The Flying Electrons, Inc.

Field Rules

Revised 7/18/2019 tej

Rules are put in place to make everyone's flying experience as pleasant as possible. Please adhere to courtesy and common sense when it comes to safe flying. At the same time the Flying Electrons do not want to make rules for every possible scenario that may arise. Pilots are encouraged to be polite, considerate, and above all, communicate their intentions at all times.

General

1. No member or guest may fly unless they have their current AMA Card in their possession at the field, with only one exception. A non-AMA member guest may fly for one and only one flight with a club qualified instructor, provided that the club member's model is used. A non AMA member's model may not be used for this flight.
2. Club members who are using the 72 MHz band must have their club membership card posted on the frequency board as the method of claiming a radio frequency, as the frequency is available. This does not apply to members using the 2.4 GHz frequency.
3. Membership cards are issued by the Club Secretary. The Club Secretary will mark the card with the member's current pilot rating: Student, Pilot, or Instructor. When a Student Pilot is advanced to Pilot or Instructor, the Instructors giving the test will sign and date the Student's card and mark the appropriate box (Pilot or Instructor) and inform the Club Secretary of the advancement.
4. All AMA flight rules and regulations shall be strictly adhered to. All aircraft must have the owner's name, address, and AMA number on or in the aircraft.
5. **All club members must be currently registered under the FAA Small UAS Certification Program. Members are required to display their FAA UAS Certificate number on an exterior of their aircraft before flying.**
6. Pilots are expected to keep the flying area and parking area free of litter.
    a. Please use the garbage can and close the lid securely.
    b. There are containers around the field for cigarette butts. Please be courteous and use them.
    c. Smoking is not allowed in the pit areas or the flight line.
7. Field may be closed to general sport flying for organized events such as contests and exhibitions no more than 5 days per year.
8. No flying before 8:30 AM or after sunset by gas or glow powered aircraft. Electric powered aircraft may fly from 6:00 AM until 10:00 PM.
9. NOISE LIMIT FOR ALL MODELS IS 97 dB.
10. No more than 8 aircraft allowed in the air at any time, 4 of which may be gas or glow. *Although 8 is a limit for aircraft being flown at one time, the spirit of this rule is to allow up to eight smaller aircraft pilots to enjoy flying together. Modeler courtesy is encouraged to avoid midair collisions for pilots who are flying larger aircraft.*

11. When there are people waiting to fly, it is strongly suggested that flight times be limited to no more than 10 minutes. *Sailplanes operating outside the normal flight area, for example thermalling, are exempt from this rule.* From time to time, pilots may also request airspace for practice or special routines as field activity allows.
12. Guests, visitors, and potential new club members are welcome and encouraged to visit our field, but to comply with club rules, they must be escorted while flying. Persons holding a current AMA license may fly at the club field if sponsored by and accompanied by a club member in good standing. The club member's "membership card" must be used and said member will be responsible for all activities of their guest. Guests are restricted to a maximum of three flying sessions per flying year, without becoming a member. Family members living out of the local area are not restricted to the "three sessions" rule. Special exceptions for visiting flyers can be made with the approval of the board. AMA members and non-AMA members participating in the AMA Intro Pilot Program with an AMA Intro Pilot Instructor are also not restricted to the "three sessions" rule.
13. NO drinking of alcoholic beverages at the field.
14. Fuel overflow recapture when fueling an aircraft is mandatory.
15. The Flying Electrons lease the flying field from the village of Menomonee Falls. Members are permitted access only to the flying field and adjoining parking area. Access to any other area of Menomonee Falls land is restricted to retrieval of models only.
16. Dogs must be kept on a leash and be attended at all times.

Flying Safety

1. Spectators are allowed in staging and picnic areas only. Small children must be under adult supervision. No pets permitted in the staging area, keep them in the picnic area. PLEASE do not get near any planes without the permission of the owner.
2. STUDENT PILOTS MAY NOT FLY WITHOUT THE ASSISTANCE OF A CLUB QUALIFIED INSTRUCTOR.
3. ALL IN-FLIGHT STUDENT INSTRUCTION IS TO BE CONDUCTED USING A TRAINER TRANSMITTER, EXCEPT FOR THE SOLO PILOT TEST. The first flight for new members with prior flying experience shall be done using a trainer transmitter. The solo pilot test for experienced new members will be done without the trainer transmitter. Exceptions for experienced new members may be granted if both instructors giving the test agree.
4. All models in the pit area must face in the direction of the flying field. Pilots must use a pilot block. Starting of engines or electric motors shall be on the pit block or in the designated engine test area. Arming of electric aircraft shall only be done on the pit block or the designated engine test area. Physical contact with the model is to be maintained during pitting by a helper. If no helper is available, then the plane must be securely tied down. Pit block shall be made available for next pilot when finished with your flight. Pit area is restricted to pilots and their respective helper; no other persons are permitted in this area at any time.
5. No taxiing of a model into or out from the pit area is allowed. Physical contact with the model must be maintained by the pilot or helper until the model is beyond the pilot station line.

6. Any person entering the field beyond the pilot station line, such as to hand-launch or retrieve a model, shall first announce this intent to those pilots who are flying.
7. Pilots or helpers will not walk directly in front of pilots.
8. Flying under normal conditions will be confined to that area which will keep us equidistant from the closest neighbors on the east and west. When more than one aircraft is flying it is encouraged that a "flight pattern" be established by the pilots (clockwise or counterclockwise) depending on wind direction.
9. There shall be NO FLYING or ACTION that will endanger any spectator or member. The following will be strictly adhered to and any violations will result in warnings, suspension of privileges, and/or expulsion from the club:
    a. All takeoffs, landings and flying will be executed at a distance no less than 25 feet from the pilot blocks (flight line)
    b. No flying over the pilot station line, pit area, staging area, picnic area or parking area.
    c. No flying while field mowing is taking place.
    d. Talking to pilots who are flying is discouraged unless the pilot agrees prior to the flight or in cases of field communication or emergencies.
    e. Helicopter pilots are allowed to fly from the normal flight line at any time. When doing so, they are encouraged to communicate their intentions to all other pilots (Slow flight, Freestyle, etc.) to prevent the potential for a midair collision. When flying from the normal flight line, helicopter pilots are bound by all the same rules as fix-wing pilots.
    f. Helicopter pilots who are only hovering their aircraft must fly in the designated Helicopter flying area at the east end of the field, south of the normal flight line. These pilots are not allowed to have their aircraft pass into the normal flight line of the east-west runway. Aircraft flying in the designated Helicopter area are not counted toward the maximum limit of 8 aircraft in the air at any one time.
    g. Electric "Foamy" type aircraft with an all up weight of less than 24 ounces may be flown on either the east or west end of the field south of the normal flight line. These pilots are not allowed to have their aircraft pass into the normal flight line of the east-west runway. Aircraft flying in these locations are not counted toward the maximum limit of 8 aircraft in the air at any one time.
    h. Whenever Village of Menomonee Falls personnel are working at the east or west end of the field, no flying over the area where they are working is allowed.

Sailplanes

Aero Tow, Winch, Hi-Start and Hand Tow launches are permitted. All launch lines must be removed from the cut grass runway as soon as possible after release. Pilots must announce their intention to launch. No launches are permitted while other powered aircraft are flying. Launch release and landing of the model should be performed in the normal Flight Zone area with a minimum distance of 25 feet away from the pilot blocks. Self-launching Sailplanes shall be treated as any other hand launched powered aircraft.

FPV DRONE AND FPV FIXED WING FLIGHT RULES

Field rules established for the introduction of FPV to the airfield were developed to ensure that three (3) main objectives were met. These objectives reflect the spirit under which these rules were created and pilots should weigh all personal actions against these goals when flying at the field.

