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: Philadelphia (KPNE) State: PA
ZIP: 19114 Country: USA
Latitude: _____ Longitude: _____
(Enter in decimal degrees or degrees:minutes:seconds)

Accident/Incident Date/Time

Date: 03/24/2019 *mm/dd/yyyy* Local Time: ~3:30pm
Time Zone: EDT

Collision with Other Aircraft: ○ Midair ○ On-ground ◉ None

AIRCRAFT INFORMATION

Registration Number: N358MN
Manufacturer: CESSNA (TEXTRON)
Model: CE-T310R
Serial Number: 310R0881
Year of Manufacture: 1976
Amateur-Built: ○ Yes ◉ No *If Yes:* ○ Kit/Plans ○ Original Design Make: _____

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

Maximum Gross Weight: 5725 lbs
Weight at Time of Accident/Incident: ~5100 lbs
Number of Seats: 3 Flight Crew Seats: 2
Cabin Crew Seats: _____ Passenger Seats: 1
Number of Engines: 2

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)	Time Since: Overhaul (hours)
Eng. 1	CONTINENTAL MOTORS	TSIO-520-EB	509905	1976	300	3396.6	128.1	594.5
Eng. 2	CONTINENTAL MOTORS	TSIO-520-EB	145971-72N	1976	300	4758.9	128.1	594.5
Eng. 3								
Eng. 4								

Last Inspection Type
○ 100-Hour ○ Continuous Airworthiness
○ AAIP ○ Conditional Inspection
◉ Annual ○ Unknown

Date Last Inspection: 12/06/2018 *mm/dd/yyyy*
Airframe Total Time: 7124.8 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: Cabin hand held Halon

Propeller 1
○ Fixed Pitch ◉ Controllable Pitch ○ Ground Adjustable
Manufacturer: McCauley
Model: 3AF32C504

Propeller 2
○ Fixed Pitch ◉ Controllable Pitch ○ Ground Adjustable
Manufacturer: McCauley
Model: 3AF32C504

ELT Installed: ◉ Yes ○ No
If Yes:
ELT Manufacturer: ARTEX
Model or Part No.: ME 406
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: Keystone Aerial Surveys, Inc

Fractional Ownership Aircraft: ○ Yes ◉ No

City: Philadelhpia

State: PA ZIP: 19114

Country: USA

Operator of Aircraft ☑ *Same As Registered Owner* ☑ *Same Address as Registered Owner*

Name:

Doing Business As:

Air Carrier/Operator Designator (4 Character Code):

City:

State: ZIP:

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

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: Northeast Philadelphia Airport

Airport Identifier: KPNE

Proximity to Airport: ○ Off Airport/Airstrip ◉ On Airport/Airstrip ○ N/A

Distance From Airport Center: 0 sm

Direction From Airport: 0 degrees true

Airport Elevation: 110 ft. msl

Runway Information

Runway ID: 24 (L/R/C) Length: 7000 ft Width: 150 ft

Runway/Landing Surface *(Check all that apply)*

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

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

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

Approach/Departure Segment *(Select one)*

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

IFR Approach *(Check all that apply)*

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

VFR Approach *(Check all that apply)*

- ☐ None
- ☐ Traffic Pattern
- ☑ Straight-In
- ☐ Valley/Terrain Following
- ☐ Go Around
- ☑ Full Stop
- ☐ Stop and Go
- ☐ Touch and Go
- ☐ Simulated Forced Landing
- ☐ Forced Landing
- ☐ 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: Carl

Middle Initial: H

Last Name: Levison

City of Residence: Philadelphia

State: PA ZIP: 19106

Country: USA

Age at time of Accident/Incident: 47 Date of Birth: [redacted] *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	Used
( ) None	( ) None
( ) Lap only	( ) Lap only
(●) 3-point	(●) 3-point
( ) 4-point	( ) 4-point
( ) 5-point	( ) 5-point
( ) Unknown	( ) 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

03/21/2019 *mm/dd/yyyy*

Medical Certificate Limitations

NONE

Medical Certificate Special Issuance

NONE

Date of Last Flight Review or Equivalent, Including FAR 121/135 Checks: 03/27/2018 *mm/dd/yyyy*

Flight Review Aircraft

Make: Piper

Model: Aztec

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	7,636	3,800	1,486	6,162	264	145	111			
Pilot in Command (PIC)	7,611	3,780	1,300	6,142	254	135	101			
Time as Instructor	168	30	118	50	5	2	7			
This Make/Model					75	0	2			
Last 90 Days	54	54	0	54	5	0	0			
Last 30 Days	35	35	0	35	5	0	0			
Last 24 Hours	0	0	0	0	0	0	0			

"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: Trevor
Middle Initial: N
Last Name: Thomas
Age at time of Accident/Incident: 26
Date of Birth: [redacted] *mm/dd/yyyy*
Certificate Number: [redacted]

City of Residence: Philedelphia
State: PA ZIP: 19114
Country: USA

Degree of Injury
(●) None ( ) Fatal ( ) Minor ( ) Unknown ( ) Serious

Seat Occupied
(●) Left ( ) Front ( ) Unknown ( ) Right ( ) Rear ( ) Center ( ) Single

Restraint Type

Available	Used
( ) None	( ) None
( ) Lap only	( ) Lap only
(●) 3-point	(●) 3-point
( ) 4-point	( ) 4-point
( ) 5-point	( ) 5-point
( ) Unknown	( ) Unknown

Inflatable Restraints
[☑] Not Installed [☐] Installed [☐] Not Deployed [☐] Deployed [☐] Unknown

Pilot Certificate(s) *(Check all that apply)*
[☐] None [☐] Private [☐] Student [☐] Flight Instructor [☐] Recreational [☐] Sport [☑] Commercial [☐] Airline Transport [☐] Flight Engineer [☐] US Military [☐] Foreign

Principal Occupation
(●) Pilot ( ) Other ( ) Unknown

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

Medical Certificate Validity
(●) Without limitations/waivers ( ) With limitations/waivers ( ) Special Issuance ( ) Unknown ( ) N/A

Date of Last Medical
03/07/2019 *mm/dd/yyyy*

Medical Certificate Limitations
NONE

Medical Certificate Special Issuance
NONE

Date of Last Flight Review or Equivalent, Including FAR 121/135 Checks: 02/25/2018 *mm/dd/yyyy*

Flight Review Aircraft
Make: Cessna
Model: 152

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	849	12	788	63	34	3	87			
Pilot in Command (PIC)	704	0	699	5	31	3	50			
Time as Instructor	0	0	0	0						
This Make/Model										
Last 90 Days	14	12	0	14						
Last 30 Days	14	12	0	14						
Last 24 Hours	5	5	0	5						

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

Crew Name and Address

First Name: ____________ City of Residence: ____________
Middle Initial: ______ State: ________ ZIP: ________
Last Name: ____________ Country: ____________

Seat Occupied
○ Left ○ Center ○ Right ○ Front ○ Rear ○ Single ○ Unknown

Injury
○ None ○ Minor ○ Serious ○ Fatal ○ Unknown

Pilot Certificate(s) *(Check all that apply)*
☐ None ☐ Private ☐ Student ☐ Flight Instructor ☐ Recreational ☐ Sport ☐ Commercial ☐ Airline Transport ☐ Flight Engineer ☐ US Military ☐ Foreign

Restraint Type:

Available	Used
○ None	○ None
○ Lap Only	○ Lap Only
○ 3-point	○ 3-point
○ 4-point	○ 4-point
○ 5-point	○ 5-point
○ Unknown	○ 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

First Name: ____________ City of Residence: ____________
Middle Initial: ______ State: ________ ZIP: ________
Last Name: ____________ Country: ____________

Seat Occupied
○ Left ○ Center ○ Right ○ Front ○ Rear ○ Single ○ Unknown

Injury
○ None ○ Minor ○ Serious ○ Fatal ○ Unknown

Pilot Certificate(s) *(Check all that apply)*
☐ None ☐ Private ☐ Student ☐ Flight Instructor ☐ Recreational ☐ Sport ☐ Commercial ☐ Airline Transport ☐ Flight Engineer ☐ US Military ☐ Foreign

Restraint Type:

Available	Used
○ None	○ None
○ Lap Only	○ Lap Only
○ 3-point	○ 3-point
○ 4-point	○ 4-point
○ 5-point	○ 5-point
○ Unknown	○ 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: **Thomas** City: **Philadelphia** Middle Initial: ______ State: **PA** ZIP: **19114** Last Name: **Garcia** Country: **USA** **◉ Crew** ○ Passenger ○ Other	○ Left ○ Center **◉ Right** ○ Unknown Row: **3**	**◉ 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: KFRG
City: Farmingdale
State: NY
Country: USA

Time of Departure
Time: ~2:30pm
Time Zone: EDT

Destination
Airport ID: KPNE
City: Philadelphia
State: PA
Country: USA

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: _____ 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: KPNE
Observation Time: 2:54PM
Time Zone: EDT
Distance from Accident Site: 0 nm
Direction from Accident Site: 0 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
25000 ft agl

Temperature: _____ (C) or _____ (F)
Dew Point: _____ (C) or _____ (F)
Altimeter Setting: _____ in. Hg
or _____ MB

