

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: Athol - ID05 State: ID

ZIP: 83801 Country: USA

Latitude: 47.956800 Longitude: -116.676689

(Enter in decimal degrees or degrees:minutes:seconds)

Accident/Incident Date/Time

Date: 08/04/2017 Local Time: 08:57 am
mm/dd/yyyy

Time Zone: PDT

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

AIRCRAFT INFORMATION

Registration Number: N519TB

Manufacturer: Terry Bolstad

Model: Rans S-9

Serial Number: 802177

Year of Manufacture: 2017

Amateur-Built: ☒ Yes ☐ No If Yes: ☒ Kit/Plans ☐ Original Design Make: Rans S-9

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

Maximum Gross Weight: 710 lbs

Weight at Time of Accident/Incident: ~675 lbs

Number of Seats: 1 Flight Crew Seats: 1

Cabin Crew Seats: 0 Passenger Seats: 0

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

- ☐ Normal
☐ Aerobatic
☐ Balloon
☐ Commuter
☐ Transport
☐ Utility

Special

- ☐ Restricted
☐ Limited
☐ Provisional
☐ Special Flight
☒ Experimental
☐ 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	Rotax	503 DCDI	M6478589		52	2	.5	2
Eng. 2								
Eng. 3								
Eng. 4								

Last Inspection Type

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

Date Last Inspection: 07/01/2017
mm/dd/yyyy

Airframe Total Time: 2 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: _____

Propeller 1

- ☐ Fixed Pitch
☐ Controllable Pitch
☐ Ground Adjustable

Manufacturer: Warp Drive

Model: Two blade, taper tip, 60"

Propeller 2

- ☐ Fixed Pitch
☐ Controllable Pitch
☐ Ground Adjustable

Manufacturer: _____

Model: _____

ELT Installed: ☐ Yes ☒ No

If Yes:

ELT Manufacturer: _____

Model or Part No.: _____

TSO No.: ☐ OC91 (121.5 MHz) ☐ OC91a (121.5 MHz)
☐ OC126 (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: Terry F. BolstadCity: BayviewFractional Ownership Aircraft: ☐ Yes ☒ NoState: ID ZIP: 83803Country: 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: Hackney AirparkDistance From Airport Center: .25 smAirport Identifier: ID05Direction From Airport: 220 degrees trueProximity to Airport: ☐ Off Airport/Airstrip ☒ On Airport/Airstrip ☐ N/AAirport Elevation: 2445 ft. msl**Runway Information**Runway ID: 03/21 (L/R/C) Length: 3500 ft Width: 150 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 ☐ Aborted Landing (after touchdown)
☐ Crosswind ☐ 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: Terry

City of Residence: Bayview

Middle Initial: F

State: ID ZIP: 83803

Last Name: Bolstad

Country: USA

Age at time of Accident/Incident: 74 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 <table style="width: 100%;"> <tr> <th style="text-align: left;">Available</th> <th style="text-align: left;">Used</th> </tr> <tr> <td>☐ None</td> <td>☐ None</td> </tr> <tr> <td>☐ Lap only</td> <td>☐ Lap only</td> </tr> <tr> <td>☐ 3-point</td> <td>☐ 3-point</td> </tr> <tr> <td>☒ 4-point</td> <td>☒ 4-point</td> </tr> <tr> <td>☐ 5-point</td> <td>☐ 5-point</td> </tr> <tr> <td>☐ Unknown</td> <td>☐ Unknown</td> </tr> </table>	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				
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☐ Class 1	☒ Driver's License (Sport Pilot only)																				
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Principal Occupation ☐ Pilot ☒ Other ☐ Unknown	Medical Certificate Validity ☐ Without limitations/waivers ☐ Unknown ☐ With limitations/waivers ☒ N/A ☐ Special Issuance		Date of Last Medical _____ <i>mm/dd/yyyy</i>																		