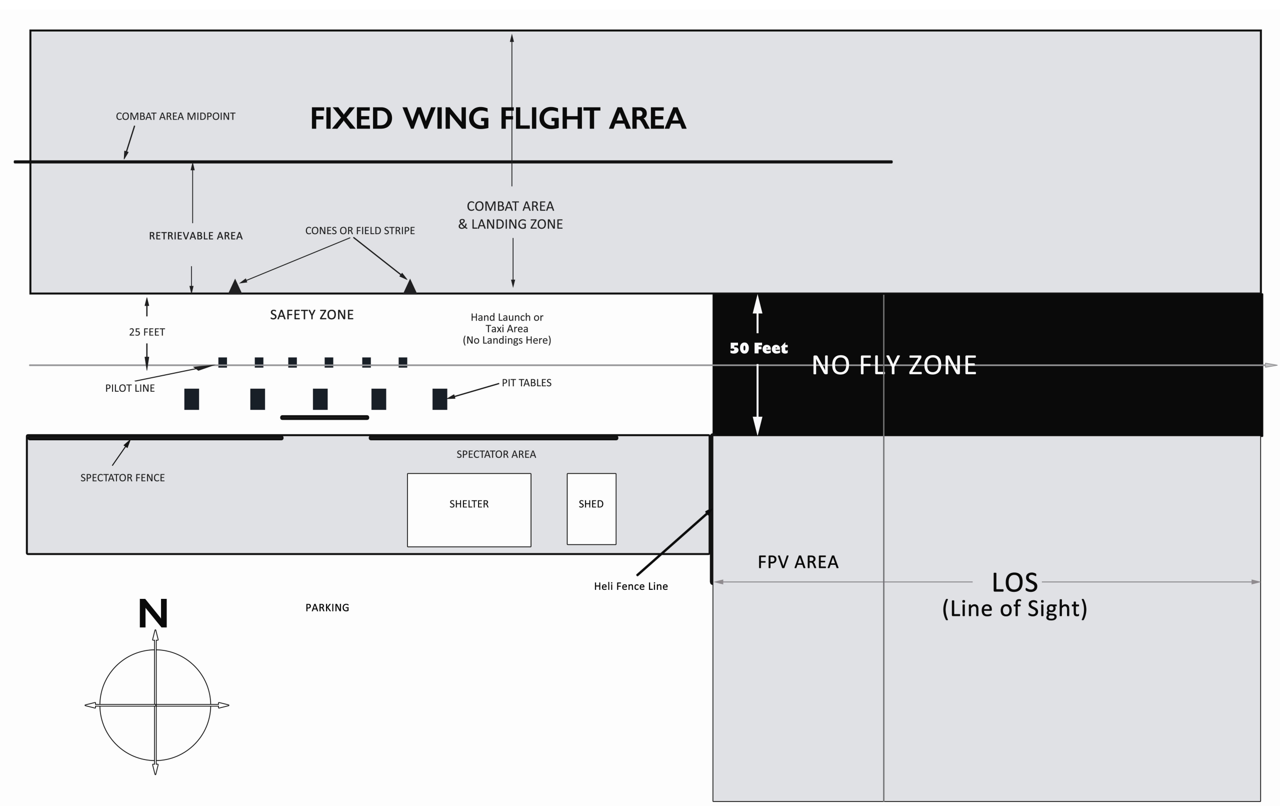
FPV flight at the field depends totally upon

1. Maintaining a safe flying environment for all pilots and aircraft
2. Protecting the current rights of members and the interests of the club
3. Ensuring that FPV flying does not jeopardize the status of the airfield with regard to all requirements established by the FAA, the AMA, and the Village of Menomonee Falls

Drones & Fixed Wing Aircraft

The rules established here distinguish between FPV Rotary Aircraft (Drones) and FPV Fixed Wing Aircraft (aircraft with video cameras attached.) Please refer to the appropriate section that applies to your FPV aircraft and spotter application.

