Standard Training Procedures – Remos GX

Dear Pilot

The following guide is intended to standardize most of the maneuvers you will encounter during your flight training. By no means is this document intended to replace governing directives and procedures in the POH of the aircraft or any applicable FAA regulations. It merely supplements established FAA guidance and is specific to the aircraft you will train in at Advanced International Aviation Academy. It should be noted that sometimes it might be necessary to deviate from these standards depending on conditions. Your flight instructor will provide more details and techniques for performing the various maneuvers. If you have any questions regarding this standardized procedure guide, please review it with your instructor before flying the aircraft.

Thank you

JetEXE

Pre-Flight:

- Be sure to arrive for each flight prepared. After you've been trained to do the pre-flight, you will be expected to arrive early enough to have the pre-flight done prior to your scheduled lesson time. **(Please note that if an aircraft needs to be removed from the hangar, you must have an Advanced International Aviation Academy staff person assist with aircraft handling.)**
- You should have studied the flight maneuvers/briefing items and checked the weather, NOTAMS, Weight & Balance and performance data prior to every flight. Your flight instructor will assist you with this in the early part of your training and then you will be expected to do this on your own before each flight.
- Pick up your dispatch paperwork and keys with the front desk prior to pre-flight.
- The interior/exterior aircraft inspection should be conducted in accordance with the checklist. Be sure to have the checklist in hand as you perform the inspection.
- There are also checklists for before starting, starting engines, taxi and before takeoff. Be sure to use them!

Taxi:

- Prior to taxi, set radios and the altimeters per the checklist. During taxi you need to be looking outside, not inside or setting up the panel.
- Confirm throttle closed before starting! Watch your knees from inadvertently hitting the left side throttle.
- Flight control check prior to engine start, listen for abnormal noises.
- Confirm engine instruments after startup (oil pressure, electrical, warning lights etc)
- Be alert and make sure parking brake is working properly immediately after engine start. If not shut of the engine and use normal brakes to stop.
- Confirm and say "wingtips clear" when moving close to any obstructions/airplanes.
- Check the brakes as you start moving.
- Come to a complete stop before entering Taxiway to ensure it is clear in both directions before entering.
- Keep your left hand on the throttle and your right hand on the brake lever as you taxi. If necessary, position the controls for any winds by reducing power and placing your left hand on the control stick.
- Taxi speed should be at a walking pace when close to other aircraft and keep a close eye on your wing tips as you taxi by other aircraft or obstacles. Once clear of obstacles you may taxi at a brisk walking speed.
- Keep the nose wheel on the taxi line.
- Don't ride the brakes! If you are taxiing too fast simply reduce power and use brakes as required.
- This is also a good time to start painting a picture of who is in the traffic pattern by looking around and listening to the radio.
- Confirm taxiways and runways while taxiing and before entering them. Visually clear (and call out) both sides of taxiways and runways before entering or crossing.

Before Takeoff

- Taxi to within 10 -15' (wheels) off the edge of the runup area near the end of the active runway so you do not block other traffic from entering the runway. Do not cross the hold short line.
- Check wingtips, position the aircraft into the wind, with nose wheel straight and perform the Before Takeoff checklist.
- Visually look at flight control surfaces during control check and make sure control surfaces moving correctly (left stick, look left, right stick, and look right). In dual flight, warn the other pilot to mind their feet and knees during control check.
- Visually look at flaps for possible split flap condition.
- For the departure briefing mention the takeoff roll you calculated, climb speed, your initial altitude to level off, direction of flight and emergencies during takeoff including Emergency Takeover of controls if it is a dual flight. The entire briefing should usually be no longer than 1 minute.
- Check the traffic around the airport before takeoff. Get your Take off clearance on radio, before entering the runway.

