

NATIONAL TRANSPORTATION SAFETY BOARD PILOT/OPERATOR AIRCRAFT ACCIDENT/INCIDENT REPORT

This form to be used for reporting civil and public aircraft accidents and incidents

BASIC INFORMATION

Accident/Incident Location

Nearest City/Place: ALBUQUERQUE State: WA
 ZIP: 98002 Country: USA
 Latitude: 47-19-39.7 N Longitude: 122-13-36.0 W
 (Enter in decimal degrees or degrees:minutes:seconds)

Accident/Incident Date/Time

Date: 12/07/2017 Local Time: 16:00
 mm/dd/yyyy Time Zone: PST

Collision with Other Aircraft: ☐ Midair ☐ On-ground ☒ None

AIRCRAFT INFORMATION

Registration Number: N2351N

Manufacturer: CESSNA

Model: 172 D

Serial Number: 172 49951

Year of Manufacture: 1962

Amateur-Built: ☐ Yes ☒ No If Yes: ☐ Kit/Plans Make: _____
☐ Original Design

☐ IFR-Equipped and Certified
☐ Commercial Space Flight
☐ Unmanned Aircraft

Maximum Gross Weight: 2300 lbs
 Weight at Time of Accident/Incident: 1925 lbs

Number of Seats: 4 Flight Crew Seats: _____

Cabin Crew Seats: _____ Passenger Seats: _____

Number of Engines: 1

Category of Aircraft

- ☒ Airplane
- ☐ Balloon
- ☐ Blimp/Dirigible
- ☐ Glider
- ☐ Gyroplane
- ☐ Helicopter
- ☐ Powered Lift
- ☐ Rocket
- ☐ Ultralight
- ☐ Unknown

Type of Airworthiness Certificate (Check all that apply)

- | Standard | Special |
|--|---|
| ☒ Normal | ☐ Restricted |
| ☐ Aerobatic | ☐ Limited |
| ☐ Balloon | ☐ Provisional |
| ☐ Commuter | ☐ Special Flight |
| ☐ Transport | ☐ Experimental |
| ☐ Utility | ☐ Special Light-Sport |
| | ☐ Experimental Light-Sport |
- ☐ Certificate of Authorization or Waiver (COA)
☐ None ☐ Unknown

Landing Gear

- (Check all that apply)
- ☐ Retractable
- ☒ Tricycle ☐ Tailwheel
- ☐ Amphibian ☐ High Skid
- ☐ Emergency Float ☐ Skid
- ☐ Float ☐ Ski
- ☐ Hull ☐ Ski/Wheel
- ☐ Other Launch/Recovery System
- ☐ None ☐ Unknown

Engine Type (Select one)

- | | |
|--|-------------------------------------|
| ☒ Reciprocating | ☐ Liquid Rocket |
| ☐ Turbo Shaft | ☐ Solid Rocket |
| ☐ Turbo Prop | ☐ Hybrid Rocket |
| ☐ Turbo Jet | ☐ None |
| ☐ Turbo Fan | ☐ Unknown |
| ☐ Electric | |

Fuel System Type (Reciprocating)

- ☐ Carburetor ☐ Fuel-Injected

Engine	Engine Manufacturer	Engine Model/Series	Manufacturer's Serial Number	Date of Mfg. mm/dd/yyyy	Rated Power ☒ Horsepower or ☐ lbs of Thrust	Total Time (hours)	Time Since: Inspection (hours)	Overhaul (hours)
Eng. 1	<u>LYCOMING</u>	<u>O-360 A1A</u>	<u>L2031-36A</u>	<u>N/A</u>	<u>180</u>		<u>47</u>	<u>1546</u>
Eng. 2								
Eng. 3								
Eng. 4								

Last Inspection Type

- ☐ 100-Hour ☐ Continuous Airworthiness
☐ AAIP ☐ Conditional Inspection
☒ Annual ☐ Unknown

Date Last Inspection: 01/25/2017
 mm/dd/yyyy

Airframe Total Time: 4024.7 hrs
 hours measured at (Select one)
☒ Last Inspection ☐ Time of Accident/Incident

Type of Maintenance Program (Select one)

- ☒ Annual
- ☐ Conditional (Amateur-built only)
- ☐ Manufacturer's Inspection Program
- ☐ Other Approved Inspection Program (AAIP)
- ☐ Continuous Airworthiness
- ☐ Other, specify: _____

Description of Fire Extinguishing System

- ☐ None
☒ Specify: MANUAL FIRE EXTINGUISHING

Propeller 1

- ☐ Fixed Pitch
☒ Controllable Pitch
☐ Ground Adjustable

Manufacturer: HARTZELL

Model: HC-C24K-1BF

Propeller 2

- ☐ Fixed Pitch
☐ Controllable Pitch
☐ Ground Adjustable

Manufacturer: _____

Model: _____

ELT Installed: ☒ Yes ☐ No

If Yes:

ELT Manufacturer: WA

Model or Part No.: _____

TSO No.: ☒ C91 (121.5 MHz) ☐ C91a (121.5 MHz)
☐ C126 (406 MHz)

Was ELT still mounted in aircraft? ☒ Yes ☐ No

Was ELT still connected to antenna? ☒ Yes ☐ No

Did ELT Activate? ☐ Yes ☒ No

If activated:

Did ELT Aid in Locating Aircraft: ☐ Yes ☐ No

If not activated:

- Indicate Reason:
- ☐ Impact Damage
☐ Fire Damage
☐ Battery Expired/Damaged
☒ Unknown

Additional Equipment (Check all that apply)

- ☐ ADS-B
- ☐ Airframe Parachute
- ☐ Angle of Attack Indicator
- ☐ Autopilot
- ☐ Data Recorder
- ☒ Electronic Flight Bag or Handheld Device
- ☐ Electronic Multifunction Display
- ☐ Electronic Primary Flight Display
- ☐ Handheld GPS
- ☐ Heads Up Display
- ☐ Onboard Weather
- ☐ Satellite Tracking Device
- ☐ Stall Warning System
- ☐ Video Recording Device
- ☐ Other, Specify: _____

OWNER/OPERATOR INFORMATION

Registered Aircraft Owner

Name: MERCE AVIATION GROUP, LLC

City: MERCE ISLAND

Fractional Ownership Aircraft: ☐ Yes ☒ No

State: WA

ZIP: 98040

Country: USA

Operator of Aircraft

☒ Same As Registered Owner

☐ Same Address as Registered Owner

Name: _____

City: _____

Doing Business As: _____

State: _____

ZIP: _____

Air Carrier/Operator Designator (4 Character Code): _____

Country: _____

Operating Certificates Held

(Check all that apply)

- ☒ None
- ☐ Flag Carrier Operating Certificate (FAR 121)
- ☐ Supplemental
- ☐ Air Cargo
- ☐ Foreign Air Carriers (FAR 129)
- ☐ Rotorcraft External Load (FAR 133)
- ☐ Commuter Air Carrier (FAR 135)
- ☐ On-Demand Air Taxi (FAR 135)
- ☐ Commercial Air Tour (FAR 136)
- ☐ Agricultural Aircraft (FAR 137)
- ☐ Pilot School (FAR 141)
- ☐ Certificate of Authorization or Waiver (COA)
- ☐ Commercial Space Transportation Experimental Permit
- ☐ Commercial Space Transportation License
- ☐ Other Operator of Large Aircraft