These rules also specify the duties and responsibilities required of SPOTTERS that apply to both FPV DRONE and Fixed Wing flight. Please refer to qualifications required for Spotters so that you can assist your member FPV pilots.



Airfield Diagram

FPV DRONE FLIGHT RULES

1. FPV DRONE flying is limited to the designated DRONE flight area (see Airfield Diagram) and may be conducted on the main field only under mutually agreeable access. All flight rules listed herein apply the main field flight as well.
2. FPV DRONE flying is permitted directly east of the designated flying area but must maintain Line of Sight (LOS) during all flight operations.
3. All DRONES must be flown under “fail safe” disarm mode, however DRONES with a GPS option may be flown with the “Return to Home” mode setting enabled.
4. As mandated by the FCC, all FPV aircraft are power-limited to 500 milliwatts maximum for flying at the airfield.
5. There shall be NO FPV DRONE flying south of the railroad tracks.
6. All FPV DRONE STUDENTS must fly under supervision of a certified Instructor.
7. All FPV DRONE PILOTS must have a dedicated SPOTTER when flying.
8. Where capable, all DRONE transmitters should have disarm switch located in the top left position of the transmitter.
9. Flights on the main field are limited to 8 minutes maximum.
10. FPV DRONES may NOT fly higher than 400 feet.
11. FPV DRONES may not enter the NO FLY ZONE (see diagram) unless under special CLUB EVENT arrangements.
12. The DRONE NO FLY ZONE begins at the field spectator fence line and extends 50 feet to the main field flight line which runs east and west.
13. The DRONE NO FLY ZONE north boundary shall be visually marked by cones or flags to designate the north out-of-bounds perimeter.
14. There is to be ABNSOLUTELY NO FLYING OVER Village of Menomonee Falls workers or their active operational vehicles.

FIXED WING FPV FLIGHT RULES

1. Fixed wing FPV flying is limited to the main field air strip.
2. All fixed wing FPV flying must maintain LOS.
3. Fixed wing FPV flying must follow all existing field rules normally associated with fixed wing aircraft at the field.
4. All fixed wing FPV pilots must have a dedicated SPOTTER when flying.
5. All spotters and pilots must have a “fixed wing PILOT” certification.
6. Fixed wing FPV aircraft may not fly higher than 400 feet.
7. Fixed wing FPV flight may not enter the NO FLY ZONE unless under special CLUB EVENT arrangements.
8. The NO FLY ZONE boundary for fixed wing FPV includes the main field taxi area and extends south to the spectator fence line (a total of 50 feet.)

FPV Drone Certification from Student to Pilot

1. All FPV flyers are students until they pass the PILOT certification test.

2. Flight testing must be conducted and passed under both LOS and FPV viewing situations to earn pilot certification.
3. Testing must be conducted using HORIZON or ACRO mode settings (pilot's choice) to qualify for testing.
4. Certification flight test maneuvers consist of the following:
    a. Precise launch and return to a designated area.
    b. Low controlled flight at slow and moderate speeds.
    c. Limited high flight to a controlled 400 foot altitude.
    d. Perimeter flight around the designated boundaries without exceeding the boundary marker limitations under slow and moderate speeds.
5. Pilots must demonstrate competence in the following:
    a. Knowledge of all FPV flight rules.
    b. Ability to set and adjust VTX milliwatt output power.
    c. Ability to set and establish a clean video frequency link.
6. FPV Drone Instructors are required to test fly the student's DRONE before pilot certification testing can take place.
7. Certification from student to pilot must be signed off by a certified FPV Instructor and must be witnessed by one club member.
8. All certifications to pilot must be communicated to the club secretary before becoming effective.

