

SECTION B — PERFORMING OPERATIONS; TRANSPORTING

B64 AIRCRAFT; AVIATION; COSMONAUTICS

B64C AEROPLANES; HELICOPTERS

Note(s) [3]

As far as possible, classification is made according to constructional features; classification according to particular kinds of aircraft is normally regarded as being of secondary importance, except in cases where this is considered to be the characteristic feature.

Subclass index

STRUCTURES, FAIRINGS

Features common to different elements.....	1/00
Fuselages; wings; stabilising surfaces.....	1/00, 3/00, 5/00
Other structural elements.....	7/00

PROPELLERS, FLIGHT CONTROL

Propellers.....	11/00
Adjustable control surfaces or members; control systems.....	9/00, 13/00
Control by jet reaction.....	15/00
Stabilisation and controls not otherwise provided for.....	17/00, 19/00

MODIFYING LIFT BY ACTION ON AIR FLOW.....13/00, 21/00, 23/00

ALIGHTING GEAR.....25/00

AIRCRAFT KINDS AND THEIR COMPONENTS NOT OTHERWISE PROVIDED FOR

Supersonic.....	30/00
Seaplanes.....	35/00
Aircraft intended to be sustained without power plant; powered hand-glider-type aircraft; microlight aircraft.....	31/00
Convertible aircraft.....	37/00
Vertical-take-off or landing aircraft.....	29/00
Rotorcraft; ornithopters.....	27/00, 33/00
Others.....	39/00

Aircraft structures or fairings

1/00 Fuselages; Constructional features common to fuselages, wings, stabilising surfaces or the like [1, 2006.01]

- 1/06 • Frames; Stringers; Longerons [1, 2006.01]
- 1/08 • • Geodetic or other open-frame structures [1, 2006.01]
- 1/10 • • Bulkheads [1, 2006.01]
- 1/12 • • Construction or attachment of skin panels [1, 2006.01]
- 1/14 • Windows; Doors; Hatch covers or access panels; Surrounding frame structures; Canopies; Windscreens (fairings movable in conjunction with undercarriage elements B64C 25/16; bomb doors B64D 1/06) [1, 2006.01]
- 1/16 • specially adapted for mounting power plant [1, 2006.01]
- 1/18 • Floors [1, 2006.01]
- 1/20 • • specially adapted for freight [1, 2006.01]
- 1/22 • Other structures integral with fuselages to facilitate loading [1, 2006.01]
- 1/24 • Steps mounted on, and retractable within, fuselages [1, 2006.01]

- 1/26 • Attaching the wing or tail units or stabilising surfaces [1, 2006.01]
- 1/28 • Parts of fuselage relatively movable to improve pilots view [1, 2006.01]
- 1/30 • Parts of fuselage relatively movable to reduce overall dimensions of aircraft [1, 2006.01]
- 1/32 • Severable or jettisonable parts of fuselage facilitating emergency escape [1, 2006.01]
- 1/34 • comprising inflatable structural components [1, 2006.01]
- 1/36 • adapted to receive antennas or radomes [1, 2006.01]
- 1/38 • Constructions adapted to reduce effects of aerodynamic or other external heating [1, 2006.01]
- 1/40 • Sound or heat insulation [1, 2006.01]
- 3/00 Wings (ornithopter wings B64C 33/02) [1, 2006.01]**
- 3/10 • Shape of wings [1, 2006.01]
- 3/14 • • Aerofoil profile [1, 2006.01]
- 3/16 • • Frontal aspect [1, 2006.01]
- 3/18 • Spars; Ribs; Stringers [1, 2006.01]
- 3/20 • Integral or sandwich constructions [1, 2006.01]
- 3/22 • Geodetic or other open-frame structures [1, 2006.01]
- 3/24 • Moulded or cast structures [1, 2006.01]

- 3/26 • Construction, shape, or attachment of separate skins, e.g. panels [1, 2006.01]
- 3/28 • Leading or trailing edges attached to primary structures, e.g. forming fixed slots [1, 2006.01]
- 3/30 • comprising inflatable structural components [1, 2006.01]
- 3/32 • specially adapted for mounting power plant [1, 2006.01]
- 3/34 • Tanks constructed integrally with wings, e.g. for fuel or water [1, 2006.01]
- 3/36 • Structures adapted to reduce effects of aerodynamic or other external heating [1, 2006.01]
- 3/38 • Adjustment of complete wings or parts thereof [1, 2006.01]
- 3/40 • • Varying angle of sweep [1, 2006.01]
- 3/42 • • Adjusting about chordwise axes [1, 2006.01]
- 3/44 • • Varying camber [1, 2006.01]
- 3/46 • • • by inflatable elements [1, 2006.01]
- 3/48 • • • by relatively-movable parts of wing structures [1, 2006.01]
- 3/50 • • • by leading or trailing edge flaps [1, 2006.01]
- 3/52 • • Warping [1, 2006.01]
- 3/54 • • Varying in area [1, 2006.01]
- 3/56 • • Folding or collapsing to reduce overall dimensions of aircraft [1, 2006.01]
- 3/58 • provided with fences or spoilers (adjustable for control purposes B64C 9/00) [1, 2006.01]
- 5/00 Stabilising surfaces [1, 2006.01]**
- 5/02 • Tailplanes [1, 2006.01]
- 5/04 • Noseplanes [1, 2006.01]
- 5/06 • Fins (B64C 5/08 takes precedence) [1, 2006.01]
- 5/08 • mounted on, or supported by, wings [1, 2006.01]
- 5/10 • adjustable [1, 2006.01]
- 5/12 • • for retraction against or within fuselage or nacelle [1, 2006.01]
- 5/14 • • Varying angle of sweep [1, 2006.01]
- 5/16 • • about spanwise axes [1, 2006.01]
- 5/18 • • in area [1, 2006.01]
- 7/00 Structures or fairings not otherwise provided for [1, 2006.01]**
- 7/02 • Nacelles [1, 2006.01]

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- 9/00 Adjustable control surfaces or members, e.g. rudders (trimming stabilising surfaces B64C 5/10) [1, 2006.01]**
 - 9/02 • Mounting or supporting thereof [1, 2006.01]
 - 9/04 • with compound dependent movements [1, 2006.01]
 - 9/06 • with two or more independent movements [1, 2006.01]
 - 9/08 • bodily displaceable [1, 2006.01]
 - 9/10 • one surface adjusted by movement of another, e.g. servo tabs (B64C 9/04 takes precedence; adjusting surfaces of different type or function B64C 9/12) [1, 2006.01]
 - 9/12 • surfaces of different type or function being simultaneously adjusted [1, 2006.01]
 - 9/14 • forming slots [1, 2006.01]
 - 9/16 • • at the rear of the wing [1, 2006.01]
 - 9/18 • • • by single flaps [1, 2006.01]
 - 9/20 • • • by multiple flaps [1, 2006.01]
 - 9/22 • • at the front of the wing [1, 2006.01]
 - 9/24 • • • by single flap [1, 2006.01]
 - 9/26 • • • by multiple flaps [1, 2006.01]

- 9/28 • • by flaps at both the front and rear of the wing operating in unison [1, 2006.01]
- 9/30 • Balancing hinged surfaces, e.g. dynamically [1, 2006.01]
- 9/32 • Air braking surfaces [1, 2006.01]
- 9/34 • collapsing or retracting against or within other surfaces or other members [1, 2006.01]
- 9/36 • • the members being fuselages or nacelles [1, 2006.01]
- 9/38 • Jet flaps [1, 2006.01]
- 11/00 Propellers, e.g. of ducted type; Features common to propellers and rotors for rotorcraft [1, 2006.01]**
- 11/02 • Hub construction [1, 2006.01]
- 11/04 • • Blade mountings [1, 2006.01]
- 11/06 • • • for variable-pitch blades [1, 2006.01]
- 11/08 • • • for non-adjustable blades [1, 2006.01]
- 11/10 • • • • rigid [1, 2006.01]
- 11/12 • • • • flexible [1, 2006.01]
- 11/14 • • Spinners [1, 2006.01]
- 11/16 • Blades [1, 2006.01]
- 11/18 • • Aerodynamic features [1, 2006.01]
- 11/20 • • Constructional features [1, 2006.01]
- 11/22 • • • Solid blades [1, 2006.01]
- 11/24 • • • Hollow blades [1, 2006.01]
- 11/26 • • • Fabricated blades [1, 2006.01]
- 11/28 • • • Collapsible or foldable blades [1, 2006.01]
- 11/30 • Blade pitch-changing mechanisms [1, 2006.01]
- 11/32 • • