Private Pilot ACS Quick Reference

Normal Takeoff and Climb	Airspeed:	Vr Vy +10 / -5 kts
Normal Approach and Landing	Airspeed: Distance:	Vr Vy +10 / -5 kts 400′ of specified point.
Short-Field Takeoff & Climb	Airspeed:	Obstacle Vx +10/-5 kts then Vy +10/-5 kts
Short-Field Approach & Landing	Airspeed: Distance:	1.3 Vso +10 / -5 kts 0′ / 200′ of specified point.
Soft-Field Takeoff and Climb	Airspeed:	Vy +10/-5 kts
Soft-Field Approach and Landing	Airspeed:	1.3 Vso +10/-5 kts
Forward Slip to a Landing	Distance:	Touch down within 400 ft of spec point.
Go Around	Airspeed:	Vy +10/-5 kts
Maneuvering During Slow Flight	Altitude: Airspeed: Heading: Bank: Climbs / Descents:	> 1,500 AGL +/- 100′ 1.2 Vs1 +10/-5 kts +/- 10° Not > 30° +0/-10 Level off +/-100′
Traffic Pattern	Altitude: Airspeed:	+/- 100′ of TPA +/- 10 kts
Power Off Stalls	Altitude : Heading: Heading: Bank:	(stabilized descent 1.3 Vso) > 1,500 AGL (if in straight flight) flight) ±10° ±10° Not > 20° Return to the altitude, heading, and airspeed
Power On Stalls	Altitude : Heading: Heading: Bank:	> 1,500 AGL (if in straight flight) flight) ±10° ±10° Not > 20° Return to the altitude, heading, and airspeed

Paul Roberts Feb 2025

Straight and Level Flight (solely by reference to instruments)	Altitude : Heading: Airspeed:	± 200' ± 20° ±10 kts
Steep Turns	Altitude : Airspeed: Bank: Heading:	> 1,500 AGL +/- 100' Not to exceed Va, +/- 10 kts 45° +/-5° +/- 10°
Straight and Level Flight (solely by reference to instruments)	Altitude : Heading: Airspeed:	± 200' ± 20° ±10 kts
Turns to Headings (solely by reference to instruments)	Altitude : Heading: Airspeed:	± 200' ± 20° ±10 kts
Constant Airspeed Climbs (solely by reference to instruments)	Altitude : Heading: Airspeed:	± 200' ± 20° ±10 kts
Constant Airspeed Descent (solely by reference to instruments)	Altitude : Heading: Airspeed:	± 200' ± 20° ±10 kts
Ground Reference Maneuvers Turns Around a Point S-Turns Rectangular Course	Altitude : Airspeed: Bank: Altitude:	600 - 1,000ft AGL +/- 100' Not to exceed Va, +/- 10 kts 45° at steepest point 600 - 1,000ft AGL +/- 100'
Diversion	Altitude : Heading:	+/- 200' +/- 15°
Pilotage & Dead Reckoning	Postition: Time: Altitude: Heading:	Within 3 miles of route Within 5 mins of ETA +/- 200' +/- 15°
Recovery from Unusual Attitudes (solely by reference to instruments)	-	Prevention of unusual attitudes Assessment of the unusual attitude. Recovery solely by reference to instruments.
Radio Comm, Nav Systems / Facilities & Radar Services		Maintain airplane control while selecting proper communications frequencies. Comply with ATC instructions.
Navigation Systems and Radar Services	Altitude: Heading:	± 200 feet ± 15°

Lost Procedures (6 C's Confirm, Climb, Circle Check Frequencies, Confess, Comply)	Altitude: Heading: Comms:	Climb / As appropriate Circle / As Appropriate ATC / Guard As Appropriate
Emergency Descent	Airspeed: Bank: Altitude:	± 10 kts 30-45° level off within ±100
Emergency Approach and Landing (Simulated)	Airspeed:	+10 kts
Emergency Approach and Landing (Simulated)	Airspeed:	± 10 kts

.

Task A. Normal Takeoff and Climb

References: *AIM; FAA-H-8083-2, FAA-H-8083-3, FAA-H-8083-23, FAA-H-8083-25; POH/AFM*

Objective: To determine the applicant exhibits satisfactory knowledge, risk management, and skills associated with normal takeoff, climb operations, and rejected takeoff procedures.

Note: *If a crosswind condition does not exist, the applicant's knowledge of crosswind elements must be evaluated through oral testing.*

Knowledge: The applicant demonstrates understanding of:

PA.IV.A.K1 Effects of atmospheric conditions, including wind, on takeoff and climb performance.
PA.IV.A.K2 Best angle of climb speed (VX) and best rate of climb speed (VY).
PA.IV.A.K3 Appropriate airplane configuration.

Risk Management: The applicant is able to identify, assess, and mitigate risk associated with:

PA.IV.A.R1 Selection of runway or takeoff path based on aircraft performance and limitations, available distance, and wind.
PA.IV.A.R2 Effects of:
PA.IV.A.R2a a. Crosswind
PA.IV.A.R2b b. Windshear
PA.IV.A.R2c c. Tailwind
PA.IV.A.R2d d. Wake turbulence
PA.IV.A.R2e e. Takeoff surface/condition
PA.IV.A.R3 Abnormal operations, including planning for:
PA.IV.A.R3a a. Rejected takeoff
PA.IV.A.R3b b. Potential engine failure in takeoff/climb phase of flight
PA.IV.A.R4 Collision hazards.
PA.IV.A.R5 Low altitude maneuvering, including stall, spin, or controlled flight into terrain (CFIT).
PA.IV.A.R6 Distractions, task prioritization, loss of situational awareness, or disorientation.
PA.IV.A.R7 Runway incursion.

Skills: The applicant exhibits the skill to:

PA.IV.A.S1 Complete the appropriate checklist(s).
PA.IV.A.S2 Make radio calls as appropriate.
PA.IV.A.S3 Verify assigned/correct runway or takeoff path.
PA.IV.A.S4 Determine wind direction with or without visible wind direction indicators.
PA.IV.A.S5 Position the flight controls for the existing wind, if applicable.
PA.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).
PA.IV.A.S6a a. Retract the water rudders, as appropriate (ASES, AMES)
PA.IV.A.S7 Advance the throttle smoothly to takeoff power and confirm proper engine and flight instrument indications prior to rotation.
PA.IV.A.S7a a. Establish and maintain the most efficient planing/lift-off attitude, and correct for porpoising or skipping (ASES, AMES)
PA.IV.A.S8 Avoid excessive water spray on the propeller(s) (ASES, AMES).
PA.IV.A.S9 Rotate and lift off at the recommended airspeed and accelerate to VY.
PA.IV.A.S10 [Archived]
PA.IV.A.S11 Establish a pitch attitude to maintain the manufacturer's recommended speed or **VY, +10/-5 knots.**
PA.IV.A.S12 Configure the airplane in accordance with manufacturer's guidance.
PA.IV.A.S13 Maintain VY +10/-5 knots to a safe maneuvering altitude.
PA.IV.A.S14 Maintain directional control and proper wind-drift correction throughout takeoff & climb.
PA.IV.A.S15 Comply with noise abatement procedures, as applicable.

Task B. Normal Approach and Landing

References: AIM; FAA-H-8083-2, FAA-H-8083-3, FAA-H-8083-23, FAA-H-8083-25; POH/AFM

Objective: To determine the applicant exhibits satisfactory knowledge, risk management, and skills associated with normal approach and landing with emphasis on proper use and coordination of flight controls.

Note: If a crosswind condition does not exist, the applicant's knowledge of crosswind elements must be evaluated through oral testing.

Knowledge: The applicant demonstrates understanding of:

PA.IV.B.K1 A stabilized approach, including energy management concepts.
PA.IV.B.K2 Effects of atmospheric conditions, including wind, on approach and landing performance.
PA.IV.B.K3 Wind correction techniques on approach and landing.