<u>Certification from FPV DRONE Pilot to Instructor</u>

1. All candidates must first complete and pass pilot certification.
2. They must demonstrate an ability to effectively communicate flight rules and safety guidelines.
3. They must demonstrate a competent knowledge of flight controller programming
4. They must demonstrate an ability to verify proper DRONE setup for a student's aircraft
5. They must demonstrate an ability to set and instruct students on how to adjust VTX milliwatt output power
6. They must demonstrate an ability to set and instruct students on how to establish a clean video frequency link
7. Certification from pilot instructor is signed off by a certified FPV Instructor and must be witnessed by one club member.
8. All certifications to pilot must be communicated to the club secretary before becoming effective.

<u>FPV Spotter Responsibilities & Requirements</u>

FPV DRONE Spotters

1. DRONE spotters are responsible for alerting DRONE pilots to other aircraft that may result in a conflict.
2. Must assist the pilot in maintaining DRONE LOS
3. DRONE spotters ARE REQUIRED to take immediate action to disarm pilot's drone when pilot loses control or safety concerns become evident.

Fixed Wing FPV Spotters

1. Fixed wing spotters provide the following support service:
   a. Alerts regarding oncoming aircraft
   b. Alerts to pending take-offs and landings
   c. Changes in wind speed and direction
2. Provide assistance in maintaining aircraft LOS
3. Fixed wing spotters must be a QUALIFIED PILOT and club member. "Qualified Pilots" are defined as being comfortable in taking control of the FPV aircraft when necessary and returning the aircraft to stable flight.
4. The spotter is required to take immediate physical control of the pilot's aircraft in the event of any safety concern or pilot loss of control.
5. Fixed Wing FPV spotters do not have to be FPV Pilot qualified.

REQUIREMENTS TO BECOME A SOLO FIXED WING PILOT OR INSTRUCTOR

Students

Students are required to complete an in-flight training program based on the student's past experience. Two instructors will give the student's solo flight test. The first will administer the test and the second will serve as witness and must agree on the results. Required maneuvers to pass the solo flight test are takeoff, controlled level flight, oval, figure eight, controlled increasing altitude turn, controlled decreasing altitude turn, roll, loop, slow low flyby, procedure turn pattern and landing. The student must also demonstrate knowledge of pre-flight check out, field rules, and applicable aircraft control.

Instructors

A prospective instructor is required to have a good working knowledge of the student-training program and have demonstrated knowledge of all field rules. It is a requirement that a prospective instructor be sponsored by two experienced instructors prior to the Instructors test being given. The test for a prospective instructor will be given by the two sponsors for pilot skill evaluation and field rule knowledge. The required maneuvers to pass the instructor test are all of the above requirements for solo flight plus three loops, inverted oval pattern and two consecutive rolls. Once these requirements are accomplished, the person may begin instructing students. Instructors must maintain their flying proficiency and demonstrated knowledge of the field rules in order to retain their instructor rating.

Requirements to Become a Solo Helicopter Pilot or Instructor

Helicopter Student

1. Understand and adhere to the AMA Safety Code and Flying Electron Field Rules
2. Demonstrate a working knowledge of helicopter components and their function (swashplate / tail / gyro / motor or engine / ESC)
3. Helicopter will be equipped with "training gear". (Traditional "X" dowels with whiffle balls on ends)
4. Show "common sense" restraint in flight attempts. (Not trying to do too much, too soon, or too quickly)
5. Be able to demonstrate control in fundamental helicopter flight (e.g. basic "skim" hover)

Helicopter Pilot

1. Achieve Helicopter Student Status
2. Hold tail-in stationary controlled hover for 30 seconds
3. Move helicopter six feet to the left and hold tail-in stationary controlled hover for 30 seconds
4. Move helicopter twelve feet to the right and hold tail-in stationary controlled hover for 30 seconds

5. Spot landing and takeoff from random spots
6. Demonstrate nose-in hovering in 3 spots as above
7. Transition from hover to forward flight and back into hover
8. Perform a clockwise and clockwise rectangular circuit with tail following nose
9. Perform a Figure Eight with tail following nose

Helicopter Instructor

1. Achieve Helicopter Pilot Status
2. Help go over setup of two (2) helicopters for students
3. Mentor two (2) students to achieve Helicopter Student status