



U.S. Department
of Transportation

**Federal Aviation
Administration**

**FAA-S-ACS-7A
(with Change 1)**



**Commercial Pilot – Airplane
Airman Certification Standards
Edited
For Multiengine Add-on
(Not Official FAA Document)**

June 2018

**Flight Standards Service
Washington, DC 20591**

Addition of an Airplane Multiengine Land Rating to an existing Commercial Pilot Certificate

Required Tasks are indicated by either the Task letter(s) that apply(s) or an indication that all or none of the Tasks must be tested based on the notes in each Area of Operation.

Commercial Pilot Rating(s) Held

Areas of Operation	ASEL	ASES	AMES	RH	RG	PL	Glider	Balloon	Airship
I	F,G	F,G	F,G	F,G	F,G	F,G	D,F,G	D,F,G	F,G
II	A,B,C,D, F	A,B,C,D, F	A,D	A,B,C,D, F	A,B,C,D, F	A,B,C,D, F	A,B,C,D, F	A,B,C,D, F	A,B,C,D, F
III	None	B	B	B	D,F	B	B	B	B
IV	A,B,E,F	A,B,E,F	A,B,E,F	A,B,E,F, N	B	A,B,E,F, N	A,B,E,F, N	A,B,E,F, N	A,B,E,F, N
V	A	A	None	A	A,	A	A	A	A
VI	None	None	None	None	A	None	All	All	None
VII	All	All	None	All	All	All	All	All	All
VIII	None	None	None	All	All	None	All	All	All
IX	E,F,G	E,F,G	None	A,C,E,F, G	A,C,E,F, G	A,C,E,F, G	A,C,E,F, G	A,C,E,F, G	A,C,E,F, G
X*	All	All	None	All	All	All	All	All	All
XI	None	A	A	A	A	A	A	A	A

* Tasks C and D are not required for applicants who are instrument-rated and who have previously demonstrated instrument proficiency in a multiengine airplane or for applicants who do not hold an instrument rating.

I. Preflight Preparation

Task	<i>F. Performance and Limitations</i>
References	FAA-H-8083-1, FAA-H-8083-2, FAA-H-8083-3, FAA-H-8083-25; POH/AFM
Objective	To determine that the applicant exhibits satisfactory knowledge, risk management, and skills associated with operating an airplane safely within the parameters of its performance capabilities and limitations.
Knowledge	The applicant demonstrates understanding of:
<i>CA.I.F.K1</i>	Elements related to performance and limitations by explaining the use of charts, tables, and data to determine performance.
<i>CA.I.F.K2</i>	Factors affecting performance, to include:
<i>CA.I.F.K2a</i>	a. Atmospheric conditions
<i>CA.I.F.K2b</i>	b. Pilot technique
<i>CA.I.F.K2c</i>	c. Airplane configuration
<i>CA.I.F.K2d</i>	d. Airport environment
<i>CA.I.F.K2e</i>	e. Loading (e.g., center of gravity)
<i>CA.I.F.K2f</i>	f. Weight and balance
<i>CA.I.F.K3</i>	Aerodynamics.
Risk Management	The applicant demonstrates the ability to identify, assess and mitigate risks, encompassing:
<i>CA.I.F.R1</i>	Inaccurate use of manufacturer's performance charts, tables, and data.
<i>CA.I.F.R2</i>	Exceeding airplane limitations.
<i>CA.I.F.R3</i>	Possible differences between calculated performance and actual performance.
Skills	The applicant demonstrates the ability to:
<i>CA.I.F.S1</i>	Compute the weight and balance, correct out-of-center of gravity (CG) loading errors and determine if the weight and balance remains within limits during all phases of flight.
<i>CA.I.F.S2</i>	Utilize the appropriate airplane manufacturer's approved performance charts, tables, and data.

I. Preflight Preparation

Task	G. Operation of Systems
References	FAA-H-8083-2, FAA-H-8083-3, FAA-H-8083-23, FAA-H-8083-25; POH/AFM
Objective	To determine that the applicant exhibits satisfactory knowledge, risk management, and skills associated with the safe operation of systems on the airplane provided for the flight test.
Knowledge	The applicant demonstrates understanding of:
<i>CA.I.G.K1</i>	Airplane systems, to include: Note: <i>If K1 is selected, the evaluator must assess the applicant's knowledge of at least three of the following sub-elements.</i>
<i>CA.I.G.K1a</i>	a. Primary flight controls
<i>CA.I.G.K1b</i>	b. Secondary flight controls
<i>CA.I.G.K1c</i>	c. Powerplant and propeller
<i>CA.I.G.K1d</i>	d. Landing gear
<i>CA.I.G.K1e</i>	e. Fuel, oil, and hydraulic
<i>CA.I.G.K1f</i>	f. Electrical
<i>CA.I.G.K1g</i>	g. Avionics
<i>CA.I.G.K1h</i>	h. Pitot-static, vacuum/pressure, and associated flight instruments
<i>CA.I.G.K1i</i>	i. Environmental
<i>CA.I.G.K1j</i>	j. Deicing and anti-icing
<i>CA.I.G.K1k</i>	k. Water rudders (ASES, AMES)
<i>CA.I.G.K1l</i>	l. Oxygen system
<i>CA.I.G.K2</i>	Indications of and procedures for managing system abnormalities or failures.
Risk Management	The applicant demonstrates the ability to identify, assess and mitigate risks, encompassing:
<i>CA.I.G.R1</i>	Failure to detect system malfunctions or failures.
<i>CA.I.G.R2</i>	Improper management of a system failure.
<i>CA.I.G.R3</i>	Failure to monitor and manage automated systems.
Skills	The applicant demonstrates the ability to:
<i>CA.I.G.S1</i>	Operate at least three of the systems listed in K1a through K1l above, appropriately.
<i>CA.I.G.S2</i>	Use appropriate checklists properly.

II. Preflight Procedures

Task	A. Preflight Assessment
References	FAA-H-8083-2, FAA-H-8083-3, FAA-H-8083-23; POH/AFM; AC 00-6
Objective	To determine that the applicant exhibits satisfactory knowledge, risk management, and skills associated with preparing for safe flight.
Knowledge	The applicant demonstrates understanding of:
CA.II.A.K1	Pilot self-assessment.
CA.II.A.K2	Determining that the airplane to be used is appropriate and airworthy.
CA.II.A.K3	Airplane preflight inspection including:
CA.II.A.K3a	a. Which items must be inspected
CA.II.A.K3b	b. The reasons for checking each item
CA.II.A.K3c	c. How to detect possible defects
CA.II.A.K3d	d. The associated regulations
CA.II.A.K4	Environmental factors including weather, terrain, route selection, and obstructions.
Risk Management	The applicant demonstrates the ability to identify, assess and mitigate risks, encompassing:
CA.II.A.R1	Pilot.
CA.II.A.R2	Aircraft.
CA.II.A.R3	Environment (e.g., weather, airports, airspace, terrain, obstacles).
CA.II.A.R4	External pressures.
CA.II.A.R5	Aviation security concerns.
Skills	The applicant demonstrates the ability to:
CA.II.A.S1	Inspect the airplane with reference to an appropriate checklist.
CA.II.A.S2	Verify the airplane is in condition for safe flight and conforms to its type design.

