Pre Flight Outline

PRE-FLIGHT: The preflight is the most important part of your flight. It is very important to make sure you inspect your aircraft before you fly, if you do not you are liable for anything that happens.

1 COCKPIT INSPECTION- The first thing that you look for inside an aircraft is the documents that verify the aircraft is in compliance with the F.A.A. You are looking for four documents:

1: A Air worthiness certificate - This document is assigned to the aircraft when it leaves the factory. Without it, the aircraft is not legal to fly.

2: R Registration- This document is like a car registration, but for an aircraft.

PINK SLIPS: In some cases the plane may have just been purchased. If this is the case there will be a temporary PINK registration in the pocket with all of the other documents.(that is where it should be) Make sure you check the expiration date. If it is within 30 days of expiring you will want to let your instructor know. They will need to get it extended or they may have just forgot to put it in the plane.

3: O Operating limitations- Either the manual or a document signed by the FAA. with the limitations of that individual aircraft (E.G. maximum weights, maximum fuel ETC).

4: W Weight and balance. This document gives the weight of the aircraft, moment, and arm. All equipment in the aircraft should be included.

REMEMBER!! The weight and balance that is required by the FAR'S is the actual weight and balance for that specific aircraft. The weight and balance in the POH is for the general aircraft that is out of the factory. There should be a pilot operating handbook in the aircraft with the N number on it.

Once you do this, begin going through the checklist for the aircraft. Every aircraft will be different but there are a few basics that are essential. I always try to get students to do things in order. Most checklists will start on the pilot side and go all the way around the airplane. Some will be different. I have seen some instructors for example: check the fuel drains and then go do other things. You don't want to be going back and fourth from one side of the plane to the other, you will end up missing something. Start at one spot and walk all the way around the plane and end up at the spot you started. You can also make up your own checklists. I always tell students to do what is best for them. Some students I have had came up with some very creative ways to remember and check things.

1: Remove the control lock from the control column.

2: Turn on the master switch (red double switch on left of control column)

3: Extend flaps.
4: Turn on all light switches.
5: Walk around aircraft to make sure that all of the lights operate.

Below is a general outline for you to follow. Remember to follow the pre flight check outlined in the Pilot Operating Handbook for your aircraft.

LANDING LIGHTS: The landing light or lights will be on the front cowling of the aircraft. On some older aircraft the landing lights will be on the leading edge of the wing. Some aircraft will also have a taxi light. This light will be in one of those two places depending on the make and model of the aircraft.

NAVIGATION LIGHTS: There are three lights that make up the navigation lights. RED on the right wingtip, GREEN on the left wingtip, and WHITE on the back of the rudder.

ANTI COLLISION LIGHTS: There are two different types of anti collision light.
ROTATING BEACON: This light is red and flashes on and off.
STROBE LIGHTS: These lights are white flashing lights.
Depending on the aircraft, there may be one or both.

6: Return to the cockpit and turn lights and master switch off.
LEAVE THE FLAPS DOWN!!

Now once the lights have been inspected it is time to check the rest of the aircraft. We will begin at the pilot side and walk around the aircraft until we return to the starting point. The following list includes the common things to look for. Depending on the aircraft there may be some differences. Most of the high wing aircraft will be something similar to what I have listed below. If you are in a low wing aircraft, the checklist will be different but they will have the same things in common.

1: Check the pilot side fuel sump.

NOTE: When checking the fuel, do not look at the fuel with the blue sky as a background. The fuel is blue and the sky is blue. If you have a fuel tester full of water and you use the sky as a background; you will not be able to tell the difference.

In addition, Smell the fuel to make sure someone did not put jet fuel in the aircraft.

2: Check the pilot side landing gear and brakes. We are looking for a brake fluid leak.

Check the tire; make sure there are no bald spots.

Check and make sure the cotter pin in the nut that holds the tire on. **VERY IMPORTANT!**

3: Check over the pilot side of the fuselage for loose rivets, and structural damage.