Medical Certificate Limitations

Medical Certificate Special Issuance

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

07/19/2016
mm/dd/yyyy

Flight Review Aircraft

Make: Piper

Model: PA-18 - 130

Airplane Rating(s) <i>(Check all that apply)</i> ☐ None ☒ Single-Engine Land ☐ Single-Engine Sea ☒ Multiengine Land ☐ Multiengine Sea	Other Aircraft Rating(s) <i>(Check all that apply)</i> ☐ None ☐ Airship ☐ Balloon ☐ Glider ☐ Gyroplane ☐ Helicopter ☐ Powered Lift	Instrument Rating(s) <i>(Check all that apply)</i> ☐ None ☒ Airplane ☐ Helicopter ☐ Powered Lift	Instructor Rating(s) <i>(Check all that apply)</i> ☒ None ☐ Airplane Single-Engine ☐ Airplane Multi-Engine ☐ Gyroplane ☐ Powered Lift ☐ Instrument Airplane ☐ Instrument Helicopter ☐ Helicopter ☐ Glider ☐ Sport
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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	6,000	2	5,000	1,000		600				
Pilot in Command (PIC)	5,800	2	4,900	950		600				
Time as Instructor										
This Make/Model					0					
Last 90 Days	12	0	12	0	0					
Last 30 Days	4	0	4	0	0					
Last 24 Hours	2	0	2	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: _____ 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 <table style="width: 100%;"> <tr> <th style="text-align: left;">Available</th> <th style="text-align: left;">Used</th> </tr> <tr> <td>☐ None</td> <td>☐ None</td> </tr> <tr> <td>☐ Lap only</td> <td>☐ Lap only</td> </tr> <tr> <td>☐ 3-point</td> <td>☐ 3-point</td> </tr> <tr> <td>☐ 4-point</td> <td>☐ 4-point</td> </tr> <tr> <td>☐ 5-point</td> <td>☐ 5-point</td> </tr> <tr> <td>☐ Unknown</td> <td>☐ Unknown</td> </tr> </table>	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				
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☐ Class 2	☐ Unknown																				

Medical Certificate Limitations

Medical Certificate Special Issuance

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

Flight Review Aircraft

Make: _____
Model: _____

Airplane Rating(s) <i>(Check all that apply)</i> ☐ None ☐ Single-Engine Land ☐ Single-Engine Sea ☐ Multiengine Land ☐ Multiengine Sea	Other Aircraft Rating(s) <i>(Check all that apply)</i> ☐ None ☐ Airship ☐ Balloon ☐ Glider ☐ Gyroplane ☐ Helicopter ☐ Powered Lift	Instrument Rating(s) <i>(Check all that apply)</i> ☐ None ☐ Airplane ☐ Helicopter ☐ Powered Lift	Instructor Rating(s) <i>(Check all that apply)</i> <table style="width: 100%;"> <tr> <td> ☐ None ☐ Airplane Single-Engine ☐ Airplane Multi-Engine ☐ Gyroplane ☐ Powered Lift </td> <td> ☐ Instrument Airplane ☐ Instrument Helicopter ☐ Helicopter ☐ Glider ☐ Sport </td> </tr> </table>	☐ None ☐ Airplane Single-Engine ☐ Airplane Multi-Engine ☐ Gyroplane ☐ Powered Lift	☐ Instrument Airplane ☐ Instrument Helicopter ☐ Helicopter ☐ Glider ☐ Sport
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Type Ratings

Student Endorsements *(Include dates)*

Flight Time <i>(Enter appropriate number of hours in each box)</i>	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 ☐ Unknown		☐ 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 ☐ 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 ☐ Unknown		☐ 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 ☐ 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 <i>If Under 5,</i> ☐ 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 <i>If Under 5,</i> ☐ 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 <i>If Under 5,</i> ☐ 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 <i>If Under 5,</i> ☐ Child Restraint ☐ Lap-Held ☐ Unknown	

FLIGHT ITINERARY INFORMATION

Last Departure Point Airport ID: <u>ID05</u> City: <u>Athol</u> State: <u>ID</u> Country: <u>USA</u>	Time of Departure Time: <u>0857</u> Time Zone: <u>PDT</u>	Destination Airport ID: <u>ID05</u> City: <u>Athol</u> State: <u>ID</u> Country: <u>USA</u>	Type Flight Plan Filed ☒ None ☐ Company VFR ☐ Military VFR ☐ VFR ☐ VFR/IFR ☐ IFR ☐ Unknown Activated? ☐ Yes ☐ No ☐ Unknown
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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)			Altitude of In-Flight Occurrence: <u>2450</u> ft msl
☐ 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	

