FAI Sporting Code

Fédération Aéronautique Internationale

Section 2 – Aeroplanes

CLASS C - Aeroplanes
CLASS H - Jetlift Aeroplanes

January 2014 Edition
Effective 1st January 2014

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The General Section and Section 2 combined make up the Complete Sporting Code for : Aeroplanes and Jetlift Aeroplanes

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11 FAI Statutes, Chapter 1, para. 1.6

2 FAI Sporting Code, General Section, Chapter 3, para 3.1.3.

3 FAI Statutes, Chapter 1, para 1.8.1

4 FAI Statutes, Chapter 2, para 2.1.1; 2.4.2 ; 2.5.2 and 2.7.2

5 FAI Bylaws, Chapter 1, para 1.2.1

6 FAI Statutes, Chapter 2, para 2.4.2.2.5,

7 FAI Bylaws, Chapter 1, para 1.2.3

8 FAI Statutes, Chapter 5, para 5.1.1; 5.5 and 5.6

9 FAI Sporting Code, General Section, Chapter 3, para 3.1.7

10 FAI Sporting Code, General Section, Chapter 1, paras 1.2. and 1.4

11 FAI Statutes, Chapter 5, para 5.6.3

12 FAI Bylaws, Chapter 1, para 1.2.2

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SPORTING CODE SECTION 2 – January 2014 Edition

This document, the SPORTING CODE - SECTION 2, January 2014 Edition, prepared by the FAI GENERAL AVIATION COMMISSION (GAC) in collaboration with the FAI Secretariat, takes effect on the 1st January 2014.
The modifications and additions approved by the GAC on 2 November 2013, to take effect on the 1st January 2014, are included in this document and will not be published with a separate amendments document.

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POWERED AERODYNES

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GLOSSARY OF TERMS
AND
ABBREVIATIONS

This section amplifies a number of terms and abbreviations which are used in the main text.

Numerical

1	(Sporting Code Section) - Aerostats
2	(Sporting Code Section) - General Aviation
3	(Sporting Code Section) - Gliding
4	(Sporting Code Section) - Aeromodelling
5	(Sporting Code Section) - Parachuting
6	(Sporting Code Section) - Aerobatics
7	(Sporting Code Section) - Hang Gliding
8	(Sporting Code Section) - Astronautics
9	(Sporting Code Section) - Rotorcraft
10	(Sporting Code Section) - Microlights
11	(Sporting Code Section) - Human Powered Aircraft
12	(Sporting Code Section) - Unmanned Aerial Vehicles
13	(Sporting Code Section) – Solar Powered Aeroplanes

Alphabetical

ADF	Automatic Direction Finding, a radio-navigation instrument
AOPA	Aircraft Owners and Pilots Association
C	(FAI Class) - Aeroplanes
CASI	Commission d'Aéronautique Sportive Internationale (the Airsport General Commission) of FAI
CVFR	Controlled VFR
DM	(FAI Class) - Motor Gliders
DME	Distance Measuring Equipment, a radio-navigation instrument
FAI	Fédération Aéronautique Internationale, headquarters in Paris
GS	General Section of the Sporting Code
h	hour (UTC)
H	(FAI Class) - Jetlift Aircraft
IATA	International Air Transport Association
ICAO	International Civil Aviation Organisation (HQ in Montreal, Canada)
IFR	Instrument Flight Rules
kg	Kilogramme
km	Kilometre
km/h	Kilometre per Hour
m	Metre
M	(FAI Class) - Tilt-Wing / Tilt engine Aircraft
min	Minute, unit of time (UTC)
N	(FAI Class) - STOL Aircraft
NAC	National Airsport Control
NM	Nautical mile (equal to 1.8532 km)
PIC	Pilot-in-command
R	(FAI Class) - Microlights, Powered Hang Gliders and Powered Paragliders
s	Second, unit of time (UTC)
STOL	Short TakeOff and Landing
UK	United Kingdom
UTC	Universal Time Coordinated
VFR	Visual Flight Rules
VOR	VHF Omni Range, a radio-navigation instrument
VTOL	Vertical TakeOff and Landing

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1st CHAPTER: PRINCIPLES

1.1 INTRODUCTION

This Section provides for the international encouragement and control of sporting activities involving aeroplanes.

1.2 GENERAL SECTION OF THE SPORTING CODE

The General Section contains the rules and regulations that apply to all FAI recognised activities.

1.3 DEVELOPMENT AND AMENDMENT

The responsibility for the development and maintenance of Section 2 rests with the FAI General Aviation Commission.

2nd CHAPTER: DEFINITIONS

2.1 GENERAL DEFINITIONS

2.1.1 AERODYNE

A heavier-than-air aircraft which derives its lift in flight mainly from aerodynamic forces.

2.1.2 AEROPLANE

A fixed wing aerodyne with means of propulsion.

2.1.3 AIRCRAFT

A vehicle that can be sustained in the atmosphere by forces exerted upon it by the air.

2.1.4 AMPHIBIAN

An aeroplane with the capacity of taking off and landing both on ground and water.

2.1.5 CARRIER AIRCRAFT

An aircraft used as an airborne launch platform.

2.1.6 ELECTRIC-POWERED AEROPLANE

An aeroplane which is propeller driven and powered solely by an electrical motor.

2.1.7 FIXED WING

A non-rotating wing with rigid structure which does not rely upon relative motion of the air to maintain its aerodynamic characteristics.

2.1.8 SEAPLANE

An aeroplane which can only take off and land on water.

2.1.9 TILT WING/TILT ENGINE AEROPLANE

An aeroplane capable of both horizontal and vertical flight which, in forward horizontal flight, derives most of its lift from fixed wings and which achieves vertical or hovering flight by tilting the wings or engine(s) upward to a position substantially vertical.

2.1.10 JETLIFT AEROPLANE

An aeroplane capable of taking-off, maintaining hovering or forward flight and landing while obtaining the whole of its lift directly from the thrust of one or more jet engines installed in and integral to the aircraft and not requiring lift derived from external surfaces during take-off or landing. The same engine or engines shall also provide the forward thrust of the aeroplane.

2.2 FLIGHT DEFINITIONS

2.2.1 CONTROL POINT

A point used for measurement purposes which an aircraft is required to reach or to land at during a flight along a course. A control point is reached when the aircraft is shown to have complied with the rule for proof of presence in the observation zone; OR when the aircraft lands at the point.

2.2.2 COURSES

A Course for FAI purposes consists of the distance between a start point and a finish point via any control points. Distance is the shortest distance on the earth's surface between the two points concerned, measured in accordance with the WGS84 ellipsoid.

2.2.2.1 APPROVED COURSE

A course measured in advance and certified by an NAC. FAI shall be notified of the details of the course together with full certifying documentation.