NOTE: There are rivets and screws on all parts of the aircraft.

RIVETS: Rivets are used to hold the aircraft together. If there is a rivet that is popped, this is structural damage. Do not fly the aircraft until a mechanic looks at the aircraft.

SCREWS: The places that have screws are inspection panels. If there is a loose screw, tighten it up with the screwdriver on the end of your fuel tester.

4: Make sure that the horizontal stabilizer is not loose.

5: Check the bolts and lock nuts on the elevator and check trim tab.

NOTE: When you have a bolt on an aircraft, there should be a locknut or a cotter pin at the other end.

6: Check the bolts and lock nuts on the rudder.

7: Look over the passenger side of the fuselage for loose rivets and structural damage.

8: Check passenger side fuel strainer.

9: Check the passenger side landing gear and brakes.

10: Check the passenger side flaps and ailerons for bolts and lock nuts.

11: Check the passenger side leading edge of the wing for structural damage.

12: Visually check the fuel tank (passenger side).

NOTE: We do not trust the fuel gauges in an aircraft. We want to know how much fuel we have so you will use your fuel dipstick and measure the fuel in the tanks.

13: Check the fuel strainer and oil in the engine compartment.

14: Check the nose gear.

15: Check the propeller for nicks and gouges.

16: Make sure that the air intake is not blocked.

17: Check the static port for blockage.

18: Visually check pilot side fuel tank.

19: Check leading edge for structural damage.

20: Check trailing edge of wing for bolts and lock nuts on the flaps and the ailerons.

21: MOVE THE PLANE TO A SPOT THAT IS SAFE TO START THE ENGINE. Sometimes the plane is parked in a spot that will blow rocks and dust at other peoples cars etc. (Use your judgment, the most important thing to remember when you become a pilot is to learn how to use your own **GOOD!!** judgment).

STARTING THE ENGINE: Now that we have the aircraft in a safe position, it is time to get in the aircraft! The fun now begins. Once again we have a checklist to follow (remember that all aircraft are different), here is the basic before starting engine checklist.

1: Preflight inspection - complete.

2: Seats, seatbelts, shoulder harness- adjust and locked (BE SURE THE SEAT IS LOCKED). This is very important. You do not want to take off and all of a sudden have the seat slide back on you.

3: Fuel shutoff valve - ON

4: Radios/ Electrical equipment - OFF

5: Brakes - Test and set (The brakes on an aircraft are on the foot-pedals. If you notice, the pedals will move if you push on the tops of them. If you feel resistance, the brakes are working. If there is no resistance then they do not work. The brakes are similar to the feel of brakes on a car.

6: Circuit breakers - Check IN.

7: Mixture – Rich (in is rich, out is lean).

8: Carburetor heat - COLD

9: Throttle - open 1/2 inch (Put your right hand on the throttle and pull out all of the way, then place your pointer finger about 1/2 inch from the other end and push in till your finger touches the friction ring).

10: Prime as Required. In most cases you will want to give it 3-5 primes.

11: Propeller Area-Clear (yell clear out the window to make sure there is no one in front of the aircraft).

12: Master switch - on.

13: Ignition switch - Start (Just like an automobile).

14: Throttle - Adjust for 1000 RPM.

15: Oil pressure - check.

16: Flaps – up

17: Transponder – on STBY

18: Beacon or Strobe lights – ON

NOTE ABOUT STARTING THE ENGINE: The engines on small training aircraft generally will start pretty easy. If you don't hear it fire, you probably didn't prime it enough. Next thing you want to think about is if the engine doesn't fire don't keep cranking the engine for a long time. You will burn the starter out. Stop and give it a few more shots of primer and then try it again.

Next thing you want to do is take care of the engine. When it starts, bring the throttle right back. You want to remember that there is no oil at the top of the engine. The engine needs a little while to get the oil pressure built up. Run it very slow at first, then once it starts to warm up bring the throttle to 800 -1000 RPM