Normal Takeoff

- Set flaps 0˚.
- Set heading bug to departure runway heading.
- Say out loud "confirming runway _____ for takeoff" after clearance, before entering runway.
- Check final approach and runway for other aircraft on taxi out into runway.
- Look to the far end of runway and align nose and aircraft with centerline.
- If crosswind, control wheel/stick turned fully into the wind.
- Apply full power, smoothly.
- Quickly check engine gauges, confirm all in green.
- Anticipate the need for adding right rudder to counter engine torque.
- If crosswind, reduce control wheel inputs as you accelerate.
- Call out ASI alive and 40 kts.
- Rotate at 45 KIAS.
- Call out and confirm "positive rate of climb", climb at V_Y (65 KIAS) until reaching 1000' AGL. Look for correct **climb attitude**.
- Cruise climb at 80 KIAS above 1000' AGL
- If departing the pattern, at pattern altitude, depart straight out or 45˚ toward the direction of the pattern.
- If remaining in the pattern turn crosswind no sooner than **600 MSL** and departure end of runway & make radio call. When leveling simply reduce power 4700 RPM to maintain Pattern speed of 90 Kts and execute the Before Landing checklist.

Short Field Takeoff

- Set Flaps to 15˚.

- Taxi onto runway using ALL available runways.
- Align nose and aircraft with centerline and hold brakes.
- If crosswind, control wheel turned fully into the wind.
- Apply full power, check engine gauges in green and release brakes.
- Anticipate the need for adding right rudder to counter engine torque.
- If crosswind, reduce control wheel inputs as you accelerate.
- Rotate at normal V_R (45 KIAS) and pitch attitude to climb at 49 KIAS until clear of obstacles.
- Call out clear of obstacle, Lower nose slightly, accelerate to V_Y (65 KIAS)
- At safe altitude (300' to 400'), retract flaps and continue climb at V_Y (65 KIAS).

Soft Field Takeoff

- Set flaps to 15˚ and hold full aft elevator while taxing onto runway, no brakes.
- Do not stop aircraft when entering onto the runway due to simulated soft ground.
- Align nose with centerline while adding full power, managing constant pitch attitude for rotation.
- Quickly check engine gauges are in green.
- If crosswind, control wheel turned fully into the wind.
- Anticipate the need for adding right rudder to counter engine torque.
- If crosswind, reduce control wheel inputs as you accelerate.
- As the nose wheel begins to lift off the runway, be prepared to reduce elevator backpressure and hold take off attitude until the airplane flies into ground effect.
- Lift off at minimum flying speed while gently lowering the nose slightly to a nearly level attitude, and accelerate in ground effect to V_Y (65 KIAS).
- Begin climb out at V_Y (65 KIAS) then retract flaps at safe altitude, after climb is established (PROC).
- Normal climb out.

Cruise Flight

- Maintain 100 KIAS (approximately 5000 RPM).
- Perform cruise checklist.
- Look for traffic, birds and navigate to training area using ground references.
- Periodically check engine instruments, fuel balance and update heading gyro.

Training Area Arrival

- Ensure all stalls, slow flight & steep turns are accomplished above **3000' AGL**.
- Monitor appropriate radio frequency.
- Orient yourself with ground references and be aware of airspace (Your instructor will show you ground references to stay clear of Class C).
- Perform clearing turns (90' heading change both directions).
- Generally plan on the following sequence however, your flight instructor may vary the profile as required:

Steep Turn

- E.F.F.C.L. (check - **E**ngine, **F**uel, **F**laps, **C**learing Turn, **L**ights on)
- Set power to approx. 4700 RPM
- Pick a heading, airspeed and altitude to maintain.
- Trim for 90 KIAS, note RPM.
- Roll into 45˚of bank at 90 KIAS.
- Crossing 15˚ bank, simultaneously add power and backpressure to maintain airspeed/altitude. Look for level attitude.
- Scan for, bank, airspeed, roll out direction. Lead roll out by about 20˚.
- As you roll out, reduce backpressure and power to stay on altitude & speed.

