a normal traffic pattern where training is being done). The student and I both should have realized that we needed to turn right traffic after we were clear of the departure end and we were at least 500 ft. off the ground. From now on as an instructor, I will be making taking more precaution to be more aware and to make the correct decisions. I instill in all of my students to ask if you are not sure, do not do something that could potentially put you in a bad situation. I let this moment slip. I will take it and learn from it.

## Callback: 1

Reporter had no additional information to note.

## Synopsis

Cessna 152 Flight Instructor reported they made closed traffic in the wrong direction.

## Time / Day

Date : 202110

Local Time Of Day : 1201-1800

## Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Altitude.AGL.Single Value : 0

## Environment

Flight Conditions : VMC

Weather Elements / Visibility.Visibility : 10

Light : Daylight

## Aircraft

Reference : X

ATC / Advisory.Tower : ZZZ

Aircraft Operator : FBO

Make Model Name : Small Aircraft, Low Wing, 1 Eng, Fixed Gear

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 91

Flight Plan : None

Mission : Training

Flight Phase : Landing

Route In Use : Visual Approach

Airspace.Class D : ZZZ

## Component : 1

Aircraft Component : Rudder Pedal

Aircraft Reference : X

Problem : Improperly Operated

## Component : 2

Aircraft Component : Brake System

Aircraft Reference : X

Problem : Improperly Operated

## Person

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : FBO

Function.Flight Crew : Instructor

Qualification.Flight Crew : Flight Instructor

Qualification.Flight Crew : Commercial

Experience.Flight Crew.Total : 1600

Experience.Flight Crew.Last 90 Days : 130

Experience.Flight Crew.Type : 1450

ASRS Report Number.Accession Number : 1849117

Human Factors : Communication Breakdown  
Human Factors : Training / Qualification  
Human Factors : Time Pressure  
Communication Breakdown.Party1 : Flight Crew  
Communication Breakdown.Party2 : Flight Crew

## Events

Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy  
Anomaly.Ground Event / Encounter : Loss Of Aircraft Control  
Detector.Person : Flight Crew  
When Detected : In-flight  
Result.General : Flight Cancelled / Delayed  
Result.Flight Crew : Regained Aircraft Control

## Assessments

Contributing Factors / Situations : Human Factors  
Primary Problem : Human Factors

## Narrative: 1

My student and I were doing touch and goes at ZZZ, on departure on the crosswind to downwind leg at approximately 1,000 feet AGL, I reduced the power to idle and simulated an engine failure. I told my student to make a power off landing and make it a full stop. He glided the aircraft back to the runway and landed normally. Immediately after landing my student started to lose directional control of the aircraft and started to oscillate on the rudder pedals. I then instructed my student to regain control by applying equal and consistent pressure on the rudder pedals, I was also on the pedals assisting him. We started to approach the halfway point on the runway and I told my student he needed to start braking. He then pulled on the handbrake excessively hard which caused the wheels to lock up. While the wheels were locked up, he proceeded to start oscillating again with the rudder pedals. I took controls and audibly told him "my controls". When I pushed on the handbrake forward to release the brakes, he bumped into the throttle and advanced it, at this point we started to accelerate towards the end of the runway, I immediately pulled the throttle back, regained directional control and applied the brakes consistently/smoothly. I was able to safely exit the runway at the last taxiway. After this incident, I had a meeting with the owner of the flight school and we decided to drop this student from the program. This was not the first "incident" with this student. He had flown previously with the assistant chief pilot and other senior instructors, after they hit a "wall" with him in training and he was no longer progressing, I took over. Of the approximately 6 flights I had with this student, 3 had "incidents" where the student had loss of control and if I did not take controls I believe it could have led to a fatal accident. [The student is in the] pre-solo phase of training with about 105 hours of dual received. The next day we did a debrief on the flight and when I brought up the events, he interrupted me and said he disagreed with it, when I asked him what he meant by it, he stated that if I wasn't there he would have recovered safely and that I was making him nervous.

## Synopsis

Flight Instructor reported that during landing rollout the student lost directional control of the aircraft through misapplication of the rudder pedals and locking up the brakes. The Flight Instructor regained control of the aircraft and safely exited the runway.

## Time / Day

Date : 202110

Local Time Of Day : 0601-1200

## Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

## Aircraft : 1

Reference : X

ATC / Advisory.Tower : ZZZ

Aircraft Operator : FBO

Make Model Name : DA40 Diamond Star

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 91

Mission : Training

Airspace.Class C : ZZZ

## Aircraft : 2

Reference : Y

ATC / Advisory.Tower : ZZZ

Make Model Name : Any Unknown or Unlisted Aircraft Manufacturer

Crew Size.Number Of Crew : 1

Airspace.Class C : ZZZ

## Person

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : FBO

Function.Flight Crew : Instructor

Qualification.Flight Crew : Flight Instructor

ASRS Report Number.Accession Number : 1848605

Human Factors : Situational Awareness

Human Factors : Communication Breakdown

Communication Breakdown.Party1 : Flight Crew

Communication Breakdown.Party2 : ATC

## Events

Anomaly.ATC Issue : All Types

Anomaly.Conflict : NMAC

Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy

Detector.Person : Flight Crew

When Detected : In-flight

Result.Flight Crew : Took Evasive Action

## Assessments

Contributing Factors / Situations : Human Factors

Contributing Factors / Situations : Procedure

Primary Problem : Ambiguous

## Narrative: 1

On approach to ZZZ, approach gave my student and I [in] Aircraft X a 130 heading and told us to enter right base XXL. Aircraft Y was behind us and given a heading of 140. We switched to Tower as instructed and Tower instructed us to fly through final for departing traffic and he'd call our turn back. Aircraft Y checked on and since they were now on a collision course with us, was given a 090 heading to fly. They did not read the instruction back, Tower repeated the instruction but was stepped on partially. Aircraft Y asked if that was for them. By this time Tower had turned us back toward the runway and told us to enter left base. This put us head on with Aircraft Y with only 100 feet of separation. I intervened and executed a descending left turn to avoid traffic. Only after this did Tower successfully give instruction to Aircraft Y to turn away fly downwind for XXL. Make sure to listen for your call sign when ATC calls you. If you're not sure if it was for you, ask. Eyes outside especially operating in vicinity of many other aircraft in a busy arrival corridor.

## Synopsis

Flight Instructor reported an NMAC during approach when another inbound aircraft did not acknowledge ATC instructions and the Tower Controller turned the first aircraft head on to the other.

## Time / Day

Date : 202107

Local Time Of Day : 1201-1800

## Place

Locale Reference.Airport : IND.Airport

State Reference : IN

Altitude.AGL.Single Value : 0

## Aircraft : 1

Reference : X

ATC / Advisory.Ground : IND

Aircraft Operator : FBO

Make Model Name : Small Aircraft, Low Wing, 1 Eng, Fixed Gear

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 91

Mission : Training

Flight Phase : Taxi

## Aircraft : 2

Reference : Y

ATC / Advisory.Ground : IND

Aircraft Operator : FBO

Make Model Name : Any Unknown or Unlisted Aircraft Manufacturer

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 91

Flight Plan : IFR

Mission : Training

Flight Phase : Taxi

## Aircraft : 3

Reference : Z

ATC / Advisory.Ground : IND

Aircraft Operator : Air Carrier

Make Model Name : Commercial Fixed Wing

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Flight Phase : Taxi

## Person

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : FBO

Function.Flight Crew : Instructor

Function.Flight Crew : Pilot Not Flying

Qualification.Flight Crew : Flight Instructor

ASRS Report Number.Accession Number : 1848580

Human Factors : Confusion



Human Factors : Situational Awareness  
Human Factors : Communication Breakdown  
Communication Breakdown.Party1 : Flight Crew  
Communication Breakdown.Party2 : ATC