Regulation Flight Conducted Under

- ☒ FAR 91 ☐ FAR 129 ☐ FAR 415
- ☐ FAR 103 ☐ FAR 133 ☐ FAR 431
- ☐ FAR 121 ☐ FAR 135 ☐ FAR 435
- ☐ FAR 125 ☐ FAR 137 ☐ FAR 437

- ☐ FAR 91 Special Flight
- ☐ Non-US, Commercial
- ☐ Non-US, Non-commercial

Public Aircraft (Select one)

- ☐ Armed Forces
- ☐ Federal
- ☐ State
- ☐ Local

☐ Unknown

Revenue Operation for FAR 121, 125, 129, 135

(Select one for each group)

- ☐ Scheduled or Commuter ☐ Domestic
- ☐ Non-Scheduled or Air Taxi ☐ International

- ☐ Passenger
- ☐ Cargo
- ☐ Mail Contract Only

Purpose of Flight for FAR 91, 103, 133, 137

(Select one)

- ☐ Aerial Application ☐ Firefighting ☐ Unknown
- ☐ Aerial Observation ☐ Flight Test
- ☐ Air Drop ☐ Glider Tow
- ☐ Air Race/Show ☐ Instructional
- ☐ Banner Tow ☐ Other Work Use
- ☐ Business ☒ Personal
- ☐ Executive/Corporate ☐ Positioning
- ☐ External Load ☐ Skydiving
- ☐ Ferry

Revenue Sightseeing Flight

☐ Yes ☒ No

Air Medical Flight

☐ Yes ☒ No

AIRPORT INFORMATION

(Fill in if accident/incident occurred on approach, landing, takeoff, departure, or within 3 miles of an airport)

Airport Name: AUBURN MUNICIPAL

Airport Identifier: 550

Proximity to Airport: ☐ Off Airport/Airstrip ☒ On Airport/Airstrip ☐ N/A

Distance From Airport Center: _____ sm

Direction From Airport: N/A degrees true

Airport Elevation: _____ ft. msl

Runway Information

Runway ID: 16 (L/R/C) Length: 3400 ft Width: 75' ft

Runway/Landing Surface (Check all that apply)

- ☒ Asphalt ☐ Grass/Turf ☐ Macadam ☐ Water
- ☐ Concrete ☐ Gravel ☐ Metal/Wood
- ☐ Dirt ☐ Ice ☐ Snow ☐ Unknown

Condition of Runway/Landing Surface (Check all that apply)

- ☒ Dry ☐ Snow-Compacted ☐ Water-Calm
- ☐ Holes ☐ Snow-Crusted ☐ Water-Choppy
- ☐ Ice Covered ☐ Snow-Dry ☐ Water-Glassy
- ☐ Rough ☐ Snow-Wet ☐ Wet
- ☐ Rubber Deposits ☐ Soft
- ☐ Slush-Covered ☐ Vegetation ☐ Unknown

Approach/Departure Segment (Select one)

- ☐ Taxi ☐ VFR Departure ☐ On Instrument Approach ☐ Downwind ☐ Low Approach
- ☐ Takeoff ☐ IFR Departure Procedure/Clearance ☒ Landing ☐ Base ☐ Go Around
- ☐ Initial Climb ☐ Final ☐ Crosswind ☐ Aborted Landing (after touchdown)
- ☐ Unknown

IFR Approach (Check all that apply)

- ☒ None
- ☐ ADF/NDB ☐ PAR ☐ MLS ☐ Practice
- ☐ SDF ☐ Sidestep ☐ LDA ☐ GPS
- ☐ VOR/TVOR ☐ ILS ☐ ASR
- ☐ VOR/DME ☐ Localizer Only ☐ Visual
- ☐ TACAN ☐ LOC-back course ☐ Contact
- ☐ RNAV ☐ Circling ☐ Unknown

VFR Approach (Check all that apply)

- ☒ None
- ☒ Traffic Pattern ☐ Stop and Go
- ☐ Straight-In ☐ Touch and Go
- ☐ Valley/Terrain Following ☐ Simulated Forced Landing
- ☐ Go Around ☐ Forced Landing
- ☐ Full Stop ☐ Precautionary Landing
- ☐ Unknown

"FLIGHT CREWMEMBER 1" INFORMATION

"Flight Crewmember 1" Responsibilities at the Time of Accident/Incident

☒ Pilot ☐ Co-Pilot ☐ Student Pilot ☐ Flight Instructor ☐ Check Pilot ☐ Flight Engineer ☐ Other Flight Crew

"Flight Crewmember 1" was pilot flying ☒ Yes ☐ No

"Flight Crewmember 1" Identification

First Name: LUIS

City of Residence: MERCER ISLAND

Middle Initial: J.

State: WA

ZIP: 98040

Last Name: JIMENEZ

Country: USA

Age at time of Accident/Incident: 62 Date of Birth: 8/19/55 mm/dd/yyyy

Certificate Number: [REDACTED]

Degree of Injury

☒ None ☐ Fatal
☐ Minor ☐ Unknown
☐ Serious

Seat Occupied

☒ Left ☐ Front ☐ Unknown
☐ Right ☐ Rear
☐ Center ☐ Single

Restraint Type

Available

☐ None
☐ Lap only
☒ 3-point
☒ 4-point
☐ 5-point
☐ Unknown

Used

☐ None
☐ Lap only
☐ 3-point
☒ 4-point
☐ 5-point
☐ Unknown

Inflatable Restraints

☒ Not Installed
☐ Installed
☐ Not Deployed
☐ Deployed
☐ Unknown

Pilot Certificate(s) (Check all that apply)

☐ None ☐ Flight Instructor ☐ Commercial ☐ US Military
☒ Private ☐ Recreational ☐ Airline Transport ☐ Foreign
☐ Student ☐ Sport ☐ Flight Engineer

Principal Occupation

☐ Pilot
☒ Other
☐ Unknown

Medical Certificate

☐ None ☒ Class 3
☐ Class 1 ☐ Driver's License (Sport Pilot only)
☐ Class 2 ☐ Unknown

Medical Certificate Validity

☐ Without limitations/waivers ☐ Unknown
☒ With limitations/waivers ☐ N/A
☐ Special Issuance

Date of Last Medical

06/26/2017 mm/dd/yyyy

Medical Certificate Limitations

MUST WEAR CORRECTIVE LENSES

Medical Certificate Special Issuance

Date of Last Flight Review or Equivalent, Including FAR 121/135 Checks: 06/21/2016 mm/dd/yyyy

Flight Review Aircraft

Make: CESSNA

Model: 172D

Airplane Rating(s) (Check all that apply)

☐ None
☒ Single-Engine Land
☒ Single-Engine Sea
☐ Multiengine Land
☐ Multiengine Sea

Other Aircraft Rating(s) (Check all that apply)

☐ None
☐ Airship
☐ Balloon
☐ Glider
☐ Gyroplane
☐ Helicopter
☐ Powered Lift

Instrument Rating(s) (Check all that apply)