II. Preflight Procedures

Task	B. Flight Deck Management
References	FAA-H-8083-2, FAA-H-8083-3; AC 120-71; POH/AFM
Objective	To determine that the applicant exhibits satisfactory knowledge, risk management, and skills associated with safe flight deck management practices.
Knowledge	The applicant demonstrates understanding of:
CA.II.B.K1	Passenger briefing requirements, to include operation and required use of safety restraint systems.
CA.II.B.K2	Use of appropriate checklists.
CA.II.B.K3	Requirements for current and appropriate navigation data.
Risk Management	The applicant demonstrates the ability to identify, assess and mitigate risks, encompassing:
CA.II.B.R1	Improper use of systems or equipment, to include automation and portable electronic devices.
CA.II.B.R2	Flying with unresolved discrepancies.
Skills	The applicant demonstrates the ability to:
CA.II.B.S1	Secure all items in the flight deck and cabin.
CA.II.B.S2	Conduct an appropriate pre-takeoff briefing, to include identifying the PIC, use of safety belts, shoulder harnesses, doors, sterile flight deck, and emergency procedures.
CA.II.B.S3	Program and manage the airplane's automation properly.

II. Preflight Procedures

Task	C. Engine Starting
References	FAA-H-8083-2, FAA-H-8083-3, FAA-H-8083-25; POH/AFM
Objective	To determine that the applicant exhibits satisfactory knowledge, risk management, and skills associated with recommended engine starting procedures.
Knowledge	The applicant demonstrates understanding of:
CA.II.C.K1	Starting under various conditions.
CA.II.C.K2	Starting the engine(s) by use of external power.
CA.II.C.K3	Engine limitations as they relate to starting.
Risk Management	The applicant demonstrates the ability to identify, assess and mitigate risks, encompassing:
CA.II.C.R1	Propeller safety.
Skills	The applicant demonstrates the ability to:
CA.II.C.S1	Position the airplane properly considering structures, other aircraft, wind, and the safety of nearby persons and property.
CA.II.C.S2	Complete the appropriate checklist.

II. Preflight Procedures

Task	D. Taxiing (ASEL, AMEL)
References	FAA-H-8083-2, FAA-H-8083-3, FAA-H-8083-25; POH/AFM; AC 91-73; Chart Supplements; AIM
Objective	To determine that the applicant exhibits satisfactory knowledge, risk management, and skills associated with safe taxi operations, including runway incursion avoidance.
Knowledge	The applicant demonstrates understanding of:
CA.II.D.K1	Current airport aeronautical references and information resources such as the Chart Supplement, airport diagram, and NOTAMS.
CA.II.D.K2	Taxi instructions/clearances.
CA.II.D.K3	Airport markings, signs, and lights.
CA.II.D.K4	Visual indicators for wind.
CA.II.D.K5	Aircraft lighting.
CA.II.D.K6	Procedures for:
CA.II.D.K6a	a. Appropriate flight deck activities prior to taxi, including route planning and identifying the location of Hot Spots
CA.II.D.K6b	b. Radio communications at towered and nontowered airports.
CA.II.D.K6c	c. Entering or crossing runways
CA.II.D.K6d	d. Night taxi operations
CA.II.D.K6e	e. Low visibility taxi operations
Risk Management	The applicant demonstrates the ability to identify, assess and mitigate risks, encompassing:
CA.II.D.R1	Inappropriate activities and distractions.
CA.II.D.R2	Confirmation or expectation bias as related to taxi instructions.
CA.II.D.R3	A taxi route or departure runway change.
Skills	The applicant demonstrates the ability to:
CA.II.D.S1	Receive and correctly read back clearances/instructions, if applicable.
CA.II.D.S2	Use an airport diagram or taxi chart during taxi, if published, and maintain situational awareness.
CA.II.D.S3	Position the flight controls for the existing wind.
CA.II.D.S4	Complete the appropriate checklist.
CA.II.D.S5	Perform a brake check immediately after the airplane begins moving.
CA.II.D.S6	Maintain positive control of the airplane during ground operations by controlling direction and speed without excessive use of brakes.
CA.II.D.S7	Comply with airport/taxiway markings, signals, and ATC clearances and instructions.
CA.II.D.S8	Position the airplane properly relative to hold lines.

II. Preflight Procedures

Task	<i>F. Before Takeoff Check</i>
References	FAA-H-8083-2, FAA-H-8083-3, FAA-H-8083-23; POH/AFM
Objective	To determine that the applicant exhibits satisfactory knowledge, risk management, and skills associated with the before takeoff check.
Knowledge	The applicant demonstrates understanding of:
<i>CA.II.F.K1</i>	Purpose of pre-takeoff checklist items including:
<i>CA.II.F.K1a</i>	a. Reasons for checking each item
<i>CA.II.F.K1b</i>	b. Detecting malfunctions
<i>CA.II.F.K1c</i>	c. Ensuring the airplane is in safe operating condition as recommended by the manufacturer
Risk Management	The applicant demonstrates the ability to identify, assess and mitigate risks, encompassing:
<i>CA.II.F.R1</i>	Division of attention while conducting pre-flight checks.
<i>CA.II.F.R2</i>	Unexpected runway changes by ATC.
<i>CA.II.F.R3</i>	Wake turbulence.
<i>CA.II.F.R4</i>	A powerplant failure during takeoff or other malfunction considering operational factors such as airplane characteristics, runway/takeoff path length, surface conditions, environmental conditions, and obstructions.
Skills	The applicant demonstrates the ability to:
<i>CA.II.F.S1</i>	Review takeoff performance.
<i>CA.II.F.S2</i>	Complete the appropriate checklist.
<i>CA.II.F.S3</i>	Position the airplane appropriately considering other aircraft, vessels, and wind.
<i>CA.II.F.S4</i>	Divide attention inside and outside the flight deck.
<i>CA.II.F.S5</i>	Verify that engine parameters and airplane configuration are suitable.

IV. Takeoffs, Landings, and Go-Arounds

Task	A. Normal Takeoff and Climb
References	FAA-H-8083-2, FAA-H-8083-3, FAA-H-8083-23; POH/AFM; AIM
Objective	To determine that the applicant exhibits satisfactory knowledge, risk management, and skills associated with a normal takeoff, climb operations, and rejected takeoff procedures. <i>Note: If a crosswind condition does not exist, the applicant's knowledge of crosswind elements must be evaluated through oral testing.</i>
Knowledge	The applicant demonstrates understanding of:
CA.IV.A.K1	Effects of atmospheric conditions, including wind, on takeoff and climb performance.
CA.IV.A.K2	V_x and V_y .
CA.IV.A.K3	Appropriate airplane configuration.
Risk Management	The applicant demonstrates the ability to identify, assess and mitigate risks, encompassing:
CA.IV.A.R1	Selection of runway based on pilot capability, airplane performance and limitations, available distance, and wind.
CA.IV.A.R2	Effects of:
CA.IV.A.R2a	a. Crosswind
CA.IV.A.R2b	b. Windshear
CA.IV.A.R2c	c. Tailwind
CA.IV.A.R2d	d. Wake turbulence
CA.IV.A.R2e	e. Runway surface/condition
CA.IV.A.R3	Abnormal operations, to include planning for:
CA.IV.A.R3a	a. Rejected takeoff
CA.IV.A.R3b	b. Engine failure in takeoff/climb phase of flight
CA.IV.A.R4	Collision hazards, to include aircraft, terrain, obstacles, wires, vehicles, vessels, persons, and wildlife.
CA.IV.A.R5	Low altitude maneuvering including, stall, spin, or CFIT.
CA.IV.A.R6	Distractions, loss of situational awareness, or improper task management.
Skills	The applicant demonstrates the ability to:
CA.IV.A.S1	Complete the appropriate checklist.
CA.IV.A.S2	Make radio calls as appropriate.
CA.IV.A.S3	Verify assigned/correct runway.
CA.IV.A.S4	Ascertain wind direction with or without visible wind direction indicators.
CA.IV.A.S5	Position the flight controls for the existing wind.
CA.IV.A.S6	Clear the area; taxi into takeoff position and align the airplane on the runway centerline (ASEL, AMEL) or takeoff path (ASES, AMES).
CA.IV.A.S7	Confirm takeoff power and proper engine and flight instrument indications prior to rotation (ASEL, AMEL).
CA.IV.A.S8	Avoid excessive water spray on the propeller(s) (ASES, AMES).
CA.IV.A.S9	Rotate and lift off at the recommended airspeed and accelerate to V_y .
CA.IV.A.S10	Retract the water rudders, as appropriate, establish and maintain the most efficient planing/liftoff attitude, and correct for porpoising and skipping (ASES, AMES).
CA.IV.A.S11	Establish a pitch attitude to maintain the manufacturer's recommended speed or V_y , ± 5 knots.
CA.IV.A.S12	Configure the airplane in accordance with manufacturer's guidance.
CA.IV.A.S13	Maintain $V_y \pm 5$ knots to a safe maneuvering altitude.
CA.IV.A.S14	Maintain directional control and proper wind-drift correction throughout takeoff and climb.
CA.IV.A.S15	Comply with noise abatement procedures.

