U.S. Department
of Transportation
**Federal Aviation
Administration**

800 Independence Ave., S.W.
Washington, D.C. 20591

August 25, 2015

Exemption No. 12582
Regulatory Docket No. FAA–2015–0587

Mr. Marc Wiercioch
GoCopter / Fiction Corp
27326 Belmont Court
Valencia, CA 91354

Dear Mr. Wiercioch:

This letter is to inform you that we have granted your request for exemption. It transmits our decision, explains its basis, and gives you the conditions and limitations of the exemption, including the date it ends.

By letters posted to the public docket on March 10, 2015, and July 15, 2015, you petitioned the Federal Aviation Administration (FAA) on behalf of GoCopter / Fiction Corp for an exemption. The petitioner requested to operate an unmanned aircraft system (UAS) to conduct motion picture production and agricultural surveying.

See Appendix A for the petition submitted to the FAA describing the proposed operations and the regulations that the petitioner seeks an exemption.

The FAA has determined that good cause exists for not publishing a summary of the petition in the Federal Register because the requested exemption would not set a precedent, and any delay in acting on this petition would be detrimental to the petitioner.

**Airworthiness Certification**

The UAS proposed by the petitioner is a DJI Flamewheel F550.

In accordance with the statutory criteria provided in Section 333 of Public Law 112−95 in reference to 49 U.S.C. § 44704, and in consideration of the size, weight, speed, and limited operating area associated with the aircraft and its operation, the Secretary of Transportation has determined that this aircraft meets the conditions of Section 333. Therefore, the FAA finds that relief from 14 CFR part 21, *Certification procedures for products and parts, Subpart H—Airworthiness Certificates*, and any associated noise certification and testing requirements of part 36, is not necessary.

**The Basis for Our Decision**

You have requested to use a UAS for aerial data collection[1] and closed set motion picture and filming. The FAA has issued grants of exemption in circumstances similar in all material respects to those presented in your petition. In Grants of Exemption Nos. 11062 to Astraeus Aerial (*see* Docket No. FAA−2014−0352), 11109 to Clayco, Inc. (*see* Docket No. FAA−2014−0507), 11112 to VDOS Global, LLC (*see* Docket No. FAA−2014−0382), and 11213 to Aeryon Labs, Inc. (*see* Docket No. FAA−2014−0642), the FAA found that the enhanced safety achieved using an unmanned aircraft (UA) with the specifications described by the petitioner and carrying no passengers or crew, rather than a manned aircraft of significantly greater proportions, carrying crew in addition to flammable fuel, gives the FAA good cause to find that the UAS operation enabled by this exemption is in the public interest.

Having reviewed your reasons for requesting an exemption, I find that—

- They are similar in all material respects to relief previously requested in Grant of Exemption Nos. 11062, 11109, 11112, and 11213;
- The reasons stated by the FAA for granting Exemption Nos. 11062, 11109, 11112, and 11213 also apply to the situation you present; and
- A grant of exemption is in the public interest.

**Our Decision**

In consideration of the foregoing, I find that a grant of exemption is in the public interest. Therefore, pursuant to the authority contained in 49 U.S.C. 106(f), 40113, and 44701, delegated to me by the Administrator, GoCopter / Fiction Corp is granted an exemption from 14 CFR §§ 61.23(a) and (c), 61.101(e)(4) and (5), 61.113(a), 61.315(a), 91.7(a), 91.119(c), 91.121, 91.151(a)(1), 91.405(a), 91.407(a)(1), 91.409(a)(1) and (2), and 91.417(a) and (b), to the extent necessary to allow the petitioner to operate a UAS to perform aerial data collection and closed set motion picture and filming. This exemption is subject to the conditions and limitations listed below.

[1] Aerial data collection includes any remote sensing and measuring by an instrument(s) aboard the UA. Examples include imagery (photography, video, infrared, etc.), electronic measurement (precision surveying, RF analysis, etc.), chemical measurement (particulate measurement, etc.), or any other gathering of data by instruments aboard the UA.

**Conditions and Limitations**

In this grant of exemption, GoCopter / Fiction Corp is hereafter referred to as the operator.

Failure to comply with any of the conditions and limitations of this grant of exemption will be grounds for the immediate suspension or rescission of this exemption.

1. Operations authorized by this grant of exemption are limited to the DJI Flamewheel F550 when weighing less than 55 pounds including payload. Proposed operations of any other aircraft will require a new petition or a petition to amend this exemption.

2. Operations for the purpose of closed-set motion picture and television filming are permitted.

3. The UA may not be operated at a speed exceeding 87 knots (100 miles per hour). The exemption holder may use either groundspeed or calibrated airspeed to determine compliance with the 87 knot speed restriction. In no case will the UA be operated at airspeeds greater than the maximum UA operating airspeed recommended by the aircraft manufacturer.