2.2.2.2 DECLARED COURSE

A course declared in advance by the pilot; the course for a proposed Goal Flight. In the event of several declarations for the Flight Performance, only the most recent shall be valid. For a course with control point(s) the declaration must include the sequence in which these points are to be reached. Declarations may be written on paper or may be recorded, dated and timed electronically, such as through a GNSS Flight Recorder, approved for this purpose.

2.2.2.3 CLOSED CIRCUIT COURSE

A course in which the start and finish points are at the same place.

2.2.2.4 OUT-AND-RETURN COURSE

A closed circuit course flown to one or more control points, with return along the reciprocal course.

2.2.2.5 POLYGON COURSE

A closed-circuit flight performance around a course with three or more control points.

2.2.2.6 TRIANGULAR COURSE

A closed-circuit flight performance around two control points.

2.2.3 CROSSING A FINISH LINE

A finish line is crossed when the nose of the aircraft cuts the line unassisted by any force external to the aircraft. Time measurement is from the precise time of crossing, distance measurement is from the center point of the finish line.

2.2.4 CROSSING A START LINE

A start line is crossed when the nose of the aircraft cuts the line. Time measurement is from the precise time of crossing, distance measurement is from the center point of the start line.

2.2.5 DESIGNATED SEQUENCE

The order in which the control points shall be flown.

2.2.6 FINISH ALTITUDE

The altitude above sea level (unless otherwise specified) at the Finish point.

2.2.7 FINISH LINE

A gateway of a width of one kilometer (unless otherwise specified), the base being specified on the surface of the earth and being perpendicular to the last leg of the course.

2.2.8 FINISH POINT

The end of a course used for measurement purposes. Depending on the type of flight concerned, the finish point may be one of the following:
a. The Landing Point; OR,
b. The crossing of a finish line

2.2.9 FINISH TIME

The time an aircraft reaches the landing place or crosses the finish line.

2.2.10 FLIGHT

An event which starts at takeoff and ends with a landing, and contains a Flight Performance which is to be validated by an NAC and/or FAI.

2.2.11 FLIGHTS, TYPES OF

Flight Performances from one or more of the following types of flight may be claimed and validated for an individual flight.

2.2.11.1 ALTITUDE FLIGHT

A flight performance measured for altitude achieved or maintained.

2.2.11.2 DISTANCE FLIGHT

A flight performance measured for distance over a Course.

2.2.11.3 EFFICIENCY FLIGHT

A flight performance measured for distance and fuel used and calculated for efficiency.

2.2.11.4 GAIN OF HEIGHT FLIGHT

A flight performance measured for gain of height between any low height and the subsequent greatest height.

2.2.11.5 GOAL FLIGHT

A flight performance over a course declared before take-off. A goal flight may also be a Distance Flight or a Speed Flight, but a Distance Flight or a Speed Flight need not necessarily be a Goal Flight.

2.2.11.6 PAYLOAD FLIGHT

A flight performance measured for payload carried to a specified minimum height.

2.2.11.7 SPEED FLIGHT

A flight performance timed and calculated for speed over the distance of a Course.

2.2.11.8 TIME TO CLIMB FLIGHT

A flight performance timed from a standing start to the time at which a designated height is achieved.

2.2.12 FLIGHT PERFORMANCE

The designated portion of a flight or series of flights and associated ground operations which is performed for the declared purpose of setting a record and which is conducted according to the rules of Section 2; or, the achievement attained during free flight, the evidence for which is put forward for validation of the achievement to an NAC or by FAI, to Sporting Code criteria.

2.2.13 FLYING START

Where the aircraft is in free flight at the start point.

2.2.14 FREE FLIGHT

That part of a flight in which an aircraft is not towed, carried or assisted by another aircraft or separate external or jettisonable power source.

2.2.15 JETTISON

To intentionally release or drop from an aeroplane.

2.2.16 LANDING PLACE

Either the center of the airfield or precise place at which the landing is made.

2.2.17 LANDING POINT

The precise point at which any part of an aircraft or its crew first touches the ground or water.

2.2.18 LANDING TIME

The time at the Landing Point.

2.2.19 LAP

A single completed transit of a closed-circuit course.

2.2.20 OBSERVATION ZONES

Observation Zones (OZ) consist of the airspace above and enclosed by the following lines on the earth's surface:

2.2.20.1 CONTROL POINT

The OZ for a control point may be based on a 90° quadrant on the surface with its apex at the Point concerned and orientated symmetrically to and remote from the two legs of the course at the Point. A circular OZ may be used, centered on the Point, of a radius of one kilometer. In this case, the leg distances that can be claimed to and from that Point shall be the distance to or from the Point minus one kilometer.

2.2.20.2 START AND FINISH POINTS

The OZ for start and finish points is based on a one kilometer line (unless otherwise specified), the center of which passes through the start or finish point. The line is oriented at right angles (90°) to the first leg of the course at the start point and the last leg of the course at the finish point.

2.2.20.3 PROOF OF PRESENCE IN THE OBSERVATION ZONE

Proof of presence in an OZ may be established from the surface by visual observation, radar, or an approved tracking device. Proof of presence may also be established from a valid navigational fix in the OZ, produced by a secure recording device carried in the aircraft and approved for this purpose, or by direct observation by an official observer of the aircraft's navigational instruments.

2.2.21 START ALTITUDE

The altitude at the start point.

2.2.22 START LINE

A gateway of a width of one kilometer (unless otherwise specified), the base being specified on the surface of the earth and being at right angles (90°) to the first leg of the course at the start point.

2.2.23 START POINT

The beginning of a course used for measurement purposes. Depending on the type of flight concerned, the start point may be one of the following:
a. The point of start of the takeoff roll; OR,
b. The take-off point; OR,
c. The crossing of a start line.

2.2.24 START TIME

The time an aircraft reaches the takeoff place or crosses the start line.

2.2.25 TAKEOFF

The point and/or time at which all parts of an aircraft or its crew cease to be in contact with or connected to the ground or water.

2.2.26 TAKEOFF PLACE

The center of the airfield or precise place from which the takeoff is made.

2.2.27 TAKEOFF POINT

The precise point at which all parts of an aircraft or its crew cease to be in contact with or connected to the ground or water.

2.2.28 UNCOMPLETED FLIGHT

A flight is deemed to be uncompleted if;
EITHER, an accident occurs during the flight resulting in the death of any member of the crew within 48 hours; or, any person leaves the aircraft during the flight; or, any part of the aircraft, its equipment, or payload is jettisoned during the flight performance.

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 Jetlift

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	

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:

Group I	Internal Combustion
Group II	Turboprop
Group III	Jet
Group IV	Rocket (and Rocket assisted)
Group V	Scramjet
Group VI	Electric

3.1.4.2 Aeroplanes with more than one type of powerplant shall be classified according to the powerplant giving the greatest advantage for the record task being performed.