IV. Takeoffs, Landings, and Go-Arounds

Task	B. Normal Approach and Landing
References	FAA-H-8083-2, FAA-H-8083-3, FAA-H-8083-23; POH/AFM; AIM
Objective	To determine that the applicant exhibits satisfactory knowledge, risk management, and skills associated with a normal approach and landing with emphasis on proper use and coordination of flight controls. <i>Note: If a crosswind condition does not exist, the applicant's knowledge of crosswind elements must be evaluated through oral testing.</i>
Knowledge	The applicant demonstrates understanding of:
CA.IV.B.K1	A stabilized approach, to include energy management concepts.
CA.IV.B.K2	Effects of atmospheric conditions, including wind, on approach and landing performance.
CA.IV.B.K3	Wind correction techniques on approach and landing.
Risk Management	The applicant demonstrates the ability to identify, assess and mitigate risks, encompassing:
CA.IV.B.R1	Selection of runway or approach path and touchdown area based on pilot capability, airplane performance and limitations, available distance, and wind.
CA.IV.B.R2	Effects of:
CA.IV.B.R2a	a. Crosswind
CA.IV.B.R2b	b. Windshear
CA.IV.B.R2c	c. Tailwind
CA.IV.B.R2d	d. Wake turbulence
CA.IV.B.R2e	e. Runway surface/condition
CA.IV.B.R3	Planning for:
CA.IV.B.R3a	a. Go-around and rejected landing
CA.IV.B.R3b	b. Land and hold short operations (LAHSO)
CA.IV.B.R4	Collision hazards, to include aircraft, terrain, obstacles, wires, vehicles, vessels, persons, and wildlife.
CA.IV.B.R5	Low altitude maneuvering including, stall, spin, or CFIT.
CA.IV.B.R6	Distractions, loss of situational awareness, incorrect airport surface approach and landing, or improper task management.
Skills	The applicant demonstrates the ability to:
CA.IV.B.S1	Complete the appropriate checklist.
CA.IV.B.S2	Make radio calls as appropriate.
CA.IV.B.S3	Ensure the airplane is aligned with the correct/assigned runway or landing surface.
CA.IV.B.S4	Scan the runway or landing surface and adjoining area for traffic and obstructions.
CA.IV.B.S5	Select and aim for a suitable touchdown point considering the wind, landing surface, and obstructions.
CA.IV.B.S6	Establish the recommended approach and landing configuration and airspeed, and adjust pitch attitude and power as required to maintain a stabilized approach.
CA.IV.B.S7	Maintain manufacturer's published approach airspeed or in its absence not more than 1.3 V_{SO} , ± 5 knots with gust factor applied.
CA.IV.B.S8	Maintain directional control and appropriate crosswind correction throughout the approach and landing.
CA.IV.B.S9	Make smooth, timely, and correct control application during round out and touchdown.
CA.IV.B.S10	Touch down at a proper pitch attitude, within 200 feet beyond or on the specified point, with no side drift, and with the airplane's longitudinal axis aligned with and over the runway center/landing path.
CA.IV.B.S11	Execute a timely go-around if the approach cannot be made within the tolerances specified above or for any other condition that may result in an unsafe approach or landing.
CA.IV.B.S12	Utilize runway incursion avoidance procedures.

IV. Takeoffs, Landings, and Go-Arounds

Task	<i>E. Short-Field Takeoff and Maximum Performance Climb (ASEL, AMEL)</i>
References	FAA-H-8083-2, FAA-H-8083-3; POH/AFM; AIM
Objective	To determine that the applicant exhibits satisfactory knowledge, risk management, and skills associated with a short-field takeoff, maximum performance climb operations, and rejected takeoff procedures.
Knowledge	The applicant demonstrates understanding of:
CA.IV.E.K1	Effects of atmospheric conditions, including wind, on takeoff and climb performance.
CA.IV.E.K2	V_X and V_Y .
CA.IV.E.K3	Appropriate airplane configuration.
Risk Management	The applicant demonstrates the ability to identify, assess and mitigate risks, encompassing:
CA.IV.E.R1	Selection of runway based on pilot capability, airplane performance and limitations, available distance, and wind.
CA.IV.E.R2	Effects of:
CA.IV.E.R2a	a. Crosswind
CA.IV.E.R2b	b. Windshear
CA.IV.E.R2c	c. Tailwind
CA.IV.E.R2d	d. Wake turbulence
CA.IV.E.R2e	e. Runway surface/condition
CA.IV.E.R3	Abnormal operations, to include planning for:
CA.IV.E.R3a	a. Rejected takeoff
CA.IV.E.R3b	b. Engine failure in takeoff/climb phase of flight
CA.IV.E.R4	Collision hazards, to include aircraft, terrain, obstacles, wires, vehicles, persons, and wildlife.
CA.IV.E.R5	Low altitude maneuvering including, stall, spin, or CFIT.
CA.IV.E.R6	Distractions, loss of situational awareness, or improper task management.
Skills	The applicant demonstrates the ability to:
CA.IV.E.S1	Complete the appropriate checklist.
CA.IV.E.S2	Make radio calls as appropriate.
CA.IV.E.S3	Verify assigned/correct runway.
CA.IV.E.S4	Ascertain wind direction with or without visible wind direction indicators.
CA.IV.E.S5	Position the flight controls for the existing wind.
CA.IV.E.S6	Clear the area, taxi into takeoff position and align the airplane on the runway centerline utilizing maximum available takeoff area.
CA.IV.E.S7	Apply brakes while setting engine power to achieve maximum performance.
CA.IV.E.S8	Confirm takeoff power prior to brake release and verify proper engine and flight instrument indications prior to rotation.
CA.IV.E.S9	Rotate and lift off at the recommended airspeed and accelerate to the recommended obstacle clearance airspeed or V_X , ± 5 knots.
CA.IV.E.S10	Establish a pitch attitude that will maintain the recommended obstacle clearance airspeed or V_X , ± 5 knots until the obstacle is cleared or until the airplane is 50 feet above the surface.
CA.IV.E.S11	Establish a pitch attitude for V_Y and accelerate to $V_Y \pm 5$ knots after clearing the obstacle or at 50 feet AGL if simulating an obstacle.
CA.IV.E.S12	Configure the airplane in accordance with the manufacturer's guidance after a positive rate of climb has been verified.
CA.IV.E.S13	Maintain $V_Y \pm 5$ knots to a safe maneuvering altitude.
CA.IV.E.S14	Maintain directional control and proper wind-drift correction throughout takeoff and climb.
CA.IV.E.S15	Comply with noise abatement procedures.

