

WPR21FA143

**OPERATIONAL FACTORS/HUMAN PERFORMANCE**

Group Chair's Factual Report - Attachment 3

Personnel Records

October 25, 2022

# Soloy Helicopters

Pilot Qualification Card

ZACHARY RUSSELL Pilot Certificate: [REDACTED]

Is approved for the following operations:

FAR Part 133 - MD500 ( ) AS350 (B) BH205 ( )  
BK117 ( ) Class A  B  C   
FAR Part 135 - MD500 ( ) AS350 (B) BH205 ( )  
BK117 ( )  
FAR Part 137 - MD500 ( ) AS350 ( ) BH205 ( )  
BK117 ( )

Issued on: 6-5-2019 by [REDACTED] JOHN BRACHLER, CHIEF PILOT

AIRMAN COMPETENCY/PROFICIENCY CHECK FAR 135		LOCATION PAWS	DATE OF CHECK 1-21-2021
NAME OF AIRMAN (last, first, middle initial) RUSSELL, ZACHARY L		TYPE OF CHECK FAR 135.293 <input checked="" type="checkbox"/> FAR 135.297 <input type="checkbox"/> FAR 135.299 <input checked="" type="checkbox"/>	
CERIFICATION INFORMATION: Grade COMMERCIAL Number	MEDICAL INFORMATION: Date of Exam. 03/23/2020		Date of Birth
	Date of Birth		Class I
EMPLOYED BY SOLO HELICOPTERS	BASED AT (City, State) WASILLA, AK	TYPE AIRPLANE (Make/Model) AS350B2	
NAME OF CHECK AIRMAN J. BAECHLER		Simulator/Training Device (Make/Model)	
SIGNATURE OF CHECK AIRMAN		FLIGHT TIME 0.6	N350SH
FLIGHT MANEUVERS GRADE (S-Satisfactory U-Unsatisfactory)			
PILOT			
[Redacted]		Air-craft	Simu-lator Trng. Dev.
PREFLIGHT		HELICOPTER	
1. Equipment Examination (Oral or written)	S	1. Ground and/or Air Taxi	S
2. Preflight Inspection	S	2. Hovering Maneuvers	S
3. Taxiing	S	3. Normal & Crosswind T.O. & Landings	S
4. Powerplant Checks	S	4. High Altitude Takeoffs & Landings	
TAKEOFFS		5. Sim. Engine Failure	S
5. Normal		6. Confined Areas, Slopes, & Pinnacles	S
6. Instrument		7. Rapid Deceleration (Quick Stops)	S
7. Crosswind		8. Autorotations (Single Engine)	S
8. With Simulated Powerplant Failure		9. Hovering Autorotations (Single Engine)	S
9. Rejected Takeoff		10. Tail Rotor Failures (Oral)	S
INFLIGHT MANEUVERS		11. Settling With Power (Oral or Flight)	S
10. Steep Turns		SEAPLANE OPERATIONS	
11. Approaches to Stalls		1. Taxiing, Sailing, Docking	
12. Specific Flight Characteristics		2. Step Taxi & Turns	
13. Powerplant Failure		3. Glassy/Rough Water T.O./Landings	
LANDINGS		4. Normal Takeoff & Landings	
14. Normal		5. Crosswind T.O. & Landings	
From an ILS		OTHER	
Crosswind		6. Ski Plane Ops. (when applicable)	
17. With Simulated Powerplant(s) Failure		GENERAL	
18. Rejected Landing		7. Judgment	S
19. From Circling Approach		8. Crew Coordination	S
EMERGENCIES		AIRMAN COMPETENCY INFORMATION:	
20. Normal and Abnormal Procedures	S	Demonstrated Current Knowledge FAR 135.293(a)	
21. Emergency Procedures	S	Make/Model Expires AS350 (12 months) ( )	
INSTRUMENT PROCEDURES		Demonstrated Competency FAR 135.293(b)	
22. Area Departure		Make/Model Expires AS350 (12 months) ( )	
23. Holding		Satisfactorily Demonstrated Line Checks	
24. Area Arrival		FAR 135.299 Expires (12 months) ( )	
25. ILS Approaches		Satisfactorily Demonstrated IFR Proficiency	
26. Other Instrument Approaches		FAR 135.297 Expires (6 months) ( )	
Approaches: NDB/ADF		Use of Autopilot (is) (is not) Authorized.	
VOR		Expires (12 months) ( )	
ILS		REMARKS AS350B3 DIFFERENCES TRAINING COMPLETED	
Other (Specify) UNUSUAL ATT	S	BASE MONTH IS FEBRUARY	
27. Circling Approaches		CHECK AIRMAN'S PERFORMANCE (FAA Only)	
28. Missed Approaches		<input type="checkbox"/> Satisfactory	
29. Comm./Nav. Procedures		<input type="checkbox"/> Unsatisfactory	
30. Use of Auto. Pilot			
RESULT OF CHECK	<input checked="" type="checkbox"/> Approved <input type="checkbox"/> Disapproved	FAA INSPECTOR'S SIGNATURE	
REGION ALASKA	DISTRICT OFFICE AL-03		

AIRMAN COMPETENCY/PROFICIENCY CHECK FAR 135				LOCATION PAWS		DATE OF CHECK 1-24-2020	
NAME OF AIRMAN (last, first, middle initial) Russell; Zachary L				TYPE OF CHECK FAR 135.293 <input checked="" type="checkbox"/> FAR 135.297 <input type="checkbox"/> FAR 135.299 <input checked="" type="checkbox"/>			
PILOT CERTIFICATION INFORMATION: Grade Commercial Number [REDACTED]		MEDICAL INFORMATION: Date of Exam. 3-14-2019 Date of Birth [REDACTED] Class I		TYPE OF AIRPLANE (Make/Model) MD 500			
EMPLOYED BY: Soloy Helicopters		BASED AT (City, State) WASILLA, AK		Simulator/Training Device (Make/Model)			
NAME OF CHECK AIRMAN R. Gideon		SIG. OF CHECK AIRMAN [REDACTED]		FLIGHT TIME .9		N 3155H	
FLIGHT MANEUVERS GRADE (S - Satisfactory U - Unsatisfactory)							
PILOT [REDACTED]				Air-craft		Simu-lator	
PREFLIGHT				HELIICOPTER			
1. Equipment Examination (Oral or Written) S				1. Ground and/or Air Taxi S			
2. Preflight Inspection S				2. Hovering Maneuvers S			
3. Taxiing S				3. Normal and Crosswind T.O. & Landings S			
4. Powerplant Checks S				4. High Altitude Takeoffs & Landings S			
TAKEOFFS				5. Sim. Engine Failure S			
5. Normal S				6. Confined Areas, Slopes, & Pinnacles S			
6. Instrument I				7. Rapid Deceleration (Quick Stops) S			
7. Crosswind I				8. Autorotations (Single Engine) S			
8. With Simulated Powerplant Failure I				9. Hovering Autorotations (Single Engine) S			
9. Rejected Takeoff I				10. Tail Rotor Failures (Oral) S			
INFLIGHT MANEUVERS				11. Settling With Power (Oral or Flight) S			
10. Steep Turns I				SEAPLANE OPERATIONS			
11. Approaches to Stalls I				1. Taxiing, Sailing, Docking S			
12. Specific Flight Characteristics S				2. Step Taxi & Turns S			
13. Powerplant Failure S				3. Glassy/Rough Water T.O. & Landings S			
LANDINGS				4. Normal Takeoff & Landings S			
14. Normal S				5. Crosswind T.O. & Landings S			
15. From an ILS S				OTHER			
16. Crosswind S				6. Ski Plane Ops. (when applicable) S			
17. With Simulated Powerplant(s) Failure S				GENERAL			
18. Rejected Landing S				7. Judgment S			
19. From Circling Approach S				8. Crew Coordination S			
EMERGENCIES				AIRMAN COMPETENCY INFORMATION:			
20. Normal and Abnormal Procedures S				Demonstrated Current Knowledge FAR 135.293(a)			
21. Emergency Procedures S				Make/Model Expires MD 500 (12 months) 01, 2021			
INSTRUMENT PROCEDURES				Demonstrated Competency FAR 135.293(b)			
22. Area Departure I				Make/Model Expires MD 500 (12 months) 01, 2021			
23. Holding I				Satisfactorily Demonstrated Line Checks			
24. Area Arrival I				FAR 135.299 (12 months) 01, 2021			
25. ILS Approaches I				Satisfactorily Demonstrated IFR Proficiency			
26. Other Instrument Approaches				FAR 135.297 (6 months) ( )			
Approaches: NDB/ADF				Use of Autopilot (is) (is not) Authorized.			
VOR				Expires (12 months) ( )			
ILS				REMARKS Base month January			
Other (Specify) Unusual ATT S							
27. Circling Approaches I							
28. Missed Approaches I							
29. Comm. / Nav. Procedures I							
30. Use of Auto Pilot I							
RESULT OF CHECK		<input checked="" type="checkbox"/> Approved <input type="checkbox"/> Disapproved		CHECK AIRMAN'S PERFORMANCE (FAA Only)		<input type="checkbox"/> Satisfactory <input type="checkbox"/> Unsatisfactory	
REGION Alaska		DISTRICT OFFICE AL-03		FAA INSPECTOR'S SIGNATURE			

AIRMAN COMPETENCY/PROFICIENCY CHECK FAR 135				LOCATION PAWS		DATE OF CHECK 1-21-2020	
NAME OF AIRMAN (last, first, middle initial) RUSSELL, ZACHARY L				TYPE OF CHECK FAR 135.293 <input checked="" type="checkbox"/> FAR 135.297 <input type="checkbox"/> FAR 135.299 <input checked="" type="checkbox"/>			
PILOT CERTIFICATION INFORMATION: Grade COMMERCIAL Number [REDACTED]		MEDICAL INFORMATION: Date of Exam. 3-19-2019 Date of Birth [REDACTED] Class I		TYPE OF AIRPLANE (Make/Model) AS350B2			
EMPLOYED BY: SOLID HELICOPTERS		BASED AT (City, State) WASILLA, AK		Simulator/Training Device (Make/Model)			
NAME OF CHECK AIRMAN J. BAEBLER		SIG. OF CHECK AIRMAN [REDACTED]		FLIGHT TIME 0.7		N350SH	
FLIGHT MANEUVERS GRADE (S - Satisfactory U - Unsatisfactory)							
PILOT [REDACTED]				Air-craft		Simu-lator	
PREFLIGHT				HELICOPTER			
1. Equipment Examination (Oral or Written)				1. Ground and/or Air Taxi			
2. Preflight Inspection				2. Hovering Maneuvers			
3. Taxiing				3. Normal and Crosswind T.O. & Landings			
4. Powerplant Checks				4. High Altitude Takeoffs & Landings			
TAKEOFFS				5. Sim. Engine Failure			
5. Normal				6. Confined Areas, Slopes, & Pinnacles			
6. Instrument				7. Rapid Deceleration (Quick Stops)			
7. Crosswind				8. Autorotations (Single Engine)			
8. With Simulated Powerplant Failure				9. Hovering Autorotations (Single Engine)			
9. Rejected Takeoff				10. Tail Rotor Failures (Oral)			
INFLIGHT MANEUVERS				11. Settling With Power (Oral or Flight)			
10. Steep Turns				SEAPLANE OPERATIONS			
11. Approaches to Stalls				1. Taxiing, Sailing, Docking			
12. Specific Flight Characteristics				2. Step Taxi & Turns			
13. Powerplant Failure				3. Glassy/Rough Water T.O. & Landings			
LANDINGS				4. Normal Takeoff & Landings			
14. Normal				5. Crosswind T.O. & Landings			
15. From an ILS				OTHER			
16. Crosswind				6. Ski Plane Ops. (when applicable)			
17. With Simulated Powerplant(s) Failure				GENERAL			
18. Rejected Landing				7. Judgment			
19. From Circling Approach				8. Crew Coordination			
EMERGENCIES				AIRMAN COMPETENCY INFORMATION:			
20. Normal and Abnormal Procedures				Demonstrated Current Knowledge FAR 135.293(a)			
21. Emergency Procedures				Make/Model Expires AS350 (12 months) (02) 2021			
INSTRUMENT PROCEDURES				Demonstrated Competency FAR 135.293(b)			
22. Area Departure				Make/Model Expires AS350 (12 months) (02) 2021			
23. Holding				Satisfactorily Demonstrated Line Checks			
24. Area Arrival				FAR 135.299 (12 months) (02) 2021			
25. ILS Approaches				Satisfactorily Demonstrated IFR Proficiency			
26. Other Instrument Approaches				FAR 135.297 (6 months) ( )			
Approaches: NDB/ADF				Use of Autopilot (is) (is not ) Authorized.			
VOR				Expires (12 months) ( )			
ILS				REMARKS AS350BA/B3 DIFF'ING COMPLETE			
Other (Specify) UNUSUAL AT				BASE MONTH IS FEBRUARY			
27. Circling Approaches							
28. Missed Approaches							
29. Comm. / Nav. Procedures							
30. Use of Auto Pilot							
RESULT OF CHECK <input checked="" type="checkbox"/> Approved <input type="checkbox"/> Disapproved				CHECK AIRMAN'S PERFORMANCE (FAA Only) <input type="checkbox"/> Satisfactory <input type="checkbox"/> Unsatisfactory			
REGION ALASKA		DISTRICT OFFICE AL-03		FAA INSPECTOR'S SIGNATURE			

