

Flight Training Check List



Pennsylvania Avenue Radio Control Society

This checklist can be used as a guide for the student and the instructor to go systematically step-by-step through the process to become an unassisted model airplane pilot. New flyers should seek the assistance of qualified instructors. For the list of "Qualified Instructors" please consult the Field Controller on duty.

Learning to fly is learning to use the transmitter in such a way that the aircraft will do what you want it to do. Get yourself familiar with the transmitter controls and switches without looking at them. With your transmitter in hand, finger the controls as if you were flying an imaginary aircraft. You can practice this at home before you come to the field.

This *Flight Training Check List* lists eight progressive phases. As you become proficient in each phase, you will advance to the next phase. Some of the steps (phases) may need to be repeated several times before you continue with the next phase.

Learn the description of each pattern before you try to fly it (see glossary). It will be easier on you, your aircraft and the instructor, if you are well prepared.

If you get into trouble ask your instructor for help and be ready to hand him the transmitter. If you wait too long, you may crash. It takes only a few seconds to hit the runway.

**** DO NOT FLY WITHOUT AN INSTRUCTOR BY YOUR SIDE! ****

PHASE 1

- Planes must be airworthy. The instructor should check the plane before being allowed to fly.
- The owner of the plane is responsible for any damage caused by his/her aircraft (regardless of the pilot)
- Ask the student to explain the transmitter controls and how they affect the flight of the aircraft. If he doesn't know, explain them to him.
- Explain to the student what is expected of him in case of an emergency situation.
- The instructor will take the aircraft up to 400 feet. The student will take the transmitter and fly the racetrack pattern (oval) for the whole flight.
- The instructor will land the aircraft.

PHASE 2

- The instructor will take-off the aircraft.
- The student will fly the racetrack pattern for about five minutes, then fly a figure eight for the next five minutes.
- The instructor will land the aircraft.

PHASE 3

- The instructor will take-off the aircraft.
- The student will fly the racetrack pattern, figure eight, then add a loop (not over the runway but over the weeds)
- The instructor will land the aircraft.

PHASE 4

- ❑ The instructor will take-off the aircraft.
- ❑ The student will fly the racetrack pattern, figure eight, and a loop. Then fly the racetrack pattern, with the upwind leg straight over the runway at about 200 feet high. This is practice for future landings.
- ❑ The instructor will land the aircraft.

PHASE 5

- ❑ The instructor will take-off the aircraft.
- ❑ The student will fly the racetrack pattern, figure eight, and a loop. Then a nose up Roll. Now, we will go back to the racetrack pattern with the upwind leg 100 feet over the runway, simulating an approach for future landings.
- ❑ The instructor will land the aircraft.

PHASE 6

- ❑ At this Phase the student should be ready for his first take off.
- ❑ Explain to him what is expected of him.
- ❑ The student will take-off and go up to 200 feet.
- ❑ The instructor may take the transmitter, if the student's knocking knees are audible to him.
- ❑ Student will fly the pattern with approaches for a landing at 100 feet.
- ❑ The instructor will land the aircraft.

PHASE 7

- ❑ Explain the principle of landing before the flight.
- ❑ The student will take-off the aircraft and fly the pattern for five minutes. When he is ready for approaches, he will now do a Split-S at the end of field.
- ❑ Then start landing approaches. When he gets a good heading, tell him to cut his throttle and allow his aircraft to settle down onto the runway.

PHASE 8

- ❑ The student will take-off and fly the pattern for five minutes. Then make an attempted landing, but go-around instead.
- ❑ Next, a touch and go, only if the aircraft is facing the correct direction.
- ❑ Student will land.
- ❑ When the student can do this reasonably well, he may ask to perform the qualifying test flight. When you pass this test you will be allowed to fly your plane unassisted as long as the field is open. For more information on this matter, see you instructor or the field controller on duty.

GLOSSARY

RACE TRACK PATTERN

Fly an imaginary oval; maintain an elevation of about 400 feet. Keep the near side of the oval over the far edge of the runway. When wind is coming from the South you will be making two left hand turns. When wind is coming from the North you will be making two right hand turns (one on each end of the field).