3.1.5 Determination of Weight and Weight Classification

3.1.5.1 The greatest weight of the aircraft during the flight performance shall determine the weight classification for the record attempt.

3.1.5.2 The aircraft shall be weighed prior to take-off in the same configuration that will be used during the flight performance and must account for fuel, cargo, carry-on equipment, crew and crew personal equipment.

3.1.5.3 Current aircraft weight and balance records may be used in lieu of weighing to determine aircraft weight for Speed Over a Recognized Course records.

3.1.5.4 Tolerances for weight measuring equipment shall be applied in the most conservative direction to assure the aircraft is properly classified by weight. (For example, if an aircraft's weight was found to be 50 kg below the next higher weight classification, and the scale tolerance was +/- 75 kg, the aircraft could not be unambiguously classified. In this case the aircraft weight could be reduced by removing fuel or equipment or a weighing system with a lower tolerance could be used to determine the aircraft weight.)

3.1.5.5 If refueling in flight occurs before or during the flight performance and the aircraft's fuel quantity measuring system is to be used to determine aircraft weight, the aircraft shall be weighed with fuel tanks empty. The weight of fuel as indicated by the aircraft fuel quantity measurement system shall be added to the zero fuel weight to determine the aircraft weight. In addition a series of weight measurements shall be made with the aircraft fueled to representative weights to calibrate and verify the accuracy of the aircraft fuel quantity measuring system. The weight measuring system tolerances shall be applied to the fuel measuring system calibrations in the least favorable direction.

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%

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)

3.1.10 Calculation of Distances

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

3.1.11 Jetlift Aeroplanes

The take-off before and the landing following a flight performance for a record task performed in Class H (Jetlift 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 Measuring Equipment

3.1.12.1 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.

3.1.12.2 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.

3.1.13 Control of Fuel Systems

3.1.13.1 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..

3.1.13.2 Onboard solar panels when used only to collect energy directly from the sun shall not be considered refuelling equipment.

3.1.14 Powerplant Requirements

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

3.1.15 Uncompleted Flights

A record shall not be awarded to any uncompleted flight.

4th CHAPTER: AEROPLANE RECORDS

4.1 Absolute World Records

Absolute World Records represent the best performances from all classes of Aeroplanes, regardless of weight classification or method of propulsion.

Four Absolute World Records shall be awarded as follows:

4.1.1 Absolute Altitude:

the greatest altitude achieved for a flight performance for Altitude, Altitude with Payload, or Altitude in Horizontal Flight

4.1.2 Absolute Distance:

the greatest distance achieved for a flight performance for Distance or Distance Over a Closed Course

4.1.3 Absolute Greatest Payload:

the greatest payload achieved for a flight performance for Greatest Payload

4.1.4 Absolute Speed:

the greatest speed achieved for a flight performance for Speed Over a 3 Kilometer Course or Speed Over a 15 Kilometer Course

4.2 Altitude Record Tasks:

4.2.1 Altitude

4.2.1.1 The objective of this record task is to demonstrate the greatest altitude achieved during the flight performance.

4.2.1.2 The flight performance begins at takeoff and ends after achieving the highest altitude.

4.2.2 Altitude with Payload (see payload schedule)

4.2.2.1 The objective of this record task is to demonstrate the greatest altitude achieved while carrying a payload during the flight performance.

4.2.2.2 The flight performance begins at takeoff and ends after achieving the highest altitude.

4.2.3 Altitude in Horizontal Flight

4.2.3.1 The objective of this record task is to demonstrate the greatest altitude achieved and maintained during the flight performance.

4.2.3.2 The flight performance begins at takeoff and ends when the aeroplane initiates the final descent for landing.

4.2.3.3 The altitude shall be maintained within 50 meters for a minimum of 90 seconds.

4.2.3.4 The speed of the aeroplane at the end of the 90 seconds must not be less than the speed at the beginning of the 90 seconds.

4.2.3.5 The achieved altitude shall be the lowest altitude that is maintained within 50 meters for 90 seconds.

4.2.4 Altitude Gain, Aeroplane Launched from a Carrier Aircraft

4.2.4.1 The objective of this record task is to demonstrate the greatest altitude gained during the flight performance.

4.2.4.2 The aeroplane shall be attached to the carrier aircraft by means of a rigid connection mechanism.

4.2.4.3 The flight performance begins at release from the carrier aircraft and ends after achieving the highest altitude.

4.2.4.4 The achieved altitude shall be the difference between the release altitude and the highest altitude.

4.3 Distance Record Tasks:

4.3.1 Distance

4.3.1.1 The objective of this record task is to demonstrate the greatest range of an aeroplane when flying to a predetermined landing place.

4.3.1.2 The course shall be approved or declared in writing prior to takeoff.

4.3.1.3 The course shall consist of a takeoff place, any control points (if allowed), and a landing place.

4.3.1.4 The course shall not be a closed-circuit.

4.3.1.5 Control points may be declared if:

The average distance between control points is a minimum of 5,000 km; and
The change in direction at each control point does not exceed 90 degrees.

4.3.1.6 One alternate course may be used. If so, it shall be approved or declared in writing prior to takeoff.

4.3.1.7 Flight performance begins at takeoff and ends upon landing.

4.3.1.8 The aeroplane shall not land or refuel during the flight performance.

4.3.1.9 The achieved distance shall be measured from the takeoff place to the landing place, along any control points.

4.3.2 Distance Over a Closed Course

4.3.2.1 The objective of this record task is to demonstrate the greatest range of an aeroplane when flying a closed circuit course.

4.3.2.2 The course shall be approved or declared in writing prior to takeoff.

4.3.2.3 The course shall be a closed circuit course consisting of a takeoff and landing place and one or more control points.

4.3.2.4 The flight performance begins at takeoff and ends upon landing.

4.3.2.5 The flight performance shall be accomplished over a single lap of the course.

4.3.2.6 The aeroplane shall not land or refuel during the flight performance.

4.3.2.7 The achieved distance shall be measured from the takeoff place to the control point (or points) to the landing place.

4.4 Efficiency Record Task:

4.4.1 Aeroplane Efficiency

4.4.1.1 The objective of this record task is to demonstrate the greatest aeroplane operating efficiency in aeroplanes with means of propulsion in Groups I-V.