## Events

Anomaly.ATC Issue : All Types  
Anomaly.Conflict : Ground Conflict, Critical  
Detector.Person : Flight Crew  
When Detected : Taxi  
Result.Flight Crew : Requested ATC Assistance / Clarification

## Assessments

Contributing Factors / Situations : Human Factors  
Primary Problem : Human Factors

## Narrative: 1

Approximately XA00, the student [Aircraft X] was taxiing to depart IND while the instructor was monitoring. We were given instructions to taxi to 23L via M, M3, cross 32, N, and to hold short of D. While approaching 32 ground was coordinating with an Aircraft Y plane on D just short of N trying to return to ramp, and Aircraft Z (air carrier) plane on 14 trying to get to point X. Initially, ground control told the Aircraft Y plane to hold short so the Aircraft Z could turn right onto D then left into point 2, but Aircraft Z crew offered to continue down 14 and enter the ramp at point 1 which is essentially where our taxi route was. Ground hesitated then approved this request just about when we were crossing the hold short lines to cross 32. We noticed Aircraft Z began speeding up their taxi and the student noted hesitation whether to continue further onto the runway. Since we had already begun crossing the hold short lines I instructed her to continue but to expedite taxi. At this point, Aircraft Z was still just past D with what I had thought would be plenty of forward visibility to see us crossing directly in front of them. As we pulled onto N I became concerned Aircraft Z may not see us as the amount of thrust he was using and my perceived distance he was behind us indicated to me he was expediting his taxi into the ramp. As we approached our hold short instruction at D I radioed ground to confirm Aircraft Z had us in sight. At this point, I don't even think Aircraft Z was still on ground frequency even though he was still on N which is what I was hoping for to give him notice of our position if he was unaware. Before ground responded Aircraft Z began their turn into their ramp at point 2 off N as we came to a stop holding short of D. I was having a hard time judging how far they were behind us due to lack of rearward visibility, and was close to increasing throttle and continuing on delta without clearance but did not. It is hard to tell, but as Aircraft Z turned it seemed to me and the student their right wing crossed over our horizontal stabilizer or at least very close to it. This is what in hindsight seemed to confirm my suspicions they never saw us. After a short delay as we were holding short ground responded something to the effect of, "Um, Aircraft X yeah the Aircraft Z is clear of Delta so you can continue taxi Delta to 23L." This indicated to me he did not really understand what I was communicating and was likely unaware of the hazard that had just occurred. In hindsight, I could have cued up ground a little sooner as to my concerns. I wrongly assumed the Aircraft Z saw us. I also should have simply taken control and taxied onto D without clearance and immediately notified ATC as there was no conflict on D. It is entirely possible the Aircraft Y did see us, and spacing was fine - hard to tell with limitations in rearward visibility, but either way it made both instructor and student extremely uncomfortable. If Aircraft Z did not see us I believe there is some responsibility on their shoulders of seeing traffic as we were off their nose at least 1,500 feet ahead of

them when they accepted altered taxi instructions, and I believe they deviated from their taxi routing as they were cleared to point 1 but followed us on N to enter at point 2 creating the hazard. Also, ground control seemed unaware of the possible conflict giving Aircraft Z a taxi route without confirming our position along our route and without confirming Aircraft Z had us in sight. I'm also not sure whether they landed on 14, or if it was coming out of maintenance and they were taxiing to ramp. I would think the latter as I think I'd have seen them land if so as a 14 landing would be unusual for the winds and traffic. The instructor should have been more proactive in contacting ground earlier upon possible conflict, and should have deviated per PIC authority from clearance to be 100% safety of flight was not compromised. Aircraft Z should be more aware of potential for not identifying small aircraft on taxi, and deviated from their ATC taxi clearance creating a hazard. Ground control should not accept taxi routing suggestions from pilots without being 100% certain they do not create a hazard, and confirming all prior traffic will not be at risk. Ground should have confirmed Aircraft Z had us in sight if they were going to be closely following our routing. I do think it would be pertinent to notify ATC of this event for them to play back and learn from this as well.

## Synopsis

Small Aircraft Flight Instructor reported that during taxi the wing of a transport category aircraft may have passed over the horizontal stabilizer of the smaller instructional aircraft. Reporter stated that IND Ground Control did not notify the large aircraft of the position of the small aircraft.

## Time / Day

Date : 202107

Local Time Of Day : 0601-1200

## Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Altitude.AGL.Single Value : 0

## Environment

Flight Conditions : IMC

## Aircraft

Reference : X

Make Model Name : DA40 Diamond Star

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 91

Mission : Training

Flight Phase : Initial Climb

## Component

Aircraft Component : Powerplant Fuel Control Unit

Aircraft Reference : X

Problem : Malfunctioning

## Person

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Function.Flight Crew : Instructor

Qualification.Flight Crew : Flight Instructor

Qualification.Flight Crew : Instrument

ASRS Report Number.Accession Number : 1848578

Human Factors : Troubleshooting

Human Factors : Workload

## Events

Anomaly.Aircraft Equipment Problem : Critical

Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy

Anomaly.Deviation / Discrepancy - Procedural : Maintenance

Detector.Person : Flight Crew

When Detected : In-flight

Result.Flight Crew : Diverted

Result.Flight Crew : Returned To Departure Airport

Result.Flight Crew : Landed in Emergency Condition

## Assessments

Contributing Factors / Situations : Aircraft

Primary Problem : Aircraft

## Narrative: 1

Aircraft was written up yesterday for similar problem. On run up ensured that ECU (Engine Control Unit) test was good as well as running up engine to 100%. On takeoff, indications normal, slight overspeed of prop but this is normal, climb out noticed rpm did not reduce upon pulling power to 92%. Advised ATC that we needed to return to ZZZ, also at this point ZZZ had gone IFR, so we filed IFR with departure to come back. ATC vectored us across the Runway XXL localizer at 2500 ft. for sequence, at this point we could hold 88 kias and altitude without overspeeding prop to red (45% load max) in accordance with the QRH. ATC gave us a vector a little far from the field so I asked for them to keep us close in case even though the situation was stable. I (Instructor Pilot) took over flying after first vector back to ZZZ. Vectored for ILS XXL right around joining the localizer had dual ECU fail and advised Tower we would be unable to go around, [the student] ran QRH, annunciations persisted. Elected to land flaps up so we could maintain speed with as little power as possible. Landed and taxied back uneventfully. Followed up with TRACON once on the ground. This issue was written up day prior and taken care of by Maintenance but as far as I can tell was not flown. On the ground all of our indications were good. Problem did not replicate until we were in the air. Suggest maintenance flight next time when a prop governor jam is involved.

## Synopsis

DA40 Flight Instructor reported malfunction of Engine Control Unit (ECU) during climbout and returned to the departure airport.