Wind Direction
☐ Variable
-or-
Direction: 260 degrees true

Wind Speed
☐ Calm
☐ Light and Variable
-or-
Speed: 16 kts

Wind Gusts
☑ Not Gusting
-or-
Speed: _____ kts

Visibility 10+ 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	Type
(●) None	( ) N/A
( ) Trace	( ) Rime
( ) Light	( ) Clear
( ) Moderate	( ) Mixed
( ) Severe	( ) Unknown
( ) Unknown	

Icing Actual

Amount	Type
(●) None	( ) N/A
( ) Trace	( ) Rime
( ) Light	( ) Clear
( ) Moderate	( ) Mixed
( ) Severe	( ) Unknown
( ) Unknown	

Turbulence

Type *(Check all that apply)*	Severity
☑ None	☐ Light
☐ Clear Air	☐ Moderate
☐ Terrain-Induced	☐ Severe
☐ Convective Turbulence	☐ 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		Aircraft Fire		Aircraft Explosion	
○ None	◉ Substantial	◉ None	○ Both Ground and In-Flight	◉ None	○ Both Ground and In-Flight
○ Minor	○ Destroyed	○ In-Flight	○ Fire at Unknown Time	○ In-Flight	○ Explosion at Unknown Time
	○ Unknown	○ On-Ground	○ Unknown	○ On-Ground	○ Unknown

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

Pilot description: with the exception of the gear not being down the aircraft was making a normal landing in a nose high attitude. The tail cone struck the runway first causing damage to the bottom strake and general abrasion of the lower cone. The right propeller made ground contact followed immediately by the left propeller. The aircraft began sliding ahead and to the left. The left inboard flaps were damaged as they dragged along the runway. While there was a slight right crosswind during landing, neither wing or wingtip came in contact with ground. All three blades of each engine were able to continue rotating during ground contact before stopping, bending back each blade tip and absorbing the shock of impact. The impact felt from the pilot seat was less forceful than a hard gear-down landing and ELT did not activate. No significant visual damage to the engine cowling. Abrasion/damage to lower belly skin and main gear doors. Comm and Transponder antenna damaged.

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 and location, services obtained, and intended destination. Provide as much detail as possible.

Flight route: KFRG – KPNE, departing Farmingdale, NY at approx 2:30pm EDT with survey work over Belmont Park north of KJFK at 1200 feet, then ferrying back to base. This was the second survey flight of the day following a 4.3 hour flight from KPNE to KFRG which included work in eastern PA, northern NJ, within the NY Class B airspace, and over Farmingdale. These production flights were also being used to conduct survey training with a recently hired commercial multi-engine pilot who was flying left seat to become familiar with survey operations in our high-performance aircraft. I was providing survey training from the right seat and was acting PIC for the flight, allowing the pilot-in-training to conduct the flight with me verbally assisting as necessary on survey procedures and operating techniques with this particular Cessna T310R aircraft. While I am prepared to if necessary, I typically do not take over flight controls on these survey training flights.

We executed a normal departure out of KFRG with a quick transition to the west at 1500 feet to conduct survey work over Belmont Park. New York Tracon was contacted followed by JFK tower for clearance into their Class B surface area at 1200 feet westbound along the Track Route. The survey mission was speed restricted under 117 kts which necessitated lower power and the use of more than 15 degrees of flaps. This required me deactivating the gear warning system (horn) in order to ensure clear communication with ATC and the pilot-in-training while operating in this particular flight environment. This aircraft is not equipped with a gear warning silence button so the only way to silence the horn is by pulling the gear warning circuit breaker. Due to distractions that existed after the mission the gear warning circuit breaker was not reset. From the right seat I did not have the breaker in view and did I not notice or realize it was still pulled for the remainder of the flight.

After navigating through the NY Class B airspace the remainder of the flight back to KPNE was at 2500 feet on a heading of ~250 degrees. Power and descent management plan was discussed with the pilot-in-training and the landing checklist was accomplished between 15-20 miles from the field. The pilot-in-training was falling behind on power and descent management approaching the field which resulted in a high-and-fast scenario on a long straight-in for runway 24. At ~2000 feet and 3-5 miles from the field I determined that we were not descending fast enough in a clean configuration to be able to level off at pattern altitude and slow down sufficiently to configure the aircraft in time for a stabilized approach. I advised the pilot-in-training to pull the nose up and hold altitude to bleed off speed so he could configure gear and flaps sooner in order to re-stabilize our approach. It was taking longer than I anticipated to conduct the maneuver so I began to more actively help the pilot. As soon as we slowed into the white arc I moved the gear selector to the down position and then deployed full flaps. Because the flaps were deployed soon after the gear I could not tell by sensation that the gear had not extended as commanded. I immediately began providing guidance to the pilot-in-training on controlling the aircraft with the new configuration to re-stabilize the approach. Communication/guidance continued for the remainder of the descent to ensure that the pilot-in-training captured and maintained appropriate glide path, maintained centerline, and managed power and airspeed safely. This distracted me from verifying gear down and locked. Neither pilot noticed that there was no green light indication that the gear was down. The horn did not sound since the gear warning breaker was previously pulled.

