

# Safety Guidelines for Unmanned Aircraft

2015.8.04

Japan UAS Industrial Development Association (JUIDA)

Unmanned aircraft are used in the form of hobbies, and also they have great appeal and potential in what is called the advent of the “Industrial Revolution of the Sky”, because they will be able to contribute to a wide range of commercial uses such as ground observation and aerial photography. On the other hand, it is necessary to prevent accidents and trouble for other persons in order to promote their sound development. Accordingly, regulations concerning flight ban areas and nuisance prevention have been set. Experience tells us about rules to be followed to prevent accidents, in addition to regulations.

This pamphlet, as a guideline, gives clear and detailed explanations concerning regulations to be observed and important matters in relation to flying unmanned aircraft safely. It is recommended that you read and check them to prevent accidents before flying aircraft.

※ It is recommended that you read and check the guidelines issued by manufacturers and related organizations in addition to this pamphlet.

[Organization of these guidelines]

These guidelines are composed of two parts, “General guidelines” and “Special guidelines”, depending on whether the permission and approval by the Minister of Land, Infrastructure and Transportation is required.

Also, the content of these guidelines may be modified or changed depending on changes to regulations and advances in technology.



\*\* Laws and regulations concerning flight bans for small-sized unmanned aircraft over the Diet and the office of the Prime Minister and other important national facilities, foreign delegations and nuclear power generation facilities.

## 1. General guidelines



※ Laws and regulations concerning flight bans for small-sized unmanned aircraft over the Diet and the office of the Prime Minister and other important national facilities, foreign delegations and nuclear power generation facilities.

2

### 1-1 Allowed flight zone/altitude and way to fly

A. Observe the Aviation Law (Draft revision as of July 14, 2015) and fly within the following ranges.

- (1) You are not allowed to fly in or around airports ((B) in Figure 1) or to fly at an altitude higher than that ((A) in Figure 1) established by the ministerial order of the Ministry of Land, Infrastructure, Transport and Tourism. (Article 132 of the amended law)
- (2) You are not allowed to fly over “Dense zones of people and houses” as established by the ministerial order of the Ministry of Land, Infrastructure, Transport and Tourism. (Article 132 of the amended law)

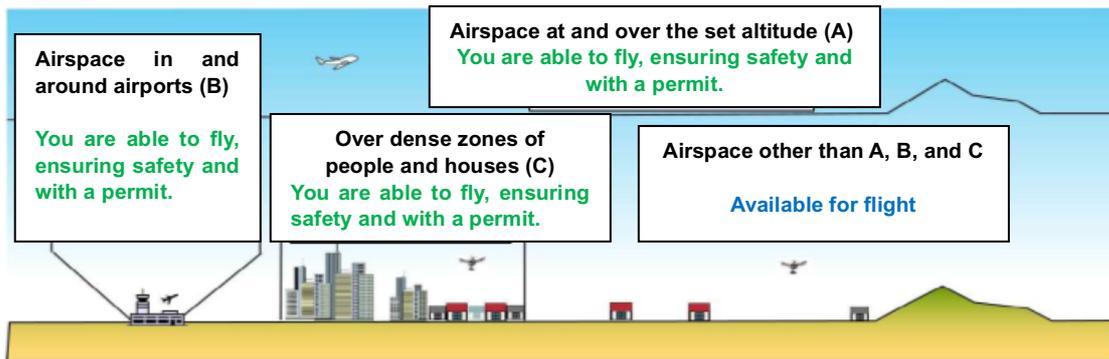


Figure 1 Flight ban zone

(From the “Outline of the draft for the partial revision of the aviation law” issued by the Civil Aviation Bureau of the Ministry of Land, Infrastructure, Transport and Tourism)

- (3) Flights are allowed during daytime only. (From sunrise to sundown) (Article 132 - 2-1 of the amended law)
- (4) Flights are only allowed where the operator is able to visually check the airframe safety continuously. (Article 132 - 2-2 of the amended law)
- (5) You are not allowed to fly over gathering sites where events such as festivals, community events, or fairs are going on. (Article 132- 2-4 of the amended law)

