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भारतीय मानक मसौदा

**वैमानिक और खगोलीय शब्दों की शब्दावली
भाग 1 सामान्य**

(पहला पुनरीक्षण)

Draft Indian Standard

**GLOSSARY OF AERONAUTICAL AND ASTRONAUTICAL TERMS
PART 1 GENERAL**

(First Revision)

ICS 49.020

Air and Space Vehicles Sectional Committee, TED 14 **Last date for receipt of comments is
XX/XX/XXXX**

FOREWORD

(Formal Clause to be added later)

This standard is one of a series of Indian Standards on the glossary of Aeronautical and Astronautical terms. Other standards in this series are:

IS 7879 (Part 2) : 1975	Glossary Of Aeronautical and Astronautical Terms: Part 2 Motion of Aircraft
IS 7879 (Part 3) : 1975	Glossary of Aeronautical and Astronautical Terms: Part 3 Structure
IS 7879 (Part 4) : 1980	Glossary of Aeronautical and Astronautical Terms: Part 4 Aerodynamics
IS 7879 (Part 5) : 1982	Glossary of Aeronautical and Astronautical Terms: Part 5 Aerodynes (Heavier - Than - Air - Aircraft)
IS 7879 (Part 6) : 1978	Glossary of Aeronautical and Astronautical Terms: Part 6 Space Terms
IS 7879 (Part 7) : 1984	Glossary of Aeronautical and Astronautical Terms: Part 7 Air Traffic and Ground Services
IS 7879 (Part 8) : 1987	Glossary of Aeronautical and Astronautical Terms: Part 8 Power Plant

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IS 7879 (Part 1) : 2023

Provides standard definitions of technical terms peculiar to aeronautics, astronautics and related subjects. Terms in general use in other branches of engineering are also included where they have some special relevance to aeronautics or astronautics.

This standard consists of a series of parts, each part covering terms specific to a particular feature, type of aircraft, equipment, service, etc.

The general arrangement of the terms is alphabetical. However, in certain cases related terms have been given to gather under a heading or general definition, and these are printed in distinctive italic type.

Each term has been assigned a 4-digit or 5-digit number. The first one (or two) digit, in the thousandth place, represents the part number. This part number with the following digit in the hundredth place represents the section. The last two digits represent the position of the definition within a section. Thus, the term 3405 is the 6th definition of Section 34, which is in Part 3.

Where two or more synonymous terms are in use, the term, which is favored, is given first, with the intention that it should gradually displace the others. The alternative terms are given below the preferred terms in less prominent type.

An Indian Standard Glossary of space terms covering definitions pertaining to rockets, missiles, etc., is also under preparation.

This standard was first published in 1975. The present revision has been taken up with a view to incorporating the modifications found necessary as a result of experience gained on the use of this standard. Also, in this revision, the standard has been brought into the latest style and format of Indian Standard, and references to Indian Standards, wherever applicable have been updated.

The following International Standards available on the subject have been referred by the technical committee in the course of preparation of this standard:

- a) BS 185 'Aeronautical and Astronautical terms.

The composition of the Committee responsible for the formulation of this standard is given at Annex B.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 2022 'Rules for rounding off numerical values (*second revision*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

**GLOSSARY OF AERONAUTICAL AND ASTRONAUTICAL TERMS
PART 1 GENERAL**

(First Revision)

1 SCOPE

This part covers the standard definitions for general aeronautical terms.

2 REFERENCES

This standard does not contain any cross reference.

3 TERMINOLOGY

SECTION 11 — GENERAL

No.	Term	Definition
1101	Aeronautics	All activities relating to aerial locomotion (<i>see</i> 1109).
1102	Aerostation	The operation of lighter-than-air aircraft (<i>see</i> 1109).
1103	Aircraft Dinghy	An inflatable boat carried in an aircraft for use after alighting on water.
1104	Airworthy	Complying with the regulations prescribed by the competent authority certifying the fitness for flight of an aircraft.
1105	Altitude	The vertical distance above mean sea-level (<i>see</i> 1118).
1106	Density Altitude (Density Height)	An atmospheric density expressed as the altitude which corresponds to that density in the international standard atmosphere.
1107	Pressure Altitude	An atmospheric pressure expressed as the altitude which corresponds to that pressure in the international standard atmosphere.
1108	Altitude Chamber	A chamber in which conditions of pressure, and sometimes temperature, at altitude can be simulated for test purposes.
1109	Aviation	a) The operation of heavier-than-air aircraft (<i>see</i> 1102); and b) Synonym for 'aeronautics'.
1110	Avionics	The application of electronics to aeronautics and astronautics.
1111	Buoyancy	The vertical force on an aircraft, or other body, wholly or partly immersed in a fluid, equal to the weight of the fluid displaced.