☒ None
☐ Airplane
☐ Helicopter
☐ Powered Lift

Instructor Rating(s) (Check all that apply)

☒ None
☐ Airplane Single-Engine
☐ Airplane Multi-Engine
☐ Gyroplane
☐ Powered Lift
☐ Instrument Airplane
☐ Instrument Helicopter
☐ Helicopter
☐ Glider
☐ Sport

Type Ratings

Student Endorsements (Include dates)

Flight Time (Enter appropriate number of hours in each box)

	All Aircraft	This Make & Model	Airplane Single Engine	Airplane Multiengine	Night	Instrument		Rotorcraft	Glider	Lighter Than Air
						Actual	Simulated			
Total Time	9.11	9.11	9.11		13.3	3.7	-	-	-	-
Pilot in Command (PIC)	8.11	8.11	8.11							
Time as Instructor	-	-	-							
This Make/Model										
Last 90 Days	11	11	11							
Last 30 Days	4.0	4.0	4.0							
Last 24 Hours	1.5	1.5	1.5							

"FLIGHT CREWMEMBER 2" INFORMATION

"Flight Crewmember 2" Responsibilities at the Time of Accident/Incident

☐ Pilot
 ☐ Co-Pilot
 ☐ Student Pilot
 ☐ Flight Instructor
 ☐ Check Pilot
 ☐ Flight Engineer
 ☐ Other Flight Crew

"Flight Crewmember 2" was pilot flying
 ☐ Yes
 ☐ No

"Flight Crewmember 2" Identification

First Name: _____ City of Residence: _____
 Middle Initial: _____ State: _____ ZIP: _____
 Last Name: _____ Country: _____
 Age at time of Accident/Incident: _____ Date of Birth: _____ mm/dd/yyyy
 Certificate Number: _____

Degree of Injury

☐ None
 ☐ Fatal
☐ Minor
 ☐ Unknown
☐ Serious

Seat Occupied

☐ Left
 ☐ Front
 ☐ Unknown
☐ Right
 ☐ Rear
☐ Center
 ☐ Single

Restraint Type

Available

☐ None
☐ Lap only
☐ 3-point
☐ 4-point
☐ 5-point
☐ Unknown

Used

☐ None
☐ Lap only
☐ 3-point
☐ 4-point
☐ 5-point
☐ Unknown

Inflatable Restraints

☐ Not Installed
☐ Installed
☐ Not Deployed
☐ Deployed
☐ Unknown

Pilot Certificate(s) (Check all that apply)

☐ None
 ☐ Flight Instructor
 ☐ Commercial
 ☐ US Military
☐ Private
 ☐ Recreational
 ☐ Airline Transport
 ☐ Foreign
☐ Student
 ☐ Sport
 ☐ Flight Engineer

Principal Occupation

☐ Pilot
☐ Other
☐ Unknown

Medical Certificate

☐ None
 ☐ Class 3
☐ Class 1
 ☐ Driver's License (Sport Pilot only)
☐ Class 2
 ☐ Unknown

Medical Certificate Validity

☐ Without limitations/waivers
 ☐ Unknown
☐ With limitations/waivers
 ☐ N/A
☐ Special Issuance

Date of Last Medical

mm/dd/yyyy

Medical Certificate Limitations

Medical Certificate Special Issuance

N/A

Date of Last Flight Review or Equivalent, Including FAR 121/135 Checks:

mm/dd/yyyy

Flight Review Aircraft

Make: _____
 Model: _____

Airplane Rating(s) (Check all that apply)

☐ None
☐ Single-Engine Land
☐ Single-Engine Sea
☐ Multiengine Land
☐ Multiengine Sea

Other Aircraft Rating(s) (Check all that apply)

☐ None
☐ Airship
☐ Balloon
☐ Glider
☐ Gyroplane
☐ Helicopter
☒ Powered Lift

Instrument Rating(s) (Check all that apply)

☐ None
☐ Airplane
☐ Helicopter
☐ Powered Lift

Instructor Rating(s) (Check all that apply)

☐ None
☐ Airplane Single-Engine
☐ Airplane Multi-Engine
☐ Gyroplane
☐ Powered Lift
☐ Instrument Airplane
☐ Instrument Helicopter
☐ Helicopter
☐ Glider
☐ Sport

Type Ratings

Student Endorsements (Include dates)

Flight Time (Enter appropriate number of hours in each box)

	All Aircraft	This Make & Model	Airplane Single Engine	Airplane Multiengine	Night	Instrument		Rotorcraft	Glider	Lighter Than Air
						Actual	Simulated			
Total Time										
Pilot in Command (PIC)										
Time as Instructor										
This Make/Model										
Last 90 Days										
Last 30 Days										
Last 24 Hours										

ADDITIONAL FLIGHT CREWMEMBERS (Exclusive of cabin crew, complete the following information)

Crew Name and Address		Seat Occupied	Injury
First Name: _____ City of Residence: _____ Middle Initial: _____ State: _____ ZIP: _____ Last Name: _____ Country: _____		☐ Left ☐ Front ☐ Center ☐ Rear ☐ Right ☐ Single ☐ Unknown	☐ None ☐ Minor ☐ Serious ☐ Fatal ☐ Unknown
Pilot Certificate(s) (Check all that apply) ☐ None ☐ Flight Instructor ☐ Private ☐ Recreational ☐ Student ☐ Sport ☐ Commercial ☐ US Military ☐ Airline Transport ☐ Foreign ☐ Flight Engineer		Restraint Type: Available ☐ None ☐ Lap Only ☐ 3-point ☐ 4-point ☐ 5-point ☐ Unknown Used ☐ None ☐ Lap Only ☐ 3-point ☐ 4-point ☐ 5-point ☐ Unknown	Inflatable Restraints ☐ Not Installed ☐ Installed ☐ Not Deployed ☐ Deployed ☐ Unknown
Type Rating/Endorsement for Accident/Incident Aircraft? ☐ Yes ☐ No		Total Flight Time at the Time of this Accident/Incident: _____ hrs	

Crew Name and Address		Seat Occupied	Injury
First Name: _____ City of Residence: _____ Middle Initial: _____ State: _____ ZIP: _____ Last Name: _____ Country: _____		☐ Left ☐ Front ☐ Center ☐ Rear ☐ Right ☐ Single ☐ Unknown	☐ None ☐ Minor ☐ Serious ☐ Fatal ☐ Unknown
Pilot Certificate(s) (Check all that apply) ☐ None ☐ Flight Instructor ☐ Private ☐ Recreational ☐ Student ☐ Sport ☐ Commercial ☐ US Military ☐ Airline Transport ☐ Foreign ☐ Flight Engineer		Restraint Type: Available ☐ None ☐ Lap Only ☐ 3-point ☐ 4-point ☐ 5-point ☐ Unknown Used ☐ None ☐ Lap Only ☐ 3-point ☐ 4-point ☐ 5-point ☐ Unknown	Inflatable Restraints ☐ Not Installed ☐ Installed ☐ Not Deployed ☐ Deployed ☐ Unknown
Type Rating/Endorsement for Accident/Incident Aircraft? ☐ Yes ☐ No		Total Flight Time at the Time of this Accident/Incident: _____ hrs	

