IV. Takeoffs, Landing and Go-Arounds

Task	***C. Soft-Field Takeoff and Climb (ASEL)***
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 a 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	V_X and V_Y.
PA.IV.C.K3	Appropriate aircraft 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 demonstrates the ability to identify, assess and mitigate risks, encompassing:
PA.IV.C.R1	Selection of runway based on pilot capability, aircraft performance and limitations, available distance, and wind.
PA.IV.C.R2	Effects of:
PA.IV.C.R2a	a. Crosswind
PA.IV.C.R2b	b. Wind shear
PA.IV.C.R2c	c. Tailwind
PA.IV.C.R2d	d. Wake turbulence
PA.IV.C.R2e	e. Runway surface/condition
PA.IV.C.R3	Abnormal operations, to include planning for:
PA.IV.C.R3a	a. Rejected takeoff
PA.IV.C.R3b	b. Engine failure in takeoff/climb phase of flight
PA.IV.C.R4	Collision hazards, to include aircraft, terrain, obstacles and wires.
PA.IV.C.R5	Low altitude maneuvering/stall/spin.
PA.IV.C.R6	Distractions, loss of situational awareness, and/or improper task management.
Skills	The applicant demonstrates the ability to:
PA.IV.C.S1	Complete the appropriate checklist.
PA.IV.C.S2	Make radio calls as appropriate.
PA.IV.C.S3	Verify assigned/correct runway.
PA.IV.C.S4	Ascertain wind direction with or without visible wind direction indicators.
PA.IV.C.S5	Position the flight controls for the existing wind conditions.
PA.IV.C.S6	Clear the area, 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 prior to rotation.
PA.IV.C.S8	Establish and maintain a pitch attitude that will transfer 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 V_X or V_Y, as appropriate.
PA.IV.C.S10	Establish a pitch attitude for V_X or V_Y, as appropriate, and maintain selected airspeed +10/-5 knots during the climb.
PA.IV.C.S11	Retract landing gear and flaps after a positive rate of climb has been verified or in accordance with aircraft manufacturer's guidance.
PA.IV.C.S12	Maintain V_X or V_Y +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.

IV. Takeoffs, Landing and Go-Arounds

Task	***D. Soft-Field Approach and Landing (ASEL)***
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 a soft-field approach and landing with emphasis on proper use and coordination of flight controls.
Knowledge	The applicant demonstrates understanding of:
PA.IV.D.K1	A stabilized approach, to include energy management concepts.
PA.IV.D.K2	Effects 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 demonstrates the ability to identify, assess and mitigate risks, encompassing:
PA.IV.D.R1	Selection of runway based on pilot capability, aircraft performance and limitations, available distance, and wind.
PA.IV.D.R2	Effects of:
PA.IV.D.R2a	a. Crosswind
PA.IV.D.R2b	b. Wind shear
PA.IV.D.R2c	c. Tailwind
PA.IV.D.R2d	d. Wake turbulence
PA.IV.D.R2e	e. Runway surface/condition
PA.IV.D.R3	Abnormal operations, to include planning for rejected landing and go-around.
PA.IV.D.R4	Collision hazards, to include aircraft, terrain, obstacles and wires.
PA.IV.D.R5	Low altitude maneuvering/stall/spin.
PA.IV.D.R6	Distractions, loss of situational awareness, and/or improper task management.
Skills	The applicant demonstrates the ability to:
PA.IV.D.S1	Complete the appropriate checklist.
PA.IV.D.S2	Make radio calls as appropriate.
PA.IV.D.S3	Ensure the aircraft 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	Consider the wind conditions, landing surface, obstructions, and select a suitable touchdown point.
PA.IV.D.S6	Establish the recommended approach and landing configuration and airspeed, and adjust pitch attitude and power as required to maintain a stabilized approach.
PA.IV.D.S7	Maintain recommended airspeed, or in its absence, not more than 1.3 V_{SO}, +10/-5 knots, with wind gust factor applied.
PA.IV.D.S8	Maintain crosswind correction and directional control 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 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 on the soft surface.