IV. Takeoffs, Landings, and Go-Arounds

Task	F. Short-Field Approach and Landing (ASEL, AMEL)
References	FAA-H-8083-2, FAA-H-8083-3; POH/AFM; AIM
Objective	To determine that the applicant exhibits satisfactory knowledge, risk management, and skills associated with a short-field approach and landing with emphasis on proper use and coordination of flight controls.
Knowledge	The applicant demonstrates understanding of:
CA.IV.F.K1	A stabilized approach, to include energy management concepts.
CA.IV.F.K2	Effects of atmospheric conditions, including wind, on approach and landing performance.
CA.IV.F.K3	Wind correction techniques on approach and landing.
Risk Management	The applicant demonstrates the ability to identify, assess and mitigate risks, encompassing:
CA.IV.F.R1	Selection of runway based on pilot capability, airplane performance and limitations, available distance, and wind.
CA.IV.F.R2	Effects of:
CA.IV.F.R2a	a. Crosswind
CA.IV.F.R2b	b. Windshear
CA.IV.F.R2c	c. Tailwind
CA.IV.F.R2d	d. Wake turbulence
CA.IV.F.R2e	e. Runway surface/condition
CA.IV.F.R3	Planning for:
CA.IV.F.R3a	a. Go-around and rejected landing
CA.IV.F.R3b	b. Land and hold short operations (LAHSO)
CA.IV.F.R4	Collision hazards, to include aircraft, terrain, obstacles, wires, vehicles, persons, and wildlife.
CA.IV.F.R5	Low altitude maneuvering including, stall, spin, or CFIT.
CA.IV.F.R6	Distractions, loss of situational awareness, or improper task management.
Skills	The applicant demonstrates the ability to:
CA.IV.F.S1	Complete the appropriate checklist.
CA.IV.F.S2	Make radio calls as appropriate.
CA.IV.F.S3	Ensure the airplane is aligned with the correct/assigned runway.
CA.IV.F.S4	Scan the landing runway and adjoining area for traffic and obstructions.
CA.IV.F.S5	Select and aim for a suitable touchdown point considering the wind, landing surface, and obstructions.
CA.IV.F.S6	Establish the recommended approach and landing configuration and airspeed, and adjust pitch attitude and power as required to maintain a stabilized approach.
CA.IV.F.S7	Maintain manufacturer's published approach airspeed or in its absence not more than 1.3 V_{SO} , ± 5 knots with wind gust factor applied.
CA.IV.F.S8	Maintain directional control and appropriate crosswind correction throughout the approach and landing.
CA.IV.F.S9	Make smooth, timely, and correct control application during the round out and touchdown.
CA.IV.F.S10	Touch down at a proper pitch attitude within 100 feet beyond or on the specified point, threshold markings, or runway numbers, with no side drift, minimum float, and with the airplane's longitudinal axis aligned with and over runway centerline.
CA.IV.F.S11	Use manufacturer's recommended procedures for airplane configuration and braking.
CA.IV.F.S12	Execute a timely go-around if the approach cannot be made within the tolerances specified above or for any other condition that may result in an unsafe approach or landing.
CA.IV.F.S13	Utilize runway incursion avoidance procedures.

V. Performance and Ground Reference Maneuvers

Task	A. Steep Turns
References	FAA-H-8083-2, FAA-H-8083-3; POH/AFM
Objective	To determine that the applicant exhibits satisfactory knowledge, risk management, and skills associated with steep turns. Note: See Appendix 7: Aircraft, Equipment, and Operational Requirements & Limitations .
Knowledge	The applicant demonstrates understanding of:
CA.V.A.K1	Purpose of steep turns.
CA.V.A.K2	Aerodynamics associated with steep turns, to include:
CA.V.A.K2a	a. Coordinated and uncoordinated flight
CA.V.A.K2b	b. Overbanking tendencies
CA.V.A.K2c	c. Maneuvering speed, including the impact of weight changes
CA.V.A.K2d	d. Load factor and accelerated stalls
CA.V.A.K2e	e. Rate and radius of turn
Risk Management	The applicant demonstrates the ability to identify, assess and mitigate risks, encompassing:
CA.V.A.R1	Failure to divide attention between airplane control and orientation.
CA.V.A.R2	Collision hazards, to include aircraft and terrain.
CA.V.A.R3	Low altitude maneuvering including, stall, spin, or CFIT.
CA.V.A.R4	Distractions, improper task management, loss of situational awareness, or disorientation.
CA.V.A.R5	Failure to maintain coordinated flight.
Skills	The applicant demonstrates the ability to:
CA.V.A.S1	Clear the area.
CA.V.A.S2	Establish the manufacturer's recommended airspeed; or if one is not available, an airspeed not to exceed V_A .
CA.V.A.S3	Roll into a coordinated 360° steep turn with approximately a 50° bank.
CA.V.A.S4	Perform the Task in the opposite direction.
CA.V.A.S5	Maintain the entry altitude ± 100 feet, airspeed ± 10 knots, bank $\pm 5^\circ$, and roll out on the entry heading $\pm 10^\circ$.

VII. Slow Flight and Stalls

Task	A. Maneuvering During Slow Flight
References	FAA-H-8083-2, FAA-H-8083-3, FAA-H-8083-25; POH/AFM
Objective	To determine that the applicant exhibits satisfactory knowledge, risk management, and skills associated with maneuvering during slow flight. Note: See Appendix 6: Safety of Flight and Appendix 7: Aircraft, Equipment, and Operational Requirements & Limitations .
Knowledge	The applicant demonstrates understanding of:
CA.VII.A.K1	Aerodynamics associated with slow flight in various airplane configurations, to include the relationship between angle of attack, airspeed, load factor, power setting, airplane weight and center of gravity, airplane attitude, and yaw effects.
Risk Management	The applicant demonstrates the ability to identify, assess and mitigate risks, encompassing:
CA.VII.A.R1	Inadvertent slow flight and flight with a stall warning, which could lead to loss of control.
CA.VII.A.R2	Range and limitations of stall warning indicators (e.g., aircraft buffet, stall horn, etc.).
CA.VII.A.R3	Failure to maintain coordinated flight.
CA.VII.A.R4	Effect of environmental elements on airplane performance (e.g., turbulence, microbursts, and high-density altitude).
CA.VII.A.R5	Collision hazards, to include aircraft, terrain, obstacles, and wires.
CA.VII.A.R6	Distractions, loss of situational awareness, or improper task management.
Skills	The applicant demonstrates the ability to:
CA.VII.A.S1	Clear the area.
CA.VII.A.S2	Select an entry altitude that will allow the Task to be completed no lower than 1,500 feet AGL (ASEL, ASES) or 3,000 feet AGL (AMEL, AMES).
CA.VII.A.S3	Establish and maintain an airspeed at which any further increase in angle of attack, increase in load factor, or reduction in power, would result in a stall warning (e.g., airplane buffet, stall horn, etc.).
CA.VII.A.S4	Accomplish coordinated straight-and-level flight, turns, climbs, and descents with the aircraft configured as specified by the evaluator without a stall warning (e.g., airplane buffet, stall horn, etc.).
CA.VII.A.S5	Maintain the specified altitude, ± 50 feet; specified heading, $\pm 10^\circ$; airspeed, $+5/-0$ knots; and specified angle of bank, $\pm 5^\circ$.

