

# Maiden Flight Checklist

Thanks to Peter Sylvester for the html version of the list

This checklist is mainly for the new, inexperienced member of the club, but may help everyone. This checklist should be performed prior to bringing your airplane to the field.

## ENGINE

- \_\_\_ 1. Secured with proper fasteners- blind and tee nuts should be avoided for mounting engines. "NYLOCK" style nuts are highly recommended.
- \_\_\_ 2. Propeller fastener (Nut/Hub) and spinner installed and tightened. The propeller should be installed so that it is in about the 1 or 2 O'clock position on the compression stroke (Near "Top Dead Center")
- \_\_\_ 3. Throttle Adjusted - See figure #1
- \_\_\_ 4. To prevent engine vibration from being transmitted to the throttle servo, a plastic clevis, ball joint or some other non-vibration transmitting device should be used.
- \_\_\_ 5. Muffler installed and fasteners tight.
- \_\_\_ 6. Propeller should be balanced for optimum engine performance.
- \_\_\_ 7. Remove sharp edges from glass filled propellers (Master Airscrew). This will prevent bloody fingers.
- \_\_\_ 8. Paint propeller tips (optional).
- \_\_\_ 9. Check propeller for cracks, nicks, or other damage. (Replace if any damage is visible)
- \_\_\_ 10. Throttle cable should be "free" in operation (No Binding) the throttle cable should not be allowed to flex preventing full servo throw. The throttle cable should be adjusted so that the maximum throw of the servo is completed just prior to the throttle being fully open or closed. (You do not want the throttle in its stops before the servo is at maximum throw or servo damage and life will be reduced, along with excessive battery consumption).
- \_\_\_ 11. Firewall area fuel proofed and all holes and penetrations (throttle cable, steering cable, etc) in firewall should be filled to prevent fuel from entering the inside of the airplane and causing damage to the batteries, servos, etc.
- \_\_\_ 12. Ensure that your engine has the correct thrust installed as recommended on the plans for your particular airplane. Incorrect thrust will

cause havoc on your maiden voyage.

\_\_\_ 13. New engines - ensure that you follow your manufacturer's instructions on breaking in new engines. Some engines such as the "ABC" (Aluminum, Bronze, Chrome) designs require a different break-in then a ringed engine.

\_\_\_ 14. When at the field, starting of engines is only permitted in the "Test Box" and in the flight box (Engine facing away from pit area).

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## STEERING

\_\_\_ 15. 1/4" throw, left and right, on the steering arm is sufficient for ground handling.

\_\_\_ 16. Landing Gear fasteners tightened

\_\_\_ 17. Little to no slop in nose gear blocks.

\_\_\_ 18. Steering cable should not flex or bind

\_\_\_ 19. Center the nose wheel to track straight. This can be accomplished by pushing your plane on the floor, driveway etc. Adjust your steering arm as required so that the plane tracks straight.

## WING

\_\_\_ 1. Proper incidence and alignment:

\_\_\_ 2. Incidence meter is required to check and adjust your wing incidence. Adjust to manufacturers recommendations on the plans.

\_\_\_ 3. Alignment of the wing is accomplished by measuring from the rear of the wing tips to the rear centerline of the fuselage.

\_\_\_ 4. Attach the wing to the fuselage with a minimum of seven #64 rubber bands on each side of the wing

\_\_\_ 5. Wing saddle tape or seal is optional

\_\_\_ 6. The center section of the wing **MUST** be reinforced with fiberglass cloth as recommended on the plans.

\_\_\_ 7. Check operation of the ailerons:

\_\_\_ A. Push the aileron stick on the transmitter to the right, the left aileron should go down and the right aileron should go up. Travel should be about 20 degrees min. up and down. If this does not occur, reposition your aileron servo reversing switch and try it again. Adjust your linkages as necessary.

\_\_\_ B. Push the aileron stick on the transmitter to the left, the left aileron should go up and the right aileron should go down. Travel should be about 20 degrees min. up and down. Adjust your linkage as necessary.

\_\_\_ C. With the aileron stick on the transmitter in neutral, both ailerons should be at zero degrees on the wing. This can easily be checked by using a ruler on the bottom side of the wing (flat bottom wing) and adjust the aileron linkages as necessary until both ailerons are even with the bottom of the wing.

- \_\_\_ 8. Check your wing for wraps, twists, etc. Do not fly with a distorted wing.
- \_\_\_ 9. Ensure that your wing servo is installed correctly and is secure.
- \_\_\_ 10. Ensure that there are no wide gaps between the aileron and the wing.

## FUSELAGE

- \_\_\_ 1. Ensure that your fuselage is built straight
- \_\_\_ 2. Fuel compartment is fuel proofed.
- \_\_\_ 3. Landing gear firmly attached
- \_\_\_ 4. Wheels of the proper size for running on grass ensure wheel collars are tight.
- \_\_\_ 5. Fuel tank protected from vibration
- \_\_\_ 6. Ensure that the clunk is free to move, follow manufacturer's recommendations.
- \_\_\_ 7. Servo rails or trays secured in place.
- \_\_\_ 8. Ensure that the fin is vertical and 90 degrees to the top of the fuselage

## ELEVATOR

- \_\_\_ 1. Ensure that the control horn is tight.
- \_\_\_ 2. Ensure that there are no wide gaps between the elevator and the stabilizer
- \_\_\_ 3. Ensure proper operation of the elevator servo by pulling back on the

elevator transmitter stick. Elevator should go up. Use servo reversing switch if necessary.

\_\_\_ A. Push the elevator transmitter stick forward, the elevator should be down.

\_\_\_ B. There **MUST BE NO PLAY** between the servo and the elevator. This can be checked by pulling and pushing on the elevator with a slight amount of force. If you can move the elevator without moving the servo, then the pushrod linkage is too loose and must be corrected.

## **BALANCE**

\_\_\_ 1. Refer to manufacturers drawings for proper location of the center of gravity (CG). Check CG balance with everything installed (Except Gas). The aircraft should be balanced slightly nose heavy. Checking the CG usually requires two people. Using the CG location on the plans pick up the airplane by the wing (using your fingertips), the plane should be slightly nose heavy, add or remove weight as necessary.

\_\_\_ 2. DO NOT fly a tail heavy airplane.

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## **RADIO**

\_\_\_ 1. Ensure servos are installed properly.

\_\_\_ 2. Servo grommets not too tight.

\_\_\_ 3. Ensure servo connections to receiver are tight.

\_\_\_ 4. Avoid running receiver antenna under or over servos.

\_\_\_ 5. Check antenna is not too tight.

\_\_\_ 6. On/Off switch and battery charge connection should be mounted on opposite of exhaust side of airplane.

\_\_\_ 7. Batteries (Transmitter, Receiver, Glow plug) should be fully charged prior to coming to the field.

\_\_\_ 8. Receiver and receiver battery should be packed in foam rubber (the type that is sold for that purpose).

\_\_\_ 9. Battery, receiver, fuel tank must be installed in such a way as to prevent it from moving during flight.

\_\_\_ 10. Using the test ox at the field and following frequency procedures, range-check your airplane.

## **FLYING**

\_\_\_ 1. If you have not flown a remote control airplane before, do not start now. Have one of the club flight instructors or experienced flyers check your plane and fly its maiden flight.

\_\_\_ 2. Prior to flying your plane you must have a basic knowledge of which stick does what. Do not attempt to fly the aircraft yourself, the odds are a million to one against your.

\_\_\_ 3. Don't hesitate to ask questions during the building stage, it is easier to correct mistakes during the construction than it is after construction.