## Time / Day

Date : 202110

Local Time Of Day : 0601-1200

## Place

Locale Reference.Airport : IMS.Airport

State Reference : IN

Relative Position.Angle.Radial : 190

Relative Position.Distance.Nautical Miles : 15

Altitude.MSL.Single Value : 2300

## Environment

Flight Conditions : VMC

Weather Elements / Visibility : Haze / Smoke

Light : Daylight

## Aircraft : 1

Reference : X

Aircraft Operator : FBO

Make Model Name : Small Aircraft

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 91

Mission : Training

Flight Phase : Cruise

Route In Use : Direct

Airspace.Class E : LOU

## Aircraft : 2

Reference : Y

Make Model Name : Small Aircraft

Airspace.Class E : LOU

## Person

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Function.Flight Crew : Instructor

Qualification.Flight Crew : Commercial

Qualification.Flight Crew : Flight Instructor

Qualification.Flight Crew : Multiengine

Qualification.Flight Crew : Instrument

Experience.Flight Crew.Total : 800

ASRS Report Number.Accession Number : 1847770

Human Factors : Situational Awareness

Human Factors : Other / Unknown

Human Factors : Communication Breakdown

Communication Breakdown.Party1 : Flight Crew

Communication Breakdown.Party2 : Flight Crew

## Events

Anomaly.Conflict : NMAC  
Anomaly.Inflight Event / Encounter : Bird / Animal  
Detector.Person : Flight Crew  
Miss Distance.Vertical : 200  
When Detected : In-flight  
Result.Flight Crew : Took Evasive Action

## Assessments

Contributing Factors / Situations : Environment - Non Weather Related  
Contributing Factors / Situations : Human Factors  
Primary Problem : Human Factors

## Narrative: 1

Climbing from ZZZ, birds passed overhead, leaving droppings on our windscreen. Once in level flight about 15 miles SSW of IMS, we noticed Aircraft Y in the distance, seemingly well above us (we were at 2,300-2,400 feet MSL). Because of a combination of hazy conditions and the bird droppings on our windshield, we lost sight of Aircraft Y; when we noticed it, it was less than a mile from us, 100-200 feet above us, traveling opposite direction. We nosed over and to the right in an evasive maneuver as Aircraft Y passed over us. In that situation, we could have stayed in the pattern at ZZZ, returning to clean the windshield before commencing our training flight to IMS. The student and I reacted appropriately once we realized the potential accident developing, but if we had been able to maintain visual on the opposing aircraft, we could have maneuvered to evade much sooner. The student and I will revisit the FAA Safety Team literature/presentations on aircraft safety in flight and VFR collisions in "practice areas" (as we were crossing the ZZZ/IMS/LOU practice area when the near-miss occurred).

## Synopsis

GA flight instructor with student reported an NMAC with an aircraft traveling in opposite direction near IMS airport.

## Time / Day

Date : 202110

Local Time Of Day : 0601-1200

## Place

Locale Reference.Airport : C91.Airport

State Reference : MI

Relative Position.Distance.Nautical Miles : 10

Altitude.MSL.Single Value : 3500

## Environment

Flight Conditions : VMC

Weather Elements / Visibility.Visibility : 10

Ceiling.Single Value : 10000

## Aircraft : 1

Reference : X

ATC / Advisory.CTAF : C91

Aircraft Operator : FBO

Make Model Name : Small Aircraft

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 91

Flight Plan : None

Mission : Training

Flight Phase.Other

Route In Use.Other

Airspace.Class E : SBN

Airspace.Class G : C91

## Aircraft : 2

Reference : Y

Make Model Name : Small Aircraft

Airspace.Class E : SBN

Airspace.Class G : C91

## Person

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : FBO

Function.Flight Crew : Pilot Not Flying

Function.Flight Crew : Instructor

Qualification.Flight Crew : Flight Instructor

Qualification.Flight Crew : Commercial

Experience.Flight Crew.Total : 250

Experience.Flight Crew.Last 90 Days : 30

Experience.Flight Crew.Type : 20

ASRS Report Number.Accession Number : 1847587

## Events

Anomaly.Conflict : NMAC  
Detector.Person : Flight Crew  
Miss Distance.Vertical : 200  
When Detected : In-flight  
Result.Flight Crew : Took Evasive Action

## Assessments

Contributing Factors / Situations : Human Factors  
Primary Problem : Human Factors

## Narrative: 1

I was doing stalls 10 SM southeast of C91 with a student pilot. We were routinely making clearing turns and position reports. Out of nowhere, a new plane pops up on the ADS-B 200+, I grab the controls and descend as the plane goes right over the top of us.

## Synopsis

GA flight instructor reported an NMAC at C91 non-towered airport while practicing stalls with a student requiring evasive action.



## Time / Day

Date : 202110

Local Time Of Day : 0601-1200

## Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Relative Position.Angle.Radial : 045

Relative Position.Distance.Nautical Miles : 1

Altitude.MSL.Single Value : 1800

## Environment

Flight Conditions : VMC

Weather Elements / Visibility.Visibility : 10

Light : Daylight

## Aircraft : 1

Reference : X

ATC / Advisory.CTAF : ZZZ

Aircraft Operator : Personal

Make Model Name : Cessna 170

Operating Under FAR Part : Part 91

Flight Plan : None

Mission : Training

Flight Phase : Climb

Route In Use : Visual Approach

Airspace.Class E : ZZZ

## Aircraft : 2

Reference : Y

ATC / Advisory.CTAF : ZZZ

Make Model Name : Cessna 310/T310C

Crew Size.Number Of Crew : 1

Flight Plan : IFR

Flight Phase : Initial Climb

Airspace.Class E : ZZZ

## Person

Location Of Person.Aircraft : X

Function.Flight Crew : Single Pilot

Function.Flight Crew : Pilot Flying

Qualification.Flight Crew : Private

Experience.Flight Crew.Total : 539

Experience.Flight Crew.Last 90 Days : 25

Experience.Flight Crew.Type : 238

ASRS Report Number.Accession Number : 1847331

Human Factors : Communication Breakdown

Human Factors : Situational Awareness

Communication Breakdown.Party1 : Flight Crew  
Communication Breakdown.Party2 : Flight Crew

## Events

Anomaly.Conflict : NMAC  
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy  
Detector.Automation : Aircraft TA  
Miss Distance.Horizontal : 0  
Miss Distance.Vertical : 340  
When Detected : In-flight  
Result.General : None Reported / Taken

## Assessments

Contributing Factors / Situations : Human Factors  
Primary Problem : Human Factors

## Narrative: 1

I'm a private pilot and was flying VFR with an instructor to practice takeoffs and landings. I departed Runway XX at ZZZ after my radio call at XA:03. In the call I stated "closed traffic". There was a twin immediately behind me on the taxiway and other traffic in the pattern. At XA:04 the twin Cessna announced departing Runway XX "left turn out departure". I announced crosswind at XA:05. Just after completing the turn downwind our Garmin GTN-650 navigator gave a visual and audible traffic alert. We then saw a light twin making a climbing left turn. That aircraft passed beneath us at XA:05 according to the playback of our wing-mounted video camera. We were at 1,820 feet MSL westbound at 78 kts. (100 feet below traffic pattern altitude and still climbing) and the twin was at 1,480 feet MSL northbound at 120 kts when they passed beneath us at approximately\* XA:06. I announced downwind at XA:07, approximately mid-field and subsequently landed while the twin departed to the west. Neither pilot made a radio call to the other.

## Synopsis

C170 pilot reported a NMAC while turning crosswind in the traffic pattern when another departing aircraft made an early, unannounced crosswind turn, passing below the reporter's aircraft.