VII. Slow Flight and Stalls

Task	B. Power-Off Stalls
References	FAA-H-8083-2, FAA-H-8083-3; AC 61-67; POH/AFM
Objective	To determine that the applicant exhibits satisfactory knowledge, risk management, and skills associated with power-off stalls. Note: See Appendix 7: Aircraft, Equipment, and Operational Requirements & Limitations .
Knowledge	The applicant demonstrates understanding of:
CA.VII.B.K1	Aerodynamics associated with stalls in various airplane configurations, to include the relationship between angle of attack, airspeed, load factor, power setting, airplane weight and center of gravity, airplane attitude, and yaw effects.
CA.VII.B.K2	Stall characteristics (i.e., airplane design) and impending stall and full stall indications (i.e., how to recognize by sight, sound, or feel).
CA.VII.B.K3	Factors and situations that can lead to a power-off stall and actions that can be taken to prevent it.
CA.VII.B.K4	Fundamentals of stall recovery.
Risk Management	The applicant demonstrates the ability to identify, assess and mitigate risks, encompassing:
CA.VII.B.R1	Factors and situations that could lead to an inadvertent power-off stall, spin, and loss of control.
CA.VII.B.R2	Range and limitations of stall warning indicators (e.g., airplane buffet, stall horn, etc.).
CA.VII.B.R3	Failure to recognize and recover at the stall warning during normal operations.
CA.VII.B.R4	Improper stall recovery procedure.
CA.VII.B.R5	Secondary stalls, accelerated stalls, and cross-control stalls.
CA.VII.B.R6	Effect of environmental elements on airplane performance related to power-off stalls (e.g., turbulence, microbursts, and high-density altitude).
CA.VII.B.R7	Collision hazards, to include aircraft, terrain, obstacles, and wires.
CA.VII.B.R8	Distractions, loss of situational awareness, or improper task management.
Skills	The applicant demonstrates the ability to:
CA.VII.B.S1	Clear the area.
CA.VII.B.S2	Select an entry altitude that will allow the Task to be completed no lower than 1,500 feet AGL (ASEL, ASES) or 3,000 feet AGL (AMEL, AMES).
CA.VII.B.S3	Configure the airplane in the approach or landing configuration, as specified by the evaluator, and maintain coordinated flight throughout the maneuver.
CA.VII.B.S4	Establish a stabilized descent.
CA.VII.B.S5	Transition smoothly from the approach or landing attitude to a pitch attitude that will induce a stall.
CA.VII.B.S6	Maintain a specified heading, $\pm 10^\circ$ if in straight flight; maintain a specified angle of bank not to exceed 20° , $\pm 5^\circ$, if in turning flight, until an impending or full stall occurs, as specified by the evaluator.
CA.VII.B.S7	Acknowledge the cues at the first indication of a stall (e.g., airplane buffet, stall horn, etc.).
CA.VII.B.S8	Recover at the first indication of a stall or after a full stall has occurred, as specified by the evaluator.
CA.VII.B.S9	Configure the airplane as recommended by the manufacturer, and accelerate to V_X or V_Y .
CA.VII.B.S10	Return to the altitude, heading, and airspeed specified by the evaluator.

VII. Slow Flight and Stalls

Task	C. Power-On Stalls
References	FAA-H-8083-2, FAA-H-8083-3; AC 61-67; POH/AFM
Objective	To determine that the applicant exhibits satisfactory knowledge, risk management, and skills associated with power-on stalls. Note: See Appendix 6: Safety of Flight and Appendix 7: Aircraft, Equipment, and Operational Requirements & Limitations .
Knowledge	The applicant demonstrates understanding of:
CA.VII.C.K1	Aerodynamics associated with stalls in various airplane configurations, to include the relationship between angle of attack, airspeed, load factor, power setting, airplane weight and center of gravity, airplane attitude, and yaw effects.
CA.VII.C.K2	Stall characteristics (i.e., airplane design) and impending stall and full stall indications (i.e., how to recognize by sight, sound, or feel).
CA.VII.C.K3	Factors and situations that can lead to a power-on stall and actions that can be taken to prevent it.
CA.VII.C.K4	Fundamentals of stall recovery.
Risk Management	The applicant demonstrates the ability to identify, assess and mitigate risks, encompassing:
CA.VII.C.R1	Factors and situations that could lead to an inadvertent power-on stall, spin, and loss of control.
CA.VII.C.R2	Range and limitations of stall warning indicators (e.g., airplane buffet, stall horn, etc.).
CA.VII.C.R3	Failure to recognize and recover at the stall warning during normal operations.
CA.VII.C.R4	Improper stall recovery procedure.
CA.VII.C.R5	Secondary stalls, accelerated stalls, elevator trim stalls, and cross-control stalls.
CA.VII.C.R6	Effect of environmental elements on airplane performance related to power-on stalls (e.g., turbulence, microbursts, and high-density altitude).
CA.VII.C.R7	Collision hazards, to include aircraft, terrain, obstacles, and wires.
CA.VII.C.R8	Distractions, loss of situational awareness, or improper task management.
Skills	The applicant demonstrates the ability to:
CA.VII.C.S1	Clear the area.
CA.VII.C.S2	Select an entry altitude that will allow the Task to be completed no lower than 1,500 feet AGL (ASEL, ASES) or 3,000 feet AGL (AMEL, AMES).
CA.VII.C.S3	Establish the takeoff, departure, or cruise configuration, as specified by the evaluator, and maintain coordinated flight throughout the maneuver.
CA.VII.C.S4	Set power (as assigned by the evaluator) to no less than 65 percent power.
CA.VII.C.S5	Transition smoothly from the takeoff or departure attitude to the pitch attitude that will induce a stall.
CA.VII.C.S6	Maintain a specified heading $\pm 10^\circ$ if in straight flight; maintain a specified angle of bank not to exceed 20° , $\pm 10^\circ$ if in turning flight, until an impending or full stall is reached, as specified by the evaluator.
CA.VII.C.S7	Acknowledge the cues at the first indication of a stall (e.g., airplane buffet, stall horn, etc.).
CA.VII.C.S8	Recover at the first indication of a stall or after a full stall has occurred, as specified by the evaluator.
CA.VII.C.S9	Configure the airplane as recommended by the manufacturer, and accelerate to V_x or V_y .
CA.VII.C.S10	Return to the altitude, heading, and airspeed specified by the evaluator.

