FAI Sporting Code: Section 8 – Astronautics

Current Version (2009)

Absolute Space Records (Class K or Class P) (Chapter 3)

- Duration
- Altitude
- Distance to Earth
- Greatest Mass Lifted to Altitude
- Extravehicular Duration in Space
- Accumulated Space Flight Time

- Linked Flight of 2 or more spaceships w/ crews from 2 or more Nations:
  - Assembled Mass while Linked
  - Duration while linked
  - Max Altitude while linked
  - Distance Travelled while linked
- Distance in untethered free flight

Class Space Records

Class K (Spacecraft) (Chapter 4)

"Categories" of Missions

K1 Suborbital Missions

Single Astronaut / Multiple Astronauts

- Duration
- Altitude
- Greatest Mass Lifted (100 km)
- Number of People (suborbital)
- Min time between Flights (reusable)

K2 Orbital Missions

Single Astronaut / Multiple Astronauts

- Duration
- Altitude
- Greatest Mass Lifted (to orbit)

K3 Missions to Celestial Bodies

Single Astronaut / Multiple Astronauts

- Duration on surface
- Extravehicular Duration
- Duration of stay (in orbit)
- Greatest Mass Landed
- Greatest distance covered:
  - a) On foot
  - b) By whatever means
- Duration of Complete Mission
- Greatest Mass Material Lifted from body

Class P (Aerospacecraft) (Chapter 5)

P1 Suborbital Flights

- Duration
- Altitude
- Greatest Mass Lifted (100 km)
- Distance:
  - a) Distance in near space
  - b) Distance travelled
- Number of People (suborbital)
- Min time between Flights (reusable)

P2 Orbital Flights

- Duration
- Altitude
- Greatest Mass Lifted (to orbit)
- Greatest Mass Lifted w/air breathing propulsion system

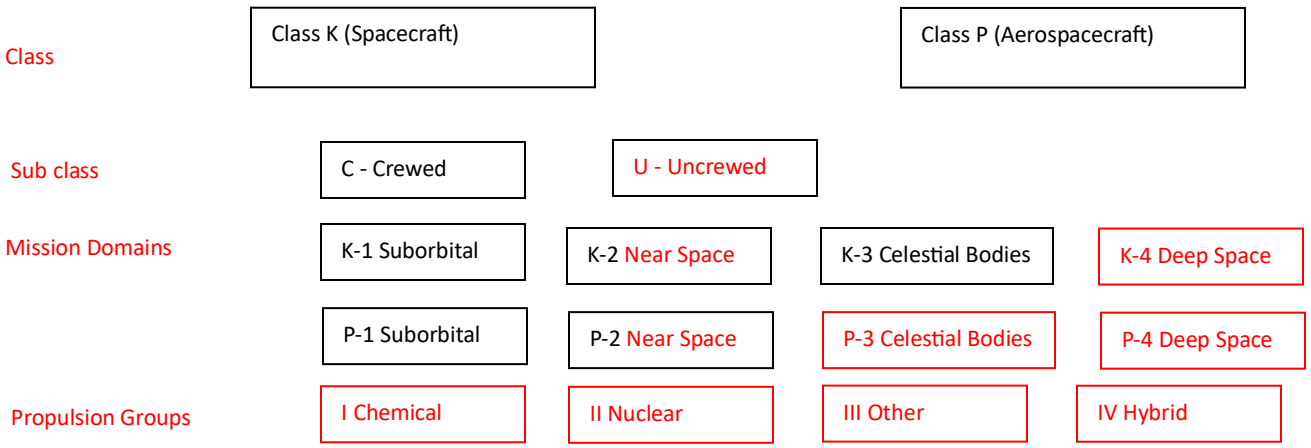
*** **Note**: All records are also available as Women's space records

Proposed Framework (2023)

Absolute Space Records (Class K or Class P, any Propulsion Group)

- Duration
- Altitude
- Distance to Earth
- Greatest Mass Lifted to Altitude
- Extravehicular Duration in Space
- Accumulated Space Flight Time
- Distance in untethered free flight
- Speed
- Number of People Aboard (transport category)
- Number of People Aboard (space station)
- Greatest Mass Assembled in Space

Class Structure



Classification Examples:

A crewed spacecraft setting a record in Earth orbit with a chemical rocket would be classified as K-1CI

An uncrewed spacecraft setting a record on a deep space mission to Titan using a Nuclear Thermal Propulsion would be classified as K-4UII

An uncrewed Aerospacecraft setting a record in Earth orbit with a chemical rocket (eg. X-37) would be classified as P-2UI

A crewed Aerospacecraft setting a suborbital point-to-point record with a hybrid propulsion system would be classified as P-1CIV

Note: Records which are not dependent on spacecraft propulsion for the performance achieved (eg. distance traveled on a celestial body) are classified without a propulsion group designation.

