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Glossary of

Aeronautical and astronautical terms —

**Section 5: Heavier-than-air aircraft
(aerodynes)**

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Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 17 and a back cover.

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Contents

	Page
Section 5. Heavier-than-air aircraft (aerodynes)	1
Subsection 51. Complete aircraft	1
Subsection 52. Shape and disposition of surfaces	2
Subsection 53-54. Component parts	5
Subsection 55. Instruments	10
Subsection 56. Loadings and weights	13
Subsection 57. Rotorcraft	15

(Notes on the arrangement and scope of the glossary are contained in the Foreword to Section 1.)

Section 5. Heavier-than-air aircraft (aerodynes)

Subsection 51. Complete aircraft

No.	Term	Definition
5101	aeroplane	See 1204.
5102	canard aeroplane	An aeroplane with the surfaces providing the requisite longitudinal stability and control in front of the main plane.
5103	landplane	See 1208.
5104	skiplane	A landplane provided with skis as a means of support on snow-covered or ice-covered terrain.
5105	pusher aeroplane	An aeroplane fitted with pusher propellers.
5106	seaplane	See 1209.
5107	float seaplane	See 1210.
5108	flying boat BOAT SEAPLANE	See 1211.
5109	tractor aeroplane	An aeroplane fitted with tractor propellers.
5110	amphibian	See 1205.
5111	coleopter	An aircraft having an annular wing, with the engine, and body mounted within the annulus, and designed to take-off and land with its wing axis vertical.
5112	convertiplane	An aeroplane capable, by a mechanical conversion in the air, of landing and taking-off vertically.
5113	glider	See 1212.
5114	sailplane	A glider designed to utilize only atmospheric currents for sustained free flight.
5115	towed glider	A glider which relies on towing for sustained flight.
5116	kite	See 1213.
5117	mixed-power-plant aircraft	An aircraft whose power plant embodies more than one type of engine, each being usually appropriate to a particular flight regime.
5118	monoplane	An aeroplane or glider with one pair of wings. (See note under 5123.)
5119	high-wing monoplane	A monoplane in which the wings are located at or near (shoulder-wing) the top of the fuselage.
5120	low-wing monoplane	A monoplane in which the wings are located at or near the bottom of the fuselage.
5121	mid-wing monoplane	A monoplane in which the wings are located approximately midway between the top and bottom of the fuselage.
5122	parasol monoplane	A monoplane in which the wings are united in a separate structure above the fuselage.
5123	multiplane	An aeroplane or glider with two or more sets of wings usually one above another, e.g. biplane or triplane . NOTE Monoplane, biplane, triplane and multiplane are also used as adjectives associated with a particular component, e.g. biplane rudder, triplane tail, etc.
5124	ornithopter	See 1214.
5125	rotorcraft	See 1215.
5126	compound rotorcraft	An aircraft utilizing in flight features of both aeroplane and rotorcraft.

No.	Term	Definition
5127	<i>cyclogyro</i> PADDLE-PLANE	See 1216.
5128	<i>gyroplane</i>	See 1217.
5129	<i>helicopter</i>	See 1218.
5130	sesquiplane	A biplane in which one pair of wings is of substantially less span than the other pair.
5131	STOL aircraft	A heavier-than-air aircraft designed to take-off and land with a short ground run, either by the provision of powered lift or by the use of special aerodynamic devices.
5132	tailless aircraft FLYING WING	An aircraft with its longitudinal control surfaces incorporated in the main plane.
5133	variable-sweep aircraft SWING-WING AIRCRAFT	An aircraft in which the sweep of the main plane can be varied in flight.
5134	VTOL aircraft	A heavier-than-air aircraft provided with powered lift, which can take-off and land along a substantially vertical path.
5135	V/STOL aircraft	A VTOL aircraft which can also take-off and land with a short ground run, particularly when operating at an increased weight.

