# FAI Sporting Code

## Section 2 – Aeroplanes

CLASS C - Aeroplanes
CLASS H - Jetlift Aeroplanes
CLASS M - Tilt-Wing /
Tilt Engine Aeroplanes

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**NOTE:** The General Section and Section 2 combined make up the Complete Sporting Code for : Aeroplanes, Jetlift Aeroplanes and Tilt-Wing/Tilt-Engine Aeroplanes.

# 3rd CHAPTER: GENERAL RULES

## 3.1 CLASSIFICATION OF RECORDS

3.1.1 Classes

Aeroplane records (with the exception of Absolute World Records) shall be classified in one of the following classes:

Class C Aeroplanes

Class H Vertical Takeoff and Landing (VTOL)

Class M Tilt-Wing/Tilt Engine

3.1.2 Class C Records

Class C records (with the exception of Absolute World Records) shall further be classified as one of the following:

C-1 Landplanes

C-2 Seaplanes

C-3 Amphibians

3.1.3 Weight Classification

Aeroplane records (with the exception of Absolute World Records and Speed Over a Commercial Airline Route records) shall be further classified by weight as follows:

| | | | | |
|---|---|---|---|---|
| a/o | weight | | less than | 300 kg |
| a | weight | 300 kg | to less than | 500 kg |
| b | weight | 500 kg | to less than | 1,000 kg |
| c | weight | 1,000 kg | to less than | 1,750 kg |
| d | weight | 1,750 kg | to less than | 3,000 kg |
| e | weight | 3,000 kg | to less than | 6,000 kg |
| f | weight | 6,000 kg | to less than | 9,000 kg |
| g | weight | 9,000 kg | to less than | 12,000 kg |
| h | weight | 12,000 kg | to less than | 16,000 kg |
| i | weight | 16,000 kg | to less than | 20,000 kg |
| j | weight | 20,000 kg | to less than | 25,000 kg |
| k | weight | 25,000 kg | to less than | 35,000 kg |
| l | weight | 35,000 kg | to less than | 45,000 kg |
| m | weight | 45,000 kg | to less than | 60,000 kg |
| n | weight | 60,000 kg | to less than | 80,000 kg |
| o | weight | 80,000 kg | to less than | 100,000 kg |
| p | weight | 100,000 kg | to less than | 150,000 kg |
| q | weight | 150,000 kg | to less than | 200,000 kg |
| r | weight | 200,000 kg | to less than | 250,000 kg |
| s | weight | 250,000 kg | to less than | 300,000 kg |
| t | weight | 300,000 kg | to less than | 400,000 kg |
| u | weight | 400,000 kg | to less than | 500,000 kg |
| v | weight | 500,000 kg | and greater | |

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3.1.4 Means of propulsion

3.1.4.1 Aeroplane records (with the exception of Absolute World Records and Speed Over a Commercial Airline Route records) shall be further classified according to the type of powerplant, as follows:

3.1.6 Payload Schedule

The following minimum payload weights shall be carried during the flight performance for record tasks with payloads:

1,000 kg
2,000 kg
5,000 kg
10,000 kg
15,000 kg
20,000 kg
25,000 kg
30,000 kg
35,000 kg
40,000 kg
45,000 kg
50,000 kg
60,000 kg
70,000 kg
80,000 kg
90,000 kg
100,000 kg
120,000 kg
140,000 kg
160,000 kg
180,000 kg
200,000 kg
then by increments of 25,000 kg

3.1.7 Improvement in Record Performances

3.1.7.1 To be approved as a World record, the new performance must exceed the current record by the following amounts:

| | |
|---|---|
| Altitude | 3% or 300 meters, whichever is less |
| Distance | 1% or 100 kilometers, whichever is less |
| Efficiency | 3% |
| Greatest Payload | 1% or 500 kilograms, whichever is less |
| Speed | 1% |
| Time to Climb | 3% |

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3.1.7.2 A World record established for Altitude with Payload, Speed Over a Closed Course with Payload, or Time to Climb with Payload will also be awarded the same record with an inferior payload (or no payload), subject to the improvement requirements above.

3.1.8 Accuracy of Measurement Requirements

The accuracy of measurements used to validate a flight performance must meet the following requirements:

| | |
|---|---|
| Altitude and Height | ±1% |
| Distance | ±0.02% |
| Time | ±0.1% |
| Mass | ±1% |

3.1.9 Registration of Flight Performances

Flight performances shall be registered in the following units:

| | |
|---|---|
| Altitude | meters (m) |
| Distance | kilometers (km) |
| Efficiency | kilometers per kilogram (km/kg) |
| Greatest Payload | kilograms (kg) |
| Speed | kilometers per hour (km/h) |
| Time to Climb | minutes, seconds (m, s) |

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3.1.10 Calculation of Distances

For the purpose of the calculation of distances, the WGS84 earth model shall be used.

3.1.11 Vertical Take-off and Landing Aeroplanes (VTOL)

The take-off before and the landing following a flight performance for a record task performed in Class H (Vertical Take-off and Landing Aeroplane) shall be made vertically. Transition to and from horizontal flight shall be made no lower than 10 meters above the surface.

3.1.12 Tilt Wing/Tilt Engine Aeroplanes

The take-off before and the landing following a flight performance for a record task performed in Class M (Tilt Wing/Tilt Engine Aeroplane) shall be made vertically. Transition to and from horizontal flight shall be made no lower than 10 meters above the surface.

3.1.13 Measuring Equipment

3.1.13.1 The FAI General Aviation Commission will, from time to time, authorize new measuring equipment or procedures, the details of which shall be set out in an Annex to this Section.

3.1.13.2 Unless determined otherwise by the FAI General Aviation Commission, a flight recorder approved by the FAI Gliding Commission for use in gliding world record attempts may also be used in aeroplane record attempts, subject to conformity with the corresponding provision of FAI Sporting Code Section 3 and its Annexes and the accuracy of measurement requirements of this Section.

3.1.14 Control of Fuel Systems

Where the record task does not permit refueling, the aircraft fuel tanks shall be sealed before takeoff by the Official Observer controlling the event. If an aircraft is equipped for in-flight refueling, but in-flight refueling is not to be accomplished during the record attempt, the air refueling equipment shall be similarly sealed.

3.1.15 Powerplant Requirements

The aeroplane powerplant shall be capable of being started, shut down, and monitored throughout the flight.

3.1.16 Uncompleted Flights

A record shall not be awarded to any uncompleted flight.

4.6.11 Speed Over a Recognized Course

4.6.11.1 The objective of this record task is to achieve the greatest speed between any two cities or geographical features.

4.6.11.2 The minimum course length shall be 400 kilometers.

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4.6.11.3 The course shall be measured from the start point to the finish point.

4.6.11.4 The start point and finish point shall be situated within 60 km of the center of the city. However, the distance between the start point and finish point shall not be less than 98% of the distance between the city centers.

4.6.11.5 When geographical features are used, the start and finish points shall be situated at the specific feature.

4.6.11.6 The flight performance begins at takeoff or crossing a start point and ends with landing or crossing a finish point.

4.6.11.7 The flight crew shall not be changed during the flight performance.

4.6.11.8 Repairs or replacements of aeroplane components are permitted except that engine(s), wings, and the fuselage shall not be changed.

4.6.11.9 The achieved speed shall be determined by dividing the distance of the course by the elapsed time.

4.6.11.10 The achieved speed shall not be less than the minimum steady flight speed of the aeroplane (stall speed with flaps up/Vs). If the minimum steady flight speed is not known, the achieved speed shall be greater than 100 kmh.

4.6.12 Speed Over a Recognized Course, Roundtrip

4.6.12.1 The objective of this record task is to achieve the greatest speed, roundtrip, between any two cities or geographical features.

4.6.12.2 The minimum course length shall be 400 kilometers.

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4.6.12.3 The course shall be an out and return course.

4.6.12.4 The course shall be measured from the start point to the intermediate control point to finish point.

4.6.12.5 The start/finish point and intermediate point shall be situated within 60 km of the city center. However, the distance between the start/finish point and intermediate control point shall not be less than 98% of the distance between the city centers.

4.6.12.6 When geographical features are used the start/finish point and the intermediate control point shall be situated at the specific feature.

4.6.12.7 The flight performance begins at takeoff or crossing a start point and ends with landing or crossing a finish point.

4.6.12.8 The flight crew shall not be changed during the flight performance.

4.6.12.9 Repairs or replacements of aeroplane components are permitted except that engine(s), wings, and the fuselage shall not be changed.

4.6.12.10 The achieved speed shall be determined by dividing the distance of the course by the elapsed time.

4.6.12.11 Any time spent on the ground shall count as flying time.

## Annex 2
## CERTIFICATES REQUIRED FOR RECORDS

| Records | Record Claim Statement | Form 1 | Form 2 | Form 3 | Form 4 | Form 5 | Form 6 | Form 7 | Form 8 | Form 9 | Form 10 | Form 11 | Form 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Altitude | X | X | | X | | | | X | X | X | X | | If appropriate |
| Altitude with Payload | X | X | | X | | | | X | X | X | X | | If appropriate |
| Altitude in Horizontal Flight | X | X | | X | | | | X | X | X | X | | If appropriate |
| Altitude Gain, Aeroplane Launched from a Carrier Aircraft | X | X | | X | | | | X | X | X | X | | If appropriate |
| Distance | X | X | X | X | X | | X | X | | X | X | X | If appropriate |
| Distance Over a Closed Course | X | X | X | X | X | | X | X | | X | X | X | If appropriate |
| Aeroplane Efficiency | X | X | X | X | X | | X | X | | X | X | X | If appropriate |
| Greatest Payload | X | X | | X | | | | X | X | X | X | | If appropriate |
| Speed Over a 3 km Course | X | X | X | X | X | | X | X | | X | X | | If appropriate |
| Speed Over a 15 km Course | X | X | X | X | X | | X | X | | X | X | | If appropriate |
| Speed Over a Closed Course | X | X | X | X | X | | X | X | | X | X | X | If appropriate |
| Speed Over a Closed Course with Payload | X | X | X | X | X | | X | X | | X | X | X | If appropriate |
| Speed Around the World | X | X | X | X | X | X | X | X | | | X | X | If appropriate |
| Speed Over a Commercial Airline Route | X | X | | X | | | | X | | | | | If appropriate |
| Speed Over a Recognised Course | X | X or X | | X | If appropriate | | X or X | | | | X | | If appropriate |
| Time to Climb | X | X | X | | | | X | X | X | X | X | X | If appropriate |
| Time to Climb with Payload | X | X | X | | | | X | X | X | X | X | X | If appropriate |

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|---|---|---|---|---|---|
| Time to Climb | X | X | | X | |
| Time to Climb with Payload | X | X | | X | |