Risk Management: The applicant is able to identify, assess, and mitigate risk associated with:

PA.IV.B.R1 Selection of runway/landing surface, approach path, and touchdown area based on pilot capability, aircraft performance and limitations, available distance, and wind.
PA.IV.B.R2 Effects of:
PA.IV.B.R2a a. Crosswind
PA.IV.B.R2b b. Windshear
PA.IV.B.R2c c. Tailwind
PA.IV.B.R2d d. Wake turbulence
PA.IV.B.R2e e. Landing surface/condition
PA.IV.B.R3 Planning for:
PA.IV.B.R3a a. Rejected landing and go-around
PA.IV.B.R3b b. Land and hold short operations (LAHSO)
PA.IV.B.R4 Collision hazards.
PA.IV.B.R5 Low altitude maneuvering, including stall, spin, or controlled flight into terrain (CFIT).
PA.IV.B.R6 Distractions, task prioritization, loss of situational awareness, or disorientation.

Skills: The applicant exhibits the skill to:

PA.IV.B.S1 Complete the appropriate checklist(s).
PA.IV.B.S2 Make radio calls as appropriate.
PA.IV.B.S3 Ensure the airplane is aligned with the correct/assigned runway or landing surface.
PA.IV.B.S4 Scan the runway or landing surface and adjoining area for traffic and obstructions.
PA.IV.B.S5 Select and aim for a suitable touchdown point considering the wind conditions, landing surface, and obstructions.
PA.IV.B.S6 Establish the recommended approach and landing configuration, airspeed, and trim, and adjust pitch attitude and power as required to maintain a stabilized approach.
PA.IV.B.S7 Maintain manufacturer's published approach airspeed or in its absence not more than **1.3 times the stalling speed** or the minimum steady flight speed in the landing configuration **(VSO), +10/-5 knots** with gust factor applied.
PA.IV.B.S8 Maintain directional control and appropriate crosswind correction throughout the approach and landing.
PA.IV.B.S9 Make smooth, timely, and correct control application during round out and touchdown.
PA.IV.B.S10 **Touch down** at a proper pitch attitude, **within 400 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.
PA.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.
PA.IV.B.S12 Use runway incursion avoidance procedures, if applicable.

Task C. Soft-Field Takeoff and Climb (ASEL)

References:AIM; FAA-H-8083-2, FAA-H-8083-3, FAA-H-8083-25; POH/AFM

Objective: To determine the applicant exhibits satisfactory knowledge, risk management, and skills associated with soft-field takeoff, climb operations, and rejected takeoff procedures.

Knowledge: The applicant demonstrates understanding of:

PA.IV.C.K1 Effects of atmospheric conditions, including wind, on takeoff and climb performance.
PA.IV.C.K2 Best angle of climb speed (VX) and best rate of climb speed (VY).
PA.IV.C.K3 Appropriate airplane configuration.
PA.IV.C.K4 Ground effect.
PA.IV.C.K5 Importance of weight transfer from wheels to wings.
PA.IV.C.K6 Left turning tendencies.

Risk Management: The applicant is able to identify, assess, and mitigate risk associated with:

PA.IV.C.R1 Selection of runway based on pilot capability, airplane performance and limitations, available distance, and wind.
PA.IV.C.R2 Effects of:
PA.IV.C.R2a a.Crosswind
PA.IV.C.R2b b.Windshear
PA.IV.C.R2c c.Tailwind
PA.IV.C.R2d d.Wake turbulence
PA.IV.C.R2e e.Takeoff surface/condition
PA.IV.C.R3 Abnormal operations, including planning for:
PA.IV.C.R3a a.Rejected takeoff
PA.IV.C.R3b b.Potential engine failure in takeoff/climb phase of flight
PA.IV.C.R4 Collision hazards.
PA.IV.C.R5 Low altitude maneuvering, including stall, spin, or controlled flight into terrain (CFIT).
PA.IV.C.R6 Distractions, task prioritization, loss of situational awareness, or disorientation.

Skills: The applicant exhibits the skill to:

PA.IV.C.S1 Complete the appropriate checklist(s).
PA.IV.C.S2 Make radio calls as appropriate.
PA.IV.C.S3 Verify assigned/correct runway.
PA.IV.C.S4 Determine wind direction with or without visible wind direction indicators.
PA.IV.C.S5 Position the flight controls for the existing wind, if applicable.
PA.IV.C.S6 **Clear the area**, maintain necessary flight control inputs, taxi into takeoff position and align the airplane on the runway centerline without stopping, while advancing the throttle smoothly to takeoff power.
PA.IV.C.S7 Confirm takeoff power and proper engine and flight instrument indications.
PA.IV.C.S8 Establish and maintain a pitch attitude that transfers the weight of the airplane from the wheels to the wings as rapidly as possible.
PA.IV.C.S9 Lift off at the **lowest possible airspeed** and remain in ground effect while accelerating to **VX or VY**, as appropriate.
PA.IV.C.S10 Establish a **pitch attitude** for **VX or VY**, as appropriate, and maintain selected airspeed **+10/-5 knots** during the climb.
PA.IV.C.S11Configure the airplane after a positive rate of climb has been verified or in accordance with airplane manufacturer's instructions.
PA.IV.C.S12 **Maintain VX or VY,** as appropriate, **+10/-5 knots** to a safe maneuvering altitude.
PA.IV.C.S13 Maintain directional control and proper wind-drift correction throughout takeoff and climb.
PA.IV.C.S14 Comply with noise abatement procedures, as applicable.

Task D. Soft-Field Approach and Landing (ASEL)
References: AIM; FAA-H-8083-2, FAA-H-8083-3, FAA-H-8083-25; POH/AFM
Objective: To determine the applicant exhibits satisfactory knowledge, risk management, and skills associated with soft-field approach and landing with emphasis on proper use and coordination of flight controls.
Knowledge: The applicant demonstrates understanding of:
PA.IV.D.K1A stabilized approach, including energy management concepts.
PA.IV.D.K2Effects of atmospheric conditions, including wind, on approach and landing performance.
PA.IV.D.K3 Wind correction techniques on approach and landing.
Risk Management: The applicant is able to identify, assess, and mitigate risk associated with:
PA.IV.D.R1 Selection of runway based on pilot capability, airplane performance and limitations, available distance, and wind.
PA.IV.D.R2 Effects of:
PA.IV.D.R2a a.Crosswind
PA.IV.D.R2b b.Windshear
PA.IV.D.R2c c.Tailwind
PA.IV.D.R2d d.Wake turbulence
PA.IV.D.R2e e.Landing surface/condition
PA.IV.D.R3 Planning for:
PA.IV.D.R3a a.Rejected landing and go-around
PA.IV.D.R3b b.Land and hold short operations (LAHSO)
PA.IV.D.R4 Collision hazards.
PA.IV.D.R5 Low altitude maneuvering, including stall, spin, or controlled flight into terrain (CFIT).
PA.IV.D.R6 Distractions, task prioritization, loss of situational awareness, or disorientation.

Skills: The applicant exhibits the skill to:
PA.IV.D.S1 Complete the appropriate checklist(s).
PA.IV.D.S2 Make radio calls as appropriate.
PA.IV.D.S3 Ensure the airplane is aligned with the correct/assigned runway.
PA.IV.D.S4 Scan the landing runway and adjoining area for traffic and obstructions.
PA.IV.D.S5 Select and aim for a suitable touchdown point considering the wind conditions, landing surface, and obstructions.
PA.IV.D.S6 Establish the recommended approach and landing configuration, airspeed, and trim, and adjust pitch attitude and power as required to maintain a stabilized approach.
PA.IV.D.S7 Maintain manufacturer's published approach airspeed or in its absence not more than **1.3 VSO, +10/-5** knots with gust factor applied.
PA.IV.D.S8 Maintain directional control and appropriate crosswind correction throughout the approach and landing.
PA.IV.D.S9 Make smooth, timely, and correct control inputs during the round out and touchdown, and, for tricycle gear airplanes, keep the nose wheel off the surface until loss of elevator effectiveness.
PA.IV.D.S10 Touch down at a proper pitch attitude with minimum sink rate, no side drift, and with the airplane's longitudinal axis aligned with the center of the runway.
PA.IV.D.S11 Maintain elevator as recommended by manufacturer during rollout and exit the "soft" area at a speed that would preclude sinking into the surface.
PA.IV.D.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.
PA.IV.D.S13 Maintain proper position of the flight controls and sufficient speed to taxi while on the soft surface.