## Time / Day

Date : 202110

Local Time Of Day : 0601-1200

## Place

Locale Reference.Airport : MLU.Airport

State Reference : LA

Relative Position.Distance.Nautical Miles : .1

Altitude.AGL.Single Value : 300

## Environment

Flight Conditions : VMC

Weather Elements / Visibility.Visibility : 12000

## Aircraft : 1

Reference : X

ATC / Advisory.Tower : MLU

Aircraft Operator : FBO

Make Model Name : Small Aircraft

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 91

Flight Plan : VFR

Mission : Training

Flight Phase : Takeoff / Launch

Route In Use : Direct

Airspace.Class D : MLU

## Aircraft : 2

Reference : Y

Make Model Name : Any Unknown or Unlisted Aircraft Manufacturer

Airspace.Class D : MLU

## Person

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : FBO

Function.Flight Crew : Pilot Not Flying

Function.Flight Crew : Instructor

Qualification.Flight Crew : Flight Instructor

Qualification.Flight Crew : Air Transport Pilot (ATP)

Experience.Flight Crew.Last 90 Days : 250

Experience.Flight Crew.Type : 2000

ASRS Report Number.Accession Number : 1846935

Human Factors : Situational Awareness

## Events

Anomaly.Conflict : NMAC

Anomaly.Inflight Event / Encounter : Bird / Animal

Miss Distance.Horizontal : 300  
Miss Distance.Vertical : 10  
When Detected : In-flight  
Result.Flight Crew : Took Evasive Action

## Assessments

Contributing Factors / Situations : Airport  
Contributing Factors / Situations : Human Factors  
Contributing Factors / Situations : Procedure  
Primary Problem : Ambiguous

## Narrative: 1

Multiple times during touch and goes today we had to take evasive action. Two time in the last month I have had students on initial and second solos and had to take evasive action on final less than 200 feet. This is so bad we have now given it a name "DODGE BIRD." Birds [of] all types.

## Synopsis

Flight instructor with student pilot reported having to take evasive action multiple times at MLU airport during touch and go training. The reporter stated this is a common occurrence at this location.

## Time / Day

Date : 202110

Local Time Of Day : 0601-1200

## Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Altitude.MSL.Single Value : 1000

## Environment

Flight Conditions : VMC

Light : Daylight

## Aircraft

Reference : X

ATC / Advisory.Tower : ZZZ

Aircraft Operator : FBO

Make Model Name : PA-44 Seminole/Turbo Seminole

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 91

Mission : Training

Flight Phase : Climb

## Component

Aircraft Component : Landing Gear

Aircraft Reference : X

Problem : Malfunctioning

## Person

Location Of Person.Aircraft : X

Reporter Organization : FBO

Function.Flight Crew : Trainee

ASRS Report Number.Accession Number : 1845977

Human Factors : Troubleshooting

## Events

Anomaly.Aircraft Equipment Problem : Critical

Anomaly.Inflight Event / Encounter : Bird / Animal

Detector.Person : Flight Crew

Detector.Person : Air Traffic Control

When Detected : In-flight

Result.General : Maintenance Action

Result.Flight Crew : Inflight Shutdown

Result.Flight Crew : Returned To Departure Airport

Result.Flight Crew : Landed in Emergency Condition

Result.Air Traffic Control : Issued New Clearance

## Assessments

Contributing Factors / Situations : Aircraft  
Primary Problem : Aircraft

## Narrative: 1

During the first departure to southwest at 1,000 ft we had a bird strike. We requested the Tower to return back to [departure airport]. On the way back after extending the landing gear, the left main gear position light was not illuminating. We tried to troubleshoot the landing gear following the checklist. We executed an emergency gear extension and requested the Tower to do a low pass to verify the gear position. ATC informed us the left gear appeared to be damaged. For a better visual of the gear, ATC requested us to do a turn back to the opposite direction and do another low approach. On the second low approach, they confirmed the gear appeared to be half down and crooked. So we [requested priority handling] and we turned around again and did another low approach to establish control effectiveness. We requested to leave the airspace and gain some altitude to try to get the gear down by doing maneuvers. We did not have a positive indication of the faulty gear. We decided to secure the left engine because of unknown damage to the left wing due to a bird strike. We landed on runway, the gear was still intact after landing. We vacated on taxiway and shut down the engine following the checklist. We got towed back to the ramp safely. Airplane is grounded for further maintenance inspection.

## Synopsis

PA-44 student pilot reported returning safely to departure airport after experiencing a bird strike that potentially affected the landing gear and left engine.

## Time / Day

Date : 202110

Local Time Of Day : 1201-1800

## Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Relative Position.Distance.Nautical Miles : 0.25

Altitude.MSL.Single Value : 800

## Environment

Weather Elements / Visibility.Visibility : 15

Light : Daylight

Ceiling.Single Value : 12000

## Aircraft

Reference : X

Aircraft Operator : Personal

Make Model Name : Amateur/Home Built/Experimental

Crew Size.Number Of Crew : 1

Operating Under FAR Part : Part 91

Flight Plan : None

Mission : Training

Flight Phase : Final Approach

Route In Use : Direct

## Component

Aircraft Component : Fuel Selector

Aircraft Reference : X

Problem : Malfunctioning

## Person

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Personal

Function.Flight Crew : Pilot Flying

Function.Flight Crew : Single Pilot

Qualification.Flight Crew : Student

Qualification.Other

Experience.Flight Crew.Total : 840

Experience.Flight Crew.Last 90 Days : 86

Experience.Flight Crew.Type : 68

ASRS Report Number.Accession Number : 1845772

## Events

Anomaly.Aircraft Equipment Problem : Critical

Anomaly.Inflight Event / Encounter : Fuel Issue

Detector.Person : Flight Crew

When Detected : In-flight  
Result.Flight Crew : Diverted  
Result.Flight Crew : Inflight Shutdown

## Assessments

Contributing Factors / Situations : Aircraft  
Primary Problem : Aircraft

## Narrative: 1

On final approach to ZZZ in perfect VFR conditions landing Runway XX, my aircraft experienced power loss. I had just completed two S turns for spacing (authorized by ATC) and after leveling for short final the engine started to sputter. I had 8 gallons of fuel on board. I was 800 feet AGL and 0.25 miles from the runway. I realized I was not going to clear the airport fence and immediately diverted to an adjacent concrete culvert adjacent to the airport. The engine stopped prior to my landing. I touched down on the mains at 66 knots. No damage to the aircraft or property occurred. No individuals or myself were harmed. I was flying solo. I experienced loss of power likely due to fuel starvation NOT exhaustion. There is a possible issue with the fuel valve selector that may have contributed to air getting into the fuel lines. The S turns on final may have also contributed to fuel sloshing around in the tanks and air being drawn into the system. I plan on changing the fuel valve selector and avoid S turns on final in the future.

## Synopsis

Student pilot flying experimental aircraft reported engine power loss on final approach. Conducted off airport landing without incident.



## Time / Day

Date : 202110

Local Time Of Day : 0601-1200

## Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Altitude.AGL.Single Value : 0

## Environment

Weather Elements / Visibility.Visibility : 50

Light : Daylight

Ceiling.Single Value : 12000

RVR.Single Value : 10000

## Aircraft : 1

Reference : X

Aircraft Operator : FBO

Make Model Name : Small Aircraft, Low Wing, 1 Eng, Retractable Gear

Crew Size.Number Of Crew : 1

Operating Under FAR Part : Part 91

Flight Plan : None

Mission : Training

Flight Phase : Takeoff / Launch

Airspace.Class G : ZZZ

## Aircraft : 2

Reference : Y

Make Model Name : Any Unknown or Unlisted Aircraft Manufacturer

## Person

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : FBO

Function.Flight Crew : Instructor

Function.Flight Crew : Pilot Not Flying

Qualification.Flight Crew : Multiengine

Qualification.Flight Crew : Instrument

Qualification.Flight Crew : Flight Instructor

Qualification.Flight Crew : Air Transport Pilot (ATP)

Qualification.Maintenance : Airframe

Qualification.Maintenance : Powerplant

Experience.Flight Crew.Total : 9000

Experience.Flight Crew.Last 90 Days : 50

Experience.Flight Crew.Type : 1500

ASRS Report Number.Accession Number : 1845771

Human Factors : Situational Awareness

Human Factors : Time Pressure

Human Factors : Workload

Human Factors : Other / Unknown  
Human Factors : Communication Breakdown  
Communication Breakdown.Party1 : Flight Crew  
Communication Breakdown.Party2 : Ground Personnel

## Events

Anomaly.Conflict : Ground Conflict, Critical  
Anomaly.Deviation / Discrepancy - Procedural : Other / Unknown  
Anomaly.Ground Incursion : Runway  
Anomaly.Ground Event / Encounter : Vehicle  
Anomaly.Ground Event / Encounter : Person / Animal / Bird  
Detector.Person : Flight Crew  
Were Passengers Involved In Event : N  
When Detected : In-flight  
Result.Flight Crew : Took Evasive Action

## Assessments

Contributing Factors / Situations : Human Factors  
Primary Problem : Human Factors

## Narrative: 1

Near collision with City of ZZZ Employee on foot spraying weeds on the runway with his truck also parked on the runway. There was no NOTAMS and no AWOS notification or radio calls. Flight Instructor and student had to abort [the] takeoff to avoid collision.