4. The UA must be operated at an altitude of no more than 400 feet above ground level (AGL). Altitude must be reported in feet AGL.

5. The UA must be operated within visual line of sight (VLOS) of the PIC at all times. This requires the PIC to be able to use human vision unaided by any device other than corrective lenses, as specified on the PIC's FAA-issued airman medical certificate or U.S. driver's license.

6. All operations must utilize a visual observer (VO). The UA must be operated within the visual line of sight (VLOS) of the PIC and VO at all times. The VO may be used to satisfy the VLOS requirement as long as the PIC always maintains VLOS capability. The VO and PIC must be able to communicate verbally at all times; electronic messaging or texting is not permitted during flight operations. The PIC must be designated before the flight and cannot transfer his or her designation for the duration of the flight. The PIC must ensure that the VO can perform the duties required of the VO.

7. This exemption and all documents needed to operate the UAS and conduct its operations in accordance with the conditions and limitations stated in this grant of exemption, are hereinafter referred to as the operating documents. The operating documents must be accessible during UAS operations and made available to the Administrator upon request. If a discrepancy exists between the conditions and

limitations in this exemption and the procedures outlined in the operating documents, the conditions and limitations herein take precedence and must be followed. Otherwise, the operator must follow the procedures as outlined in its operating documents. The operator may update or revise its operating documents. It is the operator's responsibility to track such revisions and present updated and revised documents to the Administrator or any law enforcement official upon request. The operator must also present updated and revised documents if it petitions for extension or amendment to this grant of exemption. If the operator determines that any update or revision would affect the basis upon which the FAA granted this exemption, then the operator must petition for an amendment to its grant of exemption. The FAA's UAS Integration Office (AFS−80) may be contacted if questions arise regarding updates or revisions to the operating documents.

8. Any UAS that has undergone maintenance or alterations that affect the UAS operation or flight characteristics, e.g., replacement of a flight critical component, must undergo a functional test flight prior to conducting further operations under this exemption. Functional test flights may only be conducted by a PIC with a VO and must remain at least 500 feet from other people. The functional test flight must be conducted in such a manner so as to not pose an undue hazard to persons and property.

9. The operator is responsible for maintaining and inspecting the UAS to ensure that it is in a condition for safe operation.

10. Prior to each flight, the PIC must conduct a pre-flight inspection and determine the UAS is in a condition for safe flight. The pre-flight inspection must account for all potential discrepancies, e.g., inoperable components, items, or equipment. If the inspection reveals a condition that affects the safe operation of the UAS, the aircraft is prohibited from operating until the necessary maintenance has been performed and the UAS is found to be in a condition for safe flight.

11. The operator must follow the UAS manufacturer's maintenance, overhaul, replacement, inspection, and life limit requirements for the aircraft and aircraft components.

12. Each UAS operated under this exemption must comply with all manufacturer safety bulletins.

13. Under this grant of exemption, a PIC must hold either an airline transport, commercial, private, recreational, or sport pilot certificate. The PIC must also hold a current FAA airman medical certificate or a valid U.S. driver's license issued by a state, the District of Columbia, Puerto Rico, a territory, a possession, or the Federal government. The PIC must also meet the flight review requirements specified in 14 CFR § 61.56 in an aircraft in which the PIC is rated on his or her pilot certificate.

14. The operator may not permit any PIC to operate unless the PIC demonstrates the ability to safely operate the UAS in a manner consistent with how the UAS will be operated under this exemption, including evasive and emergency maneuvers and maintaining appropriate distances from persons, vessels, vehicles and structures. PIC qualification flight hours and currency must be logged in a manner consistent with 14 CFR § 61.51(b). Flights for the purposes of training the operator's PICs and VOs (training, proficiency, and experience-building) and determining the PIC's ability to safely operate the UAS in a manner consistent with how the UAS will be operated under this exemption are permitted under the terms of this exemption. However, training operations may only be conducted during dedicated training sessions. During training, proficiency, and experience-building flights, all persons not essential for flight operations are considered nonparticipants, and the PIC must operate the UA with appropriate distance from nonparticipants in accordance with 14 CFR § 91.119.

15. UAS operations may not be conducted during night, as defined in 14 CFR § 1.1. All operations must be conducted under visual meteorological conditions (VMC). Flights under special visual flight rules (SVFR) are not authorized.

16. The UA may not operate within 5 nautical miles of an airport reference point (ARP) as denoted in the current FAA Airport/Facility Directory (AFD) or for airports not denoted with an ARP, the center of the airport symbol as denoted on the current FAA-published aeronautical chart, unless a letter of agreement with that airport's management is obtained or otherwise permitted by a COA issued to the exemption holder. The letter of agreement with the airport management must be made available to the Administrator or any law enforcement official upon request.