Task E. Short-Field Takeoff and Maximum Performance Climb (ASEL, AMEL)
References: AIM; FAA-H-8083-2, FAA-H-8083-3, FAA-H-8083-25; POH/AFM

Objective: To determine the applicant exhibits satisfactory knowledge, risk management, and skills associated with short-field takeoff, maximum performance climb operations, and rejected takeoff procedures.

Knowledge: The applicant demonstrates understanding of:
PA.IV.E.K1 Effects of atmospheric conditions, including wind, on takeoff and climb performance.
PA.IV.E.K2 Best angle of climb speed (VX) and best rate of climb speed (VY).
PA.IV.E.K3 Appropriate airplane configuration.

Risk Management: The applicant is able to identify, assess, and mitigate risk associated with:
PA.IV.E.R1 Selection of runway based on pilot capability, airplane performance and limitations, available distance, and wind.
PA.IV.E.R2 Effects of:
PA.IV.E.R2a a.Crosswind
PA.IV.E.R2b b.Windshear
PA.IV.E.R2c c.Tailwind
PA.IV.E.R2d d.Wake turbulence
PA.IV.E.R2e e.Takeoff surface/condition
PA.IV.E.R3 Abnormal operations, including planning for:
PA.IV.E.R3a a.Rejected takeoff
PA.IV.E.R3b b.Potential engine failure in takeoff/climb phase of flight
PA.IV.E.R4 Collision hazards.
PA.IV.E.R5 Low altitude maneuvering, including stall, spin, or controlled flight into terrain (CFIT).
PA.IV.E.R6 Distractions, task prioritization, loss of situational awareness, or disorientation.

Skills: The applicant exhibits the skill to:
PA.IV.E.S1 Complete the appropriate checklist(s).
PA.IV.E.S2 Make radio calls as appropriate.
PA.IV.E.S3 Verify assigned/correct runway.
PA.IV.E.S4 Determine wind direction with or without visible wind direction indicators.
PA.IV.E.S5 Position the flight controls for the existing wind, if applicable.
PA.IV.E.S6 **Clear the area**, taxi into takeoff position, and align the airplane on the runway centerline utilizing maximum available takeoff area.
PA.IV.E.S7 Apply brakes while setting engine power to achieve maximum performance.
PA.IV.E.S8 **Confirm takeoff power prior to brake release** and **verify proper engine and flight instrument indications prior to rotation**.
PA.IV.E.S9 Rotate and lift off at the recommended airspeed and accelerate to the recommended **obstacle clearance airspeed or VX, +10/-5 knots**.
PA.IV.E.S10 Establish a pitch attitude to maintain the recommended obstacle clearance airspeed or **VX, +10/-5 knots** until the obstacle is cleared or until the airplane is 50 feet above the surface.
PA.IV.E.S11 Establish a pitch attitude for **VY** and accelerate to **VY +10/-5** knots **after clearing** the **obstacle** or at **50 feet AGL** if simulating an obstacle.
PA.IV.E.S12 Configure the airplane in accordance with the manufacturer's guidance after a positive rate of climb has been verified.
PA.IV.E.S13 Maintain **VY +10/-5 knots** to a safe maneuvering altitude.
PA.IV.E.S14 Maintain directional control and proper wind-drift correction throughout takeoff and climb.
PA.IV.E.S15 Comply with noise abatement procedures, as applicable.

Task F. Short-Field Approach and Landing (ASEL, AMEL)
References: AIM; FAA-H-8083-2, FAA-H-8083-3, FAA-H-8083-25; POH/AFM
Objective: To determine the applicant exhibits satisfactory knowledge, risk management, and skills associated with short-field approach and landing with emphasis on proper use and coordination of flight controls.
Knowledge: The applicant demonstrates understanding of:
PA.IV.F.K1 A stabilized approach, including energy management concepts.
PA.IV.F.K2 Effects of atmospheric conditions, including wind, on approach and landing performance.
PA.IV.F.K3 Wind correction techniques on approach and landing.
Risk Management: The applicant is able to identify, assess, and mitigate risk associated with:
PA.IV.F.R1 Selection of runway based on pilot capability, airplane performance and limitations, available distance, and wind.
PA.IV.F.R2 Effects of:
PA.IV.F.R2a a.Crosswind
PA.IV.F.R2b b.Windshear
PA.IV.F.R2c c.Tailwind
PA.IV.F.R2d d.Wake turbulence
PA.IV.F.R2e e.Landing surface/condition
PA.IV.F.R3 Planning for:
PA.IV.F.R3a a.Rejected landing and go-around
PA.IV.F.R3b b.Land and hold short operations (LAHSO)
PA.IV.F.R4 Collision hazards.
PA.IV.F.R5 Low altitude maneuvering, including stall, spin, or controlled flight into terrain (CFIT).
PA.IV.F.R6 Distractions, task prioritization, loss of situational awareness, or disorientation.

Skills: The applicant exhibits the skill to:
PA.IV.F.S1 Complete the appropriate checklist(s).
PA.IV.F.S2 Make radio calls as appropriate.
PA.IV.F.S3 Ensure the airplane is aligned with the correct/assigned runway.
PA.IV.F.S4 Scan the landing runway and adjoining area for traffic and obstructions.
PA.IV.F.S5 Select and aim for a suitable touchdown point considering the wind conditions, landing surface, and obstructions.
PA.IV.F.S6 Establish the recommended approach and landing configuration, airspeed, and trim, and adjust pitch attitude and power as required to maintain a stabilized approach.
PA.IV.F.S7 Maintain manufacturer’s published approach airspeed or in its absence not more than 1.3 VSO, +10/-5 knots with gust factor applied.
PA.IV.F.S8 Maintain directional control and appropriate crosswind correction throughout the approach and landing.
PA.IV.F.S9 Make smooth, timely, and correct control application before, during, and after touchdown.
PA.IV.F.S10 Touch down at a proper pitch attitude within 200 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 the runway centerline.
PA.IV.F.S11 Use manufacturer’s recommended procedures for airplane configuration and braking.
PA.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.
PA.IV.F.S13 Use runway incursion avoidance procedures, if applicable.

Task M. Forward Slip to a Landing

References: AIM; FAA-H-8083-2, FAA-H-8083-3, FAA-H-8083-25; POH/AFM

Objective: To determine the applicant exhibits satisfactory knowledge, risk management, and skills associated with forward slip to a landing.

Knowledge: The applicant demonstrates understanding of:
PA.IV.M.K1 Concepts of energy management during a forward slip approach.
PA.IV.M.K2 Effects of atmospheric conditions, including wind, on approach and landing performance.
PA.IV.M.K3 Wind correction techniques during forward slip.
PA.IV.M.K4 When and why a forward slip approach is used during an approach.

Risk Management: The applicant is able to identify, assess, and mitigate risk associated with:
PA.IV.M.R1 Selection of runway/landing surface, approach path, and touchdown area based on pilot capability, aircraft performance and limitations, available distance, and wind.
PA.IV.M.R2 Effects of:
PA.IV.M.R2a a.Crosswind
PA.IV.M.R2b b.Windshear
PA.IV.M.R2c c.Tailwind
PA.IV.M.R2d d.Wake turbulence
PA.IV.M.R2e e.Landing surface/condition
PA.IV.M.R3 Planning for:
PA.IV.M.R3a a.Rejected landing and go-around
PA.IV.M.R3b b.Land and hold short operations (LAHSO)
PA.IV.M.R4 Collision hazards.
PA.IV.M.R5 Low altitude maneuvering, including stall, spin, or controlled flight into terrain (CFIT).
PA.IV.M.R6 Distractions, task prioritization, loss of situational awareness, or disorientation.
PA.IV.M.R7 Forward slip operations, including fuel flowage, tail stalls with flaps, and airspeed control.
PA.IV.M.R8 Surface contact with the airplane's longitudinal axis misaligned.
PA.IV.M.R9 Unstable approach.

Skills: The applicant exhibits the skill to:
PA.IV.M.S1 Complete the appropriate checklist(s).
PA.IV.M.S2 Make radio calls as appropriate.
PA.IV.M.S3 Plan and follow a flightpath to the selected landing area considering altitude, wind, terrain, and obstructions.
PA.IV.M.S4 Select the most suitable touchdown point based on wind, landing surface, obstructions, and airplane limitations.
PA.IV.M.S5 Position airplane on downwind leg, parallel to landing runway or selected landing surface.
PA.IV.M.S6 Configure the airplane correctly.
PA.IV.M.S7 As necessary, correlate crosswind with direction of forward slip and transition to side slip before touchdown.
PA.IV.M.S8 **Touch down** at a proper pitch attitude, **within 400 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.
PA.IV.M.S9 Maintain a ground track aligned with the runway center/landing path.

Task N. Go-Around/Rejected Landing

References: AIM; FAA-H-8083-2, FAA-H-8083-3, FAA-H-8083-23, FAA-H-8083-25; POH/AFM

Objective: To determine the applicant exhibits satisfactory knowledge, risk management, and skills associated with go-around/rejected landing with emphasis on factors that contribute to landing conditions that may require a go-around.

Knowledge: The applicant demonstrates understanding of:
PA.IV.N.K1 A stabilized approach, including energy management concepts.
PA.IV.N.K2 Effects of atmospheric conditions, including wind and density altitude, on a go-around or rejected landing.
PA.IV.N.K3 Wind correction techniques on takeoff/departure and approach/landing.

Risk Management: The applicant is able to identify, assess, and mitigate risk associated with:
PA.IV.N.R1 Delayed recognition of the need for a go-around/rejected landing.
PA.IV.N.R2 Delayed performance of a go-around at low altitude.
PA.IV.N.R3 Power application.
PA.IV.N.R4 Configuring the airplane.
PA.IV.N.R5 Collision hazards.
PA.IV.N.R6 Low altitude maneuvering, including stall, spin, or controlled flight into terrain (CFIT).
PA.IV.N.R7 Distractions, task prioritization, loss of situational awareness, or disorientation.
PA.IV.N.R8 Runway incursion.
PA.IV.N.R9 Managing a go-around/rejected landing after accepting a LAHSO clearance.

Skills: The applicant exhibits the skill to:
PA.IV.N.S1 Complete the appropriate checklist(s).
PA.IV.N.S2 Make radio calls as appropriate.
PA.IV.N.S3 Make a timely decision to discontinue the approach to landing.
PA.IV.N.S4 **Apply takeoff power immediately** and **transition to climb pitch attitude for VX** or VY as appropriate **+10/-5 knots**.
PA.IV.N.S5 Configure the airplane after a positive rate of climb has been verified or in accordance with airplane manufacturer's instructions.
PA.IV.N.S6 Maneuver to the side of the runway/landing area when necessary to clear and avoid conflicting traffic.
PA.IV.N.S7 **Maintain VY +10/-5 knots** to a safe maneuvering altitude.
PA.IV.N.S8 Maintain directional control and proper wind-drift correction throughout the climb.
PA.IV.N.S9 Use runway incursion avoidance procedures, if applicable.

Task A. Steep Turns
References: FAA-H-8083-2, FAA-H-8083-3, FAA-H-8083-25; POH/AFM

Objective: To determine the applicant exhibits satisfactory knowledge, risk management, and skills associated with steep turns.

Knowledge: The applicant demonstrates understanding of:
PA.V.A.K1 How to conduct a proper steep turn.
PA.V.A.K2 Aerodynamics associated with steep turns, including:
PA.V.A.K2a a.Maintaining coordinated flight
PA.V.A.K2b b. Over-banking tendencies
PA.V.A.K2c c.Maneuvering speed, including the impact of weight changes
PA.V.A.K2d d.Load factor and accelerated stalls
PA.V.A.K2e e.Rate and radius of turn

Risk Management: The applicant is able to identify, assess, and mitigate risk associated with:
PA.V.A.R1 Division of attention between aircraft control and orientation.
PA.V.A.R2 Collision hazards.
PA.V.A.R3 Low altitude maneuvering, including stall, spin, or controlled flight into terrain (CFIT).
PA.V.A.R4 Distractions, task prioritization, loss of situational awareness, or disorientation.
PA.V.A.R5 Uncoordinated flight.

Skills: The applicant exhibits the skill to:
PA.V.A.S1 **Clear the area**.
PA.V.A.S2 Establish the manufacturer's recommended airspeed; or if one is not available, an airspeed **not to exceed the maneuvering speed (VA)**.
PA.V.A.S3 Roll into a **coordinated 360° steep turn** with approximately a **45° bank.**
PA.V.A.S4 Perform the Task in the opposite direction, as specified by evaluator.
PA.V.A.S5 Maintain the entry **altitude ±100 feet**, **airspeed ±10 knots**, **bank ±5°**, and **roll out** on the entry heading **±10°**.

Task B. Ground Reference Maneuvers

References: 14 CFR part 61; FAA-H-8083-2, FAA-H-8083-3, FAA-H-8083-25

Objective: To determine the applicant exhibits satisfactory knowledge, risk management, and skills associated with ground reference maneuvering which may include a **rectangular course, S-turns**, and **turns around a point**.

Note: The evaluator selects at least one ground reference maneuver for the applicant to demonstrate.

Knowledge: The applicant demonstrates understanding of:
PA.V.B.K1 Purpose of ground reference maneuvers.
PA.V.B.K2 Effects of wind on ground track and relation to a ground reference.
PA.V.B.K3 Effects of bank angle and groundspeed on rate and radius of turn.
PA.V.B.K4 Relationship of rectangular course to airport traffic pattern.

Risk Management: The applicant is able to identify, assess, and mitigate risk associated with:
PA.V.B.R1 Division of attention between aircraft control and orientation.
PA.V.B.R2 Collision hazards.
PA.V.B.R3 Low altitude maneuvering, including stall, spin, or controlled flight into terrain (CFIT).
PA.V.B.R4 Distractions, task prioritization, loss of situational awareness, or disorientation.
PA.V.B.R5 Uncoordinated flight.

Skills: The applicant exhibits the skill to:
PA.V.B.S1 Clear the area.
PA.V.B.S2 Select a suitable ground reference area, line, or point as appropriate.
PA.V.B.S3 Plan the maneuver:
PA.V.B.S3a a.**Rectangular course**: **enter** a left or right pattern, **600 to 1,000 feet** above ground level (AGL) at an appropriate distance from the selected reference area, **45° to the downwind** leg

PA.V.B.S3b b.**S-turns**: enter perpendicular to the selected reference line, 600 to 1,000 feet AGL at an appropriate distance from the selected reference area

PA.V.B.S3c c.**Turns around a point**: enter at an appropriate distance from the reference point, **600 to 1,000 feet AGL** at an appropriate distance from the selected reference area

PA.V.B.S4 Apply adequate wind-drift correction during straight and turning flight to maintain a constant ground track around a rectangular reference area, or to maintain a constant radius turn on each side of a selected reference line or point.

PA.V.B.S5 If performing **S-Turns**, reverse the turn directly over the selected reference line; if performing turns around a point, complete turns in either direction, as specified by the evaluator.