4.4.1.2 The course shall be approved or declared in writing prior to takeoff.

4.4.1.3 The course shall be a triangular closed course defined by three control points including the takeoff place.

4.4.1.4 No leg of the triangular course shall be less than 25 percent nor more than 45 percent of the course length.

4.4.1.5 The required distance shall be accomplished on a single lap of the triangular course.

4.4.1.6 The minimum required course length is determined by weight classification according to the table below:

Weight Classification	Minimum Course Length (km)	Weight Classification	Minimum Course Length (km)
a/0	540	l	4,440
A	865	m	4,765
B	1,190	n	5,090
C	1,515	o	5,415
D	1,840	p	5,740
E	2,165	q	6,065
f	2,490	r	6,390
g	2,815	s	6,715
h	3,140	t	7,040
i	3,465	u	7,365
j	3,790	v	7,690
k	4,115		

4.4.1.7 The flight performance begins at engine start prior to takeoff and ends with engine shutdown after landing.

4.4.1.8 The aeroplane shall not land or refuel during the flight performance.

4.4.1.9 Determination of fuel used during the flight performance:

4.4.1.10 Prior to flight, the aircraft shall be weighed three times with the fuel which will be in the aircraft at engine start and all equipment required for flight aboard except for crew and personal crew equipment.

4.4.1.11 The average of the three weights shall determine the pre-flight aircraft weight.

4.4.1.12 Nothing shall be added to the aircraft after the pre-flight weight is established except for the crew and personal crew equipment. The total of the pre-flight aircraft weight plus the weight of the crew and personal crew equipment shall determine the weight classification for the record attempt.

4.4.1.13 Following the flight performance, the aircraft shall be weighed three times with the fuel that was on the aircraft at engine shutdown and all equipment required for flight except for personal crew equipment. All personal crew equipment shall be accounted for and removed from the aircraft prior to the post-flight weighing so that the aircraft is in the same configuration as the pre-flight weighing.

4.4.1.14 The average of the three weights shall determine the post-flight aircraft weight.

4.4.1.15 The fuel used during the flight performance shall be the difference between the pre-flight aircraft weight and the post-flight aircraft weight.

4.4.1.16 The achieved efficiency shall be determined by dividing the course distance (in kilometers) by the weight of the fuel used (in kilograms) during the flight performance.

4.5 Greatest Payload Record Task:

4.5.1 Greatest Payload

4.5.1.1 The objective of this record task is to carry the greatest payload to a height of at least 2,000 meters.

4.5.1.2 The payload shall be declared in writing and weighed prior to takeoff.

4.5.1.3 The flight performance begins at takeoff and ends when the target altitude is reached.

4.5.1.4 The target altitude shall be reached within 20 minutes of takeoff.

4.5.1.5 The target altitude shall be at least 2,000 meters above the elevation of the takeoff place or, if the takeoff place is below sea level the target altitude shall be at least 2,000 meters above sea level.

4.5.1.6 No external or auxiliary source of power shall be used for takeoff or at any time during the flight performance.

4.6 Speed Record Tasks:

4.6.1 Speed Over a 3 Kilometer Course

4.6.1.1 The objective of this record task is to achieve the greatest average speed over a 3,000 meter course.

4.6.1.2 The course shall be approved or declared in writing prior to takeoff.

4.6.1.3 The course shall meet the following dimensions:

The course shall be a minimum of 3,000 meters in length; and

The course shall have defined approaches of at least 1,000 meters, and

The course and its approaches shall have a maximum width of 500 meters.

4.6.1.4 The flight performance shall be flown as four consecutive runs over the course, with each consecutive run flown in the opposite direction.

4.6.1.5 The average of the elevations of the start and the finish points shall be the basis for determining the maximum height allowed.

4.6.1.6 The altitude of the aeroplane at the finish line shall not be more than 100 meters below the altitude at the beginning of the approach.

4.6.1.7 The aircraft's height shall not exceed 500 meters above the average of the elevations of the start and finish points (as described in 4.6.1.5) during the flight performance.

4.6.1.8 The flight performance begins upon entering the approach to the first start point and ends at the last finish point.

4.6.1.9 The flight performance shall be completed within 30 minutes.

4.6.1.10 The achieved speed shall be the average speed of the four individual runs.

4.6.1.11 The timing of the event shall be accomplished by timing each run individually using synchronized timing devices to determine start and finish times. The course length shall be divided by the elapsed time to determine the speed for each run.

4.6.1.12 The aeroplane shall not land or refuel during the flight performance.

4.6.2 Speed over a 15 kilometer course

4.6.2.1 The objective of this record task is to achieve the greatest average speed over a 15,000 meter course.

4.6.2.2 The course shall be approved or declared in writing prior to takeoff.

4.6.2.3 The course shall meet the following dimensions:

The course shall be a minimum of 15'000 meters in length; and

The course shall have defined approaches of at least 5,000 meters; and

The course and its approaches shall have a maximum width of 1'000 meters.

4.6.2.4 The flight performance shall be flown as two consecutive runs over the course, in opposite directions.

4.6.2.5 Flight performance begins upon entering the first approach and ends at the last finish point.

4.6.2.6 The maximum altitude within 10 kilometers of the approach points shall not exceed 2'000 meters above the start altitude.

4.6.2.7 The aeroplane shall not descend more than 100 meters between the beginning of the approach and the finish point.

4.6.2.8 The course length shall be divided by the elapsed time to determine the speed for each run.

4.6.2.9 The achieved speed shall be the average speed of the two individual runs.

4.6.2.10 The flight performance shall be completed within 45 minutes.

4.6.2.11 The aeroplane shall not land or refuel during the flight performance.

4.6.3 Speed over a closed course

4.6.3.1 Record tasks

Speed Over a Closed Course of 100 Kilometers
Speed Over a Closed Course of 500 Kilometers
Speed Over a Closed Course of 1,000 Kilometers
Speed Over a Closed Course of 2,000 Kilometers
Speed Over a Closed Course of 5,000 Kilometers
(and then by increases of 5,000 Kilometers)

Speed Over a Closed Course of 100 Kilometers with Payload (see payload schedule)
Speed Over a Closed Course of 500 Kilometers with Payload (see payload schedule)
Speed Over a Closed Course of 1,000 Kilometers with Payload (see payload schedule)
Speed Over a Closed Course of 2,000 Kilometers with Payload (see payload schedule)
Speed Over a Closed Course of 5,000 Kilometers with Payload (see payload schedule)
(and then by increases of 5,000 Kilometers)

4.6.3.2 The objective of this record task is to achieve the greatest speed over a closed course of various distances.

4.6.3.3 The course shall be an out and return course, with up to two control points.

4.6.3.4 The course shall be approved or declared in writing prior to takeoff.

4.6.3.5 The course shall have a defined approach of at least 1,000 meters, a start/finish line of one kilometer in width, and up to two control points.