17. The UA may not be operated less than 500 feet below or less than 2,000 feet horizontally from a cloud or when visibility is less than 3 statute miles from the PIC.

18. If the UAS loses communications or loses its GPS signal, the UA must return to a pre-determined location within the private or controlled-access property.

19. The PIC must abort the flight in the event of unpredicted obstacles or emergencies.

20. The PIC is prohibited from beginning a flight unless (considering wind and forecast weather conditions) there is enough available power for the UA to conduct the intended operation and to operate after that for at least five minutes or with the reserve power recommended by the manufacturer if greater.

21. Air Traffic Organization (ATO) Certificate of Waiver or Authorization (COA). All operations shall be conducted in accordance with an ATO-issued COA. The exemption holder may apply for a new or amended COA if it intends to conduct operations that cannot be conducted under the terms of the attached COA.

22. All aircraft operated in accordance with this exemption must be identified by serial number, registered in accordance with 14 CFR part 47, and have identification (N−Number) markings in accordance with 14 CFR part 45, Subpart C. Markings must be as large as practicable.

23. Documents used by the operator to ensure the safe operation and flight of the UAS and any documents required under 14 CFR §§ 91.9 and 91.203 must be available to the PIC at the Ground Control Station of the UAS any time the aircraft is operating. These documents must be made available to the Administrator or any law enforcement official upon request.

24. The UA must remain clear and give way to all manned aviation operations and activities at all times.

25. The UAS may not be operated by the PIC from any moving device or vehicle.

26. All Flight operations must be conducted at least 500 feet from all nonparticipating persons, vessels, vehicles, and structures unless:
    a. Barriers or structures are present that sufficiently protect nonparticipating persons from the UA and/or debris in the event of an accident. The operator must ensure that nonparticipating persons remain under such protection. If a situation arises where nonparticipating persons leave such protection and are within 500 feet of the UA, flight operations must cease immediately in a manner ensuring the safety of nonparticipating persons; and
    b. The owner/controller of any vessels, vehicles or structures has granted permission for operating closer to those objects and the PIC has made a safety assessment of the risk of operating closer to those objects and determined that it does not present an undue hazard.

    The PIC, VO, operator trainees or essential persons are not considered nonparticipating persons under this exemption.

27. All operations shall be conducted over private or controlled-access property with permission from the property owner/controller or authorized representative. Permission from property owner/controller or authorized representative will be obtained for each flight to be conducted.

28. Any incident, accident, or flight operation that transgresses the lateral or vertical boundaries of the operational area as defined by the applicable COA must be reported to the FAA's UAS Integration Office (AFS−80) within 24 hours. Accidents must be reported to the National Transportation Safety Board (NTSB) per instructions contained on the NTSB Web site: www.ntsb.gov.

If this exemption permits operations for the purpose of closed-set motion picture and television filming and production, the following additional conditions and limitations apply.

29. The operator must have a motion picture and television operations manual (MPTOM) as documented in this grant of exemption.

30. At least 3 days before aerial filming, the operator of the UAS affected by this exemption must submit a written Plan of Activities to the local Flight Standards District Office (FSDO) with jurisdiction over the area of proposed filming. The 3-day notification may be waived with the concurrence of the FSDO. The plan of activities must include at least the following:
    a. Dates and times for all flights;
    b. Name and phone number of the operator for the UAS aerial filming conducted under this grant of exemption;
    c. Name and phone number of the person responsible for the on-scene operation of the UAS;
    d. Make, model, and serial or N−Number of UAS to be used;
    e. Name and certificate number of UAS PICs involved in the aerial filming;
    f. A statement that the operator has obtained permission from property owners and/or local officials to conduct the filming production event; the list of those who gave permission must be made available to the inspector upon request;
    g. Signature of exemption holder or representative; and
    h. A description of the flight activity, including maps or diagrams of any area, city, town, county, and/or state over which filming will be conducted and the altitudes essential to accomplish the operation.

31. Flight operations may be conducted closer than 500 feet from participating persons consenting to be involved and necessary for the filming production, as specified in the exemption holder's MPTOM.

Unless otherwise specified in this grant of exemption, the UAS, the UAS PIC, and the UAS operations must comply with all applicable parts of 14 CFR including, but not limited to, parts 45, 47, 61, and 91.

This exemption terminates on August 31, 2017, unless sooner superseded or rescinded.

Sincerely,

/s/
John S. Duncan
Director, Flight Standards Service

Enclosures

Marc Wiercioch
GoCopter / Fiction Corp
27326 Belmont Ct.
Valencia, CA 91354
818.415.7911
marc.camera@gmail.com
www.gocopter.net

For purpose of this Petition, the UAV discussed will be referred to as 'GoCopter'.