PA.V.B.S6 **Divide attention** between airplane control, traffic avoidance and the ground track while maintaining coordinated flight.

PA.V.B.S7 Maintain **altitude ±100 feet**; maintain **airspeed ±10 knots**.

Task B. Traffic Patterns
References: 14 CFR part 91; AIM; FAA-H-8083-2, FAA-H-8083-3, FAA-H-8083-25

Objective: To determine the applicant exhibits satisfactory knowledge, risk management, and skills associated with traffic patterns.

Knowledge: The applicant demonstrates understanding of:
PA.III.B.K1 Towered and non-towered airport operations.
PA.III.B.K2 Traffic pattern selection for the current conditions.
PA.III.B.K3 Right-of-way rules.
PA.III.B.K4 Use of automated weather and airport information.

Risk Management: The applicant is able to identify, assess, and mitigate risk associated with:
PA.III.B.R1 Collision hazards.
PA.III.B.R2 Distractions, task prioritization, loss of situational awareness, or disorientation.
PA.III.B.R3 Windshear and wake turbulence.

Skills: The applicant exhibits the skill to:
PA.III.B.S1 Identify and interpret airport runways, taxiways, markings, signs, and lighting.
PA.III.B.S2 Comply with recommended traffic pattern procedures.
PA.III.B.S3 Correct for wind drift to maintain the proper ground track.
PA.III.B.S4 Maintain orientation with the runway/landing area in use.
PA.III.B.S5 Maintain traffic pattern altitude, **±100 feet**, and the appropriate airspeed, **±10 knots**.
PA.III.B.S6 Maintain situational awareness and proper spacing from other aircraft in the traffic pattern.

Task A. Pilotage and Dead Reckoning
References: FAA-H-8083-2, FAA-H-8083-3, FAA-H-8083-25; VFR Navigation Charts

Objective: To determine the applicant exhibits satisfactory knowledge, risk management, and skills associated with pilotage and dead reckoning.

Knowledge: The applicant demonstrates understanding of:
PA.VI.A.K1 Pilotage and dead reckoning.
PA.VI.A.K2 Magnetic compass errors.
PA.VI.A.K3 Topography.
PA.VI.A.K4 Selection of appropriate:
PA.VI.A.K4a a.Route
PA.VI.A.K4b b.Altitude(s)
PA.VI.A.K4c c.Checkpoints
PA.VI.A.K5 Plotting a course, including:
PA.VI.A.K5a a.Determining heading, speed, and course
PA.VI.A.K5b b.Wind correction angle
PA.VI.A.K5c c.Estimating time, speed, and distance
PA.VI.A.K5d d.True airspeed and density altitude
PA.VI.A.K6 Power setting selection.
PA.VI.A.K7 Planned calculations versus actual results and required corrections.

Risk Management: The applicant is able to identify, assess, and mitigate risk associated with:
PA.VI.A.R1 Collision hazards.
PA.VI.A.R2 Distractions, task prioritization, loss of situational awareness, or disorientation.
PA.VI.A.R3 Unplanned fuel/power consumption, if applicable.

Skills:The applicant exhibits the skill to:
PA.VI.A.S1 Prepare and use a flight log.
PA.VI.A.S2 **Navigate by pilotage**.
PA.VI.A.S3 Navigate by means of **pre-computed headings**, **ground-speeds**, **elapsed time**, and reference to landmarks or checkpoints.
PA.VI.A.S4 Use the **magnetic direction indicator** in navigation, including turns to headings.
PA.VI.A.S5 Verify position **within three nautical miles** of the flight-planned route.
PA.VI.A.S6 Arrive at the en route checkpoints **within five minutes** of the initial or revised estimated time of arrival (ETA) and provide a destination estimate.
PA.VI.A.S7 Maintain the selected **altitude, ±200** feet and **heading, ±15°**.

Task B. Navigation Systems and Radar Services

References: AC 91-78; AIM; FAA-H-8083-2, FAA-H-8083-3, FAA-H-8083-25

Objective: To determine the applicant exhibits satisfactory knowledge, risk management, and skills associated with navigation systems and radar services.
Note: The evaluator should reference the manufacturer's equipment supplement(s) as necessary for appropriate limitations, procedures, etc.

Knowledge: The applicant demonstrates understanding of:
PA.VI.B.K1 Ground-based navigation (identification, orientation, course determination, equipment, tests, regulations, interference, appropriate use of navigation data, and signal integrity).
PA.VI.B.K2 Satellite-based navigation (e.g., equipment, regulations, authorized use of databases, and Receiver Autonomous Integrity Monitoring (RAIM)).
PA.VI.B.K3 Radar assistance to visual flight rules (VFR) aircraft (e.g., operations, equipment, available services, traffic advisories).
PA.VI.B.K4 Transponder (Mode(s) A, C, and S) and Automatic Dependent Surveillance Broadcast (ADS-B).

Risk Management: The applicant is able to identify, assess, and mitigate risk associated with:
PA.VI.B.R1 Management of automated navigation and auto-flight systems.
PA.VI.B.R2 Distractions, task prioritization, loss of situational awareness, or disorientation.
PA.VI.B.R3 Limitations of the navigation system in use.
PA.VI.B.R4 Loss of a navigation signal.
PA.VI.B.R5 Use of an electronic flight bag (EFB), if used.

Skills: The applicant exhibits the skill to:
PA.VI.B.S1 Use an airborne electronic navigation system.
PA.VI.B.S2 Determine the airplane's position using the navigation system.
PA.VI.B.S3 Intercept and track a given course, radial, or bearing.
PA.VI.B.S4 Recognize and describe the indication of station or waypoint passage.
PA.VI.B.S5 Recognize signal loss or interference and take appropriate action, if applicable.
PA.VI.B.S6 Use proper communication procedures when utilizing radar services.
PA.VI.B.S7 Maintain the selected **altitude, ±200 feet** and **heading, ±15°.**

Task C. Diversion
References: AIM; FAA-H-8083-2, FAA-H-8083-3, FAA-H-8083-25; VFR Navigation Charts

Objective: To determine the applicant exhibits satisfactory knowledge, risk management, and skills associated with diversion.

Knowledge: The applicant demonstrates understanding of:
PA.VI.C.K1 Selecting an alternate destination.
PA.VI.C.K2 Situations that require deviations from flight plan or air traffic control (ATC) instructions.

Risk Management: The applicant is able to identify, assess, and mitigate risk associated with:
PA.VI.C.R1 Collision hazards.
PA.VI.C.R2 Distractions, task prioritization, loss of situational awareness, or disorientation.
PA.VI.C.R3 Circumstances that would make diversion prudent.
PA.VI.C.R4 Selecting an appropriate airport or seaplane base.
PA.VI.C.R5 Using available resources (e.g., automation, ATC, and flight deck planning aids).

Skills: The applicant exhibits the skill to:
PA.VI.C.S1 Select a suitable destination and route for diversion.
PA.VI.C.S2 Make a reasonable estimate of heading, groundspeed, arrival time, and fuel required to the “divert to” destination.
PA.VI.C.S3 Maintain the selected altitude, **±200 feet** and **heading, ±15°.**
PA.VI.C.S4 Update/interpret weather in flight.
PA.VI.C.S5 Use displays of digital weather and aeronautical information, as applicable to maintain situational awareness.
PA.VI.C.S6 Promptly divert toward the destination.

Task D. Lost Procedures

References: AIM; FAA-H-8083-2, FAA-H-8083-3, FAA-H-8083-25; VFR Navigation Charts

Objective: To determine the applicant exhibits satisfactory knowledge, risk management, and skills associated with lost procedures and can take appropriate steps to achieve a satisfactory outcome if lost.

Knowledge: The applicant demonstrates understanding of:
PA.VI.D.K1 Methods to determine position.
PA.VI.D.K2 Assistance available if lost (e.g., radar services, communication procedures).

