

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: <u>Town of Dinosaur</u> State: <u>CO.</u> ZIP: _____ Country: <u>Moffat</u> Latitude: <u>40.27.44 North</u> Longitude: <u>108.55.12 West</u> (Enter in decimal degrees or degrees:minutes:seconds)	Accident/Incident Date/Time Date: <u>02/01/2020</u> Local Time: <u>2:00 p.m.</u> mm/dd/yyyy Time Zone: <u>Mountain</u> Collision with Other Aircraft: ☐ Midair ☐ On-ground ☒ None
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AIRCRAFT INFORMATION

Registration Number: <u>N7173S</u> Manufacturer: <u>HILLER</u> Model: <u>UH21ET</u> ELT did NOT activate because it was NOT Serial Number: <u>2351</u> a Hard Landing. Year of Manufacture: <u>1965</u> Amateur-Built: ☐ Yes ☒ No If Yes: ☐ Kit/Plans ☐ Original Design Make: <u>C20B Turbine Engine</u>	☐ IFR-Equipped and Certified ☐ Commercial Space Flight ☐ Unmanned Aircraft Maximum Gross Weight: <u>3100</u> lbs Weight at Time of Accident/Incident: <u>2,826.5</u> lbs Number of Seats: <u>3</u> Flight Crew Seats: <u>1</u> Cabin Crew Seats: <u>0</u> Passenger Seats: <u>2</u> Number of Engines: <u>1</u>
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Category of Aircraft ☐ Airplane ☐ Balloon ☐ Blimp/Dirigible ☐ Glider ☐ Gyroplane ☒ Helicopter ☐ Powered Lift ☐ Rocket ☐ Ultralight ☐ Unknown	Type of Airworthiness Certificate (Check all that apply) <table style="width: 100%;"> <tr> <th>Standard</th> <th>Special</th> </tr> <tr> <td>☒ Normal</td> <td>☐ Restricted</td> </tr> <tr> <td>☐ Aerobatic</td> <td>☐ Limited</td> </tr> <tr> <td>☐ Balloon</td> <td>☐ Provisional</td> </tr> <tr> <td>☐ Commuter</td> <td>☐ Special Flight</td> </tr> <tr> <td>☐ Transport</td> <td>☐ Experimental</td> </tr> <tr> <td>☐ Utility</td> <td>☐ Special Light-Sport</td> </tr> <tr> <td></td> <td>☐ Experimental Light-Sport</td> </tr> </table> ☐ Certificate of Authorization or Waiver (COA) ☐ None ☐ Unknown	Standard	Special	☒ Normal	☐ Restricted	☐ Aerobatic	☐ Limited	☐ Balloon	☐ Provisional	☐ Commuter	☐ Special Flight	☐ Transport	☐ Experimental	☐ Utility	☐ Special Light-Sport		☐ Experimental Light-Sport	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
Standard	Special																		
☒ Normal	☐ Restricted																		
☐ Aerobatic	☐ Limited																		
☐ Balloon	☐ Provisional																		
☐ Commuter	☐ Special Flight																		
☐ Transport	☐ Experimental																		
☐ Utility	☐ Special Light-Sport																		
	☐ Experimental Light-Sport																		

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	Alison Rolls-Royce	250	CAE-823398	unknown	420		59.9	2,005.1
Eng. 2							100 Hr.	Gearbox
Eng. 3								Overhaul
Eng. 4								

Last Inspection Type ☒ 100-Hour ☐ Continuous Airworthiness ☐ AAIP ☐ Conditional Inspection ☐ Annual ☐ Unknown Date Last Inspection: <u>03/12/2019</u> mm/dd/yyyy Airframe Total Time: <u>13,795.5</u> hrs hours measured at (Select one) ☐ Last Inspection ☒ Time of Accident/Incident	Propeller 1 ☐ Fixed Pitch ☐ Controllable Pitch ☐ Ground Adjustable Manufacturer: <u>N/A</u> Model: <u>N/A</u> Propeller 2 ☐ Fixed Pitch ☐ Controllable Pitch ☐ Ground Adjustable Manufacturer: <u>N/A</u> Model: <u>N/A</u>	ELT Installed: ☒ Yes ☐ No If Yes: ELT Manufacturer: <u>Ameri-King</u> Model or Part No.: <u>AK-451-406 ELT</u> TSO No.: ☒ OC91 (121.5 MHz) ☐ OC91a (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
Type of Maintenance Program (Select one) ☒ Annual ☐ Conditional (Amateur-built only) ☐ Manufacturer's Inspection Program ☐ Other Approved Inspection Program (AAIP) ☐ Continuous Airworthiness ☐ Other, specify: _____	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: _____	
Description of Fire Extinguishing System ☒ None ☐ Specify: _____		

