

JCRC FLIGHT TRAINING
COURSE

August 2014

GENERAL

The purpose of this document is to assist both the instructor and the student in a structured way. Both should become familiar with its contents. It is not intended to give a detailed description of how each maneuver is done; the instructor will do this as the student progresses.

The three most important lessons to keep emphasizing are SAFETY, SAFETY, and more SAFETY.

There are described herein a set of maneuvers which the student will be tested on before he/she get their solo wings.

When the student has documentation to show they have completed the course, a different instructor will test the student and sign off that the student is ready to solo.

All new members who join JCRC after January 1, 2007 will be asked to take the test to verify they are capable of flying solo. If the new member has flown in the past but requests a few lessons, all stages below should be reviewed with them, before the first flight.

The student pilot should show proof of AMA and JCRC membership requirements before training begins. If the Student is not a member of AMA or JCRC, then they must be enrolled in the AMA Intro Pilot Program. This program insures the student and the club for up to sixty days, after that time they must join the AMA and JCRC to continue their training.

The instructor should check off the student's Proficiency Chart as each job is performed. This will enable any follow up instructor to know what stage has been reached.

It is the student pilot's responsibility to keep and maintain their Proficiency Chart and make it available to the instructor before each training session. The Proficiency Chart may be kept at the JCRC flying facility in a designated file folder.

STAGE I

Begin with introductions.

Discuss the safety rules to be abided by at this field.

- Radio Impound requirement for non-2.4 mhz systems.
- Pilot Sign-in Sheet
- The frequency board and frequency control.
- The limits of our flying area. Where there are houses. The yellow line in front of all pilots.
- Demonstrate that engines should be started on the stands and adjustments made from behind.
- Discuss spectator areas and that engines should not be run or armed (electric) under the shelter.
- Show the box where each pilot will stand while flying.
- Discuss the calls for takeoff, landing and dead stick.
- Explain the need for a spotter.
- Go over the complete training course from start to finish, including the future solo test the pilot will be asked to make to earn their wings.

STAGE II

We now examine the student's plane, or club trainer plane. This should be done at the beginning of each session.

- Explain and check Center of Gravity (C.G.)
- Tx on first and off last unless a different sequence is specifically required to bind a Tx/Rx system.
- Examine all flying surfaces, do they move the correct way? Are they secure, are the control rods and fittings secure. If the answer is no, then go fix it before proceeding.
- Radio Range Check.
- Review basic aerodynamic theory, including what causes a stall, especially on takeoff.
- An informed knowledgeable pilot is a safer pilot.

STAGE III

The instructor and student will progress through the maneuvers in the order listed below, using both fast and slow speed flying.

- Taxiing and Ground Handling.
- Take Off
- Level Flight demonstrating both left and right turns.
- Circles, turning both left and right.
- Figure 8's (Intersecting Away from Pilot)
- Figure 8's (Intersecting Toward Pilot)
- Box pattern turns.
- Stalls and recovery.
- Traffic Pattern both left and right.
- Using the rectangular landing pattern approach land the aircraft.

STAGE IV

Now we get down to the best part, the flying. A buddy box system should be used, even if the student pilot starts out using his or her own trainer plane. (The only exception is when someone is using a park flyer that is not equipped for use with a buddy box.)

Before the first flight the following should be discussed:

- What the buddy box system is and how it works.
- What each control does to the plane.
- Discuss aircraft orientation, when going away and when coming towards you, turning left/right etc.
- Review the lesson plan for the day. Use a hand held stick model or suitable aircraft to demonstrate what the student will be asked to do that day. (This should take place during each training session.)

A list of pilots can be found a flyjrc.com.

FIELD RULES (as seen in ARTICLE X of the JCRC By-Laws)

1. All pilots must hold current AMA membership and abide by all AMA and JCRC rules and regulations. All members shall have their current membership and current AMA card in their possession while using this facility. Any member seeing club property being misused or field rules being violated shall request that the violator to halt such action. If the

conduct continues, the member will contact a JCRC club Officer and document the incident.