No.	Term	Definition
1112	Centre of Buoyancy	The centre of gravity of the fluid displaced by an aircraft, or other body, wholly or partially immersed in a fluid.
1113	Reserve	Excess of the buoyancy of a seaplane, with its hull or floats completely immersed, over its weight.
1114	Elevation	<p>a) The altitude of a point on the Earth's surface; and</p> <p>b) The angle between the observer's horizontal plane and the oblique line from the observer to a given point above him. (Abbreviation for 'angle of elevation').</p>
1115	Flight Simulator	Equipment, in which certain flight conditions are simulated as far as possible, used for training aircrew to operate a given type of aircraft, or for investigating the flying characteristics of an aircraft.
1116	Gas Dynamics	The science of the flow of gases, especially when compressibility and 'real gas' effects such as dissociation or noncontinuum behavior are present.
1117	Ground, To	To prohibit an aircraft from flying.
1118	Height	The vertical distance above a specified datum (<i>see</i> 1105).
1119	Jettison	To throw overboard.
1120	Magnet Of Fluid Dynamics [Magneto Hydrodynamics (MHD) Magneto Gas Dynamics]	The study of the flow of electrically conducting fluids (for example, ionized gases) in magnetic fields.
1121	Mechanics of Fluids	<p>The science of the behavior of fluids under the action of forces. Fluids include liquids and gases, and simple fluids may be characterized by continuing deformation under the action of shear stresses. Fluid Statics is a branch of this science dealing with fluids in equilibrium. The term Fluid Dynamics is used for the branch dealing with the flow of fluids under the action of forces.</p> <p>Classically, Hydrostatics and Hydrodynamics are referred to water. However, they are now used for incompressible fluids, generally liquids. Aerodynamics classically is referred to air, usually relative motion of air with a solid body. It is sometimes used to refer to compressible fluids, usually gases.</p>
1122	Plasma	An electrically conductive state of a gas in which it is comprised of neutral particles, ionized particles and free electrons but, taken as a whole, is electrically neutral.
1123	Sortie	A flight by an aircraft for a specific purpose.