Risk Management: The applicant is able to identify, assess, and mitigate risk associated with:
PA.VI.D.R1 Collision hazards.
PA.VI.D.R2 Distractions, task prioritization, loss of situational awareness, or disorientation.
PA.VI.D.R3 Recording times over waypoints.
PA.VI.D.R4 When to seek assistance or declare an emergency in a deteriorating situation.

Skills: The applicant exhibits the skill to:
PA.VI.D.S1 Use an appropriate method to determine position.
PA.VI.D.S2 Maintain an appropriate heading and climb as necessary.
PA.VI.D.S3 Identify prominent landmarks.
PA.VI.D.S4 Use navigation systems/facilities or contact an ATC facility for assistance.
PA.VI.D.S5 Select an appropriate course of action.

Task A. Maneuvering During Slow Flight

References: FAA-H-8083-2, FAA-H-8083-3, FAA-H-8083-25; POH/AFM
Objective: To determine the applicant exhibits satisfactory knowledge, risk management, and skills associated with maneuvering during slow flight in cruise configuration.
Note:See Appendix 2: Safety of Flight and Appendix 3: Aircraft, Equipment, and Operational Requirements & Limitations for information related to this Task.

Knowledge: The applicant demonstrates understanding of:
PA.VII.A.K1 Aerodynamics associated with slow flight in various airplane configurations, including 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 is able to identify, assess, and mitigate risk associated with:
PA.VII.A.R1 Inadvertent slow flight and flight with a stall warning, which could lead to loss of control.
PA.VII.A.R2 Range and limitations of stall warning indicators (e.g., aircraft buffet, stall horn, etc.).
PA.VII.A.R3 Uncoordinated flight.
PA.VII.A.R4 Effect of environmental elements on airplane performance (e.g., turbulence, microbursts, and high-density altitude).
PA.VII.A.R5 Collision hazards.
PA.VII.A.R6 Distractions, task prioritization, loss of situational awareness, or disorientation.

Skills: The applicant exhibits the skill to:
PA.VII.A.S1 Clear the area.
PA.VII.A.S2 Select an entry altitude that allows the Task to be completed **no lower than 1,500 feet above ground level** (AGL) (ASEL, ASES)
PA.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., aircraft buffet, stall horn, etc.).
PA.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., aircraft buffet, stall horn, etc.).
PA.VII.A.S5 Maintain the specified **altitude, ±100 feet**; specified **heading, ±10°**; **airspeed, +10/-0 knots**; and specified **angle of bank, ±10°**.

Task B. Power-Off Stalls

References: AC 61-67; FAA-H-8083-2, FAA-H-8083-3, FAA-H-8083-25; POH/AFM

Objective: To determine the applicant exhibits satisfactory knowledge, risk management, and skills associated with power-off stalls.

Note: See Appendix 2: Safety of Flight and Appendix 3: Aircraft, Equipment, and Operational Requirements & Limitations for information related to this Task.

Knowledge: The applicant demonstrates understanding of:

PA.VII.B.K1 Aerodynamics associated with stalls in various airplane configurations, including the relationship between angle of attack, airspeed, load factor, power setting, airplane weight and center of gravity, airplane attitude, and yaw effects.

PA.VII.B.K2 Stall characteristics as they relate to airplane design, and recognition impending stall and full stall indications using sight, sound, or feel.

PA.VII.B.K3 Factors and situations that can lead to a power-off stall and actions that can be taken to prevent it.

PA.VII.B.K4 Fundamentals of stall recovery.

Risk Management: The applicant is able to identify, assess, and mitigate risk associated with:

PA.VII.B.R1 Factors and situations that could lead to an inadvertent power-off stall, spin, and loss of control.

PA.VII.B.R2 Range and limitations of stall warning indicators (e.g., aircraft buffet, stall horn, etc.).

PA.VII.B.R3 Stall warning(s) during normal operations.

PA.VII.B.R4 Stall recovery procedure.

PA.VII.B.R5 Secondary stalls, accelerated stalls, and cross-control stalls.

PA.VII.B.R6 Effect of environmental elements on airplane performance related to power-off stalls (e.g., turbulence, microbursts, and high-density altitude).

PA.VII.B.R7 Collision hazards.

PA.VII.B.R8 Distractions, task prioritization, loss of situational awareness, or disorientation.

Skills: The applicant exhibits the skill to:

PA.VII.B.S1 **Clear the area**.

PA.VII.B.S2 Select an entry altitude that allows the Task to be completed **no lower than 1,500 feet above ground level** (AGL)

PA.VII.B.S3 Configure the airplane in the approach or landing configuration, as specified by the evaluator, and maintain coordinated flight throughout the maneuver.

PA.VII.B.S4 **Establish a stabilized descent.**

PA.VII.B.S5 Transition smoothly from the approach or landing attitude to a pitch attitude that induces a stall.

PA.VII.B.S6 Maintain a specified **heading ±10°** if in straight flight; maintain a specified angle of **bank not to exceed 20°, ±10°** if in turning flight, while inducing the stall.

PA.VII.B.S7Acknowledge cues of the impending stall and then recover promptly after a full stall occurs.

PA.VII.B.S8 Execute a stall recovery in accordance with procedures set forth in the Pilot's Operating Handbook (POH) or Airplane Flight Manual (AFM).

PA.VII.B.S9 **Configure the airplane** as recommended by the manufacturer, and accelerate to best angle of climb speed (VX) or **best rate of climb speed (VY)**.

PA.VII.B.S10 **Return to the altitude, heading, and airspeed** specified by the evaluator.

PA.VII.B.S11 Use single-pilot resource management (SRM) or crew resource management (CRM), as appropriate.

Task C. Power-On Stalls
References: AC 61-67; FAA-H-8083-2, FAA-H-8083-3, FAA-H-8083-25; POH/AFM
Objective: To determine the applicant exhibits satisfactory knowledge, risk management, and skills associated with power-on stalls.
Note: See Appendix 2: Safety of Flight and Appendix 3: Aircraft, Equipment, and Operational Requirements & Limitations for information related to this Task.
Knowledge: The applicant demonstrates understanding of:
PA.VII.C.K1Aerodynamics associated with stalls in various airplane configurations, including the relationship between angle of attack, airspeed, load factor, power setting, airplane weight and center of gravity, airplane attitude, and yaw effects.
PA.VII.C.K2 Stall characteristics as they relate to airplane design, and **recognition impending stall and full stall indications using sight, sound, or feel.**
PA.VII.C.K3Factors and situations that can lead to a power-on stall and actions that can be taken to prevent it.
PA.VII.C.K4Fundamentals of stall recovery.

Risk Management: The applicant is able to identify, assess, and mitigate risk associated with:
PA.VII.C.R1 Factors and situations that could lead to an inadvertent power-on stall, spin, and loss of control.
PA.VII.C.R2 Range and limitations of stall warning indicators (e.g., aircraft buffet, stall horn, etc.).
PA.VII.C.R3 Stall warning(s) during normal operations.
PA.VII.C.R4 Stall recovery procedure.
PA.VII.C.R5 Secondary stalls, accelerated stalls, elevator trim stalls, and cross-control stalls.
PA.VII.C.R6 Effect of environmental elements on airplane performance related to power-on stalls (e.g., turbulence, microbursts, and high-density altitude).
PA.VII.C.R7 Collision hazards.
PA.VII.C.R8 Distractions, task prioritization, loss of situational awareness, or disorientation.