4.6.3.6 The minimum course distances for this record task are as follows:

100 Kilometers

500 Kilometers

1,000 Kilometers

2,000 Kilometers

5,000 Kilometers

Then by increases of 5,000 Kilometers

4.6.3.7 The course for the attempt shall be any length between the specified minimum and the next higher course length.

4.6.3.8 The flight performance begins upon entering the approach and ends at the finish point.

4.6.3.9 The flight performance may be accomplished over more than one lap of the course.

4.6.3.10 The aircraft shall fly level within 100 meters during the approach to the start line.

4.6.3.11 The aircraft shall fly out along the course, and return along the reciprocal course.

4.6.3.12 The altitude at the finish point shall not be less than the altitude at the start point.

4.6.3.13 The aeroplane shall not land or refuel during the flight performance.

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

4.6.4 Speed Around the World, Nonstop and Non-refueled

4.6.4.1 The objective of this record task is to achieve the greatest speed around the world.

4.6.4.2 The course shall be a closed circuit course that crosses all meridians.

4.6.4.3 The course distance from the start point through each control point to the finish point shall not be less than 36,770 km.

4.6.4.4 The course shall be approved or declared in writing prior to takeoff.

4.6.4.5 All control points shall lie at latitudes less than 66 degrees 33 minutes.

4.6.4.6 One alternate course may be declared. If so, it shall be declared in writing prior to takeoff.

4.6.4.7 The flight performance begins at takeoff and ends with either a landing or crossing a finish line.

4.6.4.8 The aeroplane shall start and finish at the same aerodrome. The finish can be either a landing or a flying finish.

4.6.4.9 If a flying finish is used, the aeroplane shall cross a finish line that is one kilometer wide and is centered on the starting aerodrome.

4.6.4.10 The aeroplane shall not land or refuel during the flight performance.

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

4.6.5 Speed Around the World, Eastbound

4.6.5.1 The objective of this record task is to achieve the greatest speed around the world in an eastbound direction.

4.6.5.2 The course shall be a closed circuit course that crosses all meridians.

4.6.5.3 The course shall be approved or declared in writing prior to takeoff.

4.6.5.4 The course distance from the start point through each control point to the finish point shall not be less than 36,770 km.

4.6.5.5 All control points shall lie at latitudes less than 66 degrees 33 minutes.

4.6.5.6 All control points shall be flown in an easterly succession.

4.6.5.7 One alternate course may be declared. If so, it shall be declared in writing prior to takeoff.

4.6.5.8 The flight performance begins at takeoff and ends with a landing at the finish point.

4.6.5.9 Intermediate landings are permitted during the flight performance.

4.6.5.10 Time on the ground at intermediate landing places shall count as flying time.

4.6.5.11 Refueling on the ground is permitted.

4.6.5.12 Refueling in-flight is not permitted.

4.6.5.13 Repairs or replacements of aircraft components and engine(s) are permitted except that wings and fuselage shall not be changed.

4.6.5.14 The flight crew shall not be changed during the flight performance. A crewmember other than the PIC may leave during the flight performance, but shall not be replaced.

4.6.5.15 Passengers may be changed during the flight performance.

4.6.5.16 If the landing cannot be made at the departure aerodrome, the aeroplane shall fly the last leg of the course to an alternate aerodrome. The alternate aerodrome shall be located further east than the departure aerodrome.

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

4.6.6 Speed Around the World, Eastbound, with In-flight Refueling

4.6.6.1 The objective of this record task is to achieve the greatest speed around the world in an eastbound direction with in-flight refueling.

4.6.6.2 The course shall be a closed circuit course that crosses all meridians.

4.6.6.3 The course shall be approved or declared in writing prior to takeoff.

4.6.6.4 The course distance from the start point through each control point to the finish point shall not be less than 36,770 km.

4.6.6.5 All control points shall lie at latitudes less than 66 degrees 33 minutes.

4.6.6.6 All control points shall be in an easterly succession.

4.6.6.7 One alternate course may be declared. If so, it shall be declared in writing prior to takeoff.

4.6.6.8 The flight performance begins at takeoff and ends with a landing at the finish point.

4.6.6.9 Intermediate landings are permitted during the flight performance.

4.6.6.10 Time on the ground at intermediate landing places shall count as flying time.

4.6.6.11 The aeroplane shall be refueled in-flight at least once during the flight performance. Aeroplanes with electric means of propulsion must receive electrical energy, an energy storage system (i.e., battery), or fuel (used by the electric propulsion system) during the flight performance.

4.6.6.12 Refueling on the ground is permitted.

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

4.6.6.14 The flight crew shall not be changed during the flight performance. A crewmember other than the PIC may leave during the flight performance, but shall not be replaced.

4.6.6.15 Passengers may be changed during the flight performance.

4.6.6.16 If the landing cannot be made at the departure aerodrome, the aeroplane can fly the last leg of the course to an alternate aerodrome. The alternate aerodrome shall be located further east than the departure aerodrome.

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

4.6.7 Speed Around the World, Westbound

4.6.7.1 The objective of this record task is to achieve the greatest speed around the world in a westbound direction.

4.6.7.2 The course shall be a closed circuit course that crosses all meridians.

4.6.7.3 The course shall be approved or declared in writing prior to takeoff.

4.6.7.4 The course distance from the start point through each control point to the finish point shall not be less than 36,770 km.

4.6.7.5 All control points shall lie at latitudes less than 66 degrees 33 minutes.

4.6.7.6 All control points shall be flown in a westerly succession.

4.6.7.7 One alternate course may be declared. If so, it shall be declared in writing prior to takeoff.

4.6.7.8 The flight performance begins at takeoff and ends with a landing at the finish point.

4.6.7.9 Intermediate landings are permitted during the flight performance.

4.6.7.10 Time on the ground at intermediate landing places shall count as flying time.

4.6.7.11 Refueling on the ground is permitted.

4.6.7.12 Refueling in-flight is not permitted.

4.6.7.13 Repairs or replacements of aircraft components and engine(s) are permitted except that wings and fuselage shall not be changed.

4.6.7.14 The flight crew shall not be changed during the flight performance. A crewmember other than the PIC may leave during the flight performance, but shall not be replaced.

4.6.7.15 Passengers may be changed during the flight performance.

4.6.7.16 If the landing cannot be made at the departure aerodrome, the aeroplane can fly the last leg of the course to an alternate aerodrome. The alternate aerodrome shall be located further west than the departure aerodrome.

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

4.6.8 Speed Around the World, Westbound, with In-flight Refueling

4.6.8.1 The objective of this record task is to achieve the greatest speed around the world in a westbound direction with in-flight refueling.

4.6.8.2 The course shall be a closed circuit course that crosses all meridians.

4.6.8.3 The course shall be approved or declared in writing prior to takeoff.

4.6.8.4 The course distance from the start point through each control point to the finish point shall not be less than 36,770 km.

4.6.8.5 All control points shall lie at latitudes less than 66 degrees 33 minutes.

4.6.8.6 All control points shall be in a westerly succession.

4.6.8.7 One alternate course may be declared. If so, it shall be declared in writing prior to takeoff.

4.6.8.8 The flight performance begins at takeoff and ends with a landing at the finish point.

4.6.8.9 Intermediate landings are permitted during the flight performance.

4.6.8.10 Time on the ground at intermediate landing places shall count as flying time.

4.6.8.11 The aeroplane shall be refueled in-flight at least once during the flight performance. Aeroplanes with electric means of propulsion must receive electrical energy, an energy storage system (i.e., battery), or fuel (used by the electric propulsion system) during the flight performance.