## Synopsis

Flight Instructor reported a critical ground conflict with an airport worker on the runway. The worker, in a truck, was spraying the runway area. The instructor executed an aborted takeoff to avoid a collision. Flight Instructor reported no NOTAM or advisory was given that the runway was closed.

## Time / Day

Date : 202110

Local Time Of Day : 1201-1800

## Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Altitude.AGL.Single Value : 0

## Environment

Flight Conditions : VMC

Light : Daylight

## Aircraft : 1

Reference : X

ATC / Advisory.CTAF : ZZZ

Aircraft Operator : FBO

Make Model Name : SR20

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 91

Flight Plan : None

Mission : Training

Flight Phase : Landing

Route In Use : Visual Approach

Airspace.Class G : ZZZ

## Aircraft : 2

Reference : Y

ATC / Advisory.CTAF : ZZZ

Make Model Name : Skyhawk 172/Cutlass 172

Crew Size.Number Of Crew : 1

Operating Under FAR Part : Part 91

Flight Phase : Takeoff / Launch

Airspace.Class G : ZZZ

## Person

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Personal

Function.Flight Crew : Instructor

Function.Flight Crew : Pilot Not Flying

Qualification.Flight Crew : Flight Instructor

Qualification.Flight Crew : Instrument

Qualification.Flight Crew : Multiengine

Qualification.Flight Crew : Air Transport Pilot (ATP)

Experience.Flight Crew.Total : 6941

Experience.Flight Crew.Last 90 Days : 22

Experience.Flight Crew.Type : 62

ASRS Report Number.Accession Number : 1845595

Human Factors : Communication Breakdown  
Human Factors : Situational Awareness  
Communication Breakdown.Party1 : Flight Crew  
Communication Breakdown.Party2 : Flight Crew

## Events

Anomaly.Conflict : Ground Conflict, Critical  
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy  
Anomaly.Ground Incursion : Runway  
Detector.Person : Flight Crew  
Miss Distance.Horizontal : 3000  
When Detected : In-flight  
Result.Flight Crew : Took Evasive Action

## Assessments

Contributing Factors / Situations : Human Factors  
Primary Problem : Human Factors

## Narrative: 1

This event was during VFR day flight training with an experienced but non-current pilot getting checked out in a Cirrus SR20. Within the prior week, the student had done his Biannual Flight Review (BFR) & Instrument Proficiency Check (IPC) within this type of plane. I was assigned to evaluate and instruct the student on partial panel approaches, various emergencies and simulated power off landings as part of his final checkout to rent the Cirrus SR20. Due to the COVID-19 pandemic, I am a former airline pilot working as a Certified Flight Instructor (CFI). At the time of this incident, I had about 60 hrs in the Cirrus and about 40 teaching in it. I previously had over 1,000 hrs of experience working as an active CFI about XX years prior. This was a factor, because I previously taught in State which had significantly less air traffic than the east coast. I planned to do a simulated engine failure over ZZZ as part of our training. Prior to pulling back the power, I set up the AWOS and Unicom Frequencies for ZZZ. I also used the ADS-B and visual scanning of the field to verify no aircraft were in the pattern. I did visually see two aircraft taxiing out toward the runway. My student monitored the AWOS at ZZZ in preparation for an anticipated practice instrument approach. I pulled the power back about 3,500 ft. AGL and just past the field, simulating an engine failure. I began broadcasting my intentions about a simulated engine failure into what I thought was the ZZZ CTAF. I heard weather from the AWOS, but assumed my student had not turned off the AWOS in the other COMM radio due to handling the emergency so we heard the weather in our headsets during the entire maneuver. I was ACTUALLY broadcasting about the simulated engine failure maneuver on the AWOS frequency. What added to my certainty I was on CTAF was that another aircraft actually responded to us inquiring about the simulated emergency maneuver using the AWOS. The winds were fairly light, and ZZZ has a very long runway, so my student opted to set up the simulated emergency approach with a light tailwind rather than using the active runway of XX. Because I was in a checking, rather than teaching role, I allowed the maneuver to continue assuming that other traffic was advised and no one was currently in the pattern, plus I was making numerous advisories of our intentions on the incorrect AWOS frequency. Due to the incorrect frequency, I heard no further responses. When we were on very short final to Runway XY, another aircraft lined up opposite on Runway XX (having not heard me due to the frequency issue). When we touched down, I immediately took the controls to stop and get it off the runway ASAP because I began to notice the opposite direction C-172 beginning to move. The other aircraft apparently aborted their take-off after seeing us and got off at the first taxi-way.

We were about 3,000 ft. apart on the runway before both exiting. In retrospect in the future, I will always pre-brief the "High Key/ Low Key" approach to engine failures and emphasize the importance of aligning our engine failure landings with the wind not only due to aircraft stopping advantages, but due to the huge threat of traffic when lining up on the wrong direction runway at these busy [area] fields. I will also use greater care to verify that I am broadcasting on the proper frequency when doing non-standard airwork into an uncontrolled airport. I will not hesitate to take the controls or reset the maneuver if my student is setting me up in a way that creates additional hazards.

## Synopsis

SR20 flight Instructor reported a ground conflict when the student landed on a runway with opposite direction departing traffic. Reporter realized afterward they had been broadcasting landing intentions on the AWOS weather frequency instead of CTAF, which resulted in other aircraft not hearing them.

## Time / Day

Date : 202110

Local Time Of Day : 0601-1200

## Place

Locale Reference.Airport : SUU.Airport

State Reference : CA

Relative Position.Angle.Radial : 030

Relative Position.Distance.Nautical Miles : 5

Altitude.MSL.Single Value : 4500

## Environment

Flight Conditions : VMC

Weather Elements / Visibility.Visibility : 10

Light : Daylight

Ceiling.Single Value : 12000

## Aircraft : 1

Reference : X

Aircraft Operator : Personal

Make Model Name : Small Aircraft, Low Wing, 1 Eng, Fixed Gear

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 91

Flight Plan : None

Mission : Training

Flight Phase : Cruise

Route In Use : Direct

Airspace.Class E : SUU

## Aircraft : 2

Reference : Y

Make Model Name : UAV: Unpiloted Aerial Vehicle

Airspace.Class E : SUU

Flying In / Near / Over (UAS) : Aircraft / UAS

## Person

Location Of Person.Aircraft : X

Reporter Organization : Personal

Function.Flight Crew : Instructor

Function.Flight Crew : Pilot Not Flying

Qualification.Flight Crew : Commercial

Qualification.Flight Crew : Flight Instructor

Qualification.Flight Crew : Instrument

Experience.Flight Crew.Total : 2000

Experience.Flight Crew.Last 90 Days : 200

Experience.Flight Crew.Type : 500

ASRS Report Number.Accession Number : 1845429

Human Factors : Situational Awareness

Human Factors : Training / Qualification  
Human Factors : Distraction

## Events

Anomaly.Airspace Violation : All Types  
Anomaly.Conflict : NMAC  
Anomaly.Deviation / Discrepancy - Procedural : Unauthorized Flight Operations (UAS)  
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy  
Anomaly.Deviation / Discrepancy - Procedural : FAR  
Detector.Person : Flight Crew  
Miss Distance.Horizontal : 200  
Miss Distance.Vertical : 0  
When Detected : In-flight  
Result.Flight Crew : Took Evasive Action