Skills: The applicant exhibits the skill to:
PA.VII.C.S1 Clear the area.
PA.VII.C.S2 Select an entry altitude that allows the Task to be completed **no lower than 1,500 feet above ground level** (AGL)
PA.VII.C.S3 Establish the takeoff, departure, or cruise configuration, as specified by the evaluator, and maintain coordinated flight throughout the maneuver.
PA.VII.C.S4 Set power (as assigned by the evaluator) to no less than 65 percent power.
PA.VII.C.S5 Transition smoothly from the takeoff or departure attitude to the pitch attitude that induces a stall.
PA.VII.C.S6 Maintain a specified **heading, ±10° if in straight flight**; maintain a specified angle of bank not to exceed **20°, ±10° if in turning flight**, while inducing the stall.
PA.VII.C.S7 **Acknowledge cues of the impending stall** and then recover promptly after a full stall occurs.
PA.VII.C.S8 **Execute a stall recovery** in accordance with procedures set forth in the Pilot's Operating Handbook (POH)/Flight Manual (FM).
PA.VII.C.S9 Configure the airplane as recommended by the manufacturer, and accelerate to best angle of climb speed (VX) or **best rate of climb speed (VY)**.
PA.VII.C.S10 Return to the altitude, heading, and airspeed specified by the evaluator.
PA.VII.C.S11 Use single-pilot resource management (SRM) or crew resource management (CRM), as appropriate.

Task A. Straight-and-Level Flight
References: FAA-H-8083-2, FAA-H-8083-3, FAA-H-8083-15, FAA-H-8083-25

Objective: To determine the applicant exhibits satisfactory knowledge, risk management, and skills associated with flying during straight-and-level flight **solely by reference to instruments.**

Knowledge: The applicant demonstrates understanding of:
PA.VIII.A.K1 Flight instruments as they relate to:
PA.VIII.A.K1a a.Instrument limitations and potential errors
PA.VIII.A.K1b b.Indication of the aircraft attitude
PA.VIII.A.K1c c.Function and operation
PA.VIII.A.K1d d.Proper instrument cross-check techniques

Risk Management: The applicant is able to identify, assess, and mitigate risk associated with:
PA.VIII.A.R1Instrument flying hazards, including failure to maintain visual flight rules (VFR), spatial disorientation, loss of control, fatigue, stress, and emergency off airport landings.
PA.VIII.A.R2 When to seek assistance or declare an emergency in a deteriorating situation.
PA.VIII.A.R3 Collision hazards.
PA.VIII.A.R4 Distractions, task prioritization, loss of situational awareness, or disorientation.
PA.VIII.A.R5 Fixation and omission.
PA.VIII.A.R6 Instrument Interpretation.
PA.VIII.A.R7 Control application solely by reference to instruments.
PA.VIII.A.R8 Trimming the aircraft.

Skills: The applicant exhibits the skill to:
PA.VIII.A.S1 Maintain straight-and-level flight using proper instrument cross-check and interpretation, and coordinated control application.
PA.VIII.A.S2 Maintain **altitude ±200 feet**, **heading ±20°**, and **airspeed ±10 knots**.

Task B. Constant Airspeed Climbs
References: FAA-H-8083-2, FAA-H-8083-3, FAA-H-8083-15, FAA-H-8083-25
Objective: To determine the applicant exhibits satisfactory knowledge, risk management, and skills associated with attitude instrument flying during constant airspeed climbs solely by reference to instruments.
Knowledge: The applicant demonstrates understanding of:
PA.VIII.B.K1 Flight instruments as they relate to:
PA.VIII.B.K1a a.Instrument limitations and potential errors
PA.VIII.B.K1b b.Indication of the aircraft attitude
PA.VIII.B.K1c c.Function and operation
PA.VIII.B.K1d d.Proper instrument cross-check techniques

Risk Management: The applicant is able to identify, assess, and mitigate risk associated with:
PA.VIII.B.R1 Instrument flying hazards, including failure to maintain visual flight rules (VFR), spatial disorientation, loss of control, fatigue, stress, and emergency off airport landings.
PA.VIII.B.R2 When to seek assistance or declare an emergency in a deteriorating situation.
PA.VIII.B.R3 Collision hazards.
PA.VIII.B.R4 Distractions, task prioritization, loss of situational awareness, or disorientation.
PA.VIII.B.R5 Fixation and omission.
PA.VIII.B.R6 Instrument Interpretation.
PA.VIII.B.R7 Control application solely by reference to instruments.
PA.VIII.B.R8 Trimming the aircraft.

Skills: The applicant exhibits the skill to:
PA.VIII.B.S1 Transition to the climb pitch attitude and power setting on an assigned heading using proper instrument cross-check and interpretation, and coordinated flight control application.
PA.VIII.B.S2 Climb at a constant airspeed to specific altitudes in straight flight and turns.
PA.VIII.B.S3 Level off at the assigned altitude and maintain altitude ±200 feet, heading ±20°, and airspeed ±10 knots.

Task C. Constant Airspeed Descents
References: FAA-H-8083-2, FAA-H-8083-3, FAA-H-8083-15, FAA-H-8083-25

Objective: To determine the applicant exhibits satisfactory knowledge, risk management, and skills associated with attitude instrument flying during constant airspeed descents solely by reference to instruments.

Knowledge: The applicant demonstrates understanding of:
PA.VIII.C.K1 Flight instruments as they relate to:
PA.VIII.C.K1a a.Instrument limitations and potential errors
PA.VIII.C.K1b b.Indication of the aircraft attitude
PA.VIII.C.K1c c.Function and operation
PA.VIII.C.K1d d.Proper instrument cross-check techniques

Risk Management: The applicant is able to identify, assess, and mitigate risk associated with:
PA.VIII.C.R1Instrument flying hazards, including failure to maintain visual flight rules (VFR), spatial disorientation, loss of control, fatigue, stress, and emergency off airport landings.

PA.VIII.C.R2 When to seek assistance or declare an emergency in a deteriorating situation.
PA.VIII.C.R3 Collision hazards.
PA.VIII.C.R4 Distractions, task prioritization, loss of situational awareness, or disorientation.
PA.VIII.C.R5 Fixation and omission.
PA.VIII.C.R6 Instrument Interpretation.
PA.VIII.C.R7 Control application solely by reference to instruments.
PA.VIII.C.R8 Trimming the aircraft.

Skills: The applicant exhibits the skill to:
PA.VIII.C.S1 Transition to the descent pitch attitude and power setting on an assigned heading using proper instrument cross-check and interpretation, and coordinated flight control application.
PA.VIII.C.S2 Descend at a constant airspeed to specific altitudes in straight flight and turns.
PA.VIII.C.S3 Level off at the assigned altitude and maintain altitude ±200 feet, heading ±20°, and airspeed ±10 knots.

Task D. Turns to Headings

References: FAA-H-8083-2, FAA-H-8083-3, FAA-H-8083-15, FAA-H-8083-25

Objective: To determine the applicant exhibits satisfactory knowledge, risk management, and skills associated with attitude instrument flying during turns to headings solely by reference to instruments.

Knowledge: The applicant demonstrates understanding of:
PA.VIII.D.K1Flight instruments as they relate to:
PA.VIII.D.K1aa.Instrument limitations and potential errors
PA.VIII.D.K1bb.Indication of the aircraft attitude
PA.VIII.D.K1cc.Function and operation
PA.VIII.D.K1dd.Proper instrument cross-check techniques

Risk Management: The applicant is able to identify, assess, and mitigate risk associated with:
PA.VIII.D.R1Instrument flying hazards, including failure to maintain visual flight rules (VFR), spatial disorientation, loss of control, fatigue, stress, and emergency off airport landings.
PA.VIII.D.R2When to seek assistance or declare an emergency in a deteriorating situation.
PA.VIII.D.R3Collision hazards.
PA.VIII.D.R4Distractions, task prioritization, loss of situational awareness, or disorientation.
PA.VIII.D.R5Fixation and omission.
PA.VIII.D.R6Instrument Interpretation.
PA.VIII.D.R7Control application solely by reference to instruments.
PA.VIII.D.R8Trimming the aircraft.

Skills: The applicant exhibits the skill to:
PA.VIII.D.S1Turn to headings, maintain altitude ±200 feet, maintain a standard rate turn, roll out on the assigned heading ±10°, and maintain airspeed ±10 knots.