Slow Flight

- E.F.F.C.L. (check **E**ngine, **F**uel, **F**laps, **C**learing Turn, **L**ights on)
- Pick heading and altitude to maintain during the maneuver.
- Carb heat on, aux fuel pump on.
- Set heading bug.
- Throttle 3500 RPM.
- Flaps to full below 70 KIAS.
- Slow to 50 KIAS and trim.
- Increased pitch & power will be required to maintain altitude and airspeed (approx. 4000 rpm)
- Note nose attitude.
- Add enough right rudder to center the ball on the turn coordinator.
- You will likely feel slight buffeting and very ineffective flight controls at slow flight speed.
- Stabilize before making any turns.
- Make very shallow-banked turns (10 degrees or less) as required by your flight instructor.
- Recover by adding full power, carb heat off and raise flaps in increments.
- Maintain heading and altitude as you accelerate to cruise speed.
- Do not over-speed flaps.
- When reaching 100 KIAS reduce power to approximately 5000 RPM to maintain cruise speed.

Power Off Stall

(Objective is minimum altitude loss during recovery

- E.F.F.C.L. (check **E**ngine, **F**uel, **F**laps, **C**learing Turn, **L**ights on)
- Carb heat on, aux fuel pump on.
- With light control pressure check for roll tendency.
- Set heading bug.
- Throttle 3500 RPM (maintain altitude as you slow).

- Flaps full below 70 KIAS. Trim
- With light control pressure check for roll tendency.
- Throttle idle.
- Maintain altitude- trim for 70 KIAS.
- Establish stabilized decent at 65 KIAS.
- Raise nose slightly above horizon and hold it there with backpressure slowing the aircraft gradually, no abrupt pitch up.
- Maintain centered ball and wings level.
- When stalled, release backpressure, pitch slightly below horizon & open full power, apply opposite rudder to counter any roll during stall.
- Do not lower nose excessively, ball centered, return to a climb attitude as soon you have minimum flight speed.
- Retract flaps to 15˚ after accelerating towards 65 KIAS and PROC.
- Retract final flaps at 65 KIAS and positive rate of climb (PROC) is established.
- Carb heat off.

Turning Power Off Stall

(Objective is minimum altitude loss during recovery)

- E.F.F.C.L. (check **E**ngine, **F**uel, **F**laps, **C**learing Turn, **L**ights on.
- Carb heat on, aux fuel pump on.
- Throttle 3500 RPM (maintain altitude as you slow).
- Flaps full below 70 KIAS. Trim
- With light control pressure check for roll tendency.
- Throttle idle.
- Maintain altitude- trim for 70 KIAS.
- Establish stabilized decent at 65 KIAS.
- Establish 10˚ to 15˚ of bank.
- Raise nose slightly above horizon and hold it there with backpressure slowing the aircraft gradually, no abrupt pitch up.
- Maintain constant bank angle, ball centered and pitch attitude until the stall occurs.
- When stalled, release backpressure, pitch slightly below horizon, wigs level & open full power, apply opposite rudder to counter any roll during stall.
- Do not lower nose excessively, ball centered, return to a climb attitude as soon you have minimum flight speed.
- Retract flaps to 15˚ after accelerating towards 65 KIAS and PROC.
- Retract final flaps at 65 KIAS and positive rate of climb (PROC) is established.
- Carb heat off.

Power On Stall

(Objective is minimum altitude loss during recovery)

E.F.F.C.L. (check **E**ngine, **F**uel, **F**laps, **C**learing Turn, **L**ights on)

- Aux fuel pump on.
- Set heading bug**.**
- Throttle 3000 RPM and maintain altitude.
- Slow to 60 KIAS and trim.
- With light control pressure check for roll tendency
- Set power to 4000 RPM and pitch up to establish climb out speed (65 KIAS)
- Raise attitude until your feet look like they are touching the horizon (nose high).
- Apply right rudder to keep ball in center , for P-factor and torque effect.
- Check wingtips equal distance from horizon (peripheral vision)
- Maintain this pitch-high attitude until a full stall.
- When stalled, release backpressure, pitch slightly below horizon & open full power, apply opposite rudder to counter any roll during stall.
- Initiate a climb at Vy (65 KIAS) as soon as you have minimum flying speed.