Okay, your aircraft is about 400 feet up and flying the front leg of the *Race Track pattern* (going left to right). It's parallel to the runway, but over the far edge of the runway so you can see your aircraft without bending your neck too far. Ready for your first left turn. Bank the aircraft to the left by moving the Aileron control stick gently to the left. Don't jerk the controls. As the plane banks you will see the plane lose a little altitude. That's a normal reaction to a bank. Therefore feed in some up elevator. Your plane is turning to the left. Hold up until your plane is going in the direction you want it to go. Now ease off on the up elevator. You will notice your plane is still banking. Remember you have to fly your plane out the maneuver. Give a little right aileron until your plane is level.

Fly the back leg of the *Race Track pattern*. Now be prepared for the next left hand turn. Bank the plane with the ailerons and feed in some up elevator. Hold the up elevator for the duration of the turn. When the plane completes the turn, return the elevator control to neutral. Now feed in some right aileron to get the plane out of the banked attitude. You have completed the *Race Track pattern*.

Keep doing this pattern until you can do the maneuver well. This pattern may be done with left or right turns. When you are ready for approaches, you may have to use right turns to line up with the runway. The wind will decide the direction you will fly.

HORIZONTAL FIGURE EIGHT

This maneuver is a *Figure Eight* that crosses over in front of you. The plane should maintain its altitude throughout the pattern. This maneuver teaches the student pilot right and left turns.

Let's begin by flying parallel to the far edge of the runway, right to left for this example. When you reach the far end of the runway, bank to the right as if you fly a *Race Track pattern*. Keep the plane at the same altitude by feeding some up elevator. Hold this until the plane completes a 270-degree turn. Then level your wings by feeding in opposite ailerons (which is left aileron). That means the plane is now flying towards you and in front of you. Get ready to make a left turn. Bank to the left with left ailerons. Keep the plane at the same altitude by feeding some up elevator. Hold this until the plane completes a 270-degree turn. Then neutralize the up and feed in some right aileron. The plane should cross over in front of you. The maneuver is completed after you give the plane a 90-degree right turn to finish the *Figure Eight*. Try it again and again until you have the pattern down smooth.

LOOP

A loop is a very simple maneuver. At about 200 feet altitude, you pull full up on your elevator. Your plane will nose up and try to catch its tail. Hold the up elevator until your plane completes the loop and is level and right side up. It really is easy! When feel comfortable with making one loop, try two loops. That is a little harder to do!

NOSE UP ROLL

A *Nose Up Roll* is a simple maneuver. Fly level in line with the runway. Give your elevator a little up, and then release it. Now feed in full right (or left) ailerons. The plane will roll over on its back and continue rolling until you release the ailerons. You will notice, as the plane rolls on its back, the nose will drop towards the ground. That is why you place the plane with a nose up attitude before you roll it. Release the ailerons just as the wings become right-side up and level.

As you get more proficient in a roll, you can try feeding a little down elevator when the plane is upside down. That will take a lot more coordination on your part. The correct timing comes with practice.

TAKE-OFF

When you can do the previous patterns fairly well, you will be able to *take-off*. Are you ready?

Fill the tank and started your engine. Throttle back to idle, check your transmitter switches and controls. Operate the ailerons, elevator and rudder. If everything is operating, you are ready!

Extend your antenna and check the wind direction. You are going to *take-off* into the wind. Check to make sure the runway is clear and no planes are attempting to land. Then it's safe to take-off! Remember, no more than 5 planes are allowed to fly at the same time.

Point the nose of the plane into the wind. Gradually open the throttle to full throttle. Keep it going straight by using the rudder control. The torque of the prop will try to make the plane go to the left. Feed a little right rudder, if needed. As the plane reaches flying speed, ease a little up on the elevator. Don't feed too much up. We would like a nice easy lift off. Keep the plane going straight ahead and climb to about 200 feet. Go into the *Race Track pattern* and relax. You have just completed your first *Take-off*. Feels great, doesn't it?

After a while you may find *Take-off's* easy. However, realize that the engine could quit on *Take-off*. If so, do not try to turn the plane around unless you have lots of altitude. A moving plane without an engine can stall and crash very easily. You should put the nose down and land straight ahead.