OWNER/OPERATOR INFORMATION**Registered Aircraft Owner**Name: Craig Helicopters Inc.Fractional Ownership Aircraft: ☐ Yes ☐ NoCity: State: Country: **Operator of Aircraft**☐ Same As Registered OwnerName: James RichardsDoing Business As: DYNAMIC AVIATION HELICOPTERSAir Carrier/Operator Designator (4 Character Code): DQMA293D☐ Same Address as Registered OwnerCity: State: 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: Vernal AirportAirport Identifier: VELProximity to Airport: ☐ Off Airport/Airstrip ☐ On Airport/Airstrip ☒ N/ADistance From Airport Center: appx. 45 smDirection From Airport: appx. 90 degrees trueAirport Elevation: 5280 ft. msl**Runway Information**Runway ID: (L/R/C) Length: ft Width: 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 ☐ Crosswind ☐ Unknown

IFR Approach (Check all that apply)

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

City of [REDACTED]

Middle Initial: J

State: [REDACTED]

Last Name: Richards

County: [REDACTED]

Age at time of Accident/Incident: 67

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

☐ 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

04/22/2019
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:

10/10/2019
mm/dd/yyyy

Flight Review Aircraft

Make: Hiller UH12ET Same Helicopter, N7173S
Model: UH12ET

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	15,600	15,300	300	0	30	0	0	15	2	0
Pilot in Command (PIC)	15,600	15,300						15	0	0
Time as Instructor	0	0	0	0	0	0	0	0	0	0
This Make/Model					20	0	0			
Last 90 Days	14	14	0	0	0	0	0	14	0	0
Last 30 Days	1	1	0	0	0	0	0	1		0
Last 24 Hours	1	1	0	30	0	0	0	1		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: NO Flight Crew #2, Single Pilot Helicopter, N7173S

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	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

_____ mm/dd/yyyy

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)

(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 First Name: <u>NO Additional Flight Crew</u> City of Residence: _____ Middle Initial: _____ State: _____ ZIP: _____ Last Name: _____ Country: _____				Seat Occupied ☐ Left ☐ Front ☐ Center ☐ Rear ☐ Right ☐ Single ☐ Unknown		Injury ☐ None ☐ Minor ☐ Serious ☐ Fatal ☐ Unknown	
Pilot Certificate(s) (Check all that apply) ☐ None ☐ Flight Instructor ☐ Commercial ☐ US Military ☐ Private ☐ Recreational ☐ Airline Transport ☐ Foreign ☐ Student ☐ Sport ☐ 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 First Name: _____ City of Residence: _____ Middle Initial: _____ State: _____ ZIP: _____ Last Name: _____ Country: _____				Seat Occupied ☐ Left ☐ Front ☐ Center ☐ Rear ☐ Right ☐ Single ☐ Unknown		Injury ☐ None ☐ Minor ☐ Serious ☐ Fatal ☐ Unknown	
Pilot Certificate(s) (Check all that apply) ☐ None ☐ Flight Instructor ☐ Commercial ☐ US Military ☐ Private ☐ Recreational ☐ Airline Transport ☐ Foreign ☐ Student ☐ Sport ☐ 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 First Name: <u>Chuck</u> City: [REDACTED] Middle Initial: _____ State: [REDACTED] Last Name: <u>Nease</u> Country: [REDACTED] ☐ Crew ☒ Passenger ☐ Other		Seat ☐ Left ☒ Center ☐ Right ☐ Unknown Row: _____	Injury ☒ None ☐ Minor ☐ Serious ☐ Fatal ☐ Unknown	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	Age ☐ Under 5 years If Under 5, ☐ Child Restraint ☐ Lap-Held ☐ Unknown	
First Name: <u>Harlow</u> City: [REDACTED] Middle Initial: _____ State: [REDACTED] Last Name: <u>Hams</u> Country: [REDACTED] ☐ Crew ☒ Passenger ☐ Other		Seat ☐ Left ☐ Center ☒ Right ☐ Unknown Row: _____	Injury ☒ None ☐ Minor ☐ Serious ☐ Fatal ☐ Unknown	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	Age ☐ Under 5 years If Under 5, ☐ Child Restraint ☐ Lap-Held ☐ Unknown	
First Name: _____ City: _____ Middle Initial: _____ State: _____ ZIP: _____ Last Name: _____ Country: _____ ☐ Crew ☐ Passenger ☐ Other		Seat ☐ Left ☐ Center ☐ Right ☐ Unknown Row: _____	Injury ☐ None ☐ Minor ☐ Serious ☐ Fatal ☐ Unknown	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	Age ☐ Under 5 years If Under 5, ☐ Child Restraint ☐ Lap-Held ☐ Unknown	
First Name: _____ City: _____ Middle Initial: _____ State: _____ ZIP: _____ Last Name: _____ Country: _____ ☐ Crew ☐ Passenger ☐ Other		Seat ☐ Left ☐ Center ☐ Right ☐ Unknown Row: _____	Injury ☐ None ☐ Minor ☐ Serious ☐ Fatal ☐ Unknown	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	Age ☐ Under 5 years If Under 5, ☐ Child Restraint ☐ Lap-Held ☐ Unknown	