During the round out/flare I was providing the pilot-in-training guidance on managing the slight crosswind from the right, keeping the nose straight and allowing the aircraft to settle towards the runway. Right before touchdown we hear “go around go around” over the radio but with the late timing of the call it was not possible to abort the landing. After the aircraft made contact with the runway and was sliding to a stop I pulled both mixtures to lean/cut-off. The aircraft remained in one piece after the gear-up landing, with no wreckage dispersed. There was smell of smoke from the engines but no fire. When the aircraft came to a stop on the left side of the runway I turned off the mags and masters and set fuel selectors to the off position. When reaching for the master switch I noticed on the circuit breaker panel that the gear warning breaker was still pulled but also that the gear motor breaker had tripped. While this explains why the gear did not extend after selecting the down position, I do not know what caused the gear motor breaker to trip, or when it tripped, other than it must have tripped at some point after I pulled the gear warning breaker. Neither pilot noticed that this breaker had tripped during the flight.

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

Operator/Owner Safety Recommendation

The reason the gear did not go down was due to the gear motor breaker having tripped, but the reason a gear-up landing occurred was due to an unlikely but remarkable event chain involving 1) the removal/lack of aural and sensation cues that could have alerted the pilots the gear had not extended, and 2) the combination of an overwhelmed trainee and a distracted trainer. The latter resulted in both pilots forgetting and subsequently not noticing the pulled gear warning breaker and tripped gear motor breaker, and both pilots being so distracted during final approach that no gear-down-and-locked check was conducted.

The event could be classified as a training incident because it is extremely unlikely that all the links in this event chain would have connected if the operation was conducted as a single-pilot survey mission with the pilot sitting in the left seat. This particular flight was used to train a commercial multi-engine pilot on survey flying, not to provide flight instruction - no dual instruction was given or received. However, as the trainee got more overwhelmed in the left seat the need to provide more continuous guidance increased and both pilots found themselves in an unintended flight training environment which increased the level of stress and distraction in the cockpit.

Effective immediately after this incident Keystone changed it's survey training procedures. Previously, only a new trainee's initial production flight may have been designated as an observation flight. Going forward, all production flights used for survey training will be conducted with the trainee sitting in the right seat observing a qualified pilot conduct survey work from the left seat. This will eliminate or significantly reduce stress and distraction in the cockpit and put the more qualified pilot in a much better position to identify and rectify any flight profile or mechanical issues. [continued in Additional Information section ====>>>>>]

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.)

The gear motor breaker tripped at some point between the survey mission and prior to the gear handle being placed in the down position (reason unknown). However, there was no mechanical failure of the gear system. It was tested after the aircraft was recovered and worked fine.

Total Time/Cycles On Part

_____ Hours

_____ Cycles

Time Since This Part Inspected/Overhauled

_____ Hours

FUEL & SERVICES INFORMATION

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

100 Gallons

Fuel Type

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

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

There was no imminent danger to occupants after landing, however everyone exited the aircraft using the main cabin door after the shut down process was complete.

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.

[<<<<<======continued from Recommendation section]

From the right seat the trainee will be able to learn and verbally confirm all required procedures and also assist the pilot in several areas such as radio communication, navigation, and planning. Additionally the trainee can help fly the aircraft along survey lines or in any auto-pilot type role that assists the pilot. The observation position should also help prepare the trainee learn specific operating techniques and procedures of the aircraft.

Stage check flights to evaluate skills and procedures in specific aircraft will be conducted with the trainee in the left seat and an instructor in the right seat. These stage checks will be non-revenue flights conducted in a training environment that is more controlled than what exists during normal production flights. While excluding left seat flying opportunities from survey training is expected to increase overall training time, separating flight training from survey training will place each pilot in well-defined roles leading to a safer flight environment.

In regards to deactivating the gear warning system to increase safety in critical flight environments where the gear horn can be a distraction or hindrance to effective communication with ATC or between pilots, Keystone is considering other methods to achieve the same level of safety. These include: extending the gear if doing so poses no additional safety concerns or excessive wear on the aircraft, temporarily adjusting radio and intercom volumes to overcome the sound of the gear horn, identify and evaluate after market gear horn silence kits, develop specific procedures to deactivate and reactivate the warning system on an as-needed basis.

As part of operational training Keystone now emphasizes regular systems checks during flight that includes the electrical system and all circuit breakers.

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

Date of this Report
05/13/2019
mm/dd/yyyy

Name of Pilot/Operator: Carl Levison

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.	Reviewed by NTSB Regional Office	Name of Investigator	Date Report Received
GAA19CA234	GAA	Kate Benhoff	5/14/2019