B. You are not able to fly in flight ban areas as provided by regulations and ordinances.

- (1) In and around important government facilities such as the office of the Prime Minister and the Diet (The law concerning flight bans for small-sized unmanned aircraft over, in and around the Diet and the office of the Prime Minister and other important facilities, and foreign delegations)
- (2) Areas set aside by local government ordinances such as parks (In the case of the Tokyo Metropolitan Government, flight in parks is banned by Article 16 of the Tokyo Metropolitan Government-run park regulation. Many other similar flight bans are found in Kobe City, Osaka City, Ibaraki Prefecture, Tochigi Prefecture, Gifu Prefecture, Nagano Prefecture and so on. You need to check region by region.

C. You must obtain permission from the owners of the land and/or facilities when you fly in the following areas.

- (1) Over land owned by somebody else (Article 207 of the Civil Code)
- (2) Over public roads (Article 77 of the Road Traffic Act)
- (3) Over dry riverbeds (To use the river bed, it is necessary to get permission from the river administrator, such as the Ministry of Land, Infrastructure, Transport and Tourism.)
- (4) In and around railways, harbor facilities, power transmission lines and pipelines

## 1-2 Operation

A. Prior to flight, check the following items and make sure it is safe to fly.

- (1) Make sure the airframe system including flight controls works properly and is ready to fly.
- (2) Check that the weather conditions in the flying area fit the conditions provided by the operation manual issued by the manufacturer.
- (3) Check other conditions in and around the flight area (Distance from people, presence of other flying objects and radio use conditions), and make sure all conditions are ready to fly safely.
- (4) Make sure the power source (battery) has sufficient margin for the scheduled flight time. Regarding the handling of the battery, pay due attention to charging it with a dedicated charger/discharger, not exceeding the life and not reusing crashed batteries.

B. According to the Civil Aeronautics Act (Draft revision as of July 14, 2015), observe the following.

- (1) During the flight do not fail to visually ensure a safe flight (Article 132 - 2-2 of the amended law). Also post a watch, if necessary, in order to secure safety on the ground.
- (2) Keep an appropriate distance as provided by the ministry ordinance of the Ministry of Land, Infrastructure, Transport and Tourism between the unmanned aircraft and persons and objects on the ground. (Article 132 - 2-3 of the amended law)
- (3) You are not allowed to transport hazardous materials as mandated by the ministry ordinance of the Ministry of Land, Infrastructure, Transport and Tourism (Article 132 - 2-5 of the amended law)
- (4) It is banned to drop objects from the unmanned aircraft (Article 132 - 2-6 of the amended law). Also, prior to the flight, make sure the on-board equipment and the battery are firmly fixed so as not to drop during the flight.

C. Prior to the flight, be aware of actions to take in case of emergencies such as failure, and take proper actions in such cases.

D. Do not operate under conditions where you are not able to pay due attention and concentrate on operation due to fatigue. Do not operate under the influence of alcohol.

E. You are not allowed to operate inside a running vehicle.

F. Buy insurance for public liability and property damage to provide for contingencies

G. In principle, it is necessary to get the permission from persons concerned to capture an image concerning other person's privacy. In the case of publicity, appropriate measures are to be taken with reference to the following.

[http://www.soumu.go.jp/menu\\_kyotsuu/important/kinkyu02\\_000189.html](http://www.soumu.go.jp/menu_kyotsuu/important/kinkyu02_000189.html)

## 1-3 Airframe and system

A. Use a safe airframe and system. Use an airframe with operation manuals and maintenance

manuals concerning the airframe and the system provided by the manufacturer.

- B. Only use wireless equipment which is indicated to conform with technical standards which has a seal of approved, or conforms to other laws and regulations. (Article 4 of the Radio Act)
- C. Do not use a modified airframe without permission of the manufacturer.
- D. In the case of unforeseen failure and poor performance, do not use it when it is recovered. Contact the manufacturer and take appropriate action accordingly.