AIRMAN COMPETENCY/PROFICIENCY CHECK FAR 135				LOCATION PAWS		DATE OF CHECK 2-8-2019						
NAME OF AIRMAN (last, first, middle initial) RUSSELL, ZACHARY L				TYPE OF CHECK FAR 135.293 <input checked="" type="checkbox"/> FAR 135.297 <input type="checkbox"/> FAR 135.299 <input checked="" type="checkbox"/>								
PILOT CERTIFICATION INFORMATION: Grade COMMERCIAL Number [REDACTED]		MEDICAL INFORMATION: Date of Exam. 3/19/2018 Date of Birth [REDACTED] Class I		TYPE AIRPLANE (Make/Model) A350 Simulator/Training Device (Make/Model)								
EMPLOYED BY SOLO HELICOPTERS		BASED AT (City, State) Wasilla, AK		FLIGHT TIME 0.8		N16054						
NAME OF CHECK AIRMAN JOHN BAECHLER		SIG. OF CHECK AIRMAN [REDACTED]		FLIGHT MANEUVERS GRADE (S-Satisfactory U-Unsatisfactory)								
PILOT [REDACTED]				Air-craft	Simu-lator	Trng. Dev.	Air-craft	Simu-lator	Trng. Dev.			
PREFLIGHT				HELICOPTER								
1. Equipment Examination (Oral or written)				S			1. Ground and/or Air Taxi			S		
2. Preflight Inspection				S			2. Hovering Maneuvers			S		
3. Taxiing				S			3. Normal & Crosswind T.O. & Landings			S		
4. Powerplant Checks				S			4. High Altitude Takeoffs & Landings			/		
TAKEOFFS				SEAPLANE OPERATIONS								
5. Normal				/			5. Sim. Engine Failure			S		
6. Instrument				/			6. Confined Areas, Slopes, & Pinnacles			S		
7. Crosswind				/			7. Rapid Deceleration (Quick Stops)			S		
8. With Simulated Powerplant Failure				/			8. Autorotations (Single Engine)			S		
9. Rejected Takeoff				/			9. Hovering Autorotations (Single Engine)			S		
INFLIGHT MANEUVERS				GENERAL								
10. Steep Turns				/			7. Judgment			S		
11. Approaches to Stalls				/			8. Crew Coordination			S		
12. Specific Flight Characteristics				/			AIRMAN COMPETENCY INFORMATION:					
13. Powerplant Failure				/			Demonstrated Current Knowledge FAR 135.293(a)					
LANDINGS				Make/Model Expires A350 (12 months) (02/2020)								
14. Normal				/			Demonstrated Competency FAR 135.293(b)					
15. From an ILS				/			Make/Model Expires A350 (12 months) (02/2020)					
16. Crosswind				/			Satisfactorily Demonstrated Line Checks					
17. With Simulated Powerplant(s) Failure				/			FAR 135.299 Expires (12 months) (02/2020)					
18. Rejected Landing				/			Satisfactorily Demonstrated IFR Proficiency					
19. From Circling Approach				/			FAR 135.297 Expires (6 months) ( )					
EMERGENCIES				Use of Autopilot (is) (is not) Authorized.								
20. Normal and Abnormal Procedures				S			Expires (12 months) ( )					
21. Emergency Procedures				S			REMARKS BA, B3 DIFF TNG COMPLETED					
INSTRUMENT PROCEDURES				BASE MONTH IS FEBRUARY								
22. Area Departure				/								
23. Holding				/								
24. Area Arrival				/								
25. ILS Approaches				/								
26. Other Instrument Approaches				/								
Approaches: NDB/ADF				/								
VOR				/								
ILS				/								
Other (Specify) UNUSUAL ATT				S								
27. Circling Approaches				/								
28. Missed Approaches				/								
29. Comm./Nav. Procedures				/								
30. Use of Auto. Pilot				/								
RESULT OF CHECK				<input checked="" type="checkbox"/> Approved <input type="checkbox"/> Disapproved		CHECK AIRMAN'S PERFORMANCE (FAA Only)		<input type="checkbox"/> Satisfactory <input type="checkbox"/> Unsatisfactory				
REGION ALASKA			DISTRICT OFFICE AL-03			FAA INSPECTOR'S SIGNATURE						

# Soly Helicopters Pilot Information Form

This form to be filled out annually. Helicopter times should be indicated to one decimal place.

Name: <b>Zachary Russell</b>		Single Engine Helicopter Hours	Multi Engine Helicopter Hours	Specialty Flying Hours
City: <b>Anchorage</b>		MD500: <b>8.8 hr</b>	BK117/EC145:	Heli-Ski - Light/Inter: <b>30.0 hr</b>
State: <b>AK</b> Zip Code: <b>99507</b>		AS350: <b>1427.6 hr</b>	AS355:	Heli-Ski - Medium:
Country: <b>USA</b> Hire Date: <b>02/02/2019</b>		B204/205:	B212:	IFR:
Main Phone: [Redacted] Birth Date: [Redacted]		B206:	B412:	Offshore:
Other Contact Number: [Redacted] U.S. Pilot Licence Number: [Redacted]		R44: <b>538.4 hr</b>	B214:	Instruction Given: <b>830.4 hr</b>
Cell Phone: [Redacted] Other Pilot Licence Numbers:		EC130: <b>683 hr</b>	Logging:	
Other Licence (specify):		<b>Other Flying Hours</b> (List all other helicopters and specialty flying)		Long-Line: <b>270 hr</b>
Email Address: [Redacted]		R22: <b>550.4</b>	Mountain Flying:	
Citizenship: <b>USA</b>				Night: <b>116.8 hr</b>
Passport Number: <b>EX9</b>	Passport Expiry Date:			Seismic - Light/Inter:
				Seismic - Medium:
				Geophysical Survey:
				Alaska Time: <b>1100 hr</b>
		SE Helicopter PIC: <b>3151.9</b>	ME Helicopter PIC:	Fixed-wing Hours:
		SE Helicopter Total Hrs: <b>3208.2</b>	ME Helicopter Total Hrs:	Total Helicopter Hours: <b>3208.2</b>
<b>Courses Taken</b> (Indicate agency that conducted the course)		<b>Courses Taken</b> (Indicate agency that conducted the course)		
Cockpit Resource Management (CRM):		Mountain Flying:		
First Aid, CPR:		Pilot Decision Making (PDM):		
H.U.E.T.:		CFIT:		
I hereby certify this information is correct to the best of my knowledge				
Signature: [Redacted]		Date: <b>1-26-2021</b>		

**INCIDENT HISTORY**

Have you been involved in an aircraft incident(s) that caused damage to an aircraft (other than an accident) while acting as pilot?

Yes

No

If Yes, provide details below. If reported on prior year's form write "As previously reported".

**ACCIDENT HISTORY**

Have you been involved in an aircraft accident(s) that caused damage to an aircraft while acting as a pilot?

Yes

No

If Yes, provide details below. If reported on prior year's form write "As previously reported".

Use additional paper as required

I hereby certify that the information above is accurate to the best of my knowledge.



Signature

1-26-2021

Date



# Zachary L. Russell

[REDACTED]  
Anchorage, Alaska, 99507

---

## Helicopter Qualifications

- FAA Commercial Pilot, Instrument Rating
- CFI, CFII with Gold Seal
- Current First Class Medical
- 1200 plus hours in Airbus products AS350 B2/B3E and EC130T2/B4
- One season in South East Alaska

## Helicopter hours

- Total 2377
- PIC 2320
- Turbine 1288
- Dual Given 830
- Night PIC 113
- XC 1084
- Simulated Instrument 59
- Alaska and Canada 265
- +5000' DA 786
- AS 350B2/B3E 598/6
- EC130T2/B4 683
- Robinson R22/R44 554/534

## Experience

- 135 North Star Helicopters – AS 350B2 and B3E
  - Tours, Charters, Film, Sled dog and camp transport, Mx flights
- 135 Sundance Helicopters – AS 350B2 VEMD/Steam Gauge and EC130T2/B4
  - Tours, Charters, Up and Down Pilot AS 350B2, Mx flights
- Helicopter ferry flight from Anchorage, AK to Bend, OR in R44
- CFI/CFII, Check Instructor 141 with Leading Edge Aviation
- Cherry Drying in R44

## Education

- Southern Oregon University-
  - Bachelors of Science in Criminology / Criminal Justice
- Leading Edge Aviation-
  - Private Pilot, Commercial, Instrument, CFI, CFII

## Professional Experience

- Line Pilot North Star Helicopters 135 – Juneau, Alaska
- Line Pilot Sundance Helicopters 135 – Las Vegas, Nevada
- CFI/CFII and Stage Check Instructor at Leading Edge Aviation – Bend, Oregon

## References

- Mike Bury – Chief Pilot North Star Helicopters - [REDACTED]
- Jason Kulbeth – Director of Operations North Star Helicopters - [REDACTED]
- Kyle Mosley – Pilot Columbia Helicopters - [REDACTED]
- John Sopher – Pilot PHI - [REDACTED]
- Bill Orvis – Chief Pilot Sundance Helicopters - [REDACTED]



U.S. Department  
of Transportation  
**Federal Aviation  
Administration**

Aviation Data Systems  
Branch, AFS-620(PRIA)

P.O. Box 25082  
Oklahoma City, OK 73125-0082

KELLY LANTZ  
SOLOY HELICOPTERS LLC  
3300 W AVIATINON AVE  
SOLOYSCANS@MTAONLINE.NET  
WASILLA, AK 99687

Control Number: 370764

This is in response to your request of May 2, 2019, under Section 502 of the Pilot Records Improvement Act of 1996, (Public Law 104-264), pertaining to the medical certificate, current airman certificates and associated type ratings, including any limitations to those certificates and ratings; and summaries of legal enforcement actions resulting in a finding of a violation involving ZACHARY LAIRD RUSSELL, which may include violations on current and previous certificate number(s): [REDACTED] Your request was received on July 24, 2019.

RUSSELL, ZACHARY LAIRD

Med Class: 1                      Med Date: 3/19/2019  
Limitation(s)                      None

COMMERCIAL PILOT                      Cert No: [REDACTED]                      DOI: 11/11/2013  
ROTORCRAFT-HELICOPTER  
INSTRUMENT HELICOPTER  
LIMITATIONS  
ENGLISH PROFICIENT.