**Objective**

I am requesting permission from the FAA to legally operate a UAV in a profession capacity for motion picture production and agricultural surveying.

Operation on a motion picture production will be permitted and supervised by a Fire Safety Officer (FSO).

Operations for agricultural surveying will be conducted over private property for the purpose of cinematic documentation and multi-spectroscopic photo capture. I also request special permission to operate over golf courses during controlled condition for cinematic documentation. This will be conducted with permission from the course manager and clear of players.

I can confidently provide adequate proof that I meet the requirements per FAA Modernization and Reform Act of 2012, Public Law 112-95 FEB. 14, 2012, Section 333. My experience as a Certified Private Pilot, a RC hobbyist and a Professional cameraman, ideally suits my desire to operate as a professional UAV pilot in the United States National Airspace System.

**Biography**

1985 Began operating RC vehicles, cars and planes, as a hobbyist.
*Attached letter of recommendation as RC hobbyist*
1990 Acquired private pilot certificate (SEL)
Certificate # 569733346
Current flight physical #1998091195
2001 Began working in the Motion Picture Industry as a cameraman.
http://www.imdb.com/name/nm1466777/?ref_=fn_al_nm_1
2003 Qualified to work as a Union cameraman, attended all of the industry safety classes required by Contract Services Administration Trust Fund (CSATF)
IATSE Local 600, member # 12179
2013 Built and began to operate the GoCopter, multi-rotor aerial photography platform.

**UAV description and performance characteristics**

GoCopter dimensions
Diameter: 23 inches grounded, 31 inches flying
Height: 10 inches
Weight: 6 lbs.

The Airframe is a stock Flame wheel 550, manufactured by DJI Innovations. It consists of 6 brushless motors, 6 plastic props and 6 ESC (electronic speed controls). The flight controller is a Naza-M V1/V2 manufactured my DJI Innovations. The flight controller and ESCs are powered by a 3S LiPo 5000mA battery.

The transmitter and receiver are manufactured by JR/Spectrum utilizing DMS 2 Technology. DMS creates a unique bind between Tx and Rx on the 2.4ghz bandwidth. During the binding process, DuaLink ensures a secure RF link by scanning for two frequencies and locking them between the Tx and Rx.

Mission specific payload consists of a GoPro camera and stabilizing gimbal or multi-spectroscopic look down camera.

A 5.8ghz video transmitter outputs a reference video signal to a base station for framing and system monitoring purposes. Both components are powered by an additional 3S LiPo 1350mA battery.

**Pre-flight Operations**

Upon removal from the travel case, I attach the landing gear and camera gimbal. Pre-flight inspection includes; props are secure and undamaged, all fasteners are tight and wires are secure and undamaged. The camera gimbal, camera and two batteries are mounted and secured.

**Warm-up Procedure**

In order to establish Tx/Rx link, the Tx is powered up, followed by Rx and Fight controller. Solid light on Rx indicates successful RF link. During the flight controller's warm up sequence, a series of light cycles are observed to confirm the flight controller is operating properly. Blinking yellow light on flight controller indicates warm up. Rapid blinking green light indicates flight controller is warm. Blinking Red lights indicate the process of acquiring GPS lock. Blinking green lights indicate ready for flight. An interface via laptop is attached to the flight controller to check sensor parameters and conduct calibrations. Following successful calibrations, the camera gimbal and video transmitter are powered up and tested. After all systems are powered and calibrated, a motor test and low level hover is conducted to test weight and balance.

*A step-by-step checklist is present for every GoCopter flight and is included in this file.*

**Pre-flight discussion**

Film production - A discussion will occur involving the Director, Cinematographer, FSO and Assistant Director regarding the scripted shot. We will point out weather conditions, obstacles and safety procedures. A set of flight parameters regarding Altitude, speed of flight, length of flight, distance to be traveled and personnel required to be in the immediate vicinity will be determined. All this information will be announced during a companywide safety meeting.

Agriculture and Golf course survey – I will confirm with management I have permission to fly over their property. We will point out weather conditions, obstacles and safety procedures. A set of flight parameters regarding Altitude, speed of flight, length of flight, distance to be traveled and personnel required to be in the immediate vicinity will be determined.

**Flight**

Each flight will be conducted in a timely manner and conscious of any changing conditions.

# Exemptions to Rules

**§45.21 Nationality and Registration Marks: General**

I request an exception from displaying registration marks in lieu of not requiring an airworthiness certificate. As an alternative, I have affixed a label containing 'instructions if found' and 'contact information'. This will provide the most accurate and efficient means of contact in the event of a loss, property damage or bodily injury.