PASSENGER(S) / OTHER PERSONNEL (Include cabin crew; continue on separate sheet if necessary)

Name and Address	Seat	Injury	Restraint Type	Inflatable Restraints	Age
First Name: _____ City: _____ Middle Initial: _____ State: _____ ZIP: _____ Last Name: _____ Country: _____ ☐ Crew ☐ Passenger ☐ Other	☐ Left ☐ Center ☐ Right ☐ Unknown Row: _____	☐ None ☐ Minor ☐ Serious ☐ Fatal ☐ Unknown	Available ☐ None ☐ Lap Only ☐ 3-point ☐ 4-point ☐ 5-point ☐ Unknown Used ☐ None ☐ Lap Only ☐ 3-point ☐ 4-point ☐ 5-point ☐ Unknown	☐ Not Installed ☐ Installed ☐ Not Deployed ☐ Deployed ☐ Unknown	☐ Under 5 years If Under 5, ☐ Child Restraint ☐ Lap-Held ☐ Unknown
First Name: _____ City: _____ Middle Initial: _____ State: _____ ZIP: _____ Last Name: _____ Country: _____ ☐ Crew ☐ Passenger ☐ Other	☐ Left ☐ Center ☐ Right ☐ Unknown Row: _____	☐ None ☐ Minor ☐ Serious ☐ Fatal ☐ Unknown	Available ☐ None ☐ Lap Only ☐ 3-point ☐ 4-point ☐ 5-point ☐ Unknown Used ☐ None ☐ Lap Only ☐ 3-point ☐ 4-point ☐ 5-point ☐ Unknown	☐ Not Installed ☐ Installed ☐ Not Deployed ☐ Deployed ☐ Unknown	☐ Under 5 years If Under 5, ☐ Child Restraint ☐ Lap-Held ☐ Unknown
First Name: _____ City: _____ Middle Initial: _____ State: _____ ZIP: _____ Last Name: _____ Country: _____ ☐ Crew ☐ Passenger ☐ Other	☐ Left ☐ Center ☐ Right ☐ Unknown Row: _____	☐ None ☐ Minor ☐ Serious ☐ Fatal ☐ Unknown	Available ☐ None ☐ Lap Only ☐ 3-point ☐ 4-point ☐ 5-point ☐ Unknown Used ☐ None ☐ Lap Only ☐ 3-point ☐ 4-point ☐ 5-point ☐ Unknown	☐ Not Installed ☐ Installed ☐ Not Deployed ☐ Deployed ☐ Unknown	☐ Under 5 years If Under 5, ☐ Child Restraint ☐ Lap-Held ☐ Unknown
First Name: _____ City: _____ Middle Initial: _____ State: _____ ZIP: _____ Last Name: _____ Country: _____ ☐ Crew ☐ Passenger ☐ Other	☐ Left ☐ Center ☐ Right ☐ Unknown Row: _____	☐ None ☐ Minor ☐ Serious ☐ Fatal ☐ Unknown	Available ☐ None ☐ Lap Only ☐ 3-point ☐ 4-point ☐ 5-point ☐ Unknown Used ☐ None ☐ Lap Only ☐ 3-point ☐ 4-point ☐ 5-point ☐ Unknown	☐ Not Installed ☐ Installed ☐ Not Deployed ☐ Deployed ☐ Unknown	☐ Under 5 years If Under 5, ☐ Child Restraint ☐ Lap-Held ☐ Unknown

FLIGHT ITINERARY INFORMATION

Last Departure Point Airport ID: <u>550</u> City: <u>AUBURN</u> State: <u>WA</u> Country: <u>USA</u>	Time of Departure Time: <u>15:30</u> Time Zone: <u>PST</u>	Destination Airport ID: <u>550</u> City: <u>AUBURN</u> State: <u>WA</u> Country: <u>USA</u>	Type Flight Plan Filed ☒ None ☐ VFR/IFR ☐ Company VFR ☐ IFR ☐ Military VFR ☐ Unknown ☐ VFR Activated? ☐ Yes ☐ No ☐ Unknown
---	---	--	---

Type of ATC Clearance/Service (Check all that apply) ☒ None ☐ Special VFR ☐ Special IFR ☐ VFR Flight Following ☐ Cruise ☐ VFR ☐ IFR ☐ VFR On Top ☐ Traffic Advisory ☐ Unknown / NA			
Airspace where the accident/incident occurred (Check all that apply) ☐ Class A ☐ Class G ☐ Military Operations Area (MOA) ☐ Special ☐ Class B ☐ Demo Area ☐ Airport Advisory Area ☐ Air Traffic Control Area ☐ Class C ☐ Warning Area ☐ Jet Training Area ☐ Unknown ☒ Class D ☐ Prohibited Area ☐ TRSA ☐ Class E ☐ Restricted Area ☐ FAR 93			Altitude of In-Flight Occurrence: <u>~100 150 (?)</u> ft msl

WEATHER INFORMATION AT THE ACCIDENT/INCIDENT SITE

Source of Pilot Weather Information (Check all that apply) ☐ National Weather Service ☐ Company ☐ Flight Service Station ☐ Military ☐ TV/Radio ☐ Internet ☒ Automated Report ☐ None ☐ Commercial Weather Service (DUATS) ☐ Unknown ☐ On-Board Weather	Weather Observation Facility Facility ID: <u>KRUT</u> Observation Time: <u>15:30</u> Time Zone: <u>PDT</u> Distance from Accident Site: <u>9.9</u> nm Direction from Accident Site: <u>345</u> degrees true
---	---

Basic Conditions ☒ VMC ☐ IMC ☐ Unknown	Light Condition ☐ Dawn ☐ Dusk ☐ Dark Night ☐ Unknown ☒ Day ☐ Night ☐ Bright Night
Sky/Lowest Cloud Condition ☒ Clear ☐ Thin Broken ☐ Few ☐ Thin Overcast ☐ Partial Obscuration ☐ Unknown ☐ Scattered Lowest Cloud Condition Height _____ ft agl	Ceiling ☒ None (Clear) ☐ Obscured ☐ Broken ☐ Indefinite ☐ Overcast ☐ Unknown Ceiling Height _____ ft agl
Temperature: _____ (C) or _____ (F) Dew Point: _____ (C) or _____ (F) Altimeter Setting: _____ in. Hg or _____ MB	

Wind Direction ☒ Variable -or- Direction: _____ degrees true	Wind Speed ☒ Calm ☐ Light and Variable -or- Speed: _____ kts	Wind Gusts ☒ Not Gusting -or- Speed: _____ kts	Visibility _____ miles RVR: _____ feet RVV: _____ miles Density Altitude: _____ ft
--	---	--	---