VII. Slow Flight and Stalls

Task	D. Accelerated Stalls
References	FAA-H-8083-2, FAA-H-8083-3; AC 61-67; POH/AFM
Objective	To determine that the applicant exhibits satisfactory knowledge, risk management related to accelerated (power-on or power-off) stalls. Note: See Appendix 6: Safety of Flight and Appendix 7: Aircraft, Equipment, and Operational Requirements & Limitations .
Knowledge	The applicant demonstrates understanding of:
CA.VII.D.K1	Aerodynamics associated with accelerated stalls in various airplane configurations, to include the relationship between angle of attack, airspeed, load factor, power setting, airplane weight and center of gravity, airplane attitude, and yaw effects.
CA.VII.D.K2	Stall characteristics (i.e., airplane design), impending stall, and full stall indications (i.e., how to recognize by sight, sound, or feel).
CA.VII.D.K3	Factors and situations that can lead to an accelerated stall and actions that can be taken to prevent it.
CA.VII.D.K4	Fundamentals of stall recovery.
Risk Management	The applicant demonstrates the ability to identify, assess and mitigate risks, encompassing:
CA.VII.D.R1	Factors and situations that could lead to an inadvertent accelerated stall, spin, and loss of control.
CA.VII.D.R2	Range and limitations of stall warning indicators (e.g., airplane buffet, stall horn, etc.).
CA.VII.D.R3	Failure to recognize and recover at the stall warning during normal operations.
CA.VII.D.R4	Improper stall recovery procedure.
CA.VII.D.R5	Secondary stalls, cross-control stalls, and spins.
CA.VII.D.R6	Effect of environmental elements on airplane performance related to accelerated stalls (e.g., turbulence, microbursts, and high-density altitude).
CA.VII.D.R7	Collision hazards, to include aircraft, terrain, obstacles, and wires.
CA.VII.D.R8	Distractions, improper task management, loss of situational awareness, or disorientation.
Skills	The applicant demonstrates the ability to:
CA.VII.D.S1	Clear the area.
CA.VII.D.S2	Select an entry altitude that will allow the Task to be completed no lower than 3,000 feet AGL.
CA.VII.D.S3	Establish the configuration as specified by the evaluator.
CA.VII.D.S4	Set power appropriate for the configuration, such that the airspeed does not exceed the maneuvering speed (V_A) or any other applicable POH/AFM limitation.
CA.VII.D.S5	Establish and maintain a coordinated turn in a 45° bank, increasing elevator back pressure smoothly and firmly until an impending stall is reached.
CA.VII.D.S6	Acknowledge the cue(s) and recover promptly at the first indication of an impending stall (e.g., aircraft buffet, stall horn, etc.).
CA.VII.D.S7	Execute a stall recovery in accordance with procedures set forth in the POH/AFM.
CA.VII.D.S8	Configure the airplane as recommended by the manufacturer, and accelerate to V_X or V_Y .
CA.VII.D.S9	Return to the altitude, heading, and airspeed specified by the evaluator.

VII. Slow Flight and Stalls

Task	<i>E. Spin Awareness</i>
References	FAA-H-8083-2, FAA-H-8083-3; AC 61-67; POH/AFM
Objective	To determine that the applicant exhibits satisfactory knowledge, risk management, and skills associated with spins, flight situations where unintentional spins may occur and procedures for recovery from unintentional spins.
Knowledge	The applicant demonstrates understanding of:
<i>CA.VII.E.K1</i>	Aerodynamics associated with spins in various airplane configurations, to include the relationship between angle of attack, airspeed, load factor, power setting, airplane weight and center of gravity, airplane attitude, and yaw effects.
<i>CA.VII.E.K2</i>	What causes a spin and how to identify the entry, incipient, and developed phases of a spin.
<i>CA.VII.E.K3</i>	Spin recovery procedure.
Risk Management	The applicant demonstrates the ability to identify, assess and mitigate risks, encompassing:
<i>CA.VII.E.R1</i>	Factors and situations that could lead to inadvertent spin and loss of control.
<i>CA.VII.E.R2</i>	Range and limitations of stall warning indicators (e.g., aircraft buffet, stall horn, etc.).
<i>CA.VII.E.R3</i>	Improper spin recovery procedure.
<i>CA.VII.E.R4</i>	Effect of environmental elements on airplane performance related to spins (e.g., turbulence, microbursts, and high-density altitude).
<i>CA.VII.E.R5</i>	Collision hazards, to include aircraft, terrain, obstacles, and wires.
<i>CA.VII.E.R6</i>	Distractions, improper task management, loss of situational awareness, or disorientation.
Skills	[Intentionally left blank]

IX. Emergency Operations

Task	<i>E. Engine Failure During Takeoff Before V_{MC} (Simulated) (AMEL, AMES)</i>
References	FAA-H-8083-2, FAA-H-8083-3; FAA-P-8740-66; POH/AFM
Objective	To determine that the applicant exhibits satisfactory knowledge, risk management, and skills associated with an engine failure during takeoff before V_{MC} . Note: See Appendix 6: Safety of Flight and Appendix 7: Aircraft, Equipment, and Operational Requirements & Limitations .
Knowledge	The applicant demonstrates understanding of:
CA.IX.E.K1	Factors affecting V_{MC} .
CA.IX.E.K2	V_{MC} (red line) and V_{YSE} (blue line).
CA.IX.E.K3	Accelerate/stop distance.
Risk Management	The applicant demonstrates the ability to identify, assess and mitigate risks, encompassing:
CA.IX.E.R1	Failure to plan for engine failure during takeoff.
CA.IX.E.R2	Improper airplane configuration.
CA.IX.E.R3	Distractions, loss of situational awareness, or improper task management.
Skills	The applicant demonstrates the ability to:
CA.IX.E.S1	Close the throttles smoothly and promptly when a simulated engine failure occurs.
CA.IX.E.S2	Maintain directional control and apply brakes (AMEL), or flight controls (AMES), as necessary.

IX. Emergency Operations

Task	F. Engine Failure After Liftoff (Simulated) (AMEL, AMES)
References	FAA-H-8083-2, FAA-H-8083-3; FAA-P-8740-66; POH/AFM
Objective	To determine that the applicant exhibits satisfactory knowledge, risk management, and skills associated with an engine failure after liftoff. Note: See Appendix 6: Safety of Flight and Appendix 7: Aircraft, Equipment, and Operational Requirements & Limitations .
Knowledge	The applicant demonstrates understanding of:
CA.IX.F.K1	Factors affecting V_{MC} .
CA.IX.F.K2	V_{MC} (red line), V_{YSE} (blue line), and V_{Sse} (safe single-engine speed).
CA.IX.F.K3	Accelerate/stop and accelerate/go distances.
CA.IX.F.K4	How to identify, verify, feather, and secure an inoperative engine.
CA.IX.F.K5	Importance of drag reduction, to include propeller feathering, gear and flap retraction, the manufacturer's recommended control input and its relation to zero sideslip.
CA.IX.F.K6	Simulated propeller feathering and the evaluator's zero-thrust procedures and responsibilities.
Risk Management	The applicant demonstrates the ability to identify, assess and mitigate risks, encompassing:
CA.IX.F.R1	Failure to plan for engine failure after liftoff.
CA.IX.F.R2	Collision hazards, to include aircraft, terrain, obstacles, and wires.
CA.IX.F.R3	Improper airplane configuration.
CA.IX.F.R4	Low altitude maneuvering including, stall, spin, or CFIT.
CA.IX.F.R5	Distractions, loss of situational awareness, or improper task management.
Skills	The applicant demonstrates the ability to:
CA.IX.F.S1	Promptly recognize an engine failure, maintain control, and utilize appropriate emergency procedures.
CA.IX.F.S2	Establish V_{YSE} ; if obstructions are present, establish V_{XSE} or $V_{MC} + 5$ knots, whichever is greater, until obstructions are cleared. Then transition to V_{YSE} .
CA.IX.F.S3	Reduce drag by retracting landing gear and flaps in accordance with the manufacturer's guidance.
CA.IX.F.S4	Simulate feathering the propeller on the inoperative engine (evaluator should then establish zero thrust on the inoperative engine).
CA.IX.F.S5	Use flight controls in the proper combination as recommended by the manufacturer, or as required to maintain best performance, and trim as required.
CA.IX.F.S6	Monitor the operating engine and make adjustments as necessary.
CA.IX.F.S7	Recognize the airplane's performance capabilities. If a climb is not possible at V_{YSE} , maintain V_{YSE} and return to the departure airport for landing, or initiate an approach to the most suitable landing area available.
CA.IX.F.S8	Simulate securing the inoperative engine.
CA.IX.F.S9	Maintain heading $\pm 10^\circ$ and airspeed ± 5 knots.
CA.IX.F.S10	Complete the appropriate checklist.

IX. Emergency Operations

Task	G. Approach and Landing with an Inoperative Engine (Simulated) (AMEL, AMES)
References	FAA-H-8083-2, FAA-H-8083-3; FAA-P-8740-66; POH/AFM
Objective	To determine that the applicant exhibits satisfactory knowledge, risk management, and skills associated with an approach and landing with an engine inoperative, including engine failure on final approach. Note: See Appendix 6: Safety of Flight and Appendix 7: Aircraft, Equipment, and Operational Requirements & Limitations .
Knowledge	The applicant demonstrates understanding of:
CA.IX.G.K1	Factors affecting V_{MC} .
CA.IX.G.K2	V_{MC} (red line) and V_{YSE} (blue line).
CA.IX.G.K3	How to identify, verify, feather, and secure an inoperative engine.
CA.IX.G.K4	Importance of drag reduction, to include propeller feathering, gear and flap retraction, the manufacturer's recommended flight control input and its relation to zero sideslip.
CA.IX.G.K5	Applicant responsibilities during simulated feathering.
Risk Management	The applicant demonstrates the ability to identify, assess and mitigate risks, encompassing:
CA.IX.G.R1	Failure to plan for engine failure inflight or during an approach.
CA.IX.G.R2	Collision hazards, to include aircraft, terrain, obstacles, and wires.
CA.IX.G.R3	Improper airplane configuration.
CA.IX.G.R4	Low altitude maneuvering including, stall, spin, or CFIT.
CA.IX.G.R5	Distractions, loss of situational awareness, or improper task management.
CA.IX.G.R6	Possible single-engine go-around.
Skills	The applicant demonstrates the ability to:
CA.IX.G.S1	Promptly recognize an engine failure and maintain positive aircraft control.
CA.IX.G.S2	Set the engine controls, reduce drag, identify and verify the inoperative engine, and simulate feathering of the propeller on the inoperative engine. (Evaluator should then establish zero thrust on the inoperative engine).
CA.IX.G.S3	Use flight controls in the proper combination as recommended by the manufacturer, or as required to maintain best performance, and trim as required.
CA.IX.G.S4	Follow the manufacturer's recommended emergency procedures.
CA.IX.G.S5	Monitor the operating engine and make adjustments as necessary.
CA.IX.G.S6	Maintain the manufacturer's recommended approach airspeed ± 5 knots in the landing configuration with a stabilized approach, until landing is assured.
CA.IX.G.S7	Make smooth, timely, and correct control application before, during, and after round out and touchdown.
CA.IX.G.S8	Touch down on the first one-third of available runway/landing surface, with no drift, and the airplane's longitudinal axis aligned with and over the runway center or landing path.
CA.IX.G.S9	Maintain directional control and appropriate crosswind correction throughout the approach and landing.
CA.IX.G.S10	Complete the appropriate checklist.

X. Multiengine Operations

Task	A. Maneuvering with One Engine Inoperative (AMEL, AMES)
References	FAA-H-8083-2, FAA-H-8083-3; FAA-P-8740-66; POH/AFM
Objective	To determine that the applicant exhibits satisfactory knowledge, risk management, and skills associated with one engine inoperative. Note: See Appendix 6: Safety of Flight and Appendix 7: Aircraft, Equipment, and Operational Requirements & Limitations .
Knowledge	The applicant demonstrates understanding of:
CA.X.A.K1	Factors affecting V_{MC} .
CA.X.A.K2	V_{MC} (red line) and V_{YSE} (blue line).
CA.X.A.K3	How to identify, verify, feather, and secure an inoperative engine.
CA.X.A.K4	Importance of drag reduction, to include propeller feathering, gear and flap retraction, the manufacturer's recommended flight control input and its relation to zero sideslip.
CA.X.A.K5	Feathering, securing, unfeathering, and restarting.
Risk Management	The applicant demonstrates the ability to identify, assess and mitigate risks, encompassing:
CA.X.A.R1	Failure to plan for engine failure during flight.
CA.X.A.R2	Collision hazards, to include aircraft, terrain, obstacles, and wires.
CA.X.A.R3	Improper airplane configuration.
CA.X.A.R4	Low altitude maneuvering including, stall, spin, or CFIT.
CA.X.A.R5	Distractions, loss of situational awareness, or improper task management.
Skills	The applicant demonstrates the ability to:
CA.X.A.S1	Recognize an engine failure, maintain control, use manufacturer's memory item procedures, and utilize appropriate emergency procedures.
CA.X.A.S2	Set the engine controls, identify and verify the inoperative engine, and feather the appropriate propeller.
CA.X.A.S3	Use flight controls in the proper combination as recommended by the manufacturer, or as required to maintain best performance, and trim as required.
CA.X.A.S4	Attempt to determine and resolve the reason for the engine failure.
CA.X.A.S5	Secure the inoperative engine and monitor the operating engine and make necessary adjustments.
CA.X.A.S6	Restart the inoperative engine using manufacturer's restart procedures.
CA.X.A.S7	Maintain altitude ± 100 feet or a minimum sink rate if applicable, airspeed ± 10 knots, and selected headings $\pm 10^\circ$.
CA.X.A.S8	Complete the appropriate checklist.

X. Multiengine Operations

Task	B. V_{MC} Demonstration (AMEL, AMES)
References	FAA-H-8083-2, FAA-H-8083-3; FAA-P-8740-66; POH/AFM
Objective	To determine that the applicant exhibits satisfactory knowledge, risk management, and skills associated with a V_{MC} demonstration. Note: See Appendix 6: Safety of Flight and Appendix 7: Aircraft, Equipment, and Operational Requirements & Limitations .
Knowledge	The applicant demonstrates understanding of:
CA.X.B.K1	Factors affecting V_{MC} and how V_{MC} differs from stall speed (V_S).
CA.X.B.K2	V_{MC} (red line), V_{YSE} (blue line), and V_{SSE} (safe single-engine speed).
CA.X.B.K3	Cause of loss of directional control at airspeeds below V_{MC} .
CA.X.B.K4	Proper procedures for maneuver entry and safe recovery.
Risk Management	The applicant demonstrates the ability to identify, assess and mitigate risks, encompassing:
CA.X.B.R1	Improper airplane configuration.
CA.X.B.R2	Maneuvering with one engine inoperative.
CA.X.B.R3	Distractions, loss of situational awareness, or improper task management.
Skills	The applicant demonstrates the ability to:
CA.X.B.S1	Configure the airplane in accordance with the manufacturer's recommendations, in the absence of the manufacturer's recommendations, then at V_{SSE}/V_{YSE} , as appropriate, and:
CA.X.B.S1a	a. Landing gear retracted
CA.X.B.S1b	b. Flaps set for takeoff
CA.X.B.S1c	c. Cowl flaps set for takeoff
CA.X.B.S1d	d. Trim set for takeoff
CA.X.B.S1e	e. Propellers set for high RPM
CA.X.B.S1f	f. Power on critical engine reduced to idle and propeller windmilling
CA.X.B.S1g	g. Power on operating engine set to takeoff or maximum available power
CA.X.B.S2	Establish a single-engine climb attitude with the airspeed at approximately 10 knots above V_{SSE} .
CA.X.B.S3	Establish a bank angle not to exceed 5° toward the operating engine, as required for best performance and controllability.
CA.X.B.S4	Increase the pitch attitude slowly to reduce the airspeed at approximately 1 knot per second while applying rudder pressure to maintain directional control until full rudder is applied.
CA.X.B.S5	Recognize indications of loss of directional control, stall warning, or buffet.
CA.X.B.S6	Recover promptly by simultaneously reducing power sufficiently on the operating engine, decreasing the angle of attack as necessary to regain airspeed and directional control, and without adding power on the simulated failed engine.
CA.X.B.S7	Recover within 20° of entry heading.
CA.X.B.S8	Advance power smoothly on the operating engine and accelerate to V_{SSE}/V_{YSE} , as appropriate, ± 5 knots during recovery.