#### 1-4 Accident reports

- A. In the case of bodily injury and property damage, promptly report the case to the police and authorities concerned as provided by regulations.

#### 1-5 Management

- A. Constantly check and maintain the airframe and the system. Carry out checks and maintenance according to the manual issued by the manufacturer. Do not use the airframe and parts which exceed the life provided by the manual.
- B. In the case of theft and loss, promptly report the case to the police and authorities concerned as provided by the regulations.
- C. Be sure to collect the dropped airframe without leaving it.
- D. Dispose of the used airframe to prevent reuse. In the case of disposal, observe regulations concerning the cleaning and disposal of waste.

## **2. Special Guidelines**

Regarding flights in airspace where permission is required by article 132 of the amended Aviation Law or for flights which require permits under article 132 - 2 of the amended law (Flights outside visual range and night flights), regulations are to be provided sequentially by means of revisions to the Aviation Law. Prior to the provision of these regulations, it is necessary to meet the following conditions in addition to general guidelines in order to ensure safety. However, when the regulations concerned are to be established in the future, it is necessary to observe the new regulations.

**Convention on International Civil Aviation  
(Chicago Convention)**

Private Information Protection Law   Civil Code   Aviation Law   Unmanned Aircraft Regulation<sup>※</sup>   Road Traffic Act   Radio Act

## JUADA Guidelines

### 1. General Guidelines

- 1-1 Flight at altitude of 150 meters or less in safe areas during daytime within visual range outside of the no-fly zone
- 1-2 Safe operation      1-3 Safe airframe
- 1-4 Accident reports    1-5 Safe maintenance of airframes

### 2. Special guidelines

- 2-1 Operator's license
- 2-2 Getting the prior permit/approval for the flight plan/area
- 2-3 Having insurance
- 2-4 Business registration
- 2-5 Airframe registration/airframe production serial number

Manuals  
for Manufacturers

Manuals  
for Users

Manuals  
for Tests and Trainings

<sup>※</sup> Laws and regulations concerning flight bans for small-sized unmanned aircraft over the Diet and the office of the Prime Minister and other important national facilities, foreign delegations and nuclear power generation facilities.

3

## 2-1 Operators

- A. Operators must have adequate skills and knowledge about aviation. Once the license system is established, operators have to pass the provided examinations and obtain a license. When flying the unmanned aircraft, the operator has to carry the license.
- B. The license has to be renewed regularly according to the licensing system.

## 2-2 Flight Plans

- A. Prior to the flight you have to check the airframe safety and obtain advance permission for the flight area, the flight time and the route. In this case, you have to make the flight plan taking into account risks such as crackup and crash.
- B. You have to carry out a risk assessment for other aircraft and people and objects on the ground and water. You have to ensure safety by taking actions to reduce such risks, if necessary.
- C. In the case where permission/approval is required from the Minister of Land, Infrastructure, Transport and Tourism, you have to apply for and obtain such according to the prescribed form of the Civil Aviation Bureau of the Ministry of Land, Infrastructure, Transport and Tourism.
- D. You have to record the flight and keep it.

### 2-3 Having insurance

- A. Operators and business operators have to buy insurance for public liability and property damage to provide for contingencies.

### 2-4 Business operators

- A. Business operators that carry out flights under the special guideline have to set up safety management systems. When a business registration system is set up in the future, they have to register their business accordingly.
- B. Business operators have to voluntarily carry out operation and maintenance concerning safety such as for operators, airframes and systems according to prepared safety administration systems.

### 2-5 Airframe and system

- A. You have to use an airframe where safety has been prospectively validated and under operational conditions clearly provided by the manufacturer or the dealer.
- B. You have to use an airframe having a model name and serial number provided by the manufacturer or the dealer.
- C. Once a production registration system and sales registration system are provided, you need to register such.
- D. You have to use an airframe with manuals concerning safe operation and maintenance provided by the manufacturer or the dealer.

Note) Regarding the operator's license, business registration, production registration and sales registration, we will work on together with the government to prepare these as soon as possible, taking into account international movements. However, for the time being, the JUIDA plans to prepare voluntary measures.