4.6.8.12 Refueling on the ground is permitted.

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

4.6.8.14 The flight crew shall not be changed during the flight performance. A crewmember other than the PIC may leave during the flight performance, but shall not be replaced.

4.6.8.15 Passengers may be changed during the flight performance.

4.6.8.16 If the landing cannot be made at the departure aerodrome, the aeroplane can fly the last leg of the course to an alternate aerodrome. The alternate aerodrome shall be located further west than the departure aerodrome.

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

4.6.9 Speed Around the World Over Both the Earth's Poles

4.6.9.1 The objective of this record task is to achieve the greatest speed around the world over both of the Earth's poles.

4.6.9.2 The course shall be a closed circuit course.

4.6.9.3 The course shall be approved or declared in writing prior to takeoff.

4.6.9.4 The course shall pass through both geographic poles.

4.6.9.5 Crossing of the equator from North to South shall be separated from the crossing of the equator from South to North by 120-180 degrees of longitude.

4.6.9.6 One alternate course may be declared. If so, it shall be declared in writing prior to takeoff.

4.6.9.7 The flight performance begins at takeoff and ends with a landing at the finish point.

4.6.9.8 Intermediate landings are permitted during the flight performance.

4.6.9.9 Time on the ground at intermediate landing places shall count as flying time.

4.6.9.10 Refueling on the ground is permitted.

4.6.9.11 Refueling in-flight is not permitted.

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

4.6.9.13 The flight crew shall not be changed during the flight performance. A crewmember other than the PIC may leave during the flight performance, but shall not be replaced.

4.6.9.14 Passengers may be changed during the flight performance.

4.6.9.15 If the landing cannot be made at the departure aerodrome, the aeroplane can fly the last leg of the course to an alternate aerodrome. The alternate aerodrome shall be located further than the departure aerodrome.

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

4.6.10 Speed Over a Commercial Airline Route

4.6.10.1 The objective of this record task is to achieve the greatest speed from a city to another city with scheduled commercial airline service.

4.6.10.2 The minimum course length shall be 400 kilometers, unless the start and finish points are located in different countries.

4.6.10.3 The course shall be measured from the takeoff place to the landing place.

4.6.10.4 The flight performance begins at takeoff and ends with landing.

4.6.10.5 The flight performance shall be accomplished during a normally scheduled and timetabled flight as recognized by the International Air Transport Association (IATA).

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

4.6.11 Speed Over a Recognized Course

4.6.11.1 The objective of this record task is to achieve the greatest speed from a city (or geographical feature) to another city (or geographical feature).

4.6.11.2 The minimum course length shall be 400 kilometers.

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. The flight performance shall not be accomplished during a normally scheduled and timetabled flight as recognized by the International Air Transport Association (IATA).

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 from a city (or geographical feature) to another city (or geographical feature) and back.

4.6.12.2 The minimum course length shall be 400 kilometers.

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. The flight performance shall not be accomplished during a normally scheduled and timetabled flight as recognized by the International Air Transport Association (IATA).

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.

4.6.12.12 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.

4.7 Time to Climb Record Tasks:

Time to Climb to 3,000 Meters
Time to Climb to 6,000 Meters
Time to Climb to 9,000 Meters
Time to Climb to 12,000 Meters
Time to Climb to 15,000 Meters
(and then by increases of 5,000 Meters)

Time to Climb to 3,000 Meters with Payload (see payload schedule)
Time to Climb to 6,000 Meters with Payload (see payload schedule)
Time to Climb to 9,000 Meters with Payload (see payload schedule)
Time to Climb to 12,000 Meters with Payload (see payload schedule)
Time to Climb to 15,000 Meters with Payload (see payload schedule)
(and then by increases of 5,000 Meters)

4.7.1.1 The objective of this record task is to achieve the minimum time to climb to various heights.

4.7.1.2 The heights to be achieved are 3,000, 6,000, 9,000, 12,000, 15,000 meters, and then by increases of 5,000 meters. Heights shall be measured from the starting point on the aerodrome.

4.7.1.3 The flight performance begins with the first forward movement of the aircraft after brakes or other restraining devices are released. For a vertical takeoff for records under Class H and Class M, the flight performance begins when any part of the aircraft ceases to be in contact with the surface. The flight performance ends when reaching the required height.

4.7.1.4 Since the indicated barometric altitude corresponding to the required height is dependent upon atmospheric conditions, the atmosphere should be sampled to determine the target altitude for the required height when using barometric instruments to control the task.

4.7.1.5 For Time to Climb with Payload, the payload shall be declared and weighed prior to takeoff.

4.7.1.6 No fuel, ballast, or equipment shall be jettisoned during the flight performance.

4.7.1.7 The achieved time to climb shall be the time from the beginning of the flight performance until reaching the required height.

5th CHAPTER: RECORD FILE

5.1 CLAIMS

5.1.1.1 Notice of a preliminary claim for a record must be received by FAI within 7 days of its completion as an attempt (GS 6.8.4).

5.1.1.2 A record attempt must be certified by the organizing NAC as a National Record within 120 days of the attempt (GS 6.8.1).

5.1.1.3 The file containing all the information and certification necessary to prove that the conditions have been met in support of the record claim must be received by FAI within 120 days of the attempt (GS 6.8.2).

5.1.1.4 FAI can request additional evidence or clarification in support of a record claim.

5.2 CERTIFICATION

5.2.1 Certificate evidence

5.2.1.1 Each record file shall contain all flight certificates necessary to establish full details of the record.

5.2.1.2 All certificates must be signed or countersigned by the official(s) controlling the record attempt and must be accompanied by the necessary evidence (when appropriate).

