



## WASHINGTON WING FLIGHT ACADEMY



### FLIGHT RULES

- 1) Washington Wing Flight Academy (WWFA) training flights shall not begin prior to sunrise.
- 2) WWFA training aircraft (any aircraft being flown with cadets on board for the purpose of instruction) shall be on the ground no later than 30 minutes before sunset.
- 3) Student solo flights outside-the airport traffic pattern are not authorized.
- 4) All Crews will begin each day by filling out an ORM sheet. (1 per plane per day)
- 5) WWFA Weather Minimums

#### **a) Dual Instruction Flights**

No dual flight instruction will be given at a WWFA unless the weather (current and forecast for time of return) meets the following criteria:

i) For flights outside the airport traffic pattern:

- (1) Ceilings no less than 2500' AGL.
- (2) Flight visibility, no less than 3 nautical miles.
- (3) Winds no greater than 20' kts (sustained or gust) and not exceeding the aircraft's maximum demonstrated crosswind on the runway(s) to be used.

ii) Dual instruction flights 'may depart IFR (to VFR conditions) if all conditions below are met:

- (1) Each flight is individually approved by the chief flight instructor.
- (2) An IFR flight plan is filled prior to departure.
- (3) The training portion of the flight is conducted under the weather conditions mentioned above.
- (4) The weather is forecasted to be VFR for the time of return, the instructor holds an instrument instructor rating.
- (5) The instructor has current CAP Form approving instrument flight
- (6) The instructor meets FAR instrument currency requirements.

iii) For flights restricted to the airport traffic pattern:

- (1) Ceilings no less than 1500' AGL.
- (2) Flight visibility no less than 3 nautical miles.
- (3) Winds no greater than 15 kts (sustained or gust) and not exceeding a crosswind component of 10 kts on the runway(s) to be used.

#### **b) Solo Flights**

No student solo flight will be conducted at a WWFA unless the weather (current and forecast for time of return) meets the following criteria:

Ceiling no less than 2000' AGL.

Flight visibility no less than 5 nautical miles.

Winds no greater than 10 knots (sustained or gust) and not exceeding the aircraft's maximum demonstrated crosswind on the runway(s) to be used.

6) NFA Minimum Fuel Requirements

NFA training flights shall not depart without sufficient fuel to fly for the scheduled training sortie time at cruise power and continue thereafter for 60 minutes at cruise power.

## FLIGHT ACADEMY TRAINING STANDARDIZATION

- 1) Transfer of control of the aircraft must be explained to the student before every flight. The procedure **will** be a challenge/response technique. The instructor will challenge with the phrase, "I have the flight controls" and the student responds "you have the flight control". The instructor then says "I have the flight controls."
- 2) The student must sit high enough to have good visibility over the nose of the aircraft. This is approximately high enough to just see the top of the engine cowling from the normal, seated position. Use a cushion **if** necessary. The student should be sitting forward enough to make full rudder pedal deflections, but not so far forward that full aft movement of the control wheel is inhibited. Be sure that the student's seat is adjusted to the same position for each flight.
- 3) Explain that the rudder control is the bottom of the rudder pedal, and brakes are at the top. Heels should normally rest on the floor unless braking is desired. Ensure that the student understands that the brakes and the rudder are completely separate and independent controls.
- 4) Stress dividing attention from the very first flight -- check wingtip to determine pitch and bank angle, look for traffic, check pitch attitude over the nose of the aircraft, check airspeed, etc. Reiterate dividing attention during all maneuvers.
- 5) Insist on a continuous scan for traffic from the very first flight.
- 6) Perform clearing turns before EVERY practice maneuver -- stalls, steep turns, MCA, and ground reference maneuvers. Clearing turns consist of at least 180 degrees of turn (one 180, or two 90 degree turns in opposite directions) at standard rate, but no steeper than 30 degrees of bank.
- 7) Student should be taught to keep one hand on the throttle during all ground operations, takeoff, climb out, and all operations at low altitude.
- 8) Be sure the student uses a constant reference for determining pitch attitude. Putting a fist, thumb up, on top of the instrument panel works well for determining level flight attitude - student can count how many fingers the horizon is above the panel. Different methods will work for different students, but the method chosen should be used consistently.
- 9) The student must know and demonstrate the correct pitch, power, and flap settings for all maneuvers without reference to the airspeed indicator.
- 10) During level-off from a climb, leave full power on until the desired cruise speed is reached. Trim should be used to relieve pressure on the control wheel as the aircraft accelerates. This gets the aircraft up to cruise speed quickly and minimizes level-off time, and trim and power adjustments. Teach "Pitch, Power, Trim" for all changes between level flight and climb or descents. ie: set the pitch attitude first, then when desired airspeed is reached, set the power, and finally, trim the airplane for that speed.
- 11) Use 65% power as the cruise power setting for local area practice. This will save fuel, require less area for accomplishing the maneuvers, and allows for quicker transition from one maneuver to another.
- 12) Insist the student use one hand on the control wheel for all maneuvers, including landing. Ensure the student uses a light grip on the wheel. **Do not teach the student to**

**trim the airplane into the landing flare.** Excessive up-elevator trim, combined with lowered flaps can cause a violent pitch up movement during a go-around attempt.