Intensity of Precipitation ☐ Light ☐ Moderate ☐ Heavy ☐ N/A ☐ Unknown	Type of Precipitation (Check all that apply) ☒ None ☐ Drizzle ☐ Freezing Rain ☐ Rain ☐ Ice Pellets ☐ Snow Shower ☐ Snow ☐ Snow Pellets ☐ Ice Pellets Shower ☐ Hail ☐ Snow Grains ☐ Freezing Drizzle ☐ Rain Showers ☐ Ice Crystals	Restriction to Visibility (Check all that apply) ☒ None ☐ Fog ☐ Blowing Dust ☐ Ground Fog ☐ Blowing Sand ☐ Haze ☐ Blowing Snow ☐ Ice Fog ☐ Blowing Spray ☐ Smoke ☐ Dust ☐ Unknown
---	--	---

Icing Forecast Amount ☒ None ☐ Trace ☐ Light ☐ Moderate ☐ Severe ☐ Unknown Type ☒ N/A ☐ Rime ☐ Clear ☐ Mixed ☐ Unknown	Icing Actual Amount ☒ None ☐ Trace ☐ Light ☐ Moderate ☐ Severe ☐ Unknown Type ☒ N/A ☐ Rime ☐ Clear ☐ Mixed ☐ Unknown	Turbulence Type (Check all that apply) ☒ None ☐ Clear Air ☐ Terrain-Induced ☐ Convective Turbulence Severity ☐ Light ☐ Moderate ☐ Severe ☐ Extreme
---	---	--

NOTAMs (D and FDC), AIRMETs, SIGMETs, PIREPs in effect at the time of the accident/incident:

DAMAGE TO AIRCRAFT AND OTHER PROPERTY**Aircraft Damage**

- ☐ None
☐ Minor
☒ Substantial
☒ Destroyed
☐ Unknown

Aircraft Fire

- ☒ None
☐ In-Flight
☐ On-Ground
☐ Both Ground and In-Flight
☐ Fire at Unknown Time
☐ Unknown

Aircraft Explosion

- ☒ None
☐ In-Flight
☐ On-Ground
☐ Both Ground and In-Flight
☐ Explosion at Unknown Time
☐ Unknown

Description of Damage to Aircraft and Other Property (Use additional sheet if necessary)

SEE ATTACHED DAMAGE ASSESSMENT BY PIC

NARRATIVE HISTORY OF FLIGHT (Please type or print in ink)

Describe what occurred in chronological order, including circumstances leading to and nature of accident/incident. Describe terrain and include wreckage distribution sketch if pertinent. Attach extra sheets if needed. State departure time and location, services obtained, and intended destination. Provide as much detail as possible.

SEE ATTACHED INCIDENT REPORT BY PIC

RECOMMENDATION (How could this accident/incident have been prevented?)

Operator/Owner Safety Recommendation

UNKNOWN AT THIS TIME SINCE
FAILURE MODE FOR CONTROL SURFACES
HAS NOT BEEN DETERMINED

MECHANICAL MALFUNCTION/FAILURE (If more space is needed, continue on separate sheet)

Was there Mechanical Malfunction/Failure? ☒ Yes ☐ No
(If yes, list the name of the part, manufacturer, part no., serial no., and describe the failure.)

AILERON CONTROLS DID NOT RESPOND.

Total Time/Cycles
On Part

N/A Hours
Cycles

Time Since This Part
Inspected/Overhauled

46 Hours

FUEL & SERVICES INFORMATION

Fuel on Board at Last Takeoff
(Convert from pounds, as necessary)

26

Gallons

Fuel Type

☐ 80/87☒ 100 Low Lead☐ 100/130☐ 115/145☐ Jet A☐ Jet A-1☐ Jet B☐ JP8☐ Automotive☐ Other, specify _____

Other Services, if Any, Prior to Departure

EVACUATION OF AIRCRAFT

Was an emergency evacuation of the aircraft performed? ☐ Yes ☒ No

Method of Exit – Describe how the occupants exited and how many occupants evacuated each location

PIC EXITED AIRCRAFT BY PILOTS DOOR (LEFT)

OTHER AIRCRAFT – COLLISION (If air or ground collision occurred, complete this section for other aircraft)

Aircraft Registration Number

Manufacturer: _____

Model: _____

Damage to Other Aircraft

☐ Destroyed☐ Minor☐ Substantial☐ None

Registered Owner of Other Aircraft

Name: _____

City: _____

State: _____ ZIP: _____

Country: _____

Pilot of Other Aircraft

Name: _____

City: _____

State: _____ ZIP: _____

Country: _____

ADDITIONAL INFORMATION (Please type or print in ink)

Use this space if additional space is needed for any answers.

I HEREBY CERTIFY THAT THE ABOVE INFORMATION IS COMPLETE AND ACCURATE TO THE BEST OF MY KNOWLEDGE

Date of this Report

12/13/2017
mm/dd/yyyy

Name of Pilot/Operator

Signature:

-- or --

☐ Check here to electronically sign this document

If a Person Other than Pilot/Operator is Filing Report

Name:

Title:

Signature:

-- or --

☐ Check here to electronically sign this document**FOR NTSB USE ONLY**

NTSB Accident/Incident No.

WPR18LA047

Reviewed by NTSB Regional Office

WPR

Name of Investigator

Joshua Cawthra

Date Report Received

12/14/17

Incident Report by Luis J. Jimenez, Pilot-in-Command.

Private Pilot Certificate # [REDACTED]

Incident Date: 04/07/2017 16:00 PST

Location: Auburn Airport, WA (S50)

Aircraft: N 2351U Cessna 172D S/N 17249951

I arrived at the Auburn airport at around 13:00 PST on 12/07/2017. I completed a full preflight before starting the engine at about 13:45 PST. During the preflight I measured about 11 gallons of fuel left in the aircraft, so I decided to do my planned touch and goes before washing the plane and refueling. At 13:50 PST I texted¹ my family about the proposed short flight. I proceeded to the run up area for Runway 34 to perform my pre-takeoff check. I remember a yellowish RV in the same area and asked whether he was ready or wanted to me go ahead. I went ahead and held short for landing traffic.

After taking off, I stayed in the pattern and proceeded to make three touch and goes with the final landing called as full stop. During these maneuvers there were no observed issues with or anomalies with any of the control surfaces. A position report from In Reach at 14:18 PST shows the aircraft at about 1.1 Statute miles SW of the threshold of runway 34 at an altitude of 639 feet, a speed of 73.3 MPH and heading of 79M as I had turned base for probably the last of the touch and goes.

After the final landing I proceeded to taxi the aircraft to the wash rack. An In Reach position report shows the location inside of the wash rack at 14:48 PST. After washing the aircraft (about 15-20 minutes), I taxied to the fuel tanks for refueling. The receipt for the fuel purchase was stamped 15:07:26 PST with a total amount of 20 gallons of 100LL fuel. Another In Reach position report shows the aircraft stopped on the taxiway next to the fuel tanks and on its way to the run up area @ 15:18 PST.