FLIGHT INSTRUCTOR                      Cert No: [REDACTED]                      DOI: 4/21/2018  
ROTORCRAFT-HELICOPTER  
INSTRUMENT HELICOPTER  
LIMITATIONS  
VALID ONLY WHEN ACCOMPANIED BY PILOT CERTIFICATE NO. [REDACTED]  
EXPIRES: 30 Apr 2020.

GROUND INSTRUCTOR                      Cert No: [REDACTED]                      DOI: 4/26/2016  
INSTRUMENT

A search of the Enforcement Information System, which excluded the Student Pilot Certificate, on July 25, 2019, revealed no legal enforcement actions resulting in a finding of a violation pertaining to the above airman.

The preceding data was derived from official FAA data systems utilized by AFS-620. Pending legal actions which are not releasable until the case is closed will not appear on this report. Accident/Incident information will also not appear on this report.

Recent additions to an airman's certificate that were issued within 6 to 8 weeks or less preceding the date of this report may not have been processed by the Civil Aviation Registry and consequently, would not appear on the enclosed airman's verification of certificates and/or ratings.

All requests in accordance with the Pilot Records Improvement Act of 1996 may be faxed to: 405-954-4655 ATTN: PRIA; or if scanning is available to include signatures, they may be emailed to: [9-amc-afs620-pria@faa.gov](mailto:9-amc-afs620-pria@faa.gov) or mailed to the Aviation Data Systems Branch, AFS-620, ATTN: PRIA, PO Box 25082, Oklahoma City, OK 73125.

Additional information including all forms, regulatory and support material may be found at:  
[http://www.faa.gov/pilots/lic\\_cert/pria/](http://www.faa.gov/pilots/lic_cert/pria/)

Additional FAA records may be available as referenced in Advisory Circular AC 120-68 (current edition), paragraph 1-7 and Appendix 9: Additional Pilot Records. Appendix 9 identifies the additional records that may be available to an air carrier or operator and the procedure to request those records. Such records may include an airman's history of accidents, incidents, and enforcement history including open enforcement actions, administrative records, and records of failed practical tests (Notices of Disapproval) if an airman's file contains such records.

In our continuing effort to improve the quality of service to our customers, we would appreciate any comments you may have. Please send your comments to: <http://av-info.faa.gov/feedback/> or contact the AFS-620 Reporting Group at: 405-954-4173. A phone menu will direct your call.

Sincerely,

A black rectangular redaction box covering the signature of Bryan W. Brown.

Bryan W. Brown  
Manager, Aviation Data Systems Branch  
AFS-620

AIRMAN ZACHARY RUSSELL

CERTIFICATE AND SUMMARY OF CFIT-A TRAINING

<b>AIRMAN GENERAL SUBJECTS TRAINING – NON-AIRCRAFT SPECIFIC</b>	<input checked="" type="checkbox"/> Initial / Basic Indoc. <input type="checkbox"/> Recurrent <input type="checkbox"/> Requalification	<input checked="" type="checkbox"/> Recurrent <input type="checkbox"/> Requalification	<input checked="" type="checkbox"/> Recurrent <input type="checkbox"/> Requalification
Company CFIT-A Policies & Procedures	Inst'r: [Redacted]	Inst'r: RWB	Inst'r: RWB
CFIT Accident Review	Inst'r: [Redacted]	Inst'r: RWB	Inst'r: RWB
Flat-Light	Inst'r: [Redacted]	Inst'r: RWB	Inst'r: RWB
White-Out	Inst'r: [Redacted]	Inst'r: RWB	Inst'r: RWB
Deteriorating Visibility	Inst'r: [Redacted]	Inst'r: RWB	Inst'r: RWB
Inadvertent IMC	Inst'r: [Redacted]	Inst'r: RWB	Inst'r: RWB
Estimating In-flight Visibility	Inst'r: [Redacted]	Inst'r: RWB	Inst'r: RWB
Advanced Aircraft Systems	Inst'r: [Redacted]	Inst'r: RWB	Inst'r: RWB
<b>Training Completion Date &amp; Results</b>	Date: <u>2-6-2019</u> <input checked="" type="checkbox"/> Sat <input type="checkbox"/> Unsat	Date: <u>1-21-2020</u> <input checked="" type="checkbox"/> Sat <input type="checkbox"/> Unsat	Date: <u>1-21-2021</u> <input checked="" type="checkbox"/> Sat <input type="checkbox"/> Unsat
<b>Instructor or Chief Pilot Certification Signature</b>	[Redacted Signature]	[Redacted Signature]	[Redacted Signature]
<b>Airman Signature</b>	[Redacted Signature]		[Redacted Signature]
<b>CFIT-A Observation Flight</b>	Pilot: <u>N/A</u> Inst'r: <u>N/A</u> Date: <u>N/A</u> <input type="checkbox"/> Sat <input type="checkbox"/> Unsat	Pilot: _____ Inst'r: _____ Date: _____ <input type="checkbox"/> Sat <input type="checkbox"/> Unsat	Pilot: _____ Inst'r: _____ Date: _____ <input type="checkbox"/> Sat <input type="checkbox"/> Unsat

Reproduce form as required for continuous history of airman training

# CFIT-A EXAM

(1)

**NAME :** Zachary Russell

**DATE :** 02-06-2019

**SCORE :** CORR TO 100%

**SUPERVISED &  
MARKED BY:** 

## CONTROLLED FLIGHT INTO TERRAIN AVOIDANCE

Written Examination

Choose the best answer

1. Flat light conditions are usually accompanied by:
  - a. Late afternoon sunshine low on the horizon making the light "flat"
  - b. Overcast skies inhibiting any good visual cues
  - c. Wearing polarized sunglasses when the sun is flat on the horizon
  - d. None of the above.
  
2. Whiteout occurs when a pilot becomes engulfed in a uniformly white glow choose the correct from below:
  - a. A whiteout situation is extremely dangerous because there are no visual references.
  - b. Flying is not recommended in any whiteout condition.
  - c. Flat light conditions can rapidly lead to whiteout, and both atmospheric conditions can sneak up on you as your visual references slowly begin to disappear.
  - d. Whiteout has been the leading cause of most aviation accidents in snow-covered areas.
  - e. All of the above.
  
3. Autokinesis is a visual illusion that primarily occurs at night when ambient visual cues are minimal and a small, dim light is seen against a dark background. It can be argued that flying in areas of flat light using a single area of contrast (a bush as an example) can lead to the same effects as the autokinetic effect. To overcome the adverse effects of the autokinetic effect increase the number of objects used to maintain orientation
  - a. True
  - b. False
  
4. Prevention techniques. There are no fail-safe procedures for flying in flat-light/whiteout conditions. However, the following tips can be used to aid in recognition and avoidance.
  - a. Check all available weather sources.
  - b. Set personal weather minimums and stick to them.
  - c. When conducting an approach to landing, do not lose sight of your reference point(s).
  - d. Plan your approach so that your reference point is on your side of the aircraft when landing.
  - e. All of the above
  - f. a b and c

5. Flight techniques. The following techniques should be observed in an effort to assist the flight crew or pilot in maintaining spatial orientation.
- a. Never takeoff in a full white-out situation
  - b. When flying into snow showers. **SLOW DOWN!**
  - c. When flying along lakeshores, use them as reference points. If you must cross a lake, check your flight instruments frequently and maintain a safe altitude while maintaining reference points.
  - d. When weather conditions start to deteriorate, don't push yourself until you are out of options.
  - e. All of the above

6. When landing in low light conditions, use extreme caution. During the approach, look for intermediate reference points, and continually update reference points during the approach until completion of the landing. Additionally:
- a. A hover down landing may be the most appropriate in blowing snow conditions.
  - b. Use whatever means you must to create the contrast you need.
  - c. If needed drop a single dark object for reference out on a large open white expanse.
  - d. a and b
  - e. All of the above.

7. In the absence of natural references (rocks, bushes, snow ridges, etc.) use the following items to provide contrast and references: Artificial markers, such as orange panels, surveyors tape, weighted flags, tree branches.

True                      False

8. Ceilings. If you start losing slant visibility, this means you are:
- a. Entering the cloud
  - b. You probably have your eyes closed.
9. Loss of visual references. When conditions reach the point that the pilot or aircrew has bypassed the point of no return the following actions need to be completed immediately:
- a. Trust the cockpit instruments if equipped. Verify that the entire crew has lost reference points/contrast if dual pilot. The non-flying pilot may still have a reference point even though the pilot flying does not.
  - b. Execute a 180-degree turn-around and start looking for outside references.
  - c. Above all fly the aircraft!!
  - d. All of the Above

10. There are many factors that come into play when dealing with flat light and white out conditions. A pilot's instinctual responses must be immediate based on a well thought out plan.

True

False

11. It is possible to takeoff and fly safely in flat light conditions provided:

- a. You plan well, are trained, and show good judgement.
- b. You plan on using good judgment, specific training is not feasible.
- c. You plan to do the best you can and get training afterward.
- d. You listen to your instincts and fly accordingly.

12. Takeoff in snow covered terrain should be:

- a. A maximum performance vertical takeoff.
- b. A running take off.
- c. A takeoff from a standard hover height.
- d. None of the answers are correct.

13. How does the workload of the pilot increase during flight in flat light conditions?

- a. Increasing instrument scan and relying more on the instruments.
- b. Looking for and avoiding other traffic in limited visibility.
- c. Navigating by more limited means.
- d. All of the above.

14. Departure in flat light conditions is possible, however;

- a. A takeoff in flat light conditions may result in your inability to return to your original point of departure.
- b. A takeoff in whiteout conditions should never be attempted.
- c. Flight in whiteout conditions is not recommended
- d. All of the above.

15. Fill in the blanks: **\*\*Never fly past your Visual PointS of reference or minimum Safe Known altitude.**



AIRMAN Zachary Russell

CERTIFICATE AND SUMMARY OF

NON-AIRCRAFT SUBJECT TRAINING

AIRMAN GENERAL SUBJECTS TRAINING - NON-AIRCRAFT SPECIFIC	<input type="checkbox"/> Initial / Basic Indoc. <input checked="" type="checkbox"/> Recurrent <input type="checkbox"/> Requalification	<input checked="" type="checkbox"/> Recurrent <input type="checkbox"/> Requalification	<input type="checkbox"/> Recurrent <input type="checkbox"/> Requalification
Co. Ops Specs, Ops Manual & Co. Policies	Inst'r: <del>AW</del>	Inst'r: <del>AW</del>	Inst'r:
Federal Aviation Regulations	Inst'r: <del>AW</del>	Inst'r: <del>AW</del>	Inst'r:
Meteorology	Inst'r: <del>AW</del>	Inst'r: <del>AW</del>	Inst'r:
Airports, Airspace, ATC & Navigation	Inst'r: <del>AW</del>	Inst'r: <del>AW</del>	Inst'r:
Hazmat Acceptance and Transportation	Inst'r: <del>AW</del>	Inst'r: <del>AW</del>	Inst'r:
Emergency Situation Procedures	Inst'r: <del>AW</del>	Inst'r: <del>AW</del>	Inst'r:
Fire Extinguisher Drill	Inst'r: N/A	Inst'r: N/A	Inst'r:
CRM / CFIT	Inst'r: <del>AW</del>	Inst'r: <del>AW</del>	Inst'r:
Training Completion Date & Results	Date: <u>1-21-2020</u> <input checked="" type="checkbox"/> Sat <input type="checkbox"/> Unsat	Date: <u>1-21-2021</u> <input type="checkbox"/> Sat <input type="checkbox"/> Unsat	Date: _____ <input type="checkbox"/> Sat <input type="checkbox"/> Unsat
Airman Signature			
Instructor or Chief Pilot Certification Signature			
Base Month	<u>February</u>	<u>February</u>	