**§61.113 Private pilot privileges and limitations: Pilot in command.**

**Exemption:**

As a private pilot, I request the permission to receive compensation for providing a service to Film and Television production companies, the service being, to operate a UAV with the intent to capture video or still images. The advantage of using the GoCopter is to provide a low impact alternative to low altitude aerial photography. By accepting compensation for this service, I am able to maintain a professional level of availability and equipment maintenance resulting in a sustainable serves in a free market environment.

**§91.119 Minimum safe altitudes: General.**

**Exemption:**

I request permission to conduct low altitude UAV flights from 0 to 400 feet AGL. The majority of GoCopter flights take place between ground level and 100 feet, bridging the gap between Stedicam, dolly, crane and helicopter shots. The GoCopter, as a film making tool, is intended to position the camera higher than a human operator, lower than a helicopter and longer distance than a crane. The GoCopter is not designed nor intended to travel further than unassisted line of sight will allow. Maintaining a low altitude keeps me well out of active airspace, noise nuisance and on lookers.

**§91.121 Altimeter settings.**

**Exemption:**

The GoCopter is not equipped with a visual altimeter, therefore its altitude is determined by visual reference by maintaining constant line of sight during the flight. My altitude is determined by maintaining good visual clearance from participating building, man-made and natural objects and people. An addition feature built into the flight controller limits the radial distance from my established home base.

**§91.405 Maintenance required.**
**§91.407 Operation after maintenance, preventive maintenance, rebuilding, or alteration.**
**§91.409 Inspections.**
**§91.417 Maintenance records.**

**Exemptions:**

Due do the lack of qualified maintenance inspector for this type of airframe, I request exception from the required inspection, maintenance and recording by an independent inspector. I intend to personally maintain and service the GoCopter per manufacturer specification as detailed in the respective systems' manuals. This includes visual inspections, software updates and regular calibrations. I consider myself an authorized service person of the GoCopter due to the 25+ hours of research, building, testing and flying of the GoCopter system. The above stated maintenance will be conducted during every prep, pre-flight check and storage.

# Federal Registry Summary

**§45.21 Nationality and Registration Marks: General**

**Exemption:**

I request an exception from displaying registration marks in lieu of not requiring an airworthiness certificate.

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**§91.405 Maintenance required.**

**§91.407 Operation after maintenance, preventive maintenance, rebuilding, or alteration.**

**§91.409 Inspections.**

**§91.417 Maintenance records.**

**Exemptions:**

I intend to personally maintain and service the GoCopter per manufacturer specification as detailed in the respective systems' manuals.

# GoCopter Checklist

## Assembly

Secure landing gear
Secure Props
Secure camera gimbal
    Connect power cable
    Connect Aux cable
Install camera in gimbal
    Connect video cable
Check voltage on batteries: flight, accessory and monitor

## Power-up

Attach flight battery and volt meter
Attach accessory battery and volt meter
Attach monitor battery and volt meter
Power on transmitter
Connect flight battery
    Confirm power up is initiated
    Hold during warm up cycle
    Confirm Tx/Rx link
    Confirm Flight controller is ready
Conduct compass calibration
Conduct parameter calibration
Conduct voltage calibration
Confirm GPS lock
Power up camera
    Confirm settings
Connect accessory battery
    Hold for self-calibration
Power up monitor
    Confirm solid image

## Flight

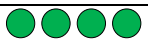
Begin camera record
Start motors
Take-off
Adjust throttle to hover
    Release control sticks and confirm steady hoover and position hold

## Landing

Cut camera
Disconnect flight battery
Power down Transmitter
Disconnect accessory battery
Power down monitor
Confirm all batteries are at or above nominal voltage

## Break down

Remove batteries
Remove camera
Remove gimbal
Remove landing gear

| **System status** | | |
|---|---|---|
| System start and self-check… | | |
| Warm-up cycle | |  |
| Warm up complete | |  |
| Acquiring GPS lock | *< 5 satellites* |  |
| | *= 5 satellites* |  |
| | *= 6 satellites* |  |
| GPS lock | *> 6 satellites* |  |
| ready for flight | |  |
| | | |
| **Errors** | | |
| Compass error | |  |
| Mid-point error | |  |
| Calibration error | | |

I. UNITED STATES OF AMERICA XI

DEPARTMENT OF TRANSPORTATION — FEDERAL AVIATION ADMINISTRATION

THIS CERTIFIES THAT: IV. MARC PAUL WIERCIOCH
V. 10420 FAIRGROVE AYE
TUJUNGA CA 91042

| DATE OF BIRTH | HEIGHT | WEIGHT | HAIR | EYES | SEX | NATIONALITY VI. |
|---|---|---|---|---|---|---|
| | 70 IN | 165 | BROWN | BROWN | M | USA |

IX. HAS BEEN FOUND TO BE PROPERLY QUALIFIED TO EXERCISE THE PRIVILEGES OF
II. PRIVATE PILOT III. CERT. NO.

RATINGS AND LIMITATIONS

XII. AIRPLANE SINGLE ENGINE LAND<

XIII.