Turning Power On Stall

(Objective is minimum altitude loss during recovery)

- EFFCL, Clearing turns.
- Aux fuel pump on.
- Throttle 3500 RPM and maintain altitude.
- Slow to about 70 KIAS , Trim
- With light control pressure check for roll tendency.
- Set power to 4000 RPM and pitch up to establish climb out speed (65 KIAS), establish bank angle up to 20˚.
- Raise nose until your feet look like they are touching the horizon (nose high).
- Apply right rudder for P-factor and torque effect (keep the ball centered).
- Maintain pitch-high attitude and bank angle until a full stall.
- When stalled, release backpressure, pitch slightly below horizon & open full power, apply opposite rudder to counter any roll during stall.
- Initiate a climb at V_Y (65 KIAS) as soon as you have minimum flying speed.

Engine Failure in Flight

- Pitch for Best Glide (65 KIAS) and trim.
- Locate acceptable landing area considering winds and turn towards it. If altitude permits, turn 45 to 90˚ to check for other landing areas behind flight path.
- The Remos will glide approx. 2nm for every 1,000’ of altitude (1:10 glide ratio) in no wind conditions.

- Perform engine failure checklist items from memory (flow).
- Reference checklist time and altitude permitting.
- Simulate “Mayday” call on 121.5 time permitting (set up on standby side of comm radio).
- Transponder 7700.
- Circle over field using shallow bank angles until approaching 1000’-1500’AGL.
- Exit the circle to about a mid-field downwind.
- Setup for a circling approach to final, keep touchdown spot in sight.
- Simulate securing the fuel, electrics, door opening and tighten seatbelts.
- Flaps down when field can be easily made.
- Slow to 65 KIAS on final with flaps full down.
- **DISCONTINUE SIMULATION ABOVE 500’ AGL! Add full power, carb heat off, start climbing and retracting flaps in increments (go around procedures)**

Ground Reference Maneuvers

- Perform in accordance with the FAA Airplane Flying Handbook.
- Set power to approx. 4700 RPM; maintain 1000’ AGL & 90 KIAS for all ground reference maneuvers.
- Before starting the maneuver select a suitable emergency landing area.

Returning to the Airport

- EFFCL, Cruise at 95-100 KIAS.
- Tune KSAC ATIS to 125.5 and copy ATIS. Envision the wind pattern and corrections.
- Tune KSAC Tower 119.5. Listen for traffic and look to spot them.
- Make initial arrival call on Tower Frequency within 8-10 miles of the airport.
- Descend at 95 - 100 KIAS to pattern altitude within 3-4 miles of the airport.
- Target 400-600 FPM descent to reach 1000 ft MSL at pattern.
- Enter the mid field 45 degree leg at 1000 MSL, level flight, 4700 RPM and 90 KIAS.
- Be on the alert for other aircraft joining pattern or aircraft turning from X-wind to downwind. Make sure you know where other aircraft are in the pattern.
- Should be ½-1 mile displaced from runway on downwind.
- A good technique for when to turn downwind from the 45-degree entry is to turn when the runway appears to be disappearing under the nose. This should put you on a downwind with proper spacing from the runway.
- Make standard radio calls while in the pattern (your instructor will demo).
- Apply corrections for any known winds. Drop speed to 90 KIAS.