Reproduce form as required for continuous history of airman training

AIRMAN ZACHARY RUSSELL

CERTIFICATE AND SUMMARY OF

NON-AIRCRAFT SUBJECT TRAINING


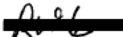



AIRMAN GENERAL SUBJECTS TRAINING - NON-AIRCRAFT SPECIFIC	<input checked="" type="checkbox"/> Initial / Basic Indoc. <input type="checkbox"/> Recurrent <input type="checkbox"/> Requalification	<input checked="" type="checkbox"/> Recurrent <input type="checkbox"/> Requalification	<input type="checkbox"/> Recurrent <input type="checkbox"/> Requalification
	Co. Ops Specs, Ops Manual & Co. Policies	Inst'r: [Signature]	Inst'r: [Signature]
Federal Aviation Regulations	Inst'r: [Signature]	Inst'r: [Signature]	Inst'r:
Meteorology	Inst'r: [Signature]	Inst'r: [Signature]	Inst'r:
Airports, Airspace, ATC & Navigation	Inst'r: [Signature]	Inst'r: [Signature]	Inst'r:
Hazmat Acceptance and Transportation	Inst'r: [Signature]	Inst'r: [Signature]	Inst'r:
Emergency Situation Procedures	Inst'r: [Signature]	Inst'r: [Signature]	Inst'r:
Fire Extinguisher Drill	Inst'r: N/A	Inst'r: N/A	Inst'r:
Training Completion Date & Results	Date: <u>2-6-2019</u> <input checked="" type="checkbox"/> Sat <input type="checkbox"/> Unsat	Date: <u>1-21-2020</u> <input checked="" type="checkbox"/> Sat <input type="checkbox"/> Unsat	Date: _____ <input type="checkbox"/> Sat <input type="checkbox"/> Unsat
Airman Signature	[Signature]	[Signature]	
Instructor or Chief Pilot Certification Signature	[Signature]	[Signature]	
Base Month	FEB	Feb	

Reproduce form as required for continuous history of airman training

AIRMAN Zac Russe

CERTIFICATE AND SUMMARY OF  
 AIRCRAFT TRAINING

AIRCRAFT TYPE & CONFIGURATION M.D.500

AIRCRAFT-SPECIFIC TRAINING	<input checked="" type="checkbox"/> Initial <input type="checkbox"/> Transition <input type="checkbox"/> Recurrent <input type="checkbox"/> Requalification	<input type="checkbox"/> Recurrent <input type="checkbox"/> Requalification	<input type="checkbox"/> Recurrent <input type="checkbox"/> Requalification
Aircraft Systems and Procedures – Ground	Inst'r: 	Inst'r:	Inst'r:
Evacuation Drill – Ground	Inst'r: N/A	Inst'r:	Inst'r:
Seat Removal and Installation Drill – Ground	Inst'r: N/A	Inst'r:	Inst'r:
Normal Operations – Flight	Inst'r: 	Inst'r:	Inst'r:
Abnormal & Emerg. Procedures – Flight	Inst'r: 	Inst'r:	Inst'r:
Training Completion Date & Results	Date: <u>11-20-2019</u> <input type="checkbox"/> Sat <input type="checkbox"/> Unsat	Date: _____ <input type="checkbox"/> Sat <input type="checkbox"/> Unsat	Date: _____ <input type="checkbox"/> Sat <input type="checkbox"/> Unsat
Airman Signature			
Instructor or Chief Pilot Certification Signature			
Base Month	Jan		

Reproduce form as required for continuous history of airman training

AIRMAN ZACHARY RUSSELL

CERTIFICATE AND SUMMARY OF  
 AIRCRAFT TRAINING

AIRCRAFT TYPE & CONFIGURATION AS350

AIRCRAFT-SPECIFIC TRAINING	<input checked="" type="checkbox"/> Initial <input type="checkbox"/> Transition <input type="checkbox"/> Recurrent <input type="checkbox"/> Requalification	<input checked="" type="checkbox"/> Recurrent <input type="checkbox"/> Requalification	<input checked="" type="checkbox"/> Recurrent <input type="checkbox"/> Requalification
	Aircraft Systems and Procedures – Ground	Inst'r: [Redacted]	Inst'r: [Redacted]
Evacuation Drill – Ground	Inst'r: N/A	Inst'r: N/A	Inst'r: N/A
Seat Removal and Installation Drill – Ground	Inst'r: N/A	Inst'r: N/A	Inst'r: N/A
Normal Operations – Flight	Inst'r: [Redacted]	Inst'r: [Redacted]	Inst'r: [Redacted]
Abnormal & Emerg. Procedures – Flight	Inst'r: [Redacted]	Inst'r: [Redacted]	Inst'r: [Redacted]
Training Completion Date & Results	Date: <u>2/7/2019</u> <input checked="" type="checkbox"/> Sat <input type="checkbox"/> Unsat	Date: <u>1-21-2020</u> <input checked="" type="checkbox"/> Sat <input type="checkbox"/> Unsat	Date: <u>1-21-2021</u> <input checked="" type="checkbox"/> Sat <input type="checkbox"/> Unsat
Airman Signature	[Redacted]	[Redacted]	[Redacted]
Instructor or Chief Pilot Certification Signature	[Redacted]	[Redacted]	[Redacted]
Base Month	FEB	Feb	Feb

Reproduce form as required for continuous history of airman training

HELICOPTER FLIGHT TRAINING LOG

Airman Name: ZACHARY RUSSELL Aircraft Type & Config: AS350

Flt	Date	Instructor	Hours	Comments
1	1-21-2020	BAECHLER	0.3	HELI-SKI OPERATIONS, SNOW OPERATIONS, PINNACLE LANDINGS, SLOPES, GUIDE PICKUPS/DROPOFFS
2				
3				
4				

Enter "S" or "U" in the appropriate flight session column for each item trained during the session

	PREFLIGHT				INFLIGHT MANEUVERS				
	1	2	3	4	1	2	3	4	
Preflight Preparation	S				Quick Stop/Rapid Deceleration	/			
Visual Inspection & Walkaround	S				Autorotations	/			
Fueling	S				Hovering Autorotations	/			
Cargo Loading & Checks	S				Tail Rotor Failures	/			
Pax Checks and Briefing	S				Settling with Power	/			
Starting Procedure – Checklist Use	S								
Ground and/or Hover Taxi	S								
Before Takeoff Checklist	S								
<b>TAKEOFF AND LANDING</b>									
Normal & Crosswind T.O. & Landings	S				<b>NORMAL &amp; ABNORMAL SYSTEMS PROCEDURES</b>				
High Altitude Takeoffs & Landings	/				Heating, Ventilating & Defrosting	/			
Slope Takeoffs	S				Fuel & Oil System	/			
Confined Area/Max Performance Takeoffs	S				Electrical System	/			
					Flight Controls & Rotor Systems	/			
					Pitot Static System	/			
<b>APPROACH AND LANDING</b>									
Descent, Pattern & Checklist Procedures	S				<b>ABNORMAL &amp; EMERGENCY PROCEDURES</b>				
Normal Approaches & Landings	S				Rejected Takeoff	/			
Confined Area/Pinnacle Approaches & Landings	S				Rejected Landing	/			
Slope Landings	S				Demonstrated Instrument Approach	/			
					Recovery from Unusual Attitudes	/			
<b>PARKING</b>									
Engine shut down & Checklist Use	S				Simulated Engine Failures	/			
Securing & Protection	S				Engine Fire	/			
					Cabin Fire & Smoke Control	/			
					Inadvertent IMC Procedures	/			

I certify satisfactory completion of the Company flight training program and recommend this pilot for Competency/Proficiency and Line Checks i/a/w FAR 135.293 and 135.299.

Instructor Signature:

Date:

Airman Signature:

Date:

HELICOPTER FLIGHT TRAINING LOG


Airman Name: ZAC RUSSELL Aircraft Type & Config: H500

Flt	Date	Instructor	Hours	Comments
1	11-21-2019	Gideon	1.0	A/C FAMILIARITY - CONFINED / PINNACLES
* 2	1/20/2020	G. KING	1.8	A/C FAMIL - SLOPES, Q-STOP, AUTOS (HVR, STRAIGHT, 180) MAN FLYING, PINNACLES, SNEW LANDINGS, CONFINED AREAS.
3	1/20/2020	G. KING	1.4	AUTOS, QUICK PEDALS, 100ft LONG LINE.
4	1/21/2020	Gideon	1.0	T/R FAILURES, AUTOROTATIONS EMERGENCY OPS

Enter "S" or "U" in the appropriate flight session column for each item trained during the session

	PREFLIGHT					INFLIGHT MANEUVERS			
	1	2	3	4		1	2	3	4
Preflight Preparation	S	S	S	S	Quick Stop/Rapid Deceleration	/	S		S
Visual Inspection & Walkaround	S	S	S	S	Autorotations	/	S	S	S
Fueling	S	S	S	S	Hovering Autorotations	/	S		S
Cargo Loading & Checks	S	S	S	S	Tail Rotor Failures	/	S	S	S
Pax Checks and Briefing	/	/	/	/	Settling with Power				S
Starting Procedure - Checklist Use	S	S	S	S					
Ground and/or Hover Taxi	S	S	S	S					
Before Takeoff Checklist	S	S	S	S					
<b>TAKEOFF AND LANDING</b>									
Normal & Crosswind T.O. & Landings	S	S	S	S	<b>NORMAL &amp; ABNORMAL SYSTEMS PROCEDURES</b>				
High Altitude Takeoffs & Landings	/	/		S	Heating, Ventilating & Defrosting	S	S		S
Slope Takeoffs	/	S		S	Fuel & Oil System	/			/
Confined Area/Max Performance Takeoffs	S	S		/	Electrical System	/			S
					Flight Controls & Rotor Systems	/			S
<b>APPROACH AND LANDING</b>					Pitot Static System				
Descent, Pattern & Checklist Procedures	S	S	S	S					
Normal Approaches & Landings	S	S	S	S	<b>ABNORMAL &amp; EMERGENCY PROCEDURES</b>				
Confined Area/Pinnacle Approaches & Landings	S	S		S	Rejected Takeoff	/			S
Slope Landings	S	S		S	Rejected Landing	/			
					Demonstrated Instrument Approach	/			
<b>PARKING</b>					Recovery from Unusual Attitudes				
Engine shut down & Checklist Use	S	S	S	S	Simulated Engine Failures	/			S
Securing & Protection	S	S	S	S	Engine Fire	/			S
					Cabin Fire & Smoke Control	/			S
					Inadvertent IMC Procedures	/			S

I certify satisfactory completion of the Company flight training program and recommend this pilot for Competency/Proficiency and Line Checks i/a/w FAR 135.293 and 135.299.



Instructor Signature:  Date: 1-21-2020

Airman Signature: \_\_\_\_\_ Date: \_\_\_\_\_

\* MORE EXPOSURE TO PEDAL EMERGENCIES + AUTO-ROTATIONS. GJK.