## Assessments

Contributing Factors / Situations : Human Factors  
Primary Problem : Human Factors

## Narrative: 1

We were flying westbound from SAC to ZZZ direct in VMC conditions. The purpose of the flight was instrument currency training and preparing for an IPC (Instrument Proficiency Check) in the near future. Our altitude was 4,500 feet, heading approximately 230, and airspeed approximately 155 kts. We were receiving VFR flight following services and in contact with Travis Approach. The instrument rated PIC pilot was under the hood, I was instructing/acting as safety pilot and sitting in the right seat. We were en-route and in level cruise. While in the process of giving the flying pilot hold instructions for a practice hold (approximately 10 minutes ahead), I saw an object ahead and slightly left. I immediately took controls saying "my controls" and took evasive maneuvers. I banked hard right and pitched slightly down. The object very quickly passed by very close to the left side of the aircraft. I would estimate that I saw it for less than 1 second. After steering clear, I immediately informed Travis of the incident. They asked a few follow-up questions (size, speed, my location, and any other data I could provide) The object looked like a UAV/drone. It was black, squarish, approximately 2-3 ft. across, and appeared to have a red light on the left side. I did not see rotors. It did not look to me like a balloon or mylar balloon, as I have encountered them numerous times over the years. It was either stationary or moving toward/away from us. No lateral motion noted. After avoiding the object, we continued on our flight without incident, doing a hold, then a VFR practice approach and landing at ZZZ.

## Synopsis

General aviation Flight Instructor reported a near miss with a UAS during cruise. Evasive maneuvers were taken and ATC was informed.

## Time / Day

Date : 202109

Local Time Of Day : 0601-1200

## Place

Locale Reference.ATC Facility : ZZZ.Tower

State Reference : US

Relative Position.Angle.Radial : 130

Relative Position.Distance.Nautical Miles : 10

Altitude.MSL.Single Value : 7500

## Environment

Flight Conditions : VMC

Light : Daylight

## Aircraft

Reference : X

ATC / Advisory.Tower : ZZZ

Aircraft Operator : FBO

Make Model Name : Skyhawk 172/Cutlass 172

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 91

Flight Plan : None

Mission : Training

Flight Phase : Cruise

Route In Use : None

Airspace.Class E : ZZZ

## Component

Aircraft Component : Reciprocating Engine Assembly

Aircraft Reference : X

Problem : Malfunctioning

## Person

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : FBO

Function.Flight Crew : Trainee

Qualification.Flight Crew : Commercial

Qualification.Flight Crew : Instrument

Qualification.Flight Crew : Multiengine

Qualification.Flight Crew : Flight Instructor

Experience.Flight Crew.Total : 859

Experience.Flight Crew.Last 90 Days : 170

Experience.Flight Crew.Type : 620

ASRS Report Number.Accession Number : 1845408

Human Factors : Troubleshooting

## Events



Anomaly.Aircraft Equipment Problem : Critical  
Detector.Person : Flight Crew  
Were Passengers Involved In Event : N  
When Detected : In-flight  
Result.General : Maintenance Action  
Result.General : Flight Cancelled / Delayed  
Result.Flight Crew : Landed in Emergency Condition

## Assessments

Contributing Factors / Situations : Aircraft  
Primary Problem : Aircraft

## Narrative: 1

On Date, I was receiving an aircraft check out in a Cessna 182P. Preflight inspection of the aircraft including the engine and engine oil was ordinary. The engine operation was also normal during start, taxi, runup, and takeoff. During each of those phases, various throttle positions including throttle full rearward to throttle full forward were typical with expected corresponding engine manifold and RPM indications. A normal crosswind takeoff was conducted at throttle full forward and engine operation during takeoff and climb indicated the engine was producing full power. The power was subsequently reduced to cruise setting after leveling off at 6,500 feet MSL before again increasing to full power for a step-climb to 7,500 feet MSL for airspace avoidance. Again, power indications on the second climb and level off to cruise were normal for the corresponding throttle positions. After clearing the area for traffic, the instructor asked me to perform a stall and recovery. To set up for the maneuver, the throttle was reduced to partial power to reduce airspeed. At some point during the maneuver the throttle was increased to full forward, however the engine remained at very low thrust and the engine was unresponsive to throttle control movement. An immediate turn towards ZZZ was commenced and a radio call requesting a full stop landing. An attempt was made to diagnose the problem during which we both confirmed we were no longer able to maintain altitude at a safe airspeed and [advised ATC] and landed in a field approximately 5 miles southwest of ZZZ1. Impressions: The throttle was moved to various positions during all phases prior to flight and no anomalies were noted. This included movements from full aft throttle to full forward. I do not believe any preflight check would have indicated an issue prior to throttle cable breakage. An A&P mechanic made a comment that it's difficult to inspect the throttle cable during routine maintenance. My recommendation would be the further investigation into the feasibility of inspecting the throttle cable for wear during maintenance.

## Synopsis

Pilot reported an off airport landing after engine power loss precluded an airport landing.

## Time / Day

Date : 202110

Local Time Of Day : 0601-1200

## Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Relative Position.Angle.Radial : 090

Relative Position.Distance.Nautical Miles : 14

Altitude.MSL.Single Value : 7500

## Environment

Flight Conditions : VMC

Weather Elements / Visibility.Visibility : 10

Light : Daylight

Ceiling.Single Value : 22000

## Aircraft

Reference : X

ATC / Advisory.Tower : ZZZ

Aircraft Operator : FBO

Make Model Name : Skyhawk 172/Cutlass 172

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 91

Flight Plan : None

Mission : Training

Flight Phase : Cruise

Airspace.Class D : ZZZ

Airspace.Class E : ZZZ

## Component

Aircraft Component : Reciprocating Engine Assembly

Aircraft Reference : X

Problem : Malfunctioning

## Person

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Corporate

Function.Flight Crew : Instructor

Qualification.Flight Crew : Flight Instructor

Qualification.Flight Crew : Commercial

Qualification.Flight Crew : Instrument

Experience.Flight Crew.Total : 1200

Experience.Flight Crew.Last 90 Days : 40

Experience.Flight Crew.Type : 400

ASRS Report Number.Accession Number : 1845405

Human Factors : Troubleshooting

## Events

Anomaly.Aircraft Equipment Problem : Critical  
Detector.Person : Flight Crew  
Were Passengers Involved In Event : N  
When Detected : In-flight  
Result.General : Flight Cancelled / Delayed  
Result.Flight Crew : Landed As Precaution  
Result.Flight Crew : Requested ATC Assistance / Clarification  
Result.Flight Crew : Returned To Departure Airport  
Result.Flight Crew : Overcame Equipment Problem  
Result.Air Traffic Control : Separated Traffic

## Assessments

Contributing Factors / Situations : Aircraft  
Contributing Factors / Situations : Weather  
Primary Problem : Aircraft