13) Monitor the student's control coordination closely, and correct whenever necessary.

14) Back elevator pressure must be added in all turns, including descending turns. Errors show up in the traffic pattern as too high an airspeed at the completion of the turns.

15) Constantly monitor climbs, MCA, and power-on/off stalls for proper right rudder inputs.

16) Use  $V_y$  and full power for all climbs, and monitor pitch attitude closely.

17) Introduce stalls during minimum controllable airspeed flight by allowing the wing to "nibble" at the stall as a result of excessive pitch. This will result in a gentle stall, with little break, and an easy recovery to MCA flight. That should be followed with a series of gliding stalls that are recovered without power. Then minimum altitude loss techniques are taught through power-on recoveries.

18) From power-off stalls, proceed into teaching approach/landing stalls. Teach "Release back pressure, Power up, Pitch up, Flaps up" for recovery. Recoveries from both imminent and fully stalled conditions should be taught for all stalls.

19) Student should understand that, for a given airspeed, the pitch attitude must be lower with flaps than without flaps. This is because flaps increase the angle of attack even though pitch remains the same.

20) Before beginning serious practice in the traffic pattern, the student should master the rectangular course ground reference maneuver, and be able to maintain a straight track over the ground using both crab and side-slip techniques.

21) Teach the student to use an "aim point" to judge the angle of the final approach. If the aim point appears to be moving up in the windshield, you will land short. (If the point appears to move down, you will overshoot. Emphasize that this technique requires accurate pitch control to work with any kind of consistency.

22) Teach the student to go-around if the result of the approach is ever in any doubt. This can be reinforced if you, as the instructor, initiate a go-around during a demonstrated landing.

23) Ensure that the student considers any crosswind component into the planning of the traffic pattern, especially the turn from base leg to final. Emphasize that increasing the turn's bank angle, or trying to "rudder" the aircraft around the turn to correct for an overshoot of the final approach course is dangerous.

24) Teach the landing as a two-step process: 1. The round-out and 2. The flare. Round-out is when the aircraft's pitch is increased and the rate of descent is arrested. Flare is when the aircraft's pitch is further increased to the landing attitude. In a well-executed approach and landing, these two steps occur as one continuous motion. Discourage "feeling" for the runway with alternate raising and lowering of the nose. Once the pitch attitude is increased in the round-out or flare it should not be lowered again. If the level-off is made too high, a go-around is usually called for. No attempt should be made to salvage a bad landing with power.

25) If a landing cannot be made in the first third of the runway, or in the middle third laterally, a go-around should be initiated.

26) After landing, the student should be taught to hold the elevator back pressure, and let the nose wheel lower itself to the runway as the aircraft slows. Student should be sensitive to directional control during the roll-out.

27) When practicing touch-and-goes, do not initiate the "go" until the nose wheel is on the runway, and the flaps are retracted to the takeoff position. This will help prevent loss of directional control and full-flap takeoffs. If the runway is too short to do this safely, then the runway is TOO Short.

28) Teach the student to avoid excessive braking during the roll-out. **Remember: The only turn-off you HAVE to make is the LAST turn-off.**

29) Teach only the side-slip method for crosswind landings. The "crab/kick" method requires the student to make a perfectly-timed, abrupt control movement when their attention is focused on the last few inches of altitude. Should the student "balloon," he/she will be left high in the air, with low speed and drifting away from the runway. The side-slip method establishes the proper drift correction well out on the final approach, and requires little adjustment throughout the landing.

30) Students fatigue easily with concentrated takeoff and landing practice. Continued work in the traffic pattern, hour after hour is an indication that the basics of flying the aircraft have not been mastered. It is much better to delay concentrated pattern work until the air work and ground reference maneuvers are acceptable than to rush into takeoffs and landings, hoping that things will smooth out in the pattern. They will usually get worse. Students who have mastered the air work and ground reference maneuvers, and who can fly all the maneuvers using outside attitude references require surprisingly little practice in the pattern to learn proper landing technique.

31) The flight instructor will bring to the attention of the Chief Flight Instructor, information regarding students who are having greater than normal difficulties with training, as soon as possible. Typical problems such as students prone to airsickness, or a student requiring evaluation by a different instructor, can be easier to deal with early in the program rather than near the end of the encampment.

32) As in all other CAP activities: **SAFETY IS OUR #1 GOAL!!**

<b>LEVEL 1</b>	Student is able to participate in the maneuver as it is demonstrated by the flight instructor.
<b>LEVEL 2</b>	Student is able to perform the assigned maneuver with explanation, and minimum assistance from the flight instructor.
<b>LEVEL 3</b>	Student is able to perform the assigned maneuver with a minimum of explanation, and with no assistance from the flight instructor.
<b>LEVEL 4</b>	Student is able to perform the assigned maneuver to the level of competence necessary for safe, solo flight, with no explanation or assistance from the flight instructor.