Subsection 52. Shape and disposition of surfaces

5201	aerofoil	A body so shaped as to produce aerodynamic reaction normal to the direction of its motion through the air without excessive drag.
5202	<i>annular aerofoil</i>	An aerofoil generated by the rotation of its section about an axis substantially parallel to its chord and thus having an annular cross section normal to that axis.
5203	<i>slotted aerofoil</i>	An aerofoil having one or more air passages (or slots) connecting its two surfaces to delay separation (4479) and consequent stall.
5204	<i>slat</i>	An auxiliary, cambered aerofoil positioned forward of the main aerofoil so as to form a slot.
5205	aerofoil section	The shape of the boundary of a section of an aerofoil in a plane parallel to its plane of symmetry.
5206	aileron droop	The simultaneous downward or positive deflection of the ailerons on both sides of an aeroplane or glider.
5207	aileron up-float	The simultaneous upward or negative deflection of the ailerons on both sides of an aeroplane or glider.
	angles	
5208	<i>control surface angle</i>	The angle between the chord of the control surface and the chord of the corresponding fixed surface (e.g. aileron angle , elevator angle , elevon angle , rudder angle).
5209	<i>décalage</i>	The angle between the chord of the upper plane of a biplane and that of the lower plane in a section parallel to the plane of symmetry.
5210	<i>dihedral</i>	The angle at which, in an aeroplane or glider, the port and starboard parts of the main plane or tailplane are inclined upwards to the transverse plane of reference. If the inclination is downwards the angle is termed anhedral or negative dihedral .
5211	<i>sweep (back or forward)</i>	The angle in plan between a specified spanwise line along an aerofoil and the normal to the plane of symmetry. For an aerofoil as a whole, the quarter-chord line is preferred, but any other specified line, such as the leading or trailing edge, may be taken for a particular purpose.

No.	Term	Definition
5212	<i>tail-setting angle</i>	The angle between the root chord of the main supporting surface and the chord of the tailplane.
5213	<i>wash-in</i>	Increase in angle of incidence towards the tip of a wing or other aerofoil.
5214	<i>wash-out</i>	Decrease in angle of incidence towards the tip of a wing or other aerofoil.
	areas	
5215	<i>gross wing area</i>	1. The area of the surface bounded by the two wing tips and the leading and trailing edges continued to intersect in the plane of symmetry. 2. The area of the surface bounded by the two wing tips, the leading and trailing edges and by straight lines joining their intersections (ignoring fillets) with the fuselage and wing nacelles.
5216	<i>net wing area</i>	The gross wing area less the part covered by the fuselage.
5217	<i>aspect ratio</i>	The ratio of the square of the span to the gross area of an aerofoil.
5218	<i>camber</i>	1. Curvature of the median line of an aerofoil section; more generally, the curvature of a surface. 2. The ratio of the maximum height of the median line above the chord to the chord length.
5219	<i>conical camber</i>	The camber of an aerofoil having a surface derived from a cone (not necessarily right circular) with its apex lying in the plane of symmetry of the aircraft.
5220	<i>chord</i>	The straight line through the centres of curvature at the leading and trailing edges of an aerofoil section.
5221	<i>aerodynamic mean chord</i> SECOND MEAN CHORD	A chord of length defined by: $\frac{1}{S} \int_{-b/2}^{b/2} c^2 dy$ where c = chord length at distance y from the plane of symmetry b = span S = gross wing area.
5222	<i>chord length</i>	The length of that part of the chord which is intercepted by the aerofoil section boundary.
5223	<i>chord position</i>	The position of the chord as defined by the co-ordinates (x, y, z) of its quarter-chord point referred to body axes and its inclination (θ) to the x - y plane.
5224	<i>quarter-chord line</i>	The line through the quarter-chord points of an aerofoil.
5225	<i>quarter-chord point</i>	The point on the chord of an aerofoil section at one quarter of the chord length behind the leading edge.
5226	<i>standard mean chord</i> FIRST MEAN CHORD	A chord of length equal to the gross wing area divided by the span.
5227	<i>gap</i>	Of a multiplane. The distance between the leading edge of a plane and of the one below it, measured parallel to the normal body axis.
5228	<i>geometric twist</i>	Variation, along the span of a wing or other aerofoil, of the angle between the chord and a fixed datum. (Cf. 4102.)
5229	<i>leading edge</i>	1. The forward edge of an aerofoil or other body moving through the air. 2. The forward portion of the structure of an aerofoil.