100 Mile Model Flyers

RPAS FLIGHT CHECK LISTS

It is recommend that all pilots get into the habit of using a Radio & Pre-Flight checklist: just like full-scale pilots, before each flying session. The purpose of pre-flight checks is to ensure that your RC plane is in a fit condition to fly, and that everything is working as it should be. Exact pre-flight checks might differ from plane to plane, but there are some fundamental checks that all RC airplanes need to have done, immediately before flight.

If you neglect to carry out the pre-flight checks before you fly your RC airplane, and something is badly amiss, then an avoidable crash is very likely. Many RC pilots have lost their beloved aircraft seconds after take-off, simply because they didn't do the checks!

PRE-START

1. All servos are secure, and linkages to servo and control surfaces are secure.
2. Servo horns and control horns are secure and not loose.
3. Servo linkages are able to move freely and are not binding.
4. All servo connections to the receiver, battery pack and ESC are secure and correct.
5. Receiver Battery - Voltage Check
6. The receiver and motor battery pack are securely fixed and cannot move during flight.
7. Receiver antenna (aerial) is correctly positioned and not damaged.
8. The propeller nut is tight and spinner is secure.
9. The wing, vertical and horizontal stabilizers and landing gear are secured properly, as per the instructions (i.e. with the correct method of fixing; rubber bands or wing nuts etc.)
10. All control surface hinges are secure i.e. you can't pull the control surface away from its respective flying surface.

RANGE CHECK

The purpose of the range check is to make sure the radio signal from transmitter to receiver is strong, so that you can fly your RC airplane at a normal distance away from you, without it going out of radio range. If your plane does go out of range, then you lose all control. A Range Check should always be performed prior to the first flight of **Each** plane, each day.

Note: 2.4GHz transmitters need to be switched to their Low Output Power mode (approximately 10%) to properly conduct the test. For 72 MHz transmitters, retracting the antenna to its minimum length diminishes the output power in the same manner. If equipped with an RF Meter, a low reading may indication a weak signal.

Perform a range check with a radio system thus:

1. Switch on the transmitter then the receiver and walk at a distance of 30-36 paces (meters) or so away from the plane.   Verifying full control at ranges up to and exceeding 30-36 paces before Loss of Signal (LOS) occurs, will indicate proper transmitter and receiver function.
2. While observing the plane, test the movement of all control surfaces for full movement while transmitter is in reduced power (range test) mode.   If you have difficulty seeing the control surfaces, have a fellow member watch and indicate movement, or lack of. If the surfaces start 'twitching' or not responding properly to your stick movements, do not fly.   Check the batteries of the radio gear, they may need replacing - low batteries in the transmitter drastically reduce the radio range.   Also check for loose connections to the receiver etc., and also the condition of the antenna(s).
3. If the batteries and connections are OK but, the control surfaces still don't respond properly, then other people may be using your frequency nearby.   Again, do not fly if this is the case. Interference is a big killer of RC airplanes, and you need to be sure that your frequency is clear before you get airborne.
4. Always take a few minutes to perform these RC airplane pre-flight checks before you commence your flying session.   Get in to the habit of pre-flighting your plane every time; the checks take just a couple of minutes to do and will save you the grief of a crashed airplane, if something is amiss.

STARTUP

1. Aircraft Secure
2. All Clear - Ahead (prop) and Behind.
3. Radio Transmitter On, Radio Receiver On and Checked for Interference (All control surfaces stable.)
4. Run Up (for electric) - Mixture Set (engine testing to take place in testing area)
5. Start up (for gas) – Reliable, the motor throttle response works correctly.
6. Throttle set full power and idle .
7. Fail Safe Check completed - engine running - secure aircraft - Turn transmitter off - best practice is to set the failsafe to reduce engine speed to an idle put the aircraft slow level turn or auto-rotation (heli) condition, so it does not fly away but comes down as gently as possible as close as possible to the location where signal was lost.
8. Transmitter Operation Check - Aircraft Control surfaces checked for correct direction. All control surfaces move in the correct sense e.g. moving the rudder stick left moves the rudder to the left.

PRE-TAKEOFF AT PILOT STATION

1. Engine check - Full Power run up -
2. Controls - Free and Correct
3. Rate Switches – Set for take off
4. Trims and flaps - Set for Take-off
5. Timer - On
6. Wind Sock/direction - Checked
7. Runway - Clear
8. "Announce" - loudly announce your intention to taxi onto the runway and take off and the direction you are taking off in. Other pilots should respond to verify they have heard your intention and that the runway is clear of traffic.

PRE-LANDING

1. Pilots should make every attempt to land into the wind, to control the speed of their airplane and should be aware of Cross Winds, that may cause your plane to veer towards other pilot stations.   Check wind sock and or confer with your spotter.
2. "Announce" - loudly announce your intention to land and the direction you will be landing your airplane from, e.g. "From the Right or From the Left". Other pilots should respond to verify they have heard your intention and that the runway is clear of traffic.