## Narrative: 1

I was conducting an introductory flight in a Cessna 172 in day VFR conditions. I felt like the sound of the power was fluctuating on the climb-out but not enough to decide if it was real or in my head. The RPM gauge had a typical gentle wiggle from turbulence. It was my first time flying this particular 172. I had flown all the others in the flight school by this point but this one. I brushed the sound off as a quirk of the particular airplane. During one phase of the flight I demonstrated to my adept intro student a stable approach descent from 7,500 ft. MSL (2,000 ft. AGL). Carburetor heat on, power reduced smoothly to 1500 RPM, and I established the stable descent at 65 kts. with 30 degrees flaps. I then recovered by about 7,300 ft. MSL by going full power and turning carburetor heat off, and changing flaps to 20 degrees. A few seconds later the engine power started waning, which I was already on alert for. I immediately turned back toward the airport. By the time I completed the westbound turn the engine started shaking and losing power. 400 RPM drops with noticeable shaking every 10 to 20 seconds. I pulled carburetor heat for 30 seconds with no appreciable increase or decrease in power. I called 3 times over Tower frequency and told them I was returning to the airport. I went mixture rich, verified primer locked and fuel selector on both. Mixture rich seemed to help. I adjusted the carburetor heat and mixture several times on the flight back and neither seemed to make any difference. The engine would run smoothly for about 20 seconds and then shake and lose power for 5-10 seconds before coming back to life. I used the available power to climb up to 7,800 ft. until I was within gliding distance of the Runway and glided the airplane back. The airplane ran smoothly after I reduced the power and it kept running all the way in to Parking. I checked the weather conditions after landing and the relative humidity was 32% and the outside air temperature was approximately 65-70 degrees F.

## Synopsis

C172 Flight Instructor reported engine power loss and returned to the departure airport and made a successful landing.

## Time / Day

Date : 202110

Local Time Of Day : 1201-1800

## Place

Locale Reference.ATC Facility : ZZZ.Tower

State Reference : US

Altitude.MSL.Single Value : 500

## Environment

Flight Conditions : VMC

Weather Elements / Visibility.Visibility : 10

Light : Dusk

## Aircraft : 1

Reference : X

ATC / Advisory.CTAF : ZZZ

Aircraft Operator : FBO

Make Model Name : DA40 Diamond Star

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 91

Mission : Training

Flight Phase : Initial Climb

Airspace.Class G : ZZZ

## Aircraft : 2

Reference : Y

ATC / Advisory.CTAF : ZZZ

Make Model Name : PA-28 Cherokee/Archer/Dakota/Pillan/Warrior

Crew Size.Number Of Crew : 1

Flight Phase : Final Approach

Airspace.Class G : ZZZ

## Person

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : FBO

Function.Flight Crew : Instructor

Qualification.Flight Crew : Multiengine

Qualification.Flight Crew : Instrument

Qualification.Flight Crew : Air Transport Pilot (ATP)

Qualification.Flight Crew : Flight Instructor

Experience.Flight Crew.Total : 3400

Experience.Flight Crew.Last 90 Days : 100

Experience.Flight Crew.Type : 800

ASRS Report Number.Accession Number : 1844666

Human Factors : Situational Awareness

Human Factors : Communication Breakdown

Communication Breakdown.Party1 : Flight Crew

Communication Breakdown.Party2 : Flight Crew

## Events

Anomaly.Conflict : NMAC

Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy

Detector.Person : Flight Crew

When Detected : In-flight

Result.Flight Crew : Executed Go Around / Missed Approach

Result.Flight Crew : Took Evasive Action

## Assessments

Contributing Factors / Situations : Human Factors

Primary Problem : Human Factors

## Narrative: 1

I was CFI in Aircraft X, DA40. Aircraft Y was a Cherokee (I think). My student and I had been flying VFR patterns at ZZZ for approximately 30 minutes, making all our normal calls on CTAF even though we were the only aircraft in the pattern the entire time. Due to winds and sun angle we were utilizing Runway XX. Upon our missed approach from the fifth pattern, while on the upwind still climbing out, we observed Aircraft Y on a collision course with us. That aircraft was approaching the airport straight-in to Runway YY. There had been NO position calls from that aircraft up to that point. I immediately initiated evasive action and passed approximately 1,000 feet to the right (due to the angles at the time) and nearly co-altitude with the aircraft. Only after I queried the aircraft did he respond and confirm his tail number. He maintained a too-close position to us even though we were reporting our position to him relative to his airplane as well as our position in the pattern. This individual maintained that he had made requisite position calls, but he had clearly not and likely not even been on the frequency. He apparently did not understand/hear that we were working the opposing runway...or he didn't care. We departed the pattern after the pattern following the conflict. Aircraft Y landed full stop.

## Synopsis

DA-40 flight instructor reported an NMAC during climbout with another aircraft approaching the opposite end of the same runway, requiring evasive action. Reportedly, the pilot of the other aircraft had not made any position announcements.

## Time / Day

Date : 202110

Local Time Of Day : 1201-1800

## Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Altitude.AGL.Single Value : 0

## Environment

Flight Conditions : VMC

Weather Elements / Visibility : Rain

Weather Elements / Visibility.Visibility : 7

Light : Daylight

Ceiling.Single Value : 11000

## Aircraft

Reference : X

ATC / Advisory.Tower : ZZZ

Aircraft Operator.Other

Make Model Name : PA-28 Cherokee/Archer/Dakota/Pillan/Warrior

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 91

Flight Plan : VFR

Mission : Training

Flight Phase : Takeoff / Launch

Route In Use : None

## Person

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : FBO

Function.Flight Crew : Instructor

Function.Flight Crew : Pilot Not Flying

Qualification.Flight Crew : Commercial

Qualification.Flight Crew : Instrument

Qualification.Flight Crew : Multiengine

Qualification.Flight Crew : Flight Instructor

Experience.Flight Crew.Total : 332.6

Experience.Flight Crew.Last 90 Days : 73.6

Experience.Flight Crew.Type : 303

ASRS Report Number.Accession Number : 1844625

Human Factors : Training / Qualification

Human Factors : Situational Awareness

## Events

Anomaly.Ground Excursion : Runway

Anomaly.Ground Event / Encounter : Loss Of Aircraft Control

Detector.Person : Flight Crew

When Detected : In-flight  
Result.Aircraft : Aircraft Damaged

## Assessments

Contributing Factors / Situations : Human Factors  
Primary Problem : Human Factors

## Narrative: 1

On Date, we experienced a runway excursion event at ZZZ. I was the CFI on board and I was providing flight training to a student pilot working towards their private pilot certificate. The excursion occurred on our initial takeoff out of the airport. The student pilot was initially on the controls and we were attempting a soft field takeoff on Runway XXR which is 3,XXX feet long by XX feet wide. Everything was normal up until we began to rotate which was around 40 kts. Upon rotation, we had too much aft elevator pressure causing our nose to pitch up to around 16 degrees. Along with this high pitch, too much right rudder input was made causing a yaw and roll to the right. We departed the right side of the runway and then we reduced the power to idle and slowed down in a straight line. There were no injuries and only minor damage to the propeller and skidplate. A few notable factors that I think attributed to this incident are as follows: The excessive pitch up reduced our visibility over the cowling and prevented us from noticing the extent to which we were drifting off to the right. The reduction of left wind correction during the takeoff roll. And the application of too much right rudder causing a further drift to the right. As for corrective action to prevent similar situations in the future: As a CFI I could improve my defensive positioning in a way to prevent excessive pitch and rudder inputs. I can set more strict personal standards in when to take over flight controls as well as making sure to be more distinctive in taking controls. And I can improve my ground instruction by providing more distinct visual references for students to look for when making control inputs. Overall, this was an unfortunate situation but I do look forward to learning from this mistake and helping to ensure others don't fall into the same situation.