Task E. Recovery from Unusual Flight Attitudes

References: FAA-H-8083-2, FAA-H-8083-3, FAA-H-8083-15, FAA-H-8083-25; POH/Flight Manual

Objective: To determine the applicant exhibits satisfactory knowledge, risk management, and skills associated with attitude instrument flying while recovering from unusual attitudes **solely by reference to instruments**.

Knowledge: The applicant demonstrates understanding of:
PA.VIII.E.K1Prevention of unusual attitudes, including flight causal, physiological, and environmental factors, and system and equipment failures.
PA.VIII.E.K1aa.[Archived]
PA.VIII.E.K1bb.[Archived]
PA.VIII.E.K1cc.[Archived]
PA.VIII.E.K1dd.[Archived]
PA.VIII.E.K2 Procedures for recovery from unusual attitudes in flight.
PA.VIII.E.K3 Procedures available to safely regain visual meteorological conditions (VMC) after flight into inadvertent instrument meteorological conditions or unintended instrument meteorological conditions (IIMC)/(UIMC).
PA.VIII.E.K4 Appropriate use of automation, if applicable.

Risk Management: The applicant is able to identify, assess, and mitigate risk associated with:
PA.VIII.E.R1Situations that could lead to loss of control in-flight (LOC-I) or unusual attitudes in-flight (e.g., stress, task saturation, inadequate instrument scan distractions, and spatial disorientation).
PA.VIII.E.R2 [Archived]
PA.VIII.E.R3 Collision hazards.
PA.VIII.E.R4 Distractions, task prioritization, loss of situational awareness, or disorientation.
PA.VIII.E.R5 Interpreting flight instruments.
PA.VIII.E.R6 [Archived]
PA.VIII.E.R7 Operating envelope considerations.
PA.VIII.E.R8 Control input errors, inducing undesired aircraft attitudes.
PA.VIII.E.R9 Assessment of the unusual attitude.
PA.VIII.E.R10 Control application solely by reference to instruments.

Skills: The applicant exhibits the skill to:
PA.VIII.E.S1 Use proper instrument cross-check and interpretation to identify an unusual attitude (including both nose-high and nose-low) in flight, and apply the appropriate flight control, power input, and aircraft configuration in the correct sequence, to return to a stabilized level flight attitude.
PA.VIII.E.S2 Use single-pilot resource management (SRM) or crew resource management (CRM), as appropriate.

Task F. Radio Communications, Navigation Systems/Facilities, and Radar Services

References: FAA-H-8083-2, FAA-H-8083-3, FAA-H-8083-15, FAA-H-8083-25

Objective: To determine the applicant exhibits satisfactory knowledge, risk management, and skills associated with radio communications, navigation systems/facilities, and radar services available for use during flight solely by reference to instruments.

Knowledge: The applicant demonstrates understanding of:
PA.VIII.F.K1 Operating communications equipment, including identifying and selecting radio frequencies, requesting and following air traffic control (ATC) instructions.
PA.VIII.F.K2 Operating navigation equipment, including functions and displays, and following bearings, radials, or courses.
PA.VIII.F.K3 Air traffic control facilities and services.

Risk Management: The applicant is able to identify, assess, and mitigate risk associated with:
PA.VIII.F.R1 When to seek assistance or declare an emergency in a deteriorating situation.
PA.VIII.F.R2 Using available resources (e.g., automation, ATC, and flight deck planning aids).

Skills: The applicant exhibits the skill to:
PA.VIII.F.S1 Maintain airplane control while selecting proper communications frequencies, identifying the appropriate facility, and managing navigation equipment.
PA.VIII.F.S2 Comply with ATC instructions.
PA.VIII.F.S3 [Archived]

Task A. Emergency Descent

References: FAA-H-8083-2, FAA-H-8083-3, FAA-H-8083-25; POH/AFM

Objective:T o determine the applicant exhibits satisfactory knowledge, risk management, and skills associated with emergency descent.
Note:See Appendix 2: Safety of Flight.

Knowledge: The applicant demonstrates understanding of:
PA.IX.A.K1 Situations that would require an emergency descent (e.g., depressurization, smoke, or engine fire).
PA.IX.A.K2 Immediate action items and emergency procedures.
PA.IX.A.K3 Airspeed, including airspeed limitations.
PA.IX.A.K4 Aircraft performance and limitations.

Risk Management: The applicant is able to identify, assess, and mitigate risk associated with:
PA.IX.A.R1 Altitude, wind, terrain, obstructions, gliding distance, and available landing distance considerations.
PA.IX.A.R2 Collision hazards.
PA.IX.A.R3 Configuring the airplane.
PA.IX.A.R4 Distractions, task prioritization, loss of situational awareness, or disorientation.

Skills: The applicant exhibits the skill to:
PA.IX.A.S1 Clear the area.
PA.IX.A.S2 Establish and maintain the appropriate airspeed and configuration appropriate to the scenario specified by the evaluator and as covered in Pilot's Operating Handbook (POH) Airplane Flight Manual (AFM) for the emergency descent.
PA.IX.A.S3 Maintain orientation, divide attention appropriately, and plan and execute a smooth recovery.
PA.IX.A.S4 Use bank angle between 30° and 45° to maintain positive load factors during the descent.
PA.IX.A.S5 Maintain appropriate airspeed +0/-10 knots, and level off at a specified altitude ±100 feet.
PA.IX.A.S6 Complete the appropriate checklist(s).
PA.IX.A.S7 Make radio calls as appropriate.
PA.IX.A.S8 Use single-pilot resource management (SRM) or crew resource management (CRM), as appropriate.

Task B. Emergency Approach and Landing (Simulated)

References: FAA-H-8083-2, FAA-H-8083-3, FAA-H-8083-25; POH/AFM

Objective: To determine the applicant exhibits satisfactory knowledge, risk management, and skills associated with emergency approach and landing procedures.
Note:See Appendix 2: Safety of Flight.

Knowledge: The applicant demonstrates understanding of:
PA.IX.B.K1 Immediate action items and emergency procedures.
PA.IX.B.K2 Airspeed, including:
PA.IX.B.K2a a.Importance of best glide speed and its relationship to distance
PA.IX.B.K2b b.Difference between best glide speed and minimum sink speed
PA.IX.B.K2c c.Effects of wind on glide distance
PA.IX.B.K3 Effects of atmospheric conditions on emergency approach and landing.
PA.IX.B.K4 A stabilized approach, including energy management concepts.
PA.IX.B.K5 Emergency Locator Transmitters (ELTs) and other emergency locating devices.
PA.IX.B.K6 Air traffic control (ATC) services to aircraft in distress.

Risk Management: The applicant is able to identify, assess, and mitigate risk associated with:
PA.IX.B.R1Altitude, wind, terrain, obstructions, gliding distance, and available landing distance considerations.
PA.IX.B.R2Following or changing the planned flightpath to the selected landing area.
PA.IX.B.R3Collision hazards.
PA.IX.B.R4Configuring the airplane.
PA.IX.B.R5Low altitude maneuvering, including stall, spin, or controlled flight into terrain (CFIT).
PA.IX.B.R6Distractions, task prioritization, loss of situational awareness, or disorientation.

Skills: The applicant exhibits the skill to:
PA.IX.B.S1 Establish and maintain the recommended best glide airspeed, ±10 knots.
PA.IX.B.S2 Configure the airplane in accordance with the Pilot's Operating Handbook (POH)\Airplane Flight Manual (AFM) and existing conditions.
PA.IX.B.S3 Select a suitable landing area considering altitude, wind, terrain, obstructions, and available glide distance.
PA.IX.B.S4 Plan and follow a flightpath to the selected landing area considering altitude, wind, terrain, and obstructions.
PA.IX.B.S5 Prepare for landing as specified by the evaluator.
PA.IX.B.S6 Complete the appropriate checklist(s).