X. Multiengine Operations

Task	C. One Engine Inoperative (Simulated) (solely by Reference to Instruments) During Straight-and-Level Flight and Turns (AMEL, AMES)
References	FAA-H-8083-2, FAA-H-8083-3; FAA-P-8740-66; POH/AFM
Objective	To determine that the applicant exhibits satisfactory knowledge, risk management, and skills associated with flight solely by reference to instruments with one engine inoperative. Note: See Appendix 6: Safety of Flight and Appendix 7: Aircraft, Equipment, and Operational Requirements & Limitations .
Knowledge	The applicant demonstrates understanding of:
CA.X.C.K1	Procedures used if engine failure occurs during straight-and-level flight and turns while on instruments.
Risk Management	The applicant demonstrates the ability to identify, assess and mitigate risks, encompassing:
CA.X.C.R1	Failure to identify the inoperative engine.
CA.X.C.R2	Inability to climb or maintain altitude with an inoperative engine.
CA.X.C.R3	Low altitude maneuvering including, stall, spin, or CFIT.
CA.X.C.R4	Distractions, loss of situational awareness, or improper task management.
CA.X.C.R5	Fuel management during single-engine operation.
Skills	The applicant demonstrates the ability to:
CA.X.C.S1	Promptly recognize an engine failure and maintain positive airplane control.
CA.X.C.S2	Set the engine controls, reduce drag, identify and verify the inoperative engine, and simulate feathering of the propeller on the inoperative engine. (Evaluator should then establish zero thrust on the inoperative engine.)
CA.X.C.S3	Establish the best engine-inoperative airspeed and trim the airplane.
CA.X.C.S4	Use flight controls in the proper combination as recommended by the manufacturer, or as required to maintain best performance, and trim as required.
CA.X.C.S5	Verify the prescribed checklist procedures normally used for securing the inoperative engine.
CA.X.C.S6	Attempt to determine and resolve the reason for the engine failure.
CA.X.C.S7	Monitor engine functions and make necessary adjustments.
CA.X.C.S8	Maintain the specified altitude ± 100 feet or minimum sink rate if applicable, airspeed ± 10 knots, and the specified heading $\pm 10^\circ$.
CA.X.C.S9	Assess the airplane's performance capability and decide an appropriate action to ensure a safe landing.
CA.X.C.S10	Avoid loss of airplane control or attempted flight contrary to the engine-inoperative operating limitations of the airplane.
CA.X.C.S11	Utilize SRM.

X. Multiengine Operations

Task	D. Instrument Approach and Landing with an Inoperative Engine (Simulated) (solely by Reference to Instruments) (AMEL, AMES)
References	FAA-H-8083-2, FAA-H-8083-3; FAA-P-8740-66; POH/AFM
Objective	To determine that the applicant exhibits satisfactory knowledge, risk management, and skills associated with executing a published instrument approach solely by reference to instruments with one engine inoperative. Note: See Appendix 6: Safety of Flight and Appendix 7: Aircraft, Equipment, and Operational Requirements & Limitations .
Knowledge	The applicant demonstrates understanding of:
CA.X.D.K1	Instrument approach procedures with one engine inoperative.
Risk Management	The applicant demonstrates the ability to identify, assess, and mitigate risks, encompassing:
CA.X.D.R1	Failure to plan for engine failure during approach and landing.
CA.X.D.R2	Collision hazards, to include aircraft, terrain, obstacles, wires, vehicles, vessels, persons, and wildlife.
CA.X.D.R3	Improper airplane configuration.
CA.X.D.R4	Low altitude maneuvering including stall, spin, or CFIT
CA.X.D.R5	Distractions, loss of situational awareness, or improper task management.
CA.X.D.R6	Performing a go-around/rejected landing with a powerplant failure.
Skills	The applicant demonstrates the ability to:
CA.X.D.S1	Promptly recognize engine failure and maintain positive airplane control.
CA.X.D.S2	Set the engine controls, reduce drag, identify and verify the inoperative engine, and simulate feathering of the propeller on the inoperative engine. (Evaluator should then establish zero thrust on the inoperative engine).
CA.X.D.S3	Use flight controls in the proper combination as recommended by the manufacturer or as required to maintain best performance, and trim as required.
CA.X.D.S4	Follow the manufacturer's recommended emergency procedures.
CA.X.D.S5	Monitor the operating engine and make adjustments as necessary.
CA.X.D.S6	Request and follow an actual or a simulated ATC clearance for an instrument approach.
CA.X.D.S7	Maintain altitude ± 100 feet or minimum sink rate if applicable, airspeed ± 10 knots, and selected heading $\pm 10^\circ$.
CA.X.D.S8	Establish a rate of descent that will ensure arrival at the MDA or DA/DH, with the airplane in a position from which a descent to a landing on the intended runway can be made, either straight in or circling as appropriate.
CA.X.D.S9	On final approach segment, maintain vertical (as applicable) and lateral guidance within $\frac{3}{4}$ -scale deflection.
CA.X.D.S10	Avoid loss of airplane control or attempted flight contrary to the operating limitations of the airplane.
CA.X.D.S11	Comply with the published criteria for the aircraft approach category if circling.
CA.X.D.S12	Execute a normal landing.
CA.X.D.S13	Complete the appropriate checklist.

Practical Test Checklist (Applicant) Appointment with Evaluator

Evaluator's Name: _____

Location: _____

Date/Time: _____

Acceptable Aircraft

- Aircraft Documents:
 - Airworthiness Certificate
 - Registration Certificate
 - Operating Limitations
- Aircraft Maintenance Records:
 - Logbook Record of Airworthiness Inspections and AD Compliance
- Pilot's Operating Handbook, FAA-Approved Aircraft Flight Manual

Personal Equipment

- View-Limiting Device
- Current Aeronautical Charts (printed or electronic)
- Computer and Plotter
- Flight Plan Form
- Flight Plan Form and Flight Logs (printed or electronic)
- Chart Supplements, Airport Diagrams, and Appropriate Publications
- Current AIM

Personal Records

- Identification—Photo/Signature ID
- Pilot Certificate
- Current Medical Certificate or BasicMed qualification (when applicable)
- Completed FAA Form 8710-1, Airman Certificate and/or Rating Application with Instructor's Signature or completed IACRA form
- Original Airman Knowledge Test Report
- Pilot Logbook with appropriate Instructor Endorsements
- FAA Form 8060-5, Notice of Disapproval (if applicable)
- Letter of Discontinuance (if applicable)
- Approved School Graduation Certificate (if applicable)
- Evaluator's Fee (if applicable)