## Synopsis

PA-28 flight instructor reported excessive pitch up and right rudder input by the student resulted in a runway excursion during takeoff.

## Time / Day

Date : 202110

Local Time Of Day : 1201-1800

## Place

Locale Reference.Airport : UES.Airport

State Reference : WI

Relative Position.Distance.Nautical Miles : 3

Altitude.MSL.Single Value : 2000

## Environment

Flight Conditions : Mixed

Weather Elements / Visibility.Visibility : 10

Ceiling.Single Value : 1300

## Aircraft

Reference : X

ATC / Advisory.Tower : UES

Aircraft Operator : FBO

Make Model Name : PA-28 Cherokee/Archer/Dakota/Pillan/Warrior

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 91

Flight Plan : IFR

Mission : Training

Flight Phase : Final Approach

Route In Use : Vectors

Airspace.Class D : UES

## Component

Aircraft Component : GPS & Other Satellite Navigation

Aircraft Reference : X

Problem : Malfunctioning

## Person

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : FBO

Function.Flight Crew : Instructor

Function.Flight Crew : Pilot Flying

Qualification.Flight Crew : Flight Instructor

Qualification.Flight Crew : Instrument

Qualification.Flight Crew : Multiengine

Qualification.Flight Crew : Commercial

Experience.Flight Crew.Total : 270

Experience.Flight Crew.Last 90 Days : 50

Experience.Flight Crew.Type : 270

ASRS Report Number.Accession Number : 1844445

Human Factors : Troubleshooting

Human Factors : Confusion



Human Factors : Distraction  
Human Factors : Situational Awareness

## Events

Anomaly.Aircraft Equipment Problem : Less Severe  
Anomaly.Deviation - Altitude : Excursion From Assigned Altitude  
Anomaly.Deviation / Discrepancy - Procedural : Clearance  
Anomaly.Inflight Event / Encounter : CFTT / CFIT  
Detector.Person : Flight Crew  
When Detected : In-flight  
Result.General : None Reported / Taken

## Assessments

Contributing Factors / Situations : Human Factors  
Contributing Factors / Situations : Software and Automation  
Primary Problem : Human Factors

## Narrative: 1

Vectored to ILS/LOC 10 into UES, had base of clouds around 2,300 AGL, the at or above altitude for our final approach fix. I entered flight plan into top Garmin unit and had user error. I was expecting G430's to be in cooperation with one another after entering flight plan and programming. In the moment forgetting this morning we encountered an updating information error in one of our G430's. While being vectored, I spent too much time trying to problem solve why my G430's weren't in unison rather than paying attention to my altitude. I flew below my final approach fix altitude before arriving at way point. At this time, we were below the clouds and I had visual of Runway 10. I noticed my glide slope was well above me and then re-looked at my plate realizing my error. The problem was in my scan, which I had just finished instructing my student about in our lesson. I spent too much time fixated on my attitude indicator and GPS that I failed to realize my glide slope was gradually raising above me. A very avoidable error.

## Synopsis

GA flight instructor reported being distracted while trying to troubleshoot a GPS information error resulting in an altitude deviation and CFTT during final approach to UES airport.

## Time / Day

Date : 202110

Local Time Of Day : 1201-1800

## Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Relative Position.Distance.Nautical Miles : 1

Altitude.AGL.Single Value : 700

## Environment

Flight Conditions : VMC

Weather Elements / Visibility.Visibility : 10

Light : Daylight

Ceiling.Single Value : 12000

## Aircraft : 1

Reference : X

ATC / Advisory.CTAF : ZZZ

Aircraft Operator : Personal

Make Model Name : Skyhawk 172/Cutlass 172

Crew Size.Number Of Crew : 1

Operating Under FAR Part : Part 91

Flight Plan : None

Mission : Training

Flight Phase : Initial Climb

Airspace.Class E : ZZZ1

## Aircraft : 2

Reference : Y

Aircraft Operator : Personal

Make Model Name : Cessna 152

Crew Size.Number Of Crew : 1

Operating Under FAR Part : Part 91

Flight Plan : None

Mission : Training

Flight Phase : Initial Climb

## Aircraft : 3

Reference : Z

ATC / Advisory.CTAF : ZZZ

Make Model Name : Any Unknown or Unlisted Aircraft Manufacturer

Crew Size.Number Of Crew : 1

Flight Phase : Final Approach

Airspace.Class E : ZZZ1

## Person

Location Of Person.Aircraft : X  
Reporter Organization : Personal  
Function.Flight Crew : Single Pilot  
Function.Flight Crew : Pilot Flying  
Qualification.Flight Crew : Private  
Qualification.Flight Crew : Instrument  
Experience.Flight Crew.Total : 168  
Experience.Flight Crew.Last 90 Days : 71  
Experience.Flight Crew.Type : 110  
ASRS Report Number.Accession Number : 1844113  
Human Factors : Communication Breakdown  
Human Factors : Situational Awareness  
Communication Breakdown.Party1 : Flight Crew  
Communication Breakdown.Party2 : Flight Crew

## Events

Anomaly.Conflict : NMAC  
Detector.Person : Flight Crew  
Miss Distance.Horizontal : 200  
Miss Distance.Vertical : 0  
When Detected : In-flight  
Result.Flight Crew : Took Evasive Action

## Assessments

Contributing Factors / Situations : Human Factors  
Primary Problem : Human Factors

## Narrative: 1

I was one of three aircraft conducting pattern work for training at the uncontrolled airport. I was not keeping close track of where the other planes were (Problem 1), only that they were in the pattern ahead of me. After one of my touch-and-go's I climbed to 700 ft (Traffic pattern altitude - 300 ft) and started my crosswind turn. During that climb, I did not have the C152 in sight and was not paying attention to its specific position in the pattern (Problem 1). Because of my speed and climb advantage over the C152 I turned left crosswind for Runway XX inside of the C152. The C152 saw me cutting in front of them at nearly the same altitude as we were both about to turn left downwind, and took evasive action to create vertical separation by descending to 600 ft. At this time the instructor contacted me on the radio and asked if I could see him visually. I asked where he was. He responded that he was in a left downwind for XX. At this point, I saw the C152 below and in front of me. I slowed down, but continued to fly downwind (Problem 2). I intended to extend my downwind until after the C152 turned left base for XX. I did not see it turn base, and instead of contacting it to see what their intentions were, I turned base and started a descent thinking that they were leaving the pattern (Problem 3). At this time, the instructor in the C152 once again asked if I still held him visually, at this point the C152 came into view below and right of me flying in the same direction (left base for XX). I then maintained my altitude at 800 ft, turned and over flew the runway at that altitude. The C152 made a full stop landing. I completed another pattern and made a full stop landing to discuss the incident with the instructor in the C152. He help provide the details for this incident. The third plane in the traffic pattern was not a factor during this incident. What should have happened Problem 1. I should have maintained a near exact position of the other aircraft in the pattern, especially the one right in front of me. On takeoff, I was dwelling on my last landing instead of putting my full attention on flying and collision

avoidance. I should have waited to turn left crosswind until after I had seen the C152 turn left crosswind and ensured proper separation. Problem 2. At this point, I should have made a right turn out of the pattern and climbed to create both vertical and horizontal separation and to give the lower critical aircraft room to maneuver at a safe altitude. Problem 3. I should have communicated with the C152 instead of making assumptions. I should NOT have turned base and should NOT have descended without knowing exactly where the C152 was and ensuring there was not collision factor.

## Synopsis

Pilot reported a NMAC at a non-towered airport.