VII. Marc Wiercioch
SIGNATURE OF HOLDER

X. DATE OF ISSUE 06-28-92 VIII.

XIV. Julian C. Howard
ADMINISTRATOR

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UNITED STATES OF AMERICA
**Department of Transportation**
Federal Aviation Administration

## MEDICAL CERTIFICATE SECOND CLASS

**This certifies that** ***(Full name and address):***

MARC WIERCIOCH
27326 Belmont Ct
Valencia CA 91354 USA

| Date of Birth | Height | Weight | Hair | Eyes | Sex |
|---|---|---|---|---|---|
| | 73 | 203 | BROWN | BROWN | M |

has met the medical standards prescribed in part 67, Federal Aviation Regulations, for this class of Medical Certificate.

**Limitations:** None

| Date of Examination | Examiner's Designation No. |
|---|---|
| 12/03/2014 | 09521 |

**Examiner**
Signature: Edward Shore MD
Typed Name: EDWARD G SHORE , MD

**AIRMAN'S SIGNATURE**

Applicant ID: 1998091195 Control No.: 200006706040

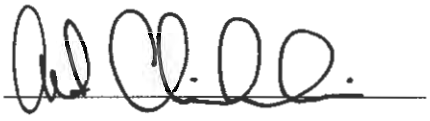
**FAA Form 8500-9** (9-08) Supersedes Previous Edition NSN: 0052-00-670-7002

To whom it may concern,

I am writing to vouch for Marc Wiercioch's general experience as a remote control pilot. I have personally flown helicopters, gliders and powered airplanes with Marc for over 20 years. More recently, I was witness to the successful build, test and operation of his multi-rotor in June of 2013.

I have been a flight instructor and commercial pilot for over 15 years and compete as an amateur in RC skills competition and am a member of AMA (American Model Association).

Arthur Chmielewski



Marc Wiercioch
**Fictioncorp**
www.Fictioncorp.com
www.GoCopter.net
marc.camera@gmail.com

# CFRs

**§45.23 Display of marks; general.**

(a) Each operator of an aircraft must display on that aircraft marks consisting of the Roman capital letter "N" (denoting United States registration) followed by the registration number of the aircraft. Each suffix letter used in the marks displayed must also be a Roman capital letter.

(b) When marks include only the Roman capital letter "N" and the registration number is displayed on limited, restricted or light-sport category aircraft or experimental or provisionally certificated aircraft, the operator must also display on that aircraft near each entrance to the cabin, cockpit, or pilot station, in letters not less than 2 inches nor more than 6 inches high, the words "limited," "restricted," "light-sport," "experimental," or "provisional," as applicable.

**§61.113 Private pilot privileges and limitations: Pilot in command.**

*(a) Except as provided in paragraphs (b) through (h) of this section, no person who holds a private pilot certificate may act as pilot in command of an aircraft that is carrying passengers or property for compensation or hire; nor may that person, for compensation or hire, act as pilot in command of an aircraft.*

*(b) A private pilot may, for compensation or hire, act as pilot in command of an aircraft in connection with any business or employment if:*

*(1) The flight is only incidental to that business or employment; and*

*(2) The aircraft does not carry passengers or property for compensation or hire.*

**§91.119 Minimum safe altitudes: General.**

*Except when necessary for takeoff or landing, no person may operate an aircraft below the following altitudes:*

*(a) Anywhere. An altitude allowing, if a power unit fails, an emergency landing without undue hazard to persons or property on the surface.*

*(b) Over congested areas. Over any congested area of a city, town, or settlement, or over any open air assembly of persons, an altitude of 1,000 feet above the highest obstacle within a horizontal radius of 2,000 feet of the aircraft.*

*(c) Over other than congested areas. An altitude of 500 feet above the surface, except over open water or sparsely populated areas. In those cases, the aircraft may not be operated closer than 500 feet to any person, vessel, vehicle, or structure.*

*(d) Helicopters, powered parachutes, and weight-shift-control aircraft. If the operation is conducted without hazard to persons or property on the surface—*

*(1) A helicopter may be operated at less than the minimums prescribed in paragraph (b) or (c) of this section, provided each person operating the helicopter complies with any routes or altitudes specifically prescribed for helicopters by the FAA; and*

*(2) A powered parachute or weight-shift-control aircraft may be operated at less than the minimums prescribed in paragraph (c) of this section.*

**§91.121 Altimeter settings.**

*(a) Each person operating an aircraft shall maintain the cruising altitude or flight level of that aircraft, as the case may be, by reference to an altimeter that is set, when operating—*