2. All non 2.4 mhz radios will be impounded. The proper frequency pin must be attached to the pilot's radio before it is turned on, and the pin must be returned to the frequency board and the radio turned off after each flight.
3. All planes will be flown in front of the flight line and in compliance with AMA and JCRC safety regulations. Flying over areas other than those specified by the AMA and the JCRC lease agreement is prohibited. It is particularly important not to fly outside the designated air space.
4. There will be no more than six (6) aircraft flying at any one time. There will be only eight (8) radios checked out of the impound area at any one time. Any exceptions, such as for special events, must be submitted in writing and approved by the Board of Directors.
5. Pilots must maintain thirty (30) feet of ground separation, and use pilot boxes. All planes must be started at the starting block facing away from the pit area. The engine must be turned off before entering the pit area. A muffler must be on any combustible engine with .09 cubic inch or larger displacement. Noise levels shall meet AMA guidelines.
6. All radio-controlled airplanes will yield to full size aircraft and shall land immediately if it is not safe to continue to fly.
7. Visiting pilots and members with maiden flight model aircraft or major damaged repaired airplanes shall have their aircraft inspected by a JCRC member for flight worthiness before initial flight.
8. Pilots will use courtesy and common sense when flying and will limit flights to a maximum of 15 minutes per flight.
9. No alcoholic beverages, illegal drugs or profanity will be permitted at the JCRC Model Airport.
10. The field rules should be followed in conjunction with the guidelines set forth by the AMA in operating a safe flying site.
11. All non-flying persons, visitors, spectators, etc. shall remain behind the spectator fence unless designated otherwise by the Event coordinator of a special event, or by a member of the JCRC
12. All animals must be on a leash and kept behind the spectator fence
13. Do not litter the field. Removal of trash is expected by the responsible party. There are no trash receptacles on site except during special events. Trash is anything that did not grow on the site.
14. Engine break-in should be conducted only on the furthest available flight stand from the shelter
15. The flying hours at the Model Airport are governed by the lease agreement between the property owners and the JCRC. These hours are printed in the Members Information Package and posted at the Model Airport. The only exception to these flying hours will be for JCRC Special Events, which will require prior approval by the Board of Directors
16. Landing aircraft or "dead stick" aircraft have the right-of-way over aircraft taking off.

Field Etiquette

1. Always be courteous to your fellow pilots and be considerate of their needs and concerns.
2. Always announce your intentions and wait for acknowledgement from all pilots on the flight line before action is taken. Make announcement in a loud voice so all can hear.
 - **Taking Off** (to be announced before taxiing onto the runway)
 - **Landing** (to be announced before making your landing approach)
 - **On the Runway** (to be announced anytime you the pilot go out onto the runway)
 - **Clear** (to be announced once you the pilot are no longer on the runway)
 - **Dead Stick** (to be announced when your plane's engine has stopped)

Suggested Tools

1. Voltage Meter/Cell Checker for testing batteries before each flight
2. Both small metric and standard hex key sets (Allen wrenches)
3. Both small flat and four point (Phillips) screwdrivers
4. Wrench to fit prop nut
5. Nut driver to fit glow plug

ROUTINE PREFLIGHT INSPECTION

To be conducted prior to first flight

INTERNAL (Before attaching wing)

1. Check servo mount, servo, servo arms secure.
2. Check pushrods secure.
3. Check receiver and battery secure.
4. Check Rx Battery Voltage (do not fly if voltage is less than the system requirement)
5. Check- for loose items/wires that could foul servo arms/ pushrods.
6. Check for fuel leaks.

WING

7. Check wing for breaks, warps, cracks, etc.
8. Check aileron pushrods, linkage and clevis (if equipped) prior to securing wing to aircraft.
9. Check wheel collars are tight and not binding.

ENGINE AREA

10. Check engine mount, engine, muffler, prop nut and/or spinner for security.
11. Check prop for nicks, cracks. etc.
12. Check nose steering mechanism (if equipped).
13. Check cowl secure (if equipped).

TAIL SECTION

14. Check vertical fin, rudder and rudder clevis for security.
15. Check tail wheel (if equipped).
16. Check horizontal stabilizer, elevator and elevator clevis for security.

RANGE CHECK/FLIGHT CONTROL CHECK

17. Conduct range check appropriate to the frequency system being used.
18. Check that flight controls move in proper direction.
19. Check that flight control surfaces are in proper trim.

MAIDEN PREFLIGHT INSPECTION

To be conducted on new and repaired aircraft.

PRE- FLIGHT CHECKLIST

FUSELAGE

1. Check for any obvious defects in the construction of the fuselage. (warps, breaks, etc.)
2. Check elevator and rudder hinges and clevises to make sure that they are properly **attached** and aligned.
3. Check nose/tail wheel for proper installation and steering.
4. Check that the servos and servo mounts are secure and that the servo arms are securely fastened.
5. Check that all pushrods are securely fastened.
6. Check that the battery and receiver are properly wrapped and in a secure location.
7. Check that the fuel tank is properly installed and padded with foam rubber. Make sure that the fuel compartment is fuel proofed.
8. Check to make sure that there are no loose items that could interfere with servo or pushrod movement.

WING

9. Check for any obvious defects in the construction of the wing. (Warps, breaks, aileron hinges, etc.)
10. Check that the center section is properly reinforced and that the aileron servo is properly mounted.
11. Check that the aileron pushrods and clevises are properly and securely mounted.
12. Check that the wing goes in place properly and explain the need for the proper number of rubber bands or wing bolts.
13. Check installed wing for proper alignment and incidence.

ENGINE

14. Check to make sure that the engine area is fuel proofed.
15. Check engine for proper mounting and alignment.
16. Check to see if the engine has been properly broken in.
17. Check electric motor battery is fully charged.

RADIO

17. Make sure that TX and RX batteries (if required) have been fully charged.
18. Range check non 2.4 mhz radio **only after** frequency pin is secured.
19. Check that all control surfaces work smoothly and in the proper directions.
20. Make sure that the throttle works properly.
21. Check the control surfaces for proper trim and alignment.

BALANCE

22. Check the balance of the aircraft in both pitch and roll. Explain and correct any problems encountered.

No Fly Areas