Class K Records

Class K (Spacecraft)

K-1 Suborbital Missions

- Duration
- Altitude
- Greatest Mass Lifted (100 km)
- Number of People (suborbital)
- Min time between Flights (reusable)
- Distance
- Point-to-Point – Time (like city pair)
- Point-to-Point – min Time (out and return)
- Point-to-Point – Mass (like city pair)

K-2 Near Space Missions

- Duration
- Altitude
- Greatest Mass Lifted (to orbit)
- Duration of Complete Mission
- Number of People (or people-days)
- Extravehicular Duration in Space
- Distance in untethered free flight
- Greatest Mass transferred (propellant)
- Min time between Flights (reusable)
- Number of Flights (reusable)

K-3 Missions to Celestial Bodies

Note: Each distinct celestial body is considered a sub domain (asteroid belt bodies are considered as a single type) and eligible for each record.

- Duration on surface
- Extravehicular Duration
- Duration of stay (in orbit)
- Greatest Mass Landed
- Greatest distance covered:
  - a) On foot (crewed only)
  - b) Ground vehicle
  - c) By whatever means
- Duration of Complete Mission
- Greatest Mass Material Lifted from body
- Shortest Transit Time (per body)
- Number of People (per base)

K-4 Deep Space Missions

- Speed (w/ and w/o refueling)
- Number of People
- Distance from Earth (w/ & w/o refueling)
- Greatest Mass

Class P Records

Class P (Aerospacecraft)

P-1 Suborbital Flights

- Duration
- Altitude
- Greatest Mass Lifted (100 km)
- Distance:
  - b) Distance in near space
  - b) Distance travelled
- Number of People (suborbital)
- Min time between Flights (reusable)
- Distance
- Point-to-Point – Time (like city pair)
- Point-to-Point – min Time (out and return)
- Point-to-Point – Mass (like city pair)

P-2 Near Space Flights

- Duration
- Altitude
- Greatest Mass Lifted (to orbit)
- Duration of Complete Mission
- Number of People
- Extravehicular Duration in Space
- Distance in untethered free flight
- Greatest Mass transferred (propellant)
- Min time between Flights (reusable)
- Number of Flights (reusable)

P-3 Missions to Celestial Bodies

Note: Each distinct celestial body is considered a sub domain (asteroid belt bodies are considered as a single type) an eligible for each record.

- Duration on surface
- Extravehicular Duration
- Duration of stay (in orbit)
- Greatest Mass Landed
- Atmospheric Flight Performance:
  - a) Distance
  - b) Altitude
  - c) Speed
  - d) Greatest Mass
- Duration of Complete Mission
- Greatest Mass Material Lifted from body
- Shortest Transit Time (per body)
- Min time between flights (reuseable)
- Number of People (per base)

P-4 Deep Space Missions

- Speed
- Number of People
- Distance from Earth
- Greatest Mass

Milestone Events (2024 – 2075)

- First orbital flight of a fully reuseable human rated spacecraft
- First Person to reach the Lunar South Pole
- First person to step onto the surface of Mars
- First human visit to an asteroid
- First spacecraft to spacecraft propellant transfer (25,000 kg)
- First point to point suborbital scheduled commercial service
- First human visit to (Venus, Jupiter, Saturn)
- Construction of first 100 person space station
- Construction of first 1000 person space station
- Construction of Lunar habitat (100, 1000 person)
- First flight of (100, 1000) person transport class spacecraft
- First flight of crewed spacecraft beyond the Hills Sphere
- First third-party removal of orbital debris (>1000 kg)
- First orbital flight of a human rated single stage to orbit (SSTO) spacecraft
- First in-situ production of (XXXX kg) of propellant
- First delivery of (XXXXX kg) of material from an asteroid to near Earth space