*(1) Below 18,000 feet MSL, to—*

*(i) The current reported altimeter setting of a station along the route and within 100 nautical miles of the aircraft;*

*(ii) If there is no station within the area prescribed in paragraph (a)(1)(i) of this section, the current reported altimeter setting of an appropriate available station; or*

*(iii) In the case of an aircraft not equipped with a radio, the elevation of the departure airport or an appropriate altimeter setting available before departure; or*

*(2) At or above 18,000 feet MSL, to 29.92″ Hg.*

*(b) The lowest usable flight level is determined by the atmospheric pressure in the area of operation as shown in the following table:*

| ***Current altimeter setting*** | ***Lowest usable flight level*** |
|---|---|
| *29.92 (or higher)* | *180* |
| *29.91 through 29.42* | *185* |
| *29.41 through 28.92* | *190* |
| *28.91 through 28.42* | *195* |
| *28.41 through 27.92* | *200* |
| *27.91 through 27.42* | *205* |

| | |
|---|---|
| *27.41 through 26.92* | *210* |

*(c) To convert minimum altitude prescribed under §§91.119 and 91.177 to the minimum flight level, the pilot shall take the flight level equivalent of the minimum altitude in feet and add the appropriate number of feet specified below, according to the current reported altimeter setting:*

| ***Current altimeter setting*** | ***Adjustment factor*** |
|---|---|
| *29.92 (or higher)* | *None* |
| *29.91 through 29.42* | *500* |
| *29.41 through 28.92* | *1,000* |
| *28.91 through 28.42* | *1,500* |
| *28.41 through 27.92* | *2,000* |
| *27.91 through 27.42* | *2,500* |
| *27.41 through 26.92* | |

## §91.405 Maintenance required.

*Each owner or operator of an aircraft—*

*Shall have that aircraft inspected as prescribed in subpart E of this part and shall between required inspections, except as provided in paragraph (c) of this section, have discrepancies repaired as prescribed in part 43 of this chapter;*

## §91.407 Operation after maintenance, preventive maintenance, rebuilding, or alteration.

*(a) No person may operate any aircraft that has undergone maintenance, preventive maintenance, rebuilding, or alteration unless—*

*(1) It has been approved for return to service by a person authorized under §43.7 of this chapter; and*

## §91.409 Inspections.

*(a) Except as provided in paragraph (c) of this section, no person may operate an aircraft unless, within the preceding 12 calendar months, it has had—*

*(1) An annual inspection in accordance with part 43 of this chapter and has been approved for return to service by a person authorized by §43.7 of this chapter; or*

*(2) An inspection for the issuance of an airworthiness certificate in accordance with part 21 of this chapter.*

*No inspection performed under paragraph (b) of this section may be substituted for any inspection required by this paragraph unless it is performed by a person authorized to perform annual inspections and is entered as an "annual" inspection in the required maintenance records.*

## §91.417 Maintenance records.

*(a) Except for work performed in accordance with §§91.411 and 91.413, each registered owner or operator shall keep the following records for the periods specified in paragraph (b) of this section:*

*(1) Records of the maintenance, preventive maintenance, and alteration and records of the 100-hour, annual, progressive, and other required or approved inspections, as appropriate, for each aircraft (including the airframe) and each engine, propeller, rotor, and appliance of an aircraft. The records must include—*

*(i) A description (or reference to data acceptable to the Administrator) of the work performed; and*

*(ii) The date of completion of the work performed; and*

*(iii) The signature, and certificate number of the person approving the aircraft for return to service.*

*(2) Records containing the following information:*

*(i) The total time in service of the airframe, each engine, each propeller, and each rotor.*

*(ii) The current status of life-limited parts of each airframe, engine, propeller, rotor, and appliance.*

*(iii) The time since last overhaul of all items installed on the aircraft which are required to be overhauled on a specified time basis.*

*(iv) The current inspection status of the aircraft, including the time since the last inspection required by the inspection program under which the aircraft and its appliances are maintained.*

*(v) The current status of applicable airworthiness directives (AD) and safety directives including, for each, the method of compliance, the AD or safety directive number and revision date. If the AD or safety directive involves recurring action, the time and date when the next action is required.*

*(vi) Copies of the forms prescribed by §43.9(d) of this chapter for each major alteration to the airframe and currently installed engines, rotors, propellers, and appliances.*

*(b) The owner or operator shall retain the following records for the periods prescribed:*

*(1) The records specified in paragraph (a)(1) of this section shall be retained until the work is repeated or superseded by other work or for 1 year after the work is performed.*

*(2) The records specified in paragraph (a)(2) of this section shall be retained and transferred with the aircraft at the time the aircraft is sold.*

*(3) A list of defects furnished to a registered owner or operator under §43.11 of this chapter shall be retained until the defects are repaired and the aircraft is approved for return to service.*

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# Marc Wiercioch, Fictioncorp - Additional Information

This Other document was issued by the **Federal Aviation Administration** (FAA)

For related information, **Open Docket Folder**

Comment Now!