WEATHER INFORMATION AT THE ACCIDENT/INCIDENT SITE

Source of Pilot Weather Information (Check all that apply)	Weather Observation Facility
☒ National Weather Service ☐ Flight Service Station ☐ TV/Radio ☐ Automated Report ☐ Commercial Weather Service (DUATS) ☐ On-Board Weather	Facility ID: <u>COE</u> Observation Time: <u>0730</u> Time Zone: <u>PDT</u> Distance from Accident Site: <u>12</u> nm Direction from Accident Site: <u>190</u> degrees true
☐ Company ☐ Military ☒ Internet ☐ None ☐ Unknown	

Basic Conditions ☒ VMC ☐ IMC ☐ Unknown	Light Condition ☐ Dawn ☒ Day ☐ Dusk ☐ Night ☐ Dark Night ☐ Unknown ☐ Bright Night
---	--

Sky/Lowest Cloud Condition ☒ Clear ☐ Few ☐ Partial Obscuration ☐ Scattered ☐ Thin Broken ☐ Thin Overcast ☐ Unknown	Ceiling ☒ None (Clear) ☐ Broken ☐ Overcast ☐ Obscured ☐ Indefinite ☐ Unknown	Temperature: _____ (C) or <u>72</u> (F) Dew Point: _____ (C) or <u>50</u> (F) Altimeter Setting: <u>29.88</u> in. Hg or _____ MB
Lowest Cloud Condition Height _____ ft agl	Ceiling Height _____ ft agl	

Wind Direction ☒ Variable -or- Direction: _____ degrees true	Wind Speed ☒ Calm ☐ Light and Variable -or- Speed: _____ kts	Wind Gusts ☒ Not Gusting -or- Speed: _____ kts	Visibility <u>10</u> miles RVR: _____ feet RVV: _____ miles Density Altitude: <u>4000</u> ft
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Intensity of Precipitation ☐ Light ☐ Moderate ☐ Heavy ☒ N/A ☐ Unknown	Type of Precipitation (Check all that apply)	Restriction to Visibility (Check all that apply)
	☒ None ☐ Rain ☐ Snow ☐ Hail ☐ Rain Showers ☐ Drizzle ☐ Ice Pellets ☐ Snow Pellets ☐ Snow Grains ☐ Ice Crystals ☐ Freezing Rain ☐ Snow Shower ☐ Ice Pellets Shower ☐ Freezing Drizzle	☒ None ☐ Blowing Dust ☐ Blowing Sand ☐ Blowing Snow ☐ Blowing Spray ☐ Dust ☐ Fog ☐ Ground Fog ☐ Haze ☐ Ice Fog ☐ Smoke ☐ Unknown

Icing Forecast	Icing Actual	Turbulence																																						
<table border="0"> <tr> <th>Amount</th> <th>Type</th> </tr> <tr> <td>☒ None</td> <td>☐ N/A</td> </tr> <tr> <td>☐ Trace</td> <td>☐ Rime</td> </tr> <tr> <td>☐ Light</td> <td>☐ Clear</td> </tr> <tr> <td>☐ Moderate</td> <td>☐ Mixed</td> </tr> <tr> <td>☐ Severe</td> <td>☐ Unknown</td> </tr> <tr> <td>☐ Unknown</td> <td></td> </tr> </table>	Amount	Type	☒ None	☐ N/A	☐ Trace	☐ Rime	☐ Light	☐ Clear	☐ Moderate	☐ Mixed	☐ Severe	☐ Unknown	☐ Unknown		<table border="0"> <tr> <th>Amount</th> <th>Type</th> </tr> <tr> <td>☒ None</td> <td>☐ N/A</td> </tr> <tr> <td>☐ Trace</td> <td>☐ Rime</td> </tr> <tr> <td>☐ Light</td> <td>☐ Clear</td> </tr> <tr> <td>☐ Moderate</td> <td>☐ Mixed</td> </tr> <tr> <td>☐ Severe</td> <td>☐ Unknown</td> </tr> <tr> <td>☐ Unknown</td> <td></td> </tr> </table>	Amount	Type	☒ None	☐ N/A	☐ Trace	☐ Rime	☐ Light	☐ Clear	☐ Moderate	☐ Mixed	☐ Severe	☐ Unknown	☐ Unknown		<table border="0"> <tr> <th>Type (Check all that apply)</th> <th>Severity</th> </tr> <tr> <td>☒ None</td> <td>☐ Light</td> </tr> <tr> <td>☐ Clear Air</td> <td>☐ Moderate</td> </tr> <tr> <td>☐ Terrain-Induced</td> <td>☐ Severe</td> </tr> <tr> <td>☐ Convective Turbulence</td> <td>☐ Extreme</td> </tr> </table>	Type (Check all that apply)	Severity	☒ None	☐ Light	☐ Clear Air	☐ Moderate	☐ Terrain-Induced	☐ Severe	☐ Convective Turbulence	☐ Extreme
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NOTAMs (D and FDC), AIRMETs, SIGMETs, PIREPs in effect at the time of the accident/incident:

None

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)*

One prop blade is snapped off, other is dinged. Both landing gear legs collapsed. Front, lower third of airframe is bent and compressed. Floor board under rudder pedals is broken. Rudder cables broken (impact pushed rudder pedals forward). Dashboard has major dent on glare shield. Pilot seat frame is bent and broken, one of the support cables for the seat snapped, the other held.

Wings are fine, lift struts are fine, fuselage from behind the seat to tail is fine. Tail feathers are fine. No fuel leakage after impact. No damage to other property or the runway. See pictures here: <https://goo.gl/photos/GUTwxH1dsEtmS1nKA>

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.

This was the maiden flight of the aircraft which was going to be a lap around the pattern and a landing followed by a thorough inspection but something went wrong after getting airborne. The following information is provided to help illustrate that a methodical approach to first flight was attempted. This is written by Terry's son, Tony Bolstad. The S-9 is the third airplane that Terry has built and was his third "first flight".

The aircraft received it's airworthiness certificate on July 1, 2017. In the week leading up to the airworthiness inspection many hours were spent by Terry, his brother John and I in final assembly of the wings, controls connection and adjusting and checking of control throw ranges, connecting fuel lines, etc.. The control numbers are recorded in the builders log. All aileron and elevator deflection numbers met or exceeded the design figures for upward and downward deflection. The rudder had slightly less deflection than specified as the rudder runs into the elevator or the fully retracted stop bolt a couple of degrees early. The position of the stop bolt is fixed by the factory.

From the last week of June and through the middle of July multiple static engine runs were performed and the prop pitch adjusted multiple times from 12 degrees on down in order to achieve the desired static RPM. Eventually the prop pitch was down to about 6 degrees which seemed to be at the lower end of what was recommended by other users and by Warp Drive. Terry had rebuilt the engine himself and was starting to wonder if something wasn't setup correctly on the engine but after much research and discussion a decision was made to send in the prop to have it converted from a square tip configuration to a taper tip configuration which would allow a higher pitch angle without bogging down the engine. This work was performed by Warp Drive (prop manufacturer). After return of the prop near the end of July the pitch was reset to 10 degrees and the static test was rerun. The desired static RPM of 6200 was still not quite achieved so the prop pitch was adjusted again to about 7.5 degrees and the static RPM of 6200 was achieved. The prop pitch and RPM were both within the desired range. Throughout the engine break in and subsequent static tests the engine was running extremely smoothly and all of the temperatures were operating at the lower end of the range. (which seemed good to us for a new engine - run a bit rich initially).

Slow speed and then higher speed taxi tests revealed some sloppiness in the tail wheel configuration and adjustments were made to reduce slop and better align the center of the tail wheel with the longitudinal axis. The higher speed taxi tests were used to fine tune the brakes and get the pilot used to a tail wheel configuration again. (many years since flying a tail wheel airplane). On August 3rd Terry flew his Challenger I around the pattern multiple times doing a couple of landing/taxi backs and a couple of touch and goes. The wind was a bit gusty out of the north and temperatures were climbing to about 85 in the mid morning so the flight of the S-9 was delayed another day.

On the morning of August 4th everything seemed to be good. Clear skies, very, very light wind out of the south so runway 21 could be used (preferable as there are large fields available to the south for ditching if problems develop on take off). The plane was loaded with about 6 gallons of gas in each wing tank plus the 1/2 gallon in the header tank. We also decided to fly without the canopy on for the initial flights. This is an approved flight condition by Rans so we don't think it should have affected flight characteristics. Thorough pre-flight and control checks were confirmed. Radio communication was confirmed and the ground crew assisted in visually confirming that the elevator trim tab was set to neutral (it was initially in a pitch up position). After the standard 8 minute warm up (timed by pilot and ground crew) the plane was taxied out to runway 21 and a high speed taxi test was done to warm up the pilot and confirm everything was good. Full power was applied for about 3 to 5 seconds and pilot reported the plane just starting to get light at about 55 mph. Plane was slowed and taxied back for takeoff.

In retrospect this should have been a red flag for us. Stall speed is listed at 41 mph so it seems that it should have been getting light well before 55. The plane is recommended to be flown off the ground in a 3 point attitude rather than by raising the tail due to limited prop clearance so that may be a contributing factor to not feeling light at lower speeds.

Pilot announced his departure and applied full power. It seemed to accelerate well and to be staying on centerline (hard to tell for sure on grass strip and being well off to the side but it looked good). Liftoff seemed to be delayed a bith though, and occurred about 300' to 400' down the runway. Very soon (~2 seconds) after lift off the plane was observed going to a fairly nice high attitude (~15 to maybe 20



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

Operator/Owner Safety Recommendation

- use a "fish scale" to determine amount of thrust being produced in the static run. We were able to get to the desired static RPM but maybe the prop pitch was too low and we weren't getting the thrust needed.
- get current in a plane that is much more similar to the type getting ready to be flown. Dad's a very good pilot with lots of experience in lots of different types of planes (F-102, A-1 Skyraider, KC-135, T-33, T-37, T-38, Cubs, Super Cubs, Champs, Standard Pacer, Tri-Pacer, C-150, C-170 and some others) but it's been a very long time since tailwheel and low/mid wing airplane time. All of the last four years has been spent in a high wing, slow airplane that climbs at very steep angle at Vy. He read all of the POH info available and tips on the plane and we had discussed the V speeds and plan for the first flight but it didn't work out.
- have the chase car with first aid kit at the ready on the side of the runway. We spent a minute or so finding keys, piling in to the car, driving out to the runway then down to the crash site. And then had to use my T-shirt to stop bleeding.
- have a ground coach live on the radio to call out problems in a more forceful manner. I'm still kicking myself for not yelling "nose down! - airspeed! - airspeed!")
- get the ASI checked and calibrated then confirm against GPS speed during taxi tests. We had the ASI checked post crash and it was within a couple of mph but we didn't know that before first flight. (calibration sheet is included in the Google Photos album): <https://goo.gl/photos/GUTwxH1dsEtmS1nKA>
- do a couple of "crow hops". We've read comments both ways on this but it seems that if you're planning on it and can get to 10' up then back down you can confirm a few more things before getting very high.
- load less fuel in the plane to lighten the initial load and move the CG a bit more forward

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.)

None that we can identify at this time. Control continuity is good and elevator deflection seems fine. Only guess is that we were closer to the rearward CG limit than we had calculated and that upon rising the slight rearward movement of the fuel in the wing tanks would have made that worse. It may be few weeks or months before the pilot can recall better what occurred.

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)

12.5 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

1 occupant, normal exit by lifting himself up by the elbows, standing on the seat, stepping on to the wing then on to the ground. Some assistance provided to keep him steady.

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.

Things we still want to confirm: accuracy of the Great Planes EIS 2000 - maybe we weren't getting the RPM we thought we were

One small error in W&B paperwork. Pilot weight was listed at 200 lbs. In reality it should have been 220. This change moves the CG from 59.3" to 59.7". Rearward limit is 62". In my initial phone call with Michael Huhn on August 11th I told him I had seen a weight of 269 lbs written on the status board by the nurse. Turns out that was his weight while sitting in the wheel chair and she had forgotten to subtract the wheelchair weight out of the final number. So a hair under 220 lbs as of August 11th.

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

Date of this Report

08/16/2017

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: Tony Bolstad

Title: son

Signature: _____

Digitally signed by Tony Bolstad
Location: Stevenson, VA
Reason: I agree to the terms defined by the placement of my signature on
this document
Date: 2017.08.16 10:00:00 -0400

-- or --

☒ Check here to electronically sign this document

FOR NTSB USE ONLY

NTSB Accident/Incident No.

WPR17LA181

Reviewed by NTSB Regional Office

WPR

Name of Investigator

Michael Huhn

Date Report Received

8/16/17