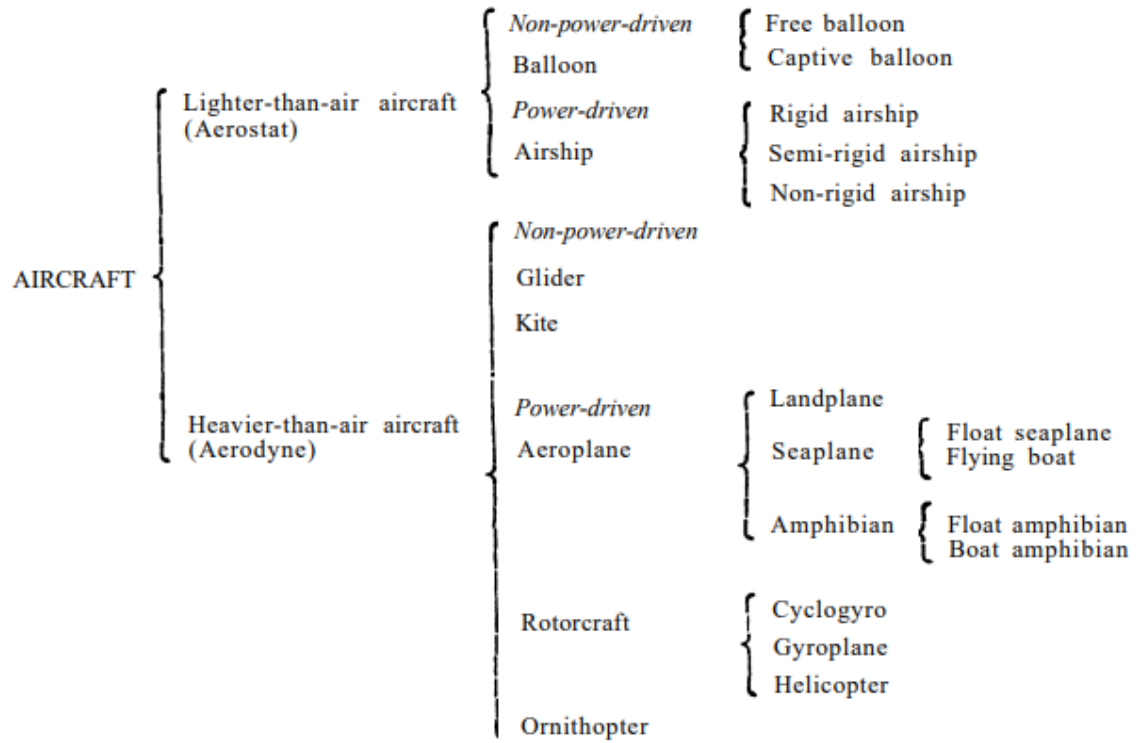
No.	Term	Definition
1124	Airborne Time	The period beginning at the time when the aircraft leaves the Earth's surface and ending when it again makes contact with the Earth's surface.
1125	Flight Time (Block Time Chock-To-Chock Time Buoy-To-Buoy Time)	The period beginning at the time when the aircraft starts to move under the control of the pilot and ending when it returns to rest at the end of the flight.
1126	Flying Time	The summation of the flight times.
1127	Ground Running Time	The period of engine-running time while an aircraft is at rest and/or taxiing
SECTION 12 — AIRCRAFT		
The classification of the main types of aircraft defined in this standard is diagrammatically (<i>see Annex A</i>).		
1201	Aeroplane	A power-driven heavier-than-air aircraft with supporting surfaces, which remain, fixed under given conditions of flight.
1202	Amphibian	An aircraft capable of operating from either a land or a water surface.
1203	Boat Amphibian	An amphibian of which the main body or hull is also the means of support on water.
1204	Landplane	An aeroplane capable of operating from a land surface.
1205	Seaplane	An aeroplane capable of operating from a water surface.
1206	Float Seaplane	A seaplane provided with floats as its means of support on water.
1207	Flying Boat (Boat Seaplane)	A seaplane of which the main body or hull is also the means of support on water.
1208	Aircraft	A vehicle designed to travel through the air outside the ground effect region.
1209	Heavier-Than-Air Aircraft (Aerodyne)	An aircraft, which derives its lift chiefly from aerodynamic forces.
1210	Lighter-Than-Air Aircraft (Aerostat)	An aircraft, which is supported chiefly by its buoyancy in air.
1211	Airship	A power-driven lighter-than-air aircraft.

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No.	Term	Definition
1212	Non-rigid	An airship in which the internal pressure alone maintains the designed shape of the envelope.
1213	Rigid Airship	An airship having a rigid framework to maintain the designed shape of the envelope.
1214	Semi-rigid Airship	An airship having a rigid longitudinal member to distribute the load and to assist in maintaining the designed shape of the envelope.
1215	Balloon	A non-power-driven lighter-than-air aircraft.
1216	Captive Balloon	A balloon anchored or towed by a line.
1217	Free Balloon	A balloon floating freely in the air.
1218	Glider	A non-power-driven heavier-than-air aircraft.
1219	Kite	A non-power-driven heavier-than-air aircraft without controls anchored or towed by a line.
1220	Ornithopter	A heavier-than-air aircraft supported in flight chiefly by the reaction of the air on wings to which a flapping motion is imparted.
1221	Rotorcraft	A heavier-than-air aircraft, which derives lift from a rotor or rotors.
1222	Cyclogyro (PADDLE-PLANE)	A rotorcraft on which the rotor is similar in form to a paddle wheel, power-driven about a horizontal axis.
1223	Gyroplane	A rotorcraft with non-power-driven rotor(s) rotating about axes which are vertical, or nearly so, when the aircraft is in horizontal flight.
1224	Helicopter	A rotorcraft deriving lift from power-driven rotor(s) rotating about axes which are vertical, or nearly so, when the aircraft is in horizontal flight.