After refueling, I taxied to the run up area for runway 34 for a departure to the north. Again during the pre-takeoff check, the control surfaces revealed no anomalies in the response of the ailerons. Once I took off, I departed the Auburn pattern to the east & picked up the Renton ATIS @ 126.95. I then tuned to the Tower frequency @140.7 and noticing some heavy training traffic in the Renton pattern, I decided to fly SE towards Lake Tapps before calling in the Renton Tower for an inbound touch and go. Once over Lake Tapps, I specifically remember performing a steep (30 degree) left steep turn towards the north. No anomalies were noticed and the turn was completed in a stabilized manner. I called the Renton Tower for the touch and go and the controller acknowledged the request and asked for me to call in my position when just east of the Valley Medical Center. Once I reported my location east of the Valley Medical Center, the

¹ These data points were collected from the position records of an In Reach device; See Appendix 1 for a list of the position reports from the device and used through this statement as reference points.

Renton controller gave instructions for a straight-in to runway 34, number two for landing. I lined up with the centerline and made a stabilized approach for the landing. An In Reach position report shows the aircraft as I made the flare over the numbers @ 15:48 PST at an altitude of 9 ft, speed of 62.9 mph and a course of 339 M.

I then completed the touch and go and departed to the north until the controller released me just north of the East Channel bridge. I cleared out yet stayed in frequency to be aware of the traffic in the area as I was then returning to Auburn for a final landing. I recall traffic northbound over the channel at 2000 feet (an RV) and another inbound traffic to Renton located over mid-Lake Sammamish. To the latter, the Renton tower requested to do a Factoria arrival. I turned east at about 2500 feet and after locating both of the above mentioned traffic, I turned south at about 2800 feet, above the Class D of Renton and below the Class B of SeaTac.

About 7 miles away from Auburn I tuned in to the Auburn CTAF of 122.8 to pick up traffic. I noticed that the traffic was now using runway 16 for landing and I planned accordingly. At five miles out and about 2000 feet, I called in inbound for runway 16 with a heading to the water towers before the 45 to the downwind. At that point, Mr. Andy Pomery, a fellow pilot recognized my voice and asked: *is that you Luis?*, and I said *yes*.

I then proceeded to a heading to the water tanks for the 180 and 45 to the downwind leg of runway 16. As I approached the water tanks and before making a right 180 turn to line up for the 45, I noticed the downwind traffic of a helicopter; based on the call the pilot was a female pilot. I then made a steep (30 degree) turn to the right to line up for the 45 to a position NW of the stables and the race track. Again there was no problem executing the right steep turn and the control surfaces responded properly without any anomalies.

I announced the 45 and joined the downwind for runway 16. Before base I called in to confirm number two for landing (after the helicopter). I called final and as I made the turn from base to final, I noticed a heavy flock of crows to the east and called out to Mr. Pomeroy (who was now third in line to land behind me) to watch for those. He said *I got them*.

On final I aligned the centerline of runway 16, pulled the flaps at 30 degrees, checked the air speed indicator at a steady 70 mph and proceeded to reduce power to reduce altitude for landing. About 20-25 seconds later the nose of the airplane veered sharply to the left without any control surface input. I reacted by applying a dose of heavy right rudder and the aircraft then veered to the right. At this point I noticed I had no response from the ailerons, so I tried to stabilize the aircraft in the center line with rudder inputs. My recollection is that the left to right yaw lasted two oscillations, and for a moment I decided to abort the landing. As I slowly applied power the lack of response for the ailerons became more pronounced and I decided to pull the throttle back and bring the airplane down as best as possible.

I touched down at the centerline but the plane was oriented about 45 degrees to the right (west) and it headed to the off-runway area west of the runway. I remember instinctively pulling the flap handle all the way to add drag and minimize speed and then grabbed the yoke with both hands to get ready for impact. The aircraft went over the side of the runway and

ended up at the ditch with the nose down in the mud in a general SE direction. I do not recall when the right wing made contact with the ground. I quickly checked myself for any injury and noticing all felt ok I then heard a female voice (the helicopter pilot that landed before me?) asking *man are you ok?* I simply stated I am fine and turned off the master switch.

I opened the pilot's door without any problem and stepped out into the water and mud; I was able to walk to the side of the runway (while stumbling several times in the deep water and bird netting) and a couple of individuals including Mr. Pomeroy were already there. They asked if I was ok and I asserted all was fine. After a few minutes, I was offered a ride to the office but before that, the three of us went back to the aircraft to collect my personal belongings. I picked up my flight bag, headphones, aircraft documents and my jackets. After we returned back to the side of the runway, I took several pictures with my phone, one of them shown below (Illustration #1)



ILLUSTRATION #1 – Taken @ 16:15 PST on 12/07/2017, shortly after the incident.

By then Guillermo from the airport staff had shown up in their Polaris and offered me a ride to the office. Once at the Airport office I filled the airport incident form and provided my driver's license and pilot certification for copying. At round 16:30 Jamelle Garcia, the airport manager, arrived at the office and asked me several times if I was Ok; I assured them I was fine. I requested for them to take me to the hangar where I had my vehicle and Mr. Garcia asked me if all was turned off in the airplane. I told him I turned off the master. He then asked about the ELT. I told him I did not check and then we both proceeded to tune our portable radios to the emergency frequency of 121.5 to listen for any distress signal. No emergency signal was heard

in neither of the radios so Guillermo gave me a ride to the hangar where I picked up my vehicle and left for my home at around 16:48 PM PST.

Later that evening at 18:44 PM PST I received a call from Mr. Josh Cawthra [REDACTED] from the NTSB. We spoke briefly about the incident and he indicated that next day Mr. Jack Vanover would be at the airport. I asked Mr. Cawthra if I still had an obligation to report but he indicated that was not needed since we had already spoken about the incident.

SUPPLEMENTAL INFORMATION

On 12/08/2017 at about 8:45 AM PST, I stopped by the airport office. Tanya escorted me to the incident site where Mr. Donald Bacon, FAA Aviation Safety Inspector and Mr. Jack Vanover of the NTSB were already inspecting the aircraft. Also three employees from AvTech Services LLC [REDACTED] were in the recovery process. On arrival I introduced myself as the pilot of the plane to Joe, an employee of AvTech who was manning the winch being used for recovery. He stated that it must have been a wild ride because both ailerons were drooped (e.g. both in the down position). I stated it was interesting landing and waited until Mr. Vanover, NTSB investigator in charge, came over and I introduced myself as the pilot and we then proceeded to his vehicle where I answered his questions and I gave a brief recollection of what had happened. We then both walked north on the runway, where we located the skid marks from the aircraft. Based on these, it appears that when the aircraft landed in the center of the runway, the right main gear touched first, skidded for several feet, then the nose gear touched briefly and the plane then shifted to the left main gear albeit at a slightly different angle. See Illustration #2 below.



ILLUSTRATION #2- Skid Marks. Photo taken on 12/08/2017.

I then noticed that at the edge of the runway there is a cable fence at about 1.5 – 2 feet high used to hang the netting used to discourage the birds in that area. Based on my recollection of pulling the flap handle all the way shortly after touch down, this action may have allowed the aircraft to hop over the fence and land in the ditch. In my opinion this was a fortunate event since if the aircraft had become tangled in the cable fence there was a distinct possibility of the aircraft somersaulting and ending upside down in the ditch. Mr. Jack asked me what flap setting I had at final and I responded 30 degrees. He then stated that the flaps were found at 0 degrees but this was normal if I had pulled the flaps all the way since on these models the handle would retract to 0 degrees if not held in the above 40 degree position manually.

I then met with Mr. Bacon. He asked me to give him a brief summary of what happened and I brought over my pilot's certification and medical, which he reviewed and returned to me. He then handed me form FAA 8020-23 and asked me to fill in the pending section about the PIC and to email it back to him by Wednesday of the following week.

After I finished my interviews with both Mr. Bacon and Mr. Vanover, I took several pictures of the aircraft as it was being recovered.

Illustration #3 below shows a frontal view of the aircraft. I noticed how indeed the left flap was in line with the trailing edge of the wing (corresponding to a 0 degree flap setting), yet the right flaps' trailing edge was significantly lower. I then recalled when I took the pictures the day before shortly after the incident, that the right wing was buckled at the root and this must have pushed the flap downward from a neutral position (see illustration #1). This fact is relevant as I then looked at the relative position of the ailerons on both wings.



ILLUSTRATION # 3 – Frontal view; trailing edge of right flap noticeably below the left flap trailing edge. Flap Setting at 0 degrees.

Illustration #4 a shows a photo of the left wing. A magnification on the inboard edge of the aileron (4 b) shows how it is in a downward position relative to the left flap (assumed to be neutral and thus a reference point of 0 degrees).



ILLUSTRATION # 4 a – Left wing; photo taken 12/08/2017



ILLUSTRATION # 4 b – Left wing. Magnification of inner edge of aileron relative to flap trailing edge

Per Cessna's Service Manual², Aileron travel specs are: Up: 20 plus or minus 1 degree; Down: 15 plus or minus 1 degrees. In other words, in a properly function aileron system, for every degree an aileron travels down, the opposing aileron would rise about 1.33 degrees. Thus, if we assume the left aileron to be in a completely down position (as much as 16 degrees), the right side aileron should be at least 19 degrees in the up position.

² 100-Series Service Manual - 1 September 1968; 1976 edition (Attachment #2)

Illustration #5 a is a picture of the right wing as the aircraft was being recovered. A magnification of the same photo (5 b) clearly shows how the right aileron is in the down position. If it is confirmed that the right flap is lower than neutral due to the buckling of the right wing at the root, this photo may show that the right aileron could be as much as 10 degrees to possibly fully deflected in the down position.



ILLUSTRATION # 5 a – Right wing



ILLUSTRATION 5 b – Right Wing- Magnification of inner edge of right aileron relative to a possibly lowered flap.

These pictures confirm that the aileron system was not in specification at the time of the recovery and would make the aircraft, in this condition, impossible to control. If the system was in this condition at the beginning of the day, it would have been noticed during the preflight and on both pre-takeoff checks. Additionally, the day included three touch and goes in Auburn, one in Renton and two steep turns (both to the left and to the right) and such condition would have been noticeable. Yet there were no instances of lack of control response except in the final seconds on final before the incident.

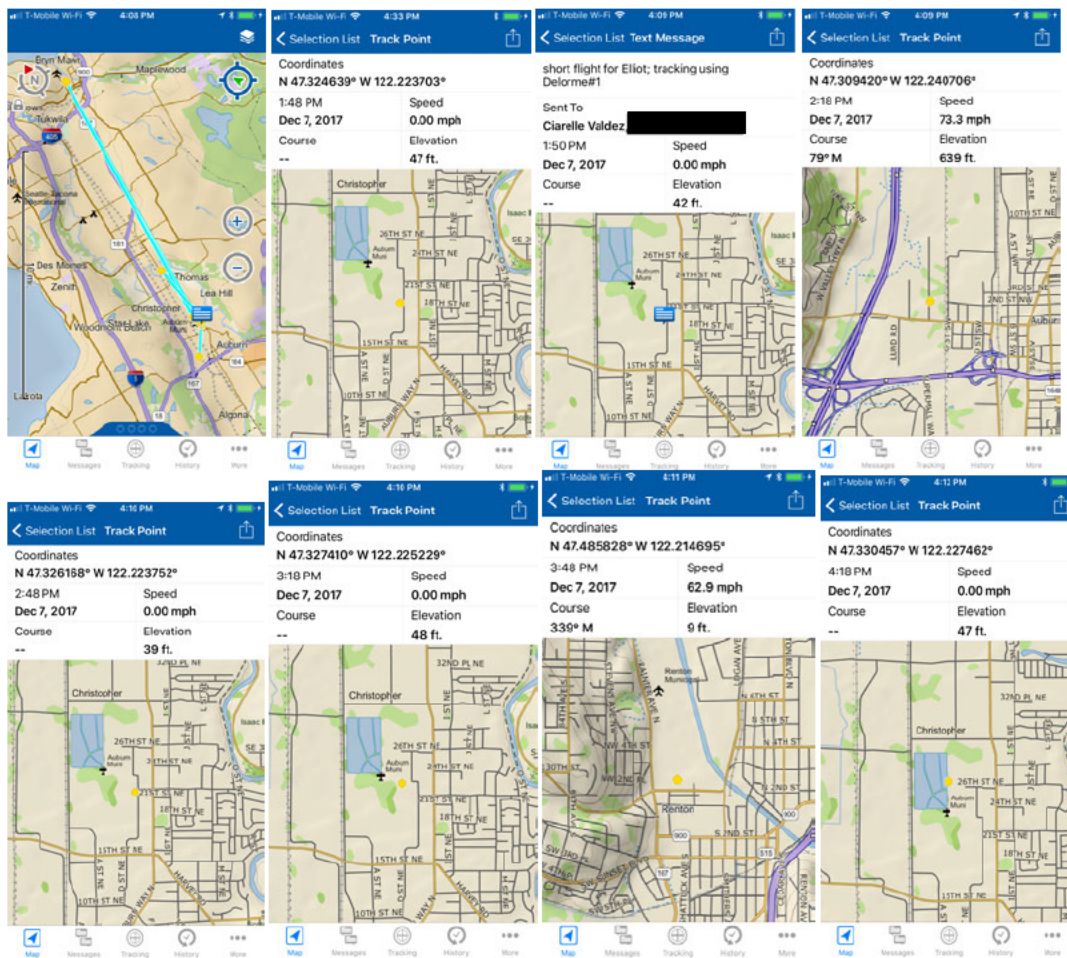
On 12/08/2017 I spoke with Andy Pomeroy, fellow pilot and business associate about pending business matters. He then mentioned that Mr. Wayne Johnson [REDACTED] who has a hangar across from Mr. Pomeroy in the north hangar section, had seen my approach and noticed that the “pilot was definitely battling the aircraft to bring it under control...It did not look not like there was a problem with the approach itself, rather the airplane was not responding....(paraphrased). I have not contacted Mr. Johnson myself to maintain the integrity of the investigation.

Also on that same day, Mr. Vanover and Mr. Bacon called a couple of times for additional information and indicated that on a preliminary basis the cables of the ailerons were “loose” yet no broken turnbuckle nor cable was found. It will be interesting to see the results of analysis of cable tension. The Service manual specifies the tension as 40 lbs +/- 10 lbs for the average temperature of the area. (Appendix #2)

APPENDIX 1 – POSITION REPORTS FROM IN-REACH DEVICE – 12/07/2017

Screen shots taken on 12/11/2017 from the In Reach history records

First screen shot is a summary of all points; Tracking started @ 13:48 PM PST and the last position shows the location @ 16:18 PM PST where the aircraft finally came to a stop and where it was recovered from on 04/08/2017.