5.3 Record Claim Statement

5.3.1 Goal

5.3.1.1.1 General information about the record claimed.

5.3.1.1.2 Evidence that the record was duly homologated as a National Record.

5.3.2 Certifications

5.3.2.1 Certifications of TakeOff (Form 1)

5.3.2.1.1 Name and position of place of take-off.

5.3.2.1.2 Date and time of take-off.

5.3.2.1.3 Details of the Authority who certified the information.

5.3.2.2 Certification of Start (Form 2)

5.3.2.2.1 Co-ordinates as necessary to completely identify location.

5.3.2.2.2 Altitude limit of crossing, if any.

5.3.2.2.3 Evidence of crossing the start and time of crossing.

5.3.2.2.4 Evidence that the position of the start complied with record requirements.

5.3.2.2.5 Details of the Authority who certified the information.

5.3.2.3 Description of Course Flown (Form 3)

5.3.2.3.1 Details of course including its type.

5.3.2.3.2 Length of course and how measured.

5.3.2.3.3 Evidence that course flown complied with record requirements, if any.

5.3.2.3.4	Details of the Authority who certified the information.
5.3.2.4	Certification of Turn / Control Points (Form 4)
5.3.2.4.1	Name, position and identification marks of points.
5.3.2.4.2	Evidence that points were declared prior to take-off.
5.3.2.4.3	Evidence that points were correctly rounded or reached.
5.3.2.4.4	Details of the Authority who certified the information.
5.3.2.5	Certification of Intermediate Landing and TakeOff (Form 5)
5.3.2.5.1	Identification, date and time of any intermediate landings and take-offs made during the record attempt.
5.3.2.5.2	Evidence that the landing places were declared before take-off, if required.
5.3.2.5.3	Details of the Authority who certified the information.
5.3.2.6	Certification of Finish (Form 6)
5.3.2.6.1	Identification of finish point, time of crossing and altitude limits if applicable.
5.3.2.6.2	Evidence that position of finish complied with record requirements, if any.
5.3.2.6.3	Details of the Authority who certified the information.
5.3.2.7	Certification of Landing (Form 7)
5.3.2.7.1	Place and co-ordinates of arrival, landing place and time of landing.
5.3.2.7.2	Evidence of landing if alternate landing place.
5.3.2.7.3	Details of the Authority who certified the information.
5.3.2.8	Certification of Altitude (Form 8)
5.3.2.8.1	Altitude or height achieved.
5.3.2.8.2	Evidence of time and distance altitude was maintained, if applicable.
5.3.2.8.3	Evidence that height was reached within set time limit, if any.
5.3.2.8.4	Method of determining altitude.
5.3.2.8.5	Details of the Authority who certified the information.
5.3.2.9	Certification of Barograph Handling (Form 9)
5.3.2.9.1	Chart or photocopy of barogram.
5.3.2.9.2	Calibration chart for barograph used with date of calibration.
5.3.2.9.3	Barograph information.
5.3.2.9.4	Evidence of sealing and unsealing of barograph.
5.3.2.9.5	Details of the Authority who certified the information.
5.3.2.10	Certification of Weight (Form 10)
5.3.2.10.1	Weight at take-off.
5.3.2.10.2	Evidence that aircraft weight complied with class limits.
5.3.2.10.3	Details of the Authority who certified the information.
5.3.2.11	Certification of Refuelling (Form 11)
5.3.2.11.1	Place(s) and time(s) at which the aircraft was refuelled on the ground and/or position and time at which the aircraft was refuelled in flight.
5.3.2.11.2	Evidence that all tanks were sealed after refuelling and before the record attempt and that the seals were intact at the termination of the record attempt. Seals to be checked immediately before and after the record attempt.
5.3.2.11.3	Evidence that in-flight refuelling did not take place during record attempt.
5.3.2.11.4	Details of the Authority who certified the information.
5.3.2.12	Certification of Flight Crew (Form 12)

5.3.2.12.1 Name of crew at the start of flight.

5.3.2.12.2 Evidence that no changes in or additions to the crew were made during the record attempt.

5.3.2.12.3 Names of any crew leaving for emergency reasons, with details.

5.3.2.12.4 Details of the Authority who certified the information.

5.4 RECORD CERTIFICATES

The list of certificates required for records can be found as annex 2.

Model certificates for use in connection with record claims can be found as annex 3.

6th CHAPTER: CERTIFICATES OF PROFICIENCY

FOR AEROPLANE PILOTS

6.1 INTRODUCTION

6.1.1 The requirements constitute the basis for the award of the certificates of proficiency. Since, because of the individual national air regulations, it is impossible to stipulate the same wording for all countries, it is only an outline of the minimum requirements which are determined.

6.1.2 The certificates are valid internationally and serve as proof of an individual pilot's experience and capabilities. They are also recognised as a valid contribution towards flight safety and airmanship.

6.2 OBJECTIVES

The objectives of the scheme are as follows :

6.2.1 To recognize and record defined levels of pilot experience attained by holders of Certificates.

6.2.2 To encourage the improvement of pilot skills generally and the acquisition of advanced flying experience in particular, thus contributing significantly to flight safety.

6.2.3 To foster the concept of continuation flying training in a manner which will present a reasonable challenge to pilots of all experience levels.

6.2.4 To identify and bring within reach of all licensed pilots a sequence of recognised standards of achievement toward which their efforts for self-improvement may be directed.

6.3 TYPES OF CERTIFICATES OF PROFICIENCY

There are three Certificates : Bronze, Silver and Gold.

The levels of pilot experience achieved throughout the scheme are recognised by the award of the appropriate Certificate when the minimum requirements are met or exceeded. The form and the colour of the badges are valid internationally.

6.4 REQUIREMENTS FOR CERTIFICATES OF PROFICIENCY

The basic application requirement for each Certificate with the exception of the Bronze Certificate is holding of all previous Certificates.

The following licences are to be submitted and experience to be proved :

6.4.1 Bronze Certificate of Proficiency

6.4.1.1 A Private Pilot's Licence, valid for aeroplanes, issued according to the regulations of ICAO and by a country whose Aero Club is a member of FAI.

6.4.1.2 A restricted Radio Telephony Licence in English Language.

6.4.1.3 A minimum of 150 hours total flight time, at least 100 hours as a pilot-in-command.

6.4.1.4 In addition one of the following requirements must be met:

- Acrobatic rating
- Flight Examinator rating
- IFR rating
- Instructor rating
- Multi-engine rating
- Night rating
- Seaplane/amphibian rating

6.4.2 Silver Certificate

6.4.2.1 A minimum of 300 hours total flight time, 200 of which as a pilot-in-command.

6.4.2.2 In addition three of the following requirements must be met:

- Acrobatic rating
- Flight Examinator rating
- IFR rating
- Instructor rating
- Multi-engine rating
- Night rating
- Seaplane/amphibian rating

6.4.3 Gold Certificate

6.4.3.1 A minimum of 600 hours total flight time, 400 of which as PIC.

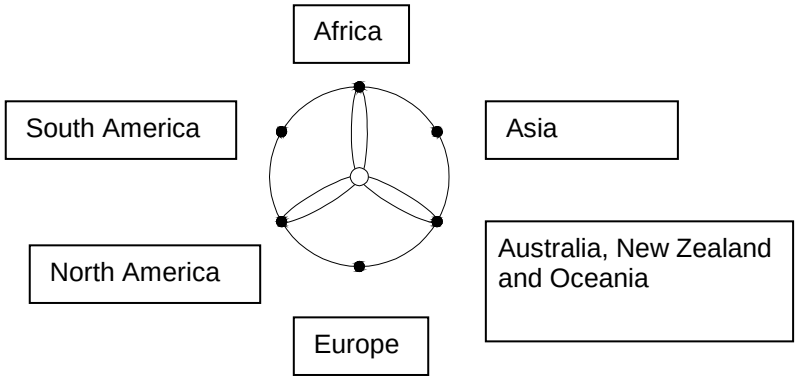
6.4.3.2 In addition five of the following requirements must be met:

- Acrobatic rating
- Flight Examinator rating
- IFR rating
- Instructor rating
- Multi-engine rating
- Night rating
- Seaplane/amphibian rating

6.5 CONTINENTAL DIAMONDS

A maximum of 6 continental diamonds may be added by a National Aero Club to bronze, silver or gold certificate when the following criteria are met:

- A diamond cross country flight as PIC with a minimum distance of 1000 NM from the point of departure with landings at other aerodromes within 7 days.
- Each diamond cross country flight has to be performed in one of the following continents:
  - Africa
  - Asia
  - Australia, New Zealand, Oceania
  - Europe
  - North America
  - South America



7th CHAPTER: COMPETITIONS

7.1 REGULATIONS

The regulations summarize the general contents of the rules for competitions under G.A.C. responsibility. The detailed Competition Rules shall be approved by G.A.C. and will be issued as an Annex.

7.2 COMPETITIONS

7.2.1 PRECISION FLYING

7.2.1.1 The competition is for solo pilots in single piston-engined Class C aeroplanes, with a minimum 3 hour endurance and with a minimum empty weight (dry) of 175 kgs.

7.2.1.2 The competition will consist of the following three groups of tests :

1. Flight Planning and Navigation Tests.
2. Special Observation tests.
3. Landing Test.

7.2.2 RALLY FLYING

7.2.2.1 The competition is for those aeroplane groups eligible to compete as defined by the organiser.

7.2.2.2 The competition must include the following tests :

1. Navigation
2. Visual reconnaissance
3. Punctuality
4. Landing.

7.2.3 AIR RACING

7.2.3.1 The competition is for pilots and/or crews. Aeroplane groups eligible to compete will be defined by the organiser.

7.2.3.2 Air racing competitions may be handicap races where the intent is for a simultaneous finish or long distance race where finishes may be on elapsed time.

7.2.4 FORMULA RACING

7.2.4.1 The competition is for pilots and/or crews in aeroplanes which comply with the standard technical requirements appropriate for the event.

7.2.4.2 The competition consists of a number of laps around a closed circuit course.

7.2.5 AIR NAVIGATION RACE (ANR)

7.2.5.1 The competition is for those aeroplane groups eligible to compete as defined by the organiser.

7.2.5.2 The competition is for crews consisting of Pilot and Navigator and include following tests:

1. Accuracy of Navigation in a prescribed corridor
2. Accuracy in timing to pass given start and finish point
3. Landing test

8th CHAPTER: FAI CIRCUMNAVIGATOR DIPLOMA

8.1 INTRODUCTION

The Circumnavigator Diploma serves to recognize the significant achievements of pilots of powered aerodynes (vehicles governed by Section 2 of the FAI Sporting Code) making around the world flights.

FAI will maintain chronological lists (based on the completion date of the flight) of all diploma holders of each diamond on its website.

8.1.1 Available diamonds

Pilots may obtain only one diploma for each of the four types of flights as follows:

Eastbound

Westbound

Polar

Nonstop

8.2 REQUIREMENTS

8.2.1 GENERAL DIPLOMA REQUIREMENTS

All diploma flights must meet the following requirements:

8.2.1.1 A maximum of twenty control points may be used to satisfy the course distance requirement.

8.2.1.2 The course must return to the start point or within 400 kilometers of the start point.

8.2.1.3 All flights must be completed within 365 days.

8.2.1.4 Applicants must have been onboard the aircraft during the entire flight.

8.2.1.5 The aircraft must be flown under its own power along the course.

8.2.1.6 The same aircraft must be used throughout the flight. The wings and fuselage of the aircraft may not be replaced. However, replacements of the engine and other components are permitted.

8.2.1.7 Only pilots holding a valid FAI Sporting License at the time of the flight and actively engaged in flying the aircraft may obtain the diploma.

8.2.1.8 The diploma may not be awarded posthumously.

8.2.2 DESCRIPTION AND SPECIFIC REQUIREMENTS OF EACH DIAMOND

8.2.2.1 Eastbound diamond

The eastbound diamond recognizes around the world flights travelling from west to east.
The following requirements apply:

8.2.2.1.1 The course must be a minimum distance of 27,000 kilometers.

8.2.2.1.2 The course must cross all meridians.

8.2.2.1.3 All control points must be in an easterly succession.

8.2.2.2 Westbound diamond

The westbound diamond recognizes around the world flights travelling from east to west.
The following requirements apply:

8.2.2.2.1 The course must be a minimum distance of 27,000 kilometers.

8.2.2.2.2 The course must cross all meridians.

8.2.2.2.3 All control points must be in a westerly succession.

8.2.2.3 Polar diamond

The polar diamond recognizes around the world flights travelling to both Polar Regions.
The following requirements apply:

8.2.2.3.1 The course must be a minimum distance of 34,000 kilometers.

8.2.2.3.2 The flight must have been made to a control point north of 75 degrees North latitude and a control point South of 75 degrees South latitude.

8.2.2.3.3 The crossing of the equator from North to South must be separated from the crossing of the equator from South to North by 90-180 degrees of longitude.

8.2.2.4 Nonstop diamond

The nonstop diamond recognizes an eastbound, westbound, or polar around the world flight that was made without any intermediate landing.

8.2.2.4.1 The following requirements apply:

8.2.2.4.2 The flight must meet the general and specific requirements listed above, as appropriate.

8.2.2.4.3 The aircraft may not land during the flight. Refueling in flight may not occur.

8.2.3 APPLICATION REQUIREMENTS

8.2.3.1.1 Only one application may be submitted per flight. The application must include all pilots who qualify for the diploma. Additional copies of the diploma may be purchased from FAI.

8.2.3.1.2 Holders of world records for Speed around the World are not required to complete Part IIa (pages 2-3) of the application.

8.2.3.1.3 All diploma applications must be submitted to FAI by the NAC that issued the FAI Sporting License to the applicant. Only the prescribed application form found in Section 2, Annex 5, will be accepted.

8.2.3.1.4 All evidence submitted must have originated from an independent source. Passengers, pilots, or other persons onboard the flight may not attest to information concerning the flight, unless they were designated as an Official Observer as part of a record attempt and meet all requirements of General Section, Chapter 4. General press accounts and newspaper articles are not acceptable.

8.2.3.1.5 All control point evidence must include the following information:

Date

Place

Aircraft Registry

Name of Pilot

8.2.3.1.6 Participants of FAI-sanctioned competitions (see Air Racing, paragraph 8.4) may qualify for the diploma based on information supplied to FAI by the event organizer.

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