**ID:** FAA-2015-0587-0004

## Content

In response to a letter dated June 26,2015 No.FAA-2015-0587

bullet point 1 and 4 have been addressed in the previously attached pdf.

In the Public Interest

Three characteristics of the GoCopter (UAV) system that represent the most important aspects of public interest are weight, payload and pollution.
Given the small size of the GoCopter, it can be categorized as a hobby aircraft or toy. Its gross flight weight of 6lbs. and relative slow speeds puts its potential property damage in the realm of a baseball or golf ball. The difference being that the GoCopter is under an experienced pilots control.
The strongest aspect regarding public interest and safety is the payload of the GoCopter. There is no pilot or passenger on board, greatly reducing the loss of life in case of an accident.
The GoCopter is also lacking any type of flammable fuel that can result in a fire or exposure to hazardous materials.
The environmental impact of the GoCopter is very significant, considering it does not use any fossil fuels for power or lubrication. Its power source is a Lipo battery that is rechargeable. Lipo batteries can be neutralized and chemically altered to a type of hydrate salt for environmentally safe disposal.

Exemptions to Rules

45.21 Nationality and Registration Marks: General
I request an exception from displaying registration marks in lieu of not requiring an airworthiness certificate.
Equal Level of Safety:
As an alternative, I have affixed a label containing instructions if found and contact information. This will provide the most accurate and efficient means of contact in the event of a loss, property damage or bodily injury.

## Document Information

**Date Posted:**
Jul 15, 2015

Show More Details

## Submitter Information

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## Comments

0
Comments Received *

## Docket Information

*This document is contained in*
FAA-2015-0587

**Related Dockets:**
None

**Related RINs:**
None

**Related Documents:**

61.113 Private pilot privileges and limitations: Pilot in command.
Exemption:
As a private pilot, I request the permission to receive compensation for providing a service to Film and Television production companies, the service being, to operate a UAV with the intent to capture video or still images. The advantage of using the GoCopter is to provide a low impact alternative to low altitude aerial photography. By accepting compensation for this service, I am able to maintain a professional level of availability and equipment maintenance resulting in a sustainable serves in a free market environment.
Equal Level of Safety:
As Pilot in Command, I would have the authority and financial tools to take any and all precautions to insure the safe operations of the GoCopter

91.119 Minimum safe altitudes: General.
Exemption:
I request permission to conduct low altitude UAV flights from 0 to 400 feet AGL. The majority of GoCopter flights take place between ground level and 100 feet, bridging the gap between Stedicam, dolly, crane and helicopter shots. The GoCopter, as a film making tool, is intended to position the camera higher than a human operator, lower than a helicopter and longer distance than a crane. The GoCopter is not designed nor intended to travel further than unassisted line of sight will allow.
Equal Level of Safety:
Maintaining a low altitude keeps the GoCopter well out of active airspace, noise nuisance and obstacles. It will also reduce the time to conduct an emergency landing.

91.121 Altimeter settings.
Exemption:
The GoCopter is not equipped with a visual altimeter; therefore its altitude is determined by visual reference by maintaining constant line of sight during the flight. My altitude is determined by maintaining good visual clearance from participating buildings, man-made and natural objects and people.
Equal Level of Safety:
An addition feature built into the flight controller limits the radial distance from my established home base including distance and altitude.

91.405 Maintenance required.
91.407 Operation after maintenance, preventive maintenance, rebuilding, or alteration.
91.409 Inspections.
91.417 Maintenance records.
Exemptions:
Due do the lack of qualified maintenance inspector for this type of airframe, I request exception from the required inspection, maintenance and recording by an independent inspector. I intend to personally maintain and service the GoCopter per manufacturer specification as detailed in the respective systems manuals. This includes visual inspections, software updates and regular calibrations. I consider myself an authorized service

- Marc Wiercioch - Exemption/Rulemkaking
- U.S. DOT/FAA - Request for Additional Information
- Marc Wiercioch, Fictioncorp - Petition for Exemption

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person of the GoCopter due to the 25+ hours of research, building, testing and flying of the GoCopter system. The above stated maintenance will be conducted during every prep, pre-flight check and storage.

Equal Level of Safety:

My level of maintenance is equal or greater to the manufacturers level of compliance by following the manufacturers printed instructions and procedures. In addition to my check list, the flight controller has built in safe guards and indicators to help keep the GoCopter system in good airworthiness condition.