APPENDIX 2: CESSNA SERVICE MANUAL REFERENCES



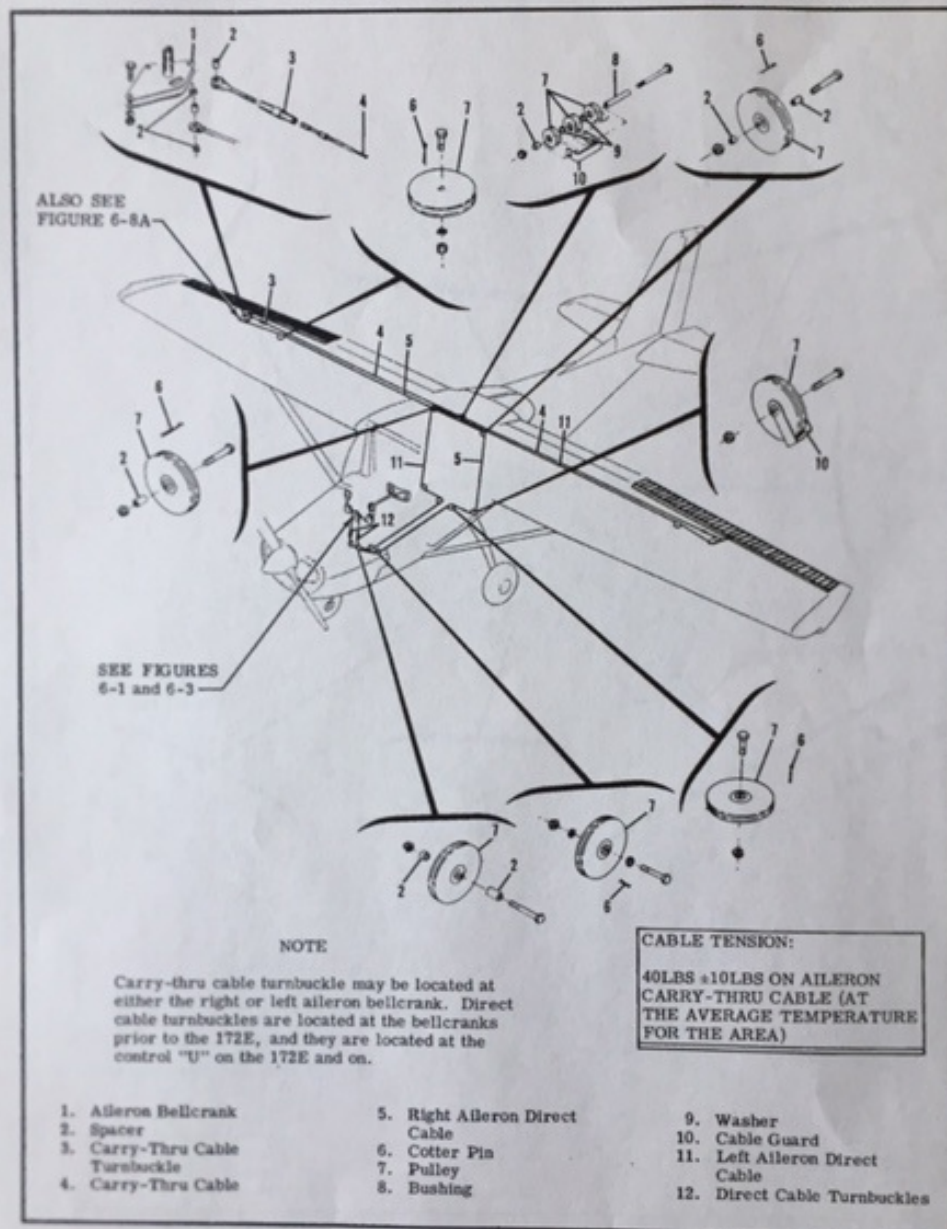


Figure 6-7. Aileron Control System - Model 172 & P172 Series

MODEL 172

DESIGN GROSS WEIGHT	2300 lb
FUEL CAPACITY (Total)	
(1963 thru 1968 - Except P172)	42 gal.
(P172)	52 gal.
USABLE FUEL	
(1963 thru 1967 - Except P172)	39 gal.
(P172) Refer to Owner's Manual	41-1/2 gal.
(1968 Model 172I)	38 gal.
PROPELLER (Fixed Pitch)	76" McCauley
MAIN WHEEL TIRES	6.00 x 6, 4-ply rating
Pressure	24 psi
NOSE WHEEL TIRE (Standard)	5.00 x 5, 4-ply rating
Pressure	26 psi
NOSE WHEEL TIRE (Optional)	6.00 x 6, 4-ply rating
Pressure	26 psi
NOSE GEAR STRUT PRESSURE (Strut Extended)	
Pressure (Thru 172G)	35 psi
Pressure (172H & on)	45 psi
WHEEL ALIGNMENT	
Camber	3° to 5°
Toe-in	0" to .06"
AILERON TRAVEL	
Up	20°±1°
Down	15°±1°
WING FLAP TRAVEL	
Manual	0°, 10°, 20°, 30°, 40°, ± 2°
Electric	0° to 40° ± 2°
RUDDER TRAVEL (Measured perpendicular to Hinge Line)	
Right	17°44'±1°
Left	17°44'±1°
ELEVATOR TRAVEL	
Up	28°, +1° -0°
Down	23°, +1° -0°
ELEVATOR TRIM TAB TRAVEL	
Up	28°, +1° -0°
Down	13°, +1° -0°
PRINCIPAL DIMENSIONS	
Wing Span	36'2"
Tail Span	11'4"
Length (Thru 172F)	26'6"
Length (172G & on)	26'11"
Fin Height (Maximum with Nose Gear Depressed)	
(Rotating Beacon Installed on Fin)	8'11"
(Flashing Beacon Installed on Fin)	8'9-1/2"
Track Width	7'2"
BATTERY LOCATION	Firewall

Damage Assessment by Luis J. Jimenez, Pilot-in-Command.
Private Pilot Certificate # [REDACTED]
Incident Date: 04/07/2017 16:00 PDT
Location: Auburn Airport, WA (S50)
Aircraft: N 2351U Cessna 172D S/N 17249951

ILLUSTRATIONS BELOW

1. Propeller – Ground strike as evidenced by bent propeller blades. Potential damage to hub. Potential engine damage.
2. Right wing buckling at root. Beyond obvious damage of wing attachment to fuselage, possible internal damage to fuselage.
3. Forward of firewall damage; Possible engine hit resulting in possible firewall damage, and motor mounts. Forward landing gear collapsed.
4. Right wing Wingtip broken with internal rib damage possible.



ILLUSTRATION #1 – Prop Strike -Propeller Blades bent



Illustration #2 – Severe buckling of right wing at root. Note the fuel tank cap on right side



Illustration # 3 – Front of firewall damage.



Illustration #4 – Right Wing tip broken