FLIGHT ITINERARY INFORMATION				
Last Departure Point Airport ID: <u>Private Helipor</u> City: <u>Naples</u> State: <u>Utah</u> Country: <u>USA</u>		Time of Departure Time: <u>1:15 PM</u> Time Zone: <u>Mount.</u>		Destination Airport ID: <u>Private Ranch</u> City: <u>Yampa River</u> State: <u>Colorado</u> Country: <u>USA</u>
Type Flight Plan Filed ☐ None ☒ Company VFR ☐ Military VFR ☐ VFR ☐ VFR/IFR ☐ IFR ☐ Unknown ☐ Unknown Activated? ☒ Yes ☐ No ☐ Unknown				
Type of ATC Clearance/Service (Check all that apply) ☒ None ☐ VFR ☐ Special VFR ☐ IFR ☐ Special IFR ☐ VFR On Top ☐ VFR Flight Following ☐ Traffic Advisory ☐ Cruise ☐ Unknown / NA				
Airspace where the accident/incident occurred (Check all that apply) ☐ Class A ☐ Class B ☐ Class C ☐ Class D ☒ Class E ☐ Class G ☐ Demo Area ☐ Warning Area ☐ Prohibited Area ☐ Restricted Area ☐ Military Operations Area (MOA) ☐ Airport Advisory Area ☐ Jet Training Area ☐ TRSA ☐ FAR 93 ☐ Special ☐ Air Traffic Control Area ☐ Unknown				Altitude of In-Flight Occurrence: <u>7,000</u> ft msl
WEATHER INFORMATION AT THE ACCIDENT/INCIDENT SITE				
Source of Pilot Weather Information (Check all that apply) ☒ National Weather Service ☐ Flight Service Station ☐ TV/Radio ☐ Automated Report ☐ Commercial Weather Service (DUATS) ☐ On-Board Weather ☐ Company ☐ Military ☐ Internet ☐ None ☐ Unknown			Weather Observation Facility Facility ID: _____ Observation Time: _____ Time Zone: _____ Distance from Accident Site: _____ nm Direction from Accident Site: _____ degrees true	
Basic Conditions ☒ VMC ☐ IMC ☐ Unknown		Light Condition ☐ Dawn ☒ Day ☐ Dusk ☐ Night ☐ Dark Night ☐ Bright Night ☐ Unknown		
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>20</u> (F) Dew Point: _____ (C) or _____ (F) Altimeter Setting: <u>30.0</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>5,500</u> ft	
Intensity of Precipitation ☐ Light ☐ Moderate ☐ Heavy ☐ N/A ☐ Unknown	Type of Precipitation (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		Restriction to Visibility (Check all that apply) ☒ None ☐ Blowing Dust ☐ Blowing Sand ☐ Blowing Snow ☐ Blowing Spray ☐ Dust ☐ Fog ☐ Ground Fog ☐ Haze ☐ Ice Fog ☐ Smoke ☐ 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: None in Route or at the Destination Ranch.				