Normal Approach and Landing

- EFFCL
- Abeam intended point of landing, carb heat and aux fuel pump on, & throttle 3000 to 3500 RPM.
- Maintain altitude with pitch until approaching 70 KIAS, add nose up trim.
- Flaps 20˚ below 70 KIAS (4 second count).
- Set power to approx. 3200 RPM and maintain 70 KIAS with pitch, confirm slow descent (200 to 300 FPM). TRIM
- When runway approach end is 45 degrees aft (behind the wing) clear final, turn to base leg, pitch for 70 KIAS. (Should be approx. 200' below TPA).
- Level out on base turn, look at runway, when at comfortable glide distance to airport, select full flaps (40˚)
- Do not lower 40˚ flaps until runway touchdown spot is in sight after leveling wings on base.
- If high, **power to idle, lower nose then full flaps**.
- Throttle as required on base to maintain 70 KIAS and proper glideslope (airspeed/runway)
- Approx. 600' to 650' AGL on base to final turn check rate of descent.
- On top of final, 500 to 600 ft AGL, about ½ mile from runway TD point. Fly 65 KIAS on final approach, **maintain target in windshield with pitch, and control airspeed with power.**
- Add half of gust factor if necessary.
- If there is a crosswind, use a crab until short final, then transition to side slip.
- Callout "runway and airspeed" crossing airport boundary.
- Maintain 65 KIAS, power to idle, then begin raising nose into landing flare (power approach right to point of flare)
- Keep bringing the stick back slowly, holding the required flare height and sink rate until touchdown, avoid ballooning and Pilot Induced Oscillations (PIO). Your instructor will demonstrate.
- Land on centerline on the main wheels, nose pointed in direction of travel (straight) without sideward drift, wings level.
- Guard against landing flat or on nose wheel or touching down the nose wheel first.
- Beware of illusion from aircraft structure causing nose pointed left at touchdown (your instructor will demonstrate).
- Touchdown within 300' of desired touchdown zone at idle power.
- Lower nose wheel onto runway, gently.
- Brake as required and exit at nearest taxiway and announce clear on radio.
- Do not lock the brakes.
- Taxi beyond hold short line & perform the after landing checklist.

Note: Your instructor will teach you specific techniques for the landing phase.

Short Field Landing

- Same as normal landing with following exceptions:
- Slow to 59 KIAS on final. Trim
- Slightly steeper approach simulating flying over 50' obstacle.
- It is critical to be on airspeed, if you are fast you will float down the runway.
- Touchdown within 200' past desired touchdown zone at idle power.
- Verbalize "Simulate" firm braking; do not lock up the brakes.

Soft Field Landing

- Same as normal landing with following exceptions:
- Hold the aircraft 1-2 feet above the runway with a little power.
- Touchdown smoothly at minimum speed.
- Hold nose wheel off the runway as long as possible, with back pressure on control wheel/stick.
- Don't use brakes if able.
- Keep control/stick wheel full aft during taxi on a soft field.

Touch & Go

- After landing, retract flaps to 15˚, trim for takeoff and turn carb heat off.
- Smoothly apply full power, maintain centerline & start to rotate at 45 KIAS, make normal takeoff.
- Check and Call out full power positive rate of climb.
- **NO TOUCH & GO's FOR STUDENT PILOTS, DUAL ONLY!**

Go-Around

- Smoothly apply full power and pitch for climb attitude.
- Check and Call out full power positive rate of climb.
- Retract flaps to 15˚ after PROC established and accelerating to V_Y (65 KIAS).
- Retract final flaps at V_Y (65 KIAS) and PROC.
- Carb heat off
- Normal climb out.
- If avoiding a departing aircraft, offset to the pattern side to avoid the aircraft and keep traffic in sight. Maneuver as necessary to maintain separation.

Night Flying

- Conducted in accordance with the FAA Airplane Flying Handbook and flight instructor guidance.

Cross Country

- Plan in accordance with governing procedures/regulations.
- Your flight instructor will guide you on your first planning/flight.
- Plan to fly each leg at 100 KIAS.
- Be familiar with mountain flying procedures (review with your instructor)
- Plan one dual cross-country through or near mountainous terrain.
- All cross-country flights must depart Sacramento Executive (KSAC) with full fuel tanks.

After Parking Aircraft

- Ensure securing aircraft checklist is complete.
- Perform a post-flight walk around to ensure no maintenance issues occurred during the flight. This is required by the FAA on the practical.
- Note any damage or squawks and report to Jetexe maintenance crew.
- Note Hobbs time

(Please note that if an aircraft needs to be placed in the hangar, you must have an Advanced International Aviation Academy staff person assist with aircraft handling)

RPM/Speed Table: Remos GX
5000 RPM = 100 KIAS
4700 RPM = 90 KIAS
4200 RPM = 80 KIAS
3800 RPM = 70 KIAS
3600 RPM = 60 KIAS

Speeds above with aircraft in CLEAN (no flap) condition. Power settings may vary +/-100 RPM on gross weight, outside temperature and density altitude.

EMPHASIS ITEMS

Collision Avoidance

You are learning to fly under Visual Flight Rules (VFR). As the pilot you are 100% responsible for ensuring that your airplane doesn't collide with anything on the ground or in the air. That means you must have your head on a "swivel" scanning **OUTSIDE** the aircraft and only occasional and quickly scanning inside the aircraft for parameters and engine/flight instrument readings. This is precisely why your instructor will ensure that you are **looking outside and using the natural horizon while flying all maneuvers**. Primary use of the artificial horizon will come later with your instrument training. As a rule of thumb for VFR flying, you should spend about 90% of your time scanning outside with only 10% scanning inside. With a high wing airplane you can raise the wing slightly before turning to check for birds or traffic. During descents it is a common practice to bank the aircraft left and right occasionally to clear directly below your flight path. Your instructor will emphasize collision avoidance throughout your training. **You will not pass your check ride if you fly perfect maneuvers but seldom look outside for traffic and attitude reference. The FAA is emphasizing collision avoidance.**

Checklist Usage

Use the checklist! Your instructor will expect you to reference the checklist for all applicable phases of flight. If you try any other techniques you will likely forget a required item. We recommend that you memorize the Before Landing checklist items and engine failure in flight items since both required timeliness. This technique will also reduce your "heads down" time in the pattern. In all cases you MUST complete all required checklist items. The FAA will be expecting you to use the checklist on your practical.

Traffic Pattern

The traffic pattern is dynamic and at times very busy with multiple aircraft, many of which will perform non-standard maneuvers. Your instructor will cover all of the issues associated with the pattern to include radio calls, proper spacing, conflict resolution, etc.

Priorities While Flying

Aviate, navigate, then communicate and do it in that order. Your first priority at all times is to fly the airplane NOT talk on the radio. Don't be intimidated by the radio but use it only after you have the aircraft under control. For example, if after turning final you decide to make the radio call before lowering the flaps to full and subsequently forget the flaps and land no flap what have you gained? Always fly the airplane first.

The Use of Trim

Trim is your friend! Use it often. Fighting heavy control inputs is fatiguing. You will find that by trimming after each major change of flight attitude, it will be easier to maintain airspeed and altitude.

Emergencies

Your instructor will you give you an emergency scenario on every lesson. The scenario could be during the flight brief or in flight. For all emergencies you should prioritize as follows: **AVIATE- NAVIGATE-COMMUNICATE**

1. **Maintain aircraft control.**
   Fly the airplane first! For example, if your engine fails in flight, immediately pitch for best glide (65 KIAS).
2. **Analyze the situation.**
   Is the smoke in my cockpit from an electrical fire or engine fire? What can I look at to figure it out?
3. **Take the proper action.**
   Once you know exactly what the problem is execute the appropriate checklist if one applies.
4. **Land as soon as conditions permit.**
   Generally land at the nearest suitable airport but this decision will be situation dependent.

Cockpit Organization

It is essential that you are organized while flying. The last things you need are unnecessary distractions. For example, during your cross country flight where will you keep your Navigation log and chart? Also, many students like to have a memory card to reference in flight for the various maneuvers. One way to keep such items organized and secure where you can easily see them is on a kneeboard. It will not only help you to be more organized but will provide a place to copy AWOS/ATIS information or other data when receiving ATC Radar Services. Though certainly not required, we recommend that you obtain a kneeboard that works well for you.

FAA Special Emphasis Areas

You need to become very familiar with the FAA emphasis items listed near the front of the Practical Test Standards booklet. You WILL be asked about them on your practical test. Your flight instructor will cover these items in great detail throughout your training.