HELICOPTER FLIGHT TRAINING LOG

Airman Name: ZACHARY RUSSELL Aircraft Type & Config: AS350

Flt	Date	Instructor	Hours	Comments										
1	2-6-19	BAECHLER	0.7	PINNACLE, SLOPE, MTN, CONFINED AREA OPS BLOWING SNOW, FLAT LIGHT										
2	2-7-2019	BAECHLER	1.1	PINNACLE, SLOPES, SNOW LANDINGS, FLAT LIGHT, CONFINED AREAS- MTN. # TREET										
3	2-7-2019	BAECHLER	0.7	EMERGENCIES, AUTOS, IGA AUTOS, HYD FAILURE STACK PEDAL, SETTLING W/ POWER										
4	2-8-2019	BAECHLER	1.0	FLAT LIGHT, DEEP SNOW, SLOPES, CONFINED AREAS BLADE/GEAR CLEARANCES,										
Enter "S" or "U" in the appropriate flight session column for each item trained during the session														
PREFLIGHT			1	2	3	4	INFLIGHT MANEUVERS				1	2	3	4
Preflight Preparation			S	S	S	S	Quick Stop/Rapid Deceleration				/	/	/	S
Visual Inspection & Walkaround			S	S	S	S	Autorotations				/	/	/	S
Fueling			/	/	S	/	Hovering Autorotations				/	/	/	S
Cargo Loading & Checks			/	/	S	S	Tail Rotor Failures				/	/	/	S
Pax Checks and Briefing			S	S	S	S	Settling with Power				/	/	/	S
Starting Procedure - Checklist Use			S	S	S	S								
Ground and/or Hover Taxi			S	S	S	S								
Before Takeoff Checklist			S	S	S	S								
TAKEOFF AND LANDING														
Normal & Crosswind T.O. & Landings			S	S	S	S	NORMAL & ABNORMAL SYSTEMS PROCEDURES							
High Altitude Takeoffs & Landings			/	/	/	/	Heating, Ventilating & Defrosting				S	S	S	
Slope Takeoffs			S	S	S	S	Fuel & Oil System				S	S	S	
Confined Area/Max Performance Takeoffs			S	S	S	S	Electrical System				S	S	S	
							Flight Controls & Rotor Systems				S	S	S	
							Pitot Static System				S	S	S	
APPROACH AND LANDING														
Descent, Pattern & Checklist Procedures			S	S	S	S								
Normal Approaches & Landings			S	S	S	S	ABNORMAL & EMERGENCY PROCEDURES							
Confined Area/Pinnacle Approaches & Landings			S	S	S	S	Rejected Takeoff				/	/	/	S
Slope Landings			S	S	S	S	Rejected Landing				/	/	/	S
							Demonstrated Instrument Approach				/	/	/	S
							Recovery from Unusual Attitudes				/	/	/	S
PARKING														
Engine shut down & Checklist Use			S	S	S	S	Simulated Engine Failures				/	/	/	S
Securing & Protection			S	S	S	S	Engine Fire				/	/	/	S
							Cabin Fire & Smoke Control				/	/	/	S
							Inadvertent IMC Procedures				/	/	/	S
I certify satisfactory completion of the Company flight training program and recommend this pilot for Competency/Proficiency and Line Checks i/a/w FAR 135.293 and 135.299.														
Instructor Signature: 						Date: 2-8-2019								
Airman Signature: 						Date: 2-8-2019								

AIRMAN ZACHARY RUSSELL

## CERTIFICATE AND SUMMARY OF EXTERNAL LOAD SUBJECT TRAINING

AIRMAN GENERAL SUBJECTS TRAINING - NON-AIRCRAFT SPECIFIC	<input checked="" type="checkbox"/> Initial / Basic Indoc. <input type="checkbox"/> Recurrent <input type="checkbox"/> Requalification	<input checked="" type="checkbox"/> Recurrent <input type="checkbox"/> Requalification	<input checked="" type="checkbox"/> Recurrent <input type="checkbox"/> Requalification
	Company Manuals, Op's Specs, SOP's	Inst'r: <del>_____</del>	Inst'r: <del>_____</del>
Equipment Overview	Inst'r: <del>_____</del>	Inst'r: <del>_____</del>	Inst'r: <del>_____</del>
FAR'S - 133 & 137	Inst'r: <del>_____</del>	Inst'r: <del>_____</del>	Inst'r: <del>_____</del>
Operating Limitations and Performance	Inst'r: <del>_____</del>	Inst'r: <del>_____</del>	Inst'r: <del>_____</del>
Normal & Emergency Procedures	Inst'r: <del>_____</del>	Inst'r: <del>_____</del>	Inst'r: <del>_____</del>
Hazmat Acceptance and Transportation	Inst'r: <del>_____</del>	Inst'r: <del>_____</del>	Inst'r: <del>_____</del>
Crew Management, Safety, and Risk Mitigation	Inst'r: <del>_____</del>	Inst'r: <del>_____</del>	Inst'r: <del>_____</del>
Specialized Ops: Rigging, Seismic, Drill, Survey, Power-line	Inst'r: <del>_____</del>	Inst'r: <del>_____</del>	Inst'r: <del>_____</del>
Training Completion Date & Results	Date: <u>2-11-2019</u> <input checked="" type="checkbox"/> Sat <input type="checkbox"/> Unsat	Date: <u>1-21-2020</u> <input checked="" type="checkbox"/> Sat <input type="checkbox"/> Unsat	Date: <u>1-21-2021</u> <input checked="" type="checkbox"/> Sat <input type="checkbox"/> Unsat
Airman Signature	<del>_____</del>	<del>_____</del>	<del>_____</del>
Instructor or Chief Pilot Certification Signature	<del>_____</del>	<del>_____</del>	<del>_____</del>
Base Month	FEB	Feb	Feb

Reproduce form as required for continuous history of airman training



## EXTERNAL LOAD HELICOPTER FLIGHT TRAINING LOG

Airman Name: ZACHARY RUSSELL


Make and Model: AS350

Flt	Date	Instructor	Hours	Comments
1	2-15-19	N160SH BAECHLER	1.5	100' VRL OPS, CONFINED, SWING CONTROL, ALTITUDE CONTROL, APPROACH PATHS, SET-DOWNS
2	4-17-19	N470BE BAECHLER	1.2	100' VRL OPS, SWING CONTROL, PRODUCTION TURNS SET-DOWNS
3	4-18-19	N567NA BAECHLER	1.7	100' VRL OPS, SWING CONTROL, STEEP/SALLOW APPROACHES, LANDING w/ LINE, PRECISION OPS
4	6-5-19	N350SH BAECHLER	1.7	100' REMOTE HOOK OPS, SWING & LOAD CONTROL, REMOTE HOOK OPS, RELEASING THE LOAD, PRECISION PLACEMENT

Enter "S" or "U" in the appropriate flight session column for each item trained during the session

	PREFLIGHT					INFLIGHT MANEUVERS				
	1	2	3	4		1	2	3	4	
Preflight Preparation	S	S	S	S	Quick Stop/Rapid Deceleration	/	S	/	/	
Visual Inspection & Walk-around	S	S	S	S	Flight at Operational Airspeeds	S	S	S	S	
External Cargo Loading, Rigging, Attaching	S	S	S	S	Controlling Oscillation	S	S	S	S	
Performance Calculations	S	S	S	S	Determining Safe V <sub>NE</sub> Speeds	/	/	/	/	
Ground Crew Checks and Briefing	S	S	S	S	Settling with Power Avoidance and Recovery	/	/	/	S	
Starting Procedure - Checklist Use	S	S	S	S						
Rotorcraft-load combinations/limitations	S	S	S	S						
Before Takeoff Checklist	S	S	S	S						
<b>TAKEOFF AND LANDING</b>										
Normal & Crosswind T.O. & Landings	S	S	S	S	<b>NORMAL &amp; ABNORMAL SYSTEMS PROCEDURES</b>					
Directional Control while Hovering	S	S	S	S	Cargo Hook Operation and Malfunctions	S	S	S	S	
Acceleration from a Hover	S	S	S	S	Remote Hook Operation and Malfunctions	/	/	/	S	
Confined Area/Max Performance Takeoffs	S	S	S	/	Water Bucket Operation and Malfunctions	/	/	/	/	
Power Management - High Gross Weights	/	/	/	/	Other External Load:	/	/	/	/	
<b>APPROACH AND LANDING</b>					Winch Operation (if applicable)	/	/	/	/	
External Load Approaches	S	S	S	S	<b>ABNORMAL &amp; EMERGENCY PROCEDURES</b>					
Power Management - High Gross Weights	/	/	/	/	Rejected Takeoff / Pick-up	S	S	/	S	
Confined Area/Pinnacle Approaches & Landings	S	/	S	S	Rejected Landing / Go Around	S	S	S	/	
Maneuvering for releasing load	S	/	S	S	Inadvertent Load Release	/	/	/	S	
Landing with/without line attached	S	S	S	S	LTE - High Gross Weights	/	/	/	/	
<b>PARKING</b>										
Engine shut down & Checklist Use	S	S	S	S						
Securing & Protection	S	S	S	S						
Rigging/Long-line storage	S	S	S	S						

I certify satisfactory completion of the Company Part 133 flight training program and satisfactory performance i/a/w FAR 133.23 and 137.19.

Instructor Signature: 

Date: 6-5-19

Airman Signature: 

Date: 6-5-19

## EXTERNAL LOAD HELICOPTER FLIGHT TRAINING LOG

Airman Name: Zachary Russe Make and Model: MDS00

Flt	Date	Instructor	Hours	Comments
1	1-20-20	King	0.3	100ft Introduction To H500. Basic Manoeuvres With Empty Hook.
2	1-24-20	self / Gideon	1.2	100ft Longline practice
3				
4				

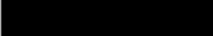
Enter "S" or "U" in the appropriate flight session column for each item trained during the session

PREFLIGHT	1				2				3				4				INFLIGHT MANEUVERS	1				2				3				4			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4		1	2	3	4	1	2	3	4	1	2	3	4				
Preflight Preparation					S	S											S	S															
Visual Inspection & Walk-around					S	S											S	S															
External Cargo Loading, Rigging, Attaching					S	S											S	S															
Performance Calculations																	S	S															
Ground Crew Checks and Briefing																	S	S															
Starting Procedure - Checklist Use																																	
Rotorcraft-load combinations/limitations																																	
Before Takeoff Checklist																	S	S															
<b>TAKEOFF AND LANDING</b>																<b>NORMAL &amp; ABNORMAL SYSTEMS PROCEDURES</b>																	
Normal & Crosswind T.O. & Landings					S	S											S	S															
Directional Control while Hovering					S	S											S	S															
Acceleration from a Hover					S	S											S	S															
Confined Area/Max Performance Takeoffs					S	S											S	S															
Power Management - High Gross Weights					S	S											S	S															
<b>APPROACH AND LANDING</b>																<b>WINCH OPERATION</b>																	
External Load Approaches					S	S											S	S															
Power Management - High Gross Weights					S	S											S	S															
Confined Area/Pinnacle Approaches & Landings					S	S											S	S															
Maneuvering for releasing load					S	S											S	S															
Landing with/without line attached					S	S											S	S															
<b>PARKING</b>																<b>ABNORMAL &amp; EMERGENCY PROCEDURES</b>																	
Engine shut down & Checklist Use																	S	S															
Securing & Protection																	S	S															
Rigging/Long-line storage																	S	S															

I certify satisfactory completion of the Company Part 133 flight training program and satisfactory performance i/a/w FAR 133.23 and 137.19.

Instructor Signature: 

Date: 1-24-20

Airman Signature: 

Date: 1-24-20

**THIS CERTIFICATE IS AWARDED TO**

**Zachary Russell**

**FOR SUCCESSFUL COMPLETION OF**

**Crew Resource Management - Initial**

February 6, 2019



**Medallion  
Foundation**

Changing the Culture of Aviation Safety

*Gerard Rock*

Gerard Rock  
Executive Director

**BASIC INDOCTRINATION  
FINAL EXAM  
(1)**

**NAME :** Zachary Russell

**DATE :** 02-06-2019

**SCORE :** Correct to 100 %.

**SUPERVISED &  
MARKED BY:** [REDACTED]

1. Responsibility for the aircraft being properly loaded and secured remains with the .....
  - a) Person actually loading the aircraft.
  - b) PIC.
  - c) Director of Operations.
  - d) Person delegated by Director of Operations.
  
2. In computing W & B, pax weights used will be?
  - a) PIC estimated weights.
  - b) Actual weights determined by asking or weighing.
  - c) Actual weights, determined by weighing only.
  - d) N/A as OPS Manual never requires W & B calculations to be carried out.
  
3. In the event of a Company Aircraft Emergency, the primary "Emergency Contact Checklist" used by Soloy Helicopter employees may be found in....
  - a) Alaska Supplement.
  - b) NTSB 830
  - c) Aircraft Flight Manual
  - d) Company Operations Manual
  
4. According to Soloy Helicopters Operations Manual, MD500 may be hot refueled...
  - a) With pax aboard only if PIC at controls.
  - b) With PIC at controls when not grounded
  - c) By PIC, with throttle at Ground Idle, controls frictioned and T/R pedals locked neutral.
  - d) Only while wearing nylon clothing.
  
5. A flight plan filed with the company or camp manager must at least contain...
  - a) Only possible routes and likely ETA.
  - b) Items PIC deems necessary for flight following jargon.
  - c) Items requested by Flight Follower.
  - d) Required items on FAA Flight Plan and other information deemed essential to safety.
  
6. Emergency equipment including fire extinguishers, ELT, and floats must be deemed airworthy by...
  - a) PIC preflight.
  - b) A & P / IA at 100 hr./Annual Inspection
  - c) Director of Maintenance only
  - d) (a) and (b)

USE THE ALASKA SUPPLEMENT AND/OR THE ANCHORAGE SECTIONAL

7. What type of Airspace is in effect at King Salmon at 19:30 local?   D
  
8. What are the helicopter VFR, Day cloud clearance and visibility requirements in Class E Airspace at 6500 ft. MSL?
 

  3 SM Vis 1000ft Above 500ft below 2000ft Horizontal
  
9. What Class of airspace would you be in when flying at 11,500 MSL located at N60.45.00 and W145.00.00?
 

  E G
  
10. What are the special VFR requirements for a helicopter Part 135 day flight approaching an airport in Class E airspace?
 

  ATC Clearance, clear of clouds < 3SM 1000'

11. A second class medical certificate issued to a commercial pilot on April 10<sup>th</sup> this year, permits the pilot to exercise which of the following privileges?
- a) Commercial pilot privileges through April 30<sup>th</sup> of next year.
  - b) Commercial pilot privileges through April 10<sup>th</sup>, 2 years later.
  - c) Private pilot privileges through, but not after March 31<sup>st</sup> of next year .

12. What is the most common type of front in Alaska?
- a) Cold
  - b) Warm
  - c) Occluded
  - d) Stationary

13. When should notification of an aircraft accident be made to the NTSB if there was substantial damage and no injuries?
- a) Immediately.
  - b) Within 10 days.
  - c) Within 30 days.

14. What are the minimum fuel requirements for a day flight from Wasilla to Fairbanks?  
Flight parameters are:
- Hughes 500D 30 gal  
Cruise power 70 PSI  
Airspeed 120 MPH  
Average headwind 15 MPH  
Distance for the flight is 273 miles

~~80~~----- U.S. gallons.

15. What is the formula for figuring any weight and balance problem? Weight X Arm = moment

16. You started work at 0700 hours and have flown a total of 2 hours all day, but you are now asked to take off at 2000. How many hours may you now fly?
- a) 1 hour
  - b) 4 hours
  - c) 6 hours
  - d) 8 hours

17. A flight plan is required for all company flights, including a 15 min local training flight?
- True      False

18. You see an aircraft of the same category at your three o'clock position and converging, which is true?
- a) You have the right of way.
  - b) He has the right of way.
  - c) You must give way to the right.

19. Concerning ATC light signals, what does a flashing red light mean to an aircraft in flight?
- a) Cleared to land.
  - b) Give way to another aircraft.
  - c) Airport unsafe – do not land.
  - d) Exercise extreme caution.

20. Are you required to enter in the Aircraft Journey Log each mechanical irregularity that comes to your attention during a flight? (135.65b)

- a)  Yes.
- b)  No.

21. Prior to a Part 135 flight, who is responsible to determine that the 100 hour and annual inspections have been complied with? (135.71)

- a)  Owner.
- b)  Director of Maintenance.
- c)  PIC.
- d)  Director of Operations.

22. You will fly a sedated wild animal to Anchorage under contract to a zoo. Can you carry a veterinarian without complying with the passenger requirements of FAR 135? (135.85)

- a)  Yes.
- b)  No.

23. Generally speaking, if personal baggage is small enough to be put under a seat, it may be carried without any tiedowns or restraints? (135.87d)

- a)  Yes.
- b)  No.

24. The VFR cruising altitude for a flight on a magnetic heading of 090° above 3000 ft AGL is

- (a)  odd thousand MSL altitude
- (b)  even thousand MSL altitude
- (c)  odd thousand MSL altitude + 500 ft
- (d)  even thousand MSL altitude + 500 ft

25. What subjects are required to be covered by the PIC during the passenger briefing prior to take off? (135.117 a)

Smoking, The use of safety belts, Doors, Emergency Exits,  
Survival equipment location, Ditching, Fire extinguishers location

26. What types of equipment is required in a helicopter to fly VFR at night or VFR over the top? (135.159)

91 + Attitude Indicator, Slip Skid, gyro direction indicator,  
Generator,  
Night - Anticollision lights, Instrument lights, Flashlight w/ 2 D cell

27. What are the minimum ratings a pilot must hold to fly a helicopter in day VFR Part 135 over the top conditions? (135.243 b4)

Commercial w/ Instrument or ATP

28. No person may operate a helicopter under VFR Part 135 in uncontrolled airspace at an altitude of 1200 feet or less above the surface unless the visibility is at least
- a) 1 / 2, 1 mile
  - b) 1 / 2 mile
  - c) 1 mile
  - d) 1 , 2 mile
29. You are going to depart Eureka at 61 54.00 N and 147. 10.00 West and fly due north approximately 66 miles to the Clearwater Airstrip. What would be your approximate compass heading at the time of departure? (Assume zero deviation)
- 335°
30. A pilot must have had at least \_\_\_\_\_ consecutive hours of rest during a twenty-four hour period preceding any assignment as pilot of a flight? (135.261b)
- a) 6
  - b) 8
  - c) 10
  - d) 12
31. If due to weather, winds, etc, you exceed the flight time limitations by 25 minutes for a single pilot operation during a 24 hour period, what are the rest requirements before further flight assignments? (135.267e)
- a) 10 hours
  - b) 11 hours
  - c) 12 hours
  - d) 14 hours
32. You are listening to ATIS, and notice the absence of a sky condition/ceiling and a visibility. This means? (AIM)
- a) The ceiling is at least 5,000 feet and visibility is at least 5 miles.
  - b) The ceiling is at least 10,000 and the visibility is at least 10 miles
  - c) The sky cover is less than broken and visibility is at least 15 miles
  - d) Sky conditions and visibility are not required on all ATIS broadcasts.
33. In Alaska, if the only reasonable means of transportation is by air, a passenger may carry on a non-scheduled flight up to 20 gallons of gasoline for his use on a 135 flight.
34. You may operate a helicopter under VFR without visual surface reference? (135.207)
- a) True.
  - b) False.
35. A single engine helicopter operated over water beyond gliding distance from land must?
- a) Be equipped with floatation devices.
  - b) Be certified for over water flight.
  - c) Be equipped with a life preserver for each person in the aircraft.
  - d) Have two pilots.
36. For VFR flights under FAR 135, what is your required fuel on board?
- a) Fly to destination.
  - b) Fly to destination, plus 30 minutes at normal cruise fuel consumption.
  - c) Fly to destination, plus 20 minutes at normal cruise fuel consumption.
  - d) Fly to destination, plus 45 minutes at holding airspeed.



37. Soloy Helicopters is authorized to operate under which of the following conditions?
- a) Helicopter, VFR day and night.
  - b) Helicopter, VFR day.
  - c) Helicopter VFR and IFR day and night.
  - d) Helicopter, VFR and IFR day.
38. Soloy Helicopters Inc. is authorized to operate in Alaska, Hawaii and the continental U.S.A.?
- True      False
39. When landing at an airport with approximately a seven (7) knot crosswind, what is true of the vortices on the ground?
- a) They will dissipate outward
  - b) The upwind vortices will stay in the touchdown zone longer.
  - c) The downwind vortices will stay in the touchdown zone longer.
  - d) They will both roll toward each other.
40. What is the meaning of the terms PROB40 2102 +TSRA as used in a Terminal Aerodrome Forecasts (TAF)?
- a) Probability of heavy thunderstorms with rain showers below 4,000 feet at time 2102.
  - b) Between 2100Z and 0200Z there is a forty percent (40%) probability of thunderstorms with heavy rain.
  - c) Beginning at 2102Z fourth percent (40%) chance of heavy thunderstorms and rain showers.
41. The dewpoint is defined as?
- a) The temperature at which air reaches its saturation point.
  - b) The point at which a given parcel of air can hold more moisture.
  - c) The point at which the air has no moisture
  - d) The evaporation point of moisture.
42. The weather most usually associated with a warm air mass consists of?
- a) Cumulus clouds, rough air and poor visibility.
  - b) Cumulus clouds, smooth air and good visibility
  - c) Stratiform clouds, smooth air and poor visibility
  - d) Stratiform clouds, rough air and good visibility.
43. Where pronounced mountain ridges and strong winds are present, a clearance of 2,000 to 3,000 feet above the terrain is considered a desirable minimum.
- True      False
44. Rotor blade icing begins near the blade tips?
- True      False
45. Tundra pads should be used when texture and depth of snow are unknown or when landing in soft muskeg.
- True      False
46. When lifting out of muskeg, extreme care must be taken to insure that the landing gear is clear from all snags and roots.
- True      False

47. Under FAR Part 135, you may not operate a helicopter over a congested area below 300 ft AGL.

True

False

EXCEPT take off & landing

48. Select the true statement pertaining to the life cycle of a thunderstorm....

- a) Updrafts continue to develop throughout the dissipating stage of a thunderstorm.
- b) The beginning of rain at the Earth's surface indicates the mature stage of the thunderstorm.
- c) The beginning of rain at the Earth's surface indicates the dissipating stage of the thunderstorm.

49. Fog produced by frontal activity is a result of saturation due to....

- a) nocturnal cooling
- b) adiabatic cooling
- c) evaporation of precipitation

50. With respect to advection fog, which statement is true?

- a) It is slow to develop, and dissipates quite rapidly.
- b) It forms almost exclusively at night or near day break.
- c) It can appear suddenly during day or night, and it is more persistent than radiation fog.

**AS350B2 FINAL EXAM**

**(1)**

**NAME :** Zachary Russell

**DATE :** 2-7-19

**SCORE :** Comp to low

**SUPERVISED &  
MARKED BY:** 

1. The maximum permissible internal and external gross weight of the AS350B2 is:
  - a. 4630 lbs; 4961 lbs
  - b. 4850 lbs; 5402 lbs
  - c. 4961 lbs; 5512 lbs
  - d. 5225 lbs; 6173 lbs
  
2. Which door configuration is permissible:
  - a. All standard doors installed with pilot's door removed
  - b. All standard doors installed with both rear doors removed
  - c. Left side standard doors closed, pilot's door closed and right hand sliding door open
  - d. Both a and b are correct
  
3. Select the correct answer:
  - a. Maximum sustained density altitude is 20,000 feet
  - b. Minimum temperature is -30°C
  - c. Maximum temperature is ISA +35°C, limited to +50°C
  - d. Maximum temperature is ISA +30°C, limited to +50°C
  
4. Select the correct statement regarding servo-transparency:
  - a. Continued operation in servo-transparency, where force feedback is felt in the controls, is permitted
  - b. Servo-transparency can occur when the main rotor experiences a high load condition, such as in a steep turn or heavy turbulence
  - c. Exceeding the servocontrol reversibility limit and servo-transparency are different phenomena
  - d. Servo-transparency most often occurs when hovering
  
5. Select the correct statement regarding power-off rotor RPM:
  - a. Minimum is 320, maximum is 430. The horn sounds continuously below 360
  - b. Minimum is 360, maximum is 410. The horn sounds continuously at the minimum and intermittently at the maximum
  - c. Minimum is 320, maximum is 430. The horn sounds continuously below 360 and intermittently above 410
  - d. Minimum is 360, maximum is 410. The horn sounds continuously below 360 and above 410
  