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

- ☐ None ☐ Substantial
☐ Minor ☐ Destroyed
 ☐ Unknown

Aircraft Fire

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

Aircraft Explosion

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

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

Following a PERFECT AUTOROTATION, to the Snow covered Ground, (approximately 24 inches of snow), the Rear of the Landing Gear touched the Ground under the snow. Because of the SLOPE of the landing site, the Front of the Landing Gear dropped approximately another 12 to 18 inches farther down before touching the Ground, Forcing the Tail Boom UP INTO the Main Rotor Blades. The Substantial Damage occurred when the Main Rotor Blades impacted the Tail Boom. The Body of the Helicopter rotated Violently to the Left from the Impact of the Main Rotor Blades, which Twisted the Pilot Side Landing Gear, snapping it off near the Upright legs, front and Rear. The Passenger side Landing Gear was not damaged. The Cross Tubes of the Landing Gear were NOT BENT, Verifying that the Land was NOT HARD. The Cabin Section of the Helicopter does not appear to be damaged. Further Inspection must be accomplished. The Main Rotor Blades and entire Drive Train must be replaced because of the Main Rotor Strike. The Tail Boom must be replaced also. There was NO PROPERTY DAMAGE.

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.

My Customer, Mr. Chuck Neise, Owns a Cattle Ranch on the Yampa River, some 8 miles East of the confluence of the Yampa River and the Green River in North West Colorado. His private Land Ranch is surrounded by the Dinosaur Nation Monument, hereafter referred to as "the Park Service" and is approximately 40 Air Miles East of my Shop, which located 3 miles East of Vernal, Utah.

After the first major Snow Storms of the Year, the Park Services closes the Dirt and Graveled Roads going into the Ranch. The Ranch house is on the "Hells's Canyon Mantle Ranch" and the Privately owned Ranch Pasture is 2 miles to the South, and is called the "Red Rock" Ranch.

Chuck Neise Chartered my Helicopter Service to fly Him and an Electrification Friend, Mr. Harlow Hamis, into the Ranch on Saturday, February 1st, 2020. We were to look for Lost Cattle and then land at the Ranch where they would work on the Solar Power System for 3 days. I was scheduled to fly back into the Ranch House on Wednesday, 05 February, and return them to their Vehicle at my Shop. Total cost was to be \$4,000.00.

We met at my Shop about 11:30 A.M. Chuck and Harlow helped me push the Helicopter out of my Hanger. We discussed the Flight and I conducted the Passenger "Pre-Flight" briefing. I calculated the Weight and Balance and Fueled the Helicopter. My Wife, Rebecca Richards was given the Flight Plan for Flight Following purposes.

Approximately 1:15 P.M., we took off and headed to the Ranch. The Helicopter and Engine were functioning Perfectly. We Planned a Second Trip into the Ranch for the end of February, for ANOTHER \$4,000.00.

Upon arrival.... we flew to the Red Rock Pasture and checked for the lost Cattle. I then gained altitude to about 700 feet AGL and flew toward the Ranch House. No Warning Lights or Chip Lights were seen.

Suddenly, I head a GRRRR Sound and lost Engine Power. Responding to 40 years of Autorotation Training, I dropped the Collective and maintained 65 MPH forward Airspeed and 100% Rotor RPM and began looking for a place to land.

We were over an old Pinion Pine Forest BURN. There were Dead, Burned Trees everywhere!

Chuck realized there was a problem and ask, "Have You Got This?" I replied, "Ya" as I searched for a opening in the burned trees.

The Autorotation went Perfectly. I found a small opening where I got the Helicopter Cabin into. There was about 24 inches of snow. On touchdown, the rear of the Skids touched the ground under the snow first and because of the SLOPE UNDER the Snow, the front of the Skids dropped about 12 inches down into the snow, which forced the Tail Boom up into the Turning Main Rotor Blades.

Had the Ground been Level, It would have been a Perfect Autorotation. We did NOT land hard.

When the Main Rotor Blades hit the Tail Boom, the Helicopter rotated Violently to the Left and twisted the Landing Gear, snapping it off on the Left, Pilot's Side near where the upright legs attach.

SO FAR the Cabin Section of the Helicopter does NOT appear to be DAMAGED. I have not inspected it since it was flown out. On Landing, I noticed that the TOT was over 900 degrees F !! I could hear some "engine noise" and quickly shut off the Fuel. I assume it had been that high since I heard the GRRRR Sound when the engine quit producing power. I am sure there is going to be some OVER TEMPERATURE ENGINE DAMAGE which would have occurred after the Power Loss and before I shut the Fuel off.

After discussing this Power Loss with other Mechanics, we feel that the Engine Problem was probably a NOZZLE SQUEEZE of the #3 and #4 Turbine Wheels. Continued on Page 11 of this Report.

RECOMMENDATION (How could this accident/incident have been prevented?)**Operator/Owner Safety Recommendation**

Build a MORE RELIABLE Engine.

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.)

I heard a GRRR Sound, like metal on metal of Rotating Components, followed by the Power Loss.
After the landing, I rotated the Main Rotor Blades backwards in order to tie them to the Tail Boom. This action also rotated the Driveline backwards, thus rotating the #3 and #4 Turbine Wheels.
Again, I heard the Grinding sound of Turbine Wheels rubbing on something.

The Engine is an Allison Rolls-Royce 250 Series C20B Engine. The Turbine Section has 567.5 HOURS since a major Repair by ACTION AIRCRAFT ENGINE OVERHAUL of Dallas, Texas. See their FAA 8130 dated June 22, 2011.

See Engine Records for the Components Total hours and Cycles per Engine Component.

**Total Time/Cycles
On Part**

_____ Hours

_____ Cycles

**Time Since This Part
Inspected/Overhauled**

567.5 _____ Hours

FUEL & SERVICES INFORMATION

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

46 Gallons _____ 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

Pre Flight and Lubrication of the Helicopter.

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

The two Passengers did a Normal Evacuation through the Passenger side Right Hand Door and the Pilot did a Normal Evacuation through the Left Hand side Door.

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

Aircraft Registration Number

N/A _____

Manufacturer: _____

Model: _____

Damage to Other Aircraft

☐ Destroyed

☐ Substantial

☐ Minor

☐ 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.

No One was hurt in the Landing. We analyzed our situation. Since we were only about 2 miles from the Ranch House, we decided to walk off the Mountain to the Ranch House.

We used Chuck's Satellite Phone to call my Son who contacted my Wife. She was working in the Vernal Temple. The Temple President contacted the Classic Air Med Helicopter and it was dispatched to the Ranch House. Chuck and Harlow elected to stay at the Ranch House. The EMTs visited us and determined that we were not hurt. I flew back to Vernal in the Classic Air Med Helicopter.

Since we had landed on Park Service Property, even though it was part of Chuck's Cattle Grazing Permit, Chuck as Very Concerned that the Helicopter should be relocated to his Ranch Property to avoid any Problems with the Park Service.

Chuck hired a Hughly Helicopter from Mountain West Helicopters to Long Line my Helicopter the 1.9 miles to the Ranch House. On Wednesday, February 5th, I boarded the Mountain West Helicopter at the Vernal Airport and flew to the Landing site. As an A&P Mechanic, I prepared the Helicopter with Lanyards around the Rotor Head and attached them to the Long Line of the Mountain West Hughly Helicopter. The Photos I have supplied show my Helicopter being lifted and transported to the Ranch House.

When the Snow melts and the Roads dry out, we plan to Trailer my Helicopter out to US Highway 40, via the Elk Springs Road. I built a Helicopter Trailer years ago, and use it whenever I have Out of State jobs.

The Elk Springs Road is 35 Miles of unmaintained Dirt Road from Elk Springs to the Ranch. It is about a 5 Hours Trip from my Shop in Vernal to the Ranch. This will probably happen in May 2020.

The Elk Springs Dirt Road is at about 6,000 feet MSL Altitude and should dry out about a MONTH Earlier than the Park Service Harper Corner Road which is at 8,000 foot MSL.

I have received Written Permission from the NTSB to Trailer my Helicopter to my shop. There, the NTSB and the Engine Manufacturer, Rolls-Royce, will make their first Inspections to determine the cause of the engine Failure.

Thank You, James Richards, email: benrichards1973@gmail.com

located @: Helicopter Records/14 Nov Forward/NTSB-Mantle Ranch Report.02 march 2020

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

Date of this Report 03/02/2020 mm/dd/yyyy	Name of Pilot/Operator: Ben James Richards, dba DYNAMIC AVIATION HELICOPDTERS Signature:  - or - ☐ Check here to electronically sign this document
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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. CEN201A073	Reviewed by NTSB Regional Office Central	Name of Investigator Folkerts	Date Report Received 3-16-2020
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