Annex A

CLASSIFICATION OF MAIN TYPES OF AIRCRAFT



ANNEX B
(Foreword)

COMMITTEE COMPOSITION

AIR AND SPACE VEHICLES SECTIONAL COMMITTEE SECTIONAL COMMITTEE, TED 14

<i>Organization</i>	<i>Representative(s)</i>
IN Personal Capacity	SHRI DILIP B BHATT (<i>Chairman</i>)
Adani Aerospace and Defence Limited, Bengaluru	SHRI SAMPATHKUMARAN S T
Aeronautical Development Agency, Bengaluru	SHRI D K P SINHA SHRI RAMMOHAN V KAKI (<i>Alternate</i>)
Aeronautical Development Establishment, Bengaluru	SHRI A VAMSIKRISHNA SHRI RANJITH T (<i>Alternate</i>)
Air India, New Delhi	SHRI MATHEW PANICKER
Airports Authority of India, New Delhi	SHRI D DILIP KUMAR
Bharat Dynamics Limited, Hyderabad	SHRI J K MISHRA SHRI KV SUBBA REDDY (<i>Alternate</i>)
CSIR - National Aerospace Laboratories, Bengaluru	SHRI VEERA SESA KUMAR SHRI S RAVISHANKAR (<i>Alternate</i>) DR. SAPTHAGIRI G (<i>Alternate</i>)
Centre for Military Air worthiness and Certification, Bengaluru	SHRI P JAYAPAL SHRI R KAMALAKANNAN (<i>Alternate</i>)
Defence Research and Development Organization, Research Centre Imarat, Hyderabad	DR. S KARUNANIDHI SHRI SSSBS SUBBA RAO (<i>Alternate</i>)
Department of Defence Production, Ministry of Defence, New Delhi	SHRI ARINDAM CHAUDHARY
Directorate General of Aeronautical Quality Assurance, Ministry of Defence, New Delhi	SHRI SANJAY KUMAR SHARMA SHRI MUKESH CHAND MEENA (<i>Alternate</i>)
Directorate General of Civil Aviation, New Delhi	SHRI BHARAT LAL SHRI VEERENDRA KUMAR KABIR (<i>Alternate</i>) SHRI ASEEM KUMAR
Directorate of Naval Air Material, Ministry of Defence	SHRI D D DARKE SHRI R RAJESH (<i>Alternate</i>)
GAIL (India) Limited, New Delhi	SHRI KAUSHIK DAS
Gas Turbine Research Establishment, Bengaluru	SHRI G DEVEANANDA SHRI D NAGARAJU (<i>Alternate</i>)
Godrej Aerospace, Mumbai	SHRI AMOL BANSI THORAT

<i>Organization</i>	<i>Representative(s)</i>
HQ Maintenance Command, Indian Air Force	SHRI F J D'SOUJA SHRI V. K. GOEL (<i>Alternate</i>)
Hindustan Aeronautics Limited, Bengaluru	SHRI PRATAP PANDA SHRI SUSHIL KUMAR (<i>Alternate</i>)
Indian Institute of Science, Bengaluru	DR. SATISH L. DR. L. UMANAND (<i>Alternate</i>) DR. SUBBA REDDY B (<i>Alternate</i>)
Indian Institute of Technology Madras, Chennai	PROF. HARISHANKAR RAMCHANDRAN
Indian National Space Promotion and Authorisation Centre (IN-SPACe), Ahmedabad	SHRI PARAGJYOTI GARG
Indian Space Research Organization - U R Rao Satellite Centre, Bengaluru	SHRI RAGHAVENDRA KULKARNI SHRI RAYAN KUTTY P P (<i>Alternate</i>)
Indian Space Research Organization - Vikram Sarabhai Space Centre, Thiruvananthapuram	SHRI P. RAMKUMAR SHRI JAYAKUMAR M SHRI GOVIND (<i>Alternate</i>)
Indian Space Research Organization, Bengaluru	DR. A K ANIL KUMAR SHRI MANISH SAXENA (<i>Alternate</i>)
Larsen and Toubro Limited, Mumbai	SHRI LAXMESH B.H. SHRI JAMBUNATHAN G (<i>Alternate</i>)
Society of Indian Aerospace Technologies and Industries, Bengaluru	SHRI FRANCIS XAVIER
Sundram Fasteners Limited, Chennai	SHRI ATUL KUMAR AGRAWAL
In personal capacity	SHRI MANOHAR SIDANA
In personal capacity	SHRI S C SHRIMALI
BIS Directorate General	SHRI P.V. SRIKANTH, SCIENTIST 'D' & HEAD (TED) [REPRESENTING DIRECTOR GENERAL (EX-OFFICIO)]

MEMBER SECRETARY
MR. SHIVAM AGGARWAL
SCIENTIST C / DEPUTY DIRECTOR
(TRANSPORT ENGINEERING DEPARTMENT)