6. The maximum RPM for rotor brake application in high wind conditions is:  
The minimum time between brake applications is:
  - a. 140; 5 minutes
  - b. 170; 5 minutes
  - c. 140; 10 minutes
  - d. 100; 5 minutes
  
7. Select the correct answer regarding torque limitations:
  - a. Maximum <40kts is 88%; maximum >40kts is 83%
  - b. Maximum <40kts is 107%; maximum >40kts is 100%
  - c. Maximum >40kts is 100% with a 10 second transient limit to 107%
  - d. Maximum <40kts is 100% with a 10 second transient limit to 107%

8. The maximum allowable slope landing can be accomplished:
- a. Nose up
  - b. Nose down
  - c. Sideways with left skid upslope
  - d. Sideways with right skid upslope
9. The recommended airspeed for autorotation is;
- a. 55kts
  - b. 60kts
  - c. 65kts
  - d. 70kts
10. The flight manual procedure to follow if the FIRE light illuminates in flight is:
- a. Enter autorotation, close the throttle, switch off the boost pumps and generator
  - b. Reduce power and descend for an emergency landing, close the fuel shut-off if power is lost
  - c. Enter autorotation, close the fuel shut-off, switch off the boost pumps and generator
  - d. Reduce power and descend for an emergency landing, switch off the boost pumps and generator, close the throttle prior to touchdown
11. Select the correct statement regarding loss of tail rotor thrust:
- a. In the hover or in forward flight, the nose will yaw right. In both cases, begin by reducing power to alleviate adverse yaw
  - b. In forward flight, the nose will yaw left. Reduce power and maintain forward speed. Make a steep approach and perform a run-on landing with the engine running
  - c. Hovering IGE, reduce collective pitch and attempt to land before the yaw rate becomes too high
  - d. In forward flight, the nose will yaw right. Reduce power and maintain forward speed. Make a steep approach, shutting down the engine on approach
12. In forward flight if the horn sounds and the HYD light illuminates:
- a. First adjust airspeed to 60 knots and then shut off the collective HYD cutoff switch. Load feedback will be felt immediately on the controls and the horn will be silenced
  - b. First depress the HYD TEST push button to silence the horn, then shut OFF the collective HYD cutoff switch and adjust airspeed to 60 knots
  - c. A decrease in airspeed from 100 knots to 60 knots will result in an increase in feedback force
  - d. Switching off the collective mounted HYD cutoff switch will not silence the HYD failure horn

13. Which statement is correct regarding the aural warning horn?
- a. The horn sounds continuously when hydraulic pressure is below 30 bar and when NR is between approximately 250 and 360, and intermittently when NR is above 410
  - b. The horn sounds continuously when hydraulic pressure is below 30 bar and when NR is between approximately 250 and 360
  - c. The HORN light illuminates only when the horn sounds
  - d. Can be either 1 or 2
14. How much usable fuel remains when the FUEL light illuminates:
- a. Approximately 18 minutes at MCP
  - b. Approximately 25 minutes at MCP
  - c. Approximately 20 minutes at MTOP
  - d. Approximately 20 minutes at cruise power
15. Select the correct statement regarding the cargo swing:
- a. The maximum permissible load is 1660 lbs
  - b. The  $V_{NE}$  with a load is 80 knots
  - c. The  $V_{NE}$  with a load is 100 knots
  - d. The maximum permissible load is 3086 lbs
16. The “fail-safe” design of the star-flex refers to:
- a. The component cannot fail
  - b. The aircraft remains airworthy even if a component has failed
  - c. Component damage will be invisible and progress rapidly
  - d. Component damage will be visible and progress slowly
17. The Tail Rotor Control Failure procedure calls for the pilot to set IAS to \_\_\_\_ kts and depress the HYD TEST button momentarily to:
- a. 40 kts; to allow the tail rotor to move toward neutral pitch
  - b. 70 kts; to allow the tail rotor to move toward neutral pitch
  - c. 40 kts; to eliminate servo-transparency on the tail rotor servo
  - d. 70 kts; to pressurize the yaw servo accumulator

18. The longitudinal C.G. given the following weights is:

	Weight	C.G. Arm	Moment
Empty weight	2900 lbs	138"	
Pilot	200 lbs	61.02	
Co-Pilot	180 lbs	61.02	
Rear seat pax	300 lbs	99.99	
Left side locker	100 lbs	125.98	
Aft locker	100 lbs	181.10	
Fuel	600 lbs	136.80	

- a. 130.0
  - b. 122.45
  - c. 129.26
  - d. None of the above
19. Is the C.G. from the previous question within limitations?
- a. Yes
  - b. No
20. If the F FILT light illuminates in flight and does not go out following a reduction in engine power the following procedure applies:
- a. Continue flight at reduced power
  - b. Land as soon as practical
  - c. Land as soon as possible
  - d. Enter autorotation and shut off engine
21. The correct procedure following the illumination of the ENG CHIP light is:
- a. Continue flight
  - b. Land as soon as practical
  - c. Land as soon as possible
  - d. Enter autorotation on shut off engine
22. The installation of the Soloy D2 STC and Lycoming LTS101 increases the max gross weight of the AS350B2 to 5225 lbs:
- a. True
  - b. False
23. Testing of the engine overspeed system (EOS) on the LTS101 engine needs to be accomplished:
- a. Daily, before the first flight of the day
  - b. Daily, after the last flight of the day
  - c. Every flight, prior to takeoff
  - d. Every 100hr inspection

**MD 500 FINAL EXAM**

**(2)**

**NAME:** Zach Russell

**DATE:** 1-21-20

**SCORE:** Corrected to 100%

**SUPERVISED &  
MARKED BY:** Rob [REDACTED]



1. Maximum Vne is 156 Kts  
Vne with a door off is 130 Kts kts for 2501 lbs and above and 120 Kts  
kts for 2500 lbs or less.
2. Takeoff power is restricted to 87.2 psi torque; and 810° degrees C. for 5  
minutes. Transient overtorque limits allow for a maximum up to 93 psi, torque for  
15 seconds and 97.6 psi torque for 3 seconds at 103% N2  
or up to 843 degrees C for 6 seconds.
3. In what conditions would you use Engine Anti-Ice? Temp under 5°C with  
Visible precip
4. Maximum gliding distance in autorotation is obtained at 80 kts, and 410  
Nr. Minimum rate of descent in autorotation is obtained at 60 kts and 410  
Nr.
5. After ditching in water, what must you do as the helicopter starts to roll? lower collective  
to keep blades from skipping on water.
6. What would determine if you should shut down the engine when suffering a fuel control or power  
turbine governor failure? IF operating RPM cannot be controlled.
7. Why keep the Generator switch on, if after a GEN OUT indicator illuminates, and the generator  
will not reset? to leave the Auto re-ignition system enabled. &  
low RPM Horn
8. What are the allowable "doors off" configurations for the MD500D? Any front door  
left or right front door both back doors, front  
and back doors, all doors
9. What is the average fuel consumption for the MD500D in cruise at 70 psi torque? 30  
U.S. GPH.
10. Tail rotor movement up to 3/4 inches in the plane of rotation, without coincidental  
movement of the main rotor blades is considered normal.
11. The auto re-ignition is activated whenever Nr drops below 468, or N1 drops below  
55 %.
12. Up to almost 6,000 feet density altitude, the best rate of climb speed is 62 knots.

13. To hover at zero indicated airspeed you should be below 15 feet or above 500 feet AGL, in accordance with the height - velocity diagram.
14. During the preflight, you detect the Facet engine oil filter red button extended. Are you allowed to start the engine? What must you do? yes Start AFTER resetting button once, & Run Engine. If red button appears again shut down.  
MX
15. N1 idle speed is?  
a) 61 - 65 %  
 b) 64 - 65 %  
c) 62 - 67 %  
d) 62 - 65 %
16. 810 degrees C. maximum TOT is indicated by a red 843 degree C transient TOT limit is indicated by a red circle, 927 degrees C starting TOT limit has 1 second <sup>No Indicator</sup> indicated limit.
17. Recommended airspeed for flight in the event of tail rotor failure is:  
a) 120 - 130 kts.  
 b) 50 - 60 kts.  
c) 30 - 40 kts.  
d) 60 - 80 kts.
18. There are approximately 35 lbs of fuel remaining when the fuel low warning light comes on.
19. For non-self sealing fuel tanks, the capacity is 62.1 U. S. Gal. with 1.9 Gal unusable.
20. If your main rotor is not turning by 25 % N1 ABORT THE START.
21. Following ignition, the starter button must be held down until.....  
a) 15% N1.  
b) The blades start turning.  
c) 48 - 50 % N1.  
 d) 58 - 60 % N1.
22. If engine has been shut down for over 15 minutes, power should not be increase from idle for...  
a) 30 minutes.  
 b) 1 minute.  
c) 30 seconds.  
d) 2 minutes.
23. Cargo deck capacity is 1300 lbs not to exceed 115 lbs per square foot.
24. During starts, starter time limits are.....  
- 1 min. ON, 1 min. OFF,  
- 1 min. ON, 23 min. OFF

25. Maximum N1 operating speed is 105 %.
26. During starting cycle, transmission warning light out within 30 seconds of engine light-off.
27. Maximum operating altitude with Anti-Ice filter installed 14,000 Ft HP OAT IF temp on ground before flight is over 5°C the Max Alt is 14,000 if temp is below 5°C then Max Alt is 12,000 Ft HP
28. Choose the "INCORRECT" statement (s)...
- Dynamic rollover can occur....
- a) In an upslope direction.
  - b) In a downslope direction.
  - c) On level ground.
  - d) Only while attempting to land on too steep of a slope.

USING THE AIRCRAFT FLIGHT MANUAL FOR THE HUGHES 500D FIND THE ANSWERS TO THE FOLLOWING QUESTIONS.

29. Using the in ground effect chart for the extended landing gear 3 1/2 foot hover, what is the maximum altitude you could hover at a gross weight of 2960 lbs at +5degrees C. 7680 Ft HP

30. Using the out of ground effect hover chart find the maximum altitude you could Pick up a drill engine using the following weights and temperature.

Empty weight of aircraft	1570 lbs
PIC	210 lbs
Fuel	150 lbs.
Drill Engine	1170 lbs.
OAT	15 degrees C.

3900 Ft HP

31. Using the following information, find the C of G of the helicopter as loaded for this flight?

	Weight	Arm	Movement
A/C empty	1601.0	109.1	174761
Pilot	200.0	<u>73.5</u>	<u>14,700.0</u>
Fuel	420.0	<u>96.42</u>	<u>40,496.4</u>
RH Pax	235.0	<u>73.5</u>	<u>17,272.5</u>
LR Pax	135.0	<u>105</u>	<u>14,175.0</u>
RR Pax	175.0	<u>105</u>	<u>18,375.0</u>
Under RR seat			
Emerg gear	<u>50.0</u>	<u>105</u>	<u>5,250</u>
Gross weight	<u>2816</u>	<u>101.21</u>	<u>285,029.9</u>

Is this within gross weight and C of G limits? Yes

32. Allison 250 series engines are modular in construction what are the three basic components?

- a) Compressor, Gearbox, Combustion.  
b) Compressor, Bleed valve, Anti - Ice.  
 c) Compressor, Gearbox, Turbine.  
d) None of the above.
33. What is compressor bleed air used for?  
a) Bleed valve actuation.  
b) Fuel control unit system reference  
c) Engine Anti-ice.  
 d) All the above.
34. What is the purpose of the bleed air valve?  
 a) Unload compressor during start.  
b) Cabin heat.  
c) Engine anti-ice.  
 d) None of the above.
35. Which of the following is true of the engine ignition system?  
 a) Required during start only.  
b) Maintains combustion.  
 c) Required during start and relight cycles.  
d) None of the above.
36. The fuel filter bypass light indicates?  
a) Bypassed filter.  
 b) Impending bypass.  
c) Impending flameout.  
d) None of the above.
37. Where is the airframe fuel filter located in respect of the engine fuel system?  
a) On the left hand side of the firewall.  
 b) Between the fuel pump and the fuel control.  
 c) Prior to engine system.  
d) Prior to fuel nozzle.
38. Where does the oil cooler get its cooling air from?  
a) Ram Air  
 b) Oil cooler blower  
c) Compressor Bleed Air  
d) All of the above
39. What are three sources of D.C. Power?  
a) N1 , N2, and Nr tachometer generators .  
b) Battery cart, GPU and D.C. Rectifier  
 c) Generator, GPU, battery.  
d) None of the above.

40. The basic electrical system is controlled and protected by....
- a) Circuit breaker.
  - b) Switches.
  - c) Relays.
  - d) All of the above.
41. What is the primary source of the D.C. power for the aircraft?
- a) Battery.
  - b) Starter/Generator.
  - c) GPU.
  - d) All of the above.
42. At what point might the generator drive shaft shear?
- a) 90% N1 without load.
  - b) 85% N1 with load.
  - c) 103% Nr without load.
  - d) 70% N1 with load.
43. What is the purpose of the shear point for the generator drive shaft?
- a) Protects the generator.
  - b) Protects the engine drive train.
  - c) Prevents an electrical overload.
  - d) None of the above.
44. When the generator light comes on and cycling of the switch does not bring it back on line, what should you do?
- a) Shut off generator switch.
  - b) Shut off battery.
  - c) Reduce electrical load and pull gen.
  - d) All of the above.
45. Why is the generator switch left on during a generator off line situation?
- a) In case it comes back on line.
  - b) To power the D. C. buss.
  - c) To allow EPO system to function. *Engine out/Low Rotor Audio warning system?*
  - d) Reduce electrical load.

## Flight and Duty Times - Solyo Helicopters

Pilot Name:

Zachary Russell

Month/Year:

JANUARY

2021

Day	Aircraft	Customer	Location	Duty Time		Assigned Duty		Rev Hrs	NonRev	Day	DFR #	Additional Payments	Notes & Additional Information
				On	Off	On	Off						
1										OFF			
2										OFF			
3										OFF			
4										OFF			
5										OFF			
6										OFF			
7										OFF			
8										OFF			
9										OFF			
10										OFF			
11										OFF			
12										OFF			
13										OFF			
14										OFF			
15										OFF			
16										OFF			
17										OFF			
18										OFF			
19										OFF			
20										OFF			
21	350SH	Solyo	PAWS	1000	1630	1000	1630		0.6	0	27273		135 Astar ground and flight. Check Ride
22										OFF			
23										OFF			
24										OFF			
25										OFF			
26		Solyo	Home	1200	1430	1200	1430			0			CPR online training
27		Solyo	PAWS	1230	1430	1230	1430			0			CPR training at PAWS
28										OFF			
29										OFF			
30										OFF			
31										OFF			

**MONTHLY DAY TOTAL** 0

**MONTHLY TOTALS** 0.0 0.6 28

**\$0.00**

**MONTHLY REV**

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	1ST	2ND
Total Month	0.0	32.2	46.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Year	0.0	32.2	78.2	78.2	78.2	78.2	78.2	78.2	78.2	0.0	0.0	78.2	Day Totals	
Day Totals	0.0	18.0	23.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	=	41.5
Days Off Qtr			36			0			0			0	=	36.0

### Flight and Duty Times - Solyo Helicopters

Pilot Name: **Zachary Russell**      Month/Year: **FEBRUARY**      2021

Day	Aircraft	Customer	Location	Duty Time		Assigned Duty		Rev Hrs	NonRev	Day	DFR #	Additional Payments	Notes & Additional Information
				On	Off	On	Off						
1										OFF			
2	559SH	CPG	Girdwood	1200	1800	1200	1800	0.5		1	30389	\$45.00 Per Diem	Ferry from PAWS to CPG
3	559SH	CPG	Girdwood	800	1730	800	1730	2.4		1	27274	\$60.00 Per Diem	Heli SKI
4	559SH	CPG	Girdwood	800	1730	800	1730	3.4		1	27275	\$60.00 Per Diem	Heliski
5	559SH	CPG	Girdwood	800	1730	800	1730	2.1		1	27276	\$60.00 Per Diem	Heliski
6	559SH	CPG	Girdwood	800	1730	800	1730	1.9		1	27277	\$60.00 Per Diem	Heliski
7	559SH	CPG	Girdwood	800	1730	800	1730	2.4		1	27278	\$60.00 Per Diem	Heliski
8	589SH	CPG	Girdwood	800	1730	800	1730	1.9		1	27279	\$60.00 Per Diem	Heliski
9										OFF			
10										OFF			
11	NA	CPG	Girdwood	930	1000	930	1000			0			Covid test at girdwood clinic
12										OFF			
13										OFF			
14										OFF			
15	567NA	GCI	PAWS	800	1630	800	1630	1.2		1	30551		GCI flight to Shell Mt
16	NA	Solyo	ANC	930	1000	930	1000			0			Covid Test
17										OFF			
18										OFF			
19	559SH	CPG	PAWS Girdwood	700	1800	700	1800	3.4		1	27280	\$60.00 Per Diem	CPG heliski and ferry flight
20	559SH	CPG	Girdwood	800	1800	800	1800	1.6		1	27281	\$60.00 Per Diem	Heliski
21	529SH	CPG	Girdwood	800	1800	800	1800	2.4		1	27282	\$60.00 Per Diem	Heliski
22	529SH	CPG	Girdwood	800	1800	800	1400	0.0		1	27283	\$60.00 Per Diem	Heliski no flight Wx cancel
23	529SH	CPG	Girdwood	700	1800	700	1630	1.5		1	27284	\$60.00 Per Diem	Heliski
24	529SH	CPG	Girdwood	700	1800	700	1330	0.0		1	27286	\$60.00 Per Diem	No flight Wx cancel
25	529SH	CPG	Girdwood	700	1800	700	1800	3.7		1	27285	\$60.00 Per Diem	Heliski
26	529SH	CPG	Girdwood	700	1800	700	1800	1.4		1	27287	\$60.00 Per Diem	Heliski
27	529SH	CPG	Girdwood	700	1800	700	1800	0.0		1	27290	\$60.00 Per Diem	No flight
28	529SH	CPG	Girdwood	700	1800	700	1800	2.4		1	27288	\$60.00 Per Diem	Heliski

MONTHLY DAY TOTAL **18**

MONTHLY TOTALS **32.2**   **0.0**   **8**

**\$0.00**

MONTHLY REV

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	1ST	2ND
Total Month	0.0	32.2	46.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.8	16.4
Total Year	0.0	32.2	78.2	78.2	78.2	78.2	78.2	78.2	78.2	0.0	0.0	78.2	Day Totals	
Day Totals	0.0	18.0	23.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	= 41.5	
Days Off Qtr:			36			0			0			0	= 36.0	

## Flight and Duty Times - Soloy Helicopters

Pilot Name: **Zachary Russell**      Month/Year: **MARCH**      2021

Day	Aircraft	Customer	Location	Duty Time		Assigned Duty		Rev Hrs	NonRev	Day	DFR #	Additional Payments	Notes & Additional Information
				On	Off	On	Off						
1	529SH	CPG	Girdwood	700	1800	700	1800	0.0		1	27289	\$60.00 per diem	No flight Wx cancel
2	529SH	CPG	Girdwood	700	1800	700	1800	3.7		1	27291	\$60.00 Per diem	Heliski
3	529SH	CPG	Girdwood	700	1800	700	1800	3.2		1	27292	\$60.00 Per diem	Heliski
4	529SH	CPG	Girdwood	700	1800	700	1800	3.3		1	27293	\$60.00 Per diem	Heliski
5	529SH	CPG	Girdwood	700	1800	700	1800	2.5		1	27294	\$60.00 Per diem	Heliski
6	529SH	CPG	Girdwood	700	1800	700	1800	1.4		1	27295	\$60.00 Per diem	Heliski
7	529SH	CPG	Girdwood	700	1800	700	1800	2.5		1	27296	\$60.00 Per diem	Heliski
8	529SH	CPG	Girdwood	700	1800	700	1800	3.2		1	27297	\$60.00 Per diem	Heliski
9	529SH	CPG	Girdwood	700	1800	700	1800	1.2		1	27298	\$60.00 Per diem	Heliski
10	529SH	CPG	Girdwood	700	1800	700	1800	0.0		1	27299	\$60.00 Per diem	NO flight bad MX
11	529SH	CPG	Girdwood	700	1800	700	1800	0.0		1	27300	\$60.00 Per diem	No flightWx
12	529SH	CPG	Girdwood	700	1800	700	1800	1.8		1	27097	\$60.00 Per diem	Heliski
13	529SH	CPG	Girdwood	700	1800	700	1800	2.1		1	27098	\$60.00 Per diem	Heliski
14	529SH	CPG	Girdwood	700	1800	700	1800	1.7		1	27099	\$60.00 Per diem	Heliski
15	529SH	Soloy/CPG	Girdwood	700	2000	700	2000	0.0	0.1	1	27100	\$60.00 Per diem	Wx hold and Mx flight for fm radio
16	529SH	CPG	Girdwood	700	1800	700	1800	2.5	0.2	1	30390	\$60.00 Per diem	Heliski and Mx flight. 30390 and 30391 DFR
17	357SH	CPG	Girdwood	700	1800	700	1800	3.6	0.4	1	30392	\$60.00 Per diem	Heliski in 357 Greg K ferry to CPG .4
18	357SS	CPG	Girdwood	700	1800	700	1800	1.5		1	30393	\$60.00 Per diem	Heliski
19	357SH	CPG	Girdwood	700	1800	700	1800	2.4		1	30394	\$60.00 Per diem	Heliski
20	357SH	CPG	Girdwood	700	1800	700	1800	0.0		1	30395	\$60.00 Per diem	No flight Wx cancel
21	529SH	CPG	Girdwood	700	1800	700	1800	3.3		1	30396	\$60.00 Per diem	Heliski
22	529SH	CPG	Girdwood	700	1800	700	1800	3.5		1	30397	\$60.00 Per diem	Heliski
23	529SH	CPG	Girdwood	700	1800	700	1800	2.6		1	30398	\$60.00 Per diem	Heliski
24		Soloy	Anchorage	1000	1630	1000	1630	0.0		0.5			Covid test and Phone calls with TML, Third
25													
26													
27													
28													
29													
30													
31													

**MONTHLY DAY TOTAL** 24      **TOTALS** 46.0   0.7   0      **\$0.00**

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MONTHLY REV	
	1ST	2ND												
Total Month	0.0	32.2	46.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	26.6	19.4
Total Year	0.0	32.2	78.2	78.2	78.2	78.2	78.2	78.2	78.2	0.0	0.0	78.2	Day Totals	
Day Totals	0.0	18.0	23.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	=	41.5
Days Off Qtr	36			0			0			0			=	36.0



## Flight and Duty Times - Soloy Helicopters

Pilot Name:

Zachary Russell

Month/Year:

APRIL

2021

Day	Aircraft	Customer	Location	Duty Time		Assigned Duty		Rev Hrs	NonRev.	Day	DFR #	Additional Payments	Notes & Additional Information
				On	Off	On	Off						
1													
2													
3													
4													
5													
6													
7													
8													
9													
10													
11													
12													
13													
14													
15													
16													
17													
18													
19													
20													
21													
22													
23													
24													
25													
26													
27													
28													
29													
30													

MONTHLY DAY TOTAL 0

MONTHLY TOTALS 0.0 0.0 0

\$0.00

MONTHLY REV

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MONTHLY REV		
													1ST	2ND	
Total Month	0.0	32.2	46.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Year	0.0	32.2	78.2	78.2	78.2	78.2	78.2	78.2	78.2	0.0	0.0	78.2			
Day Totals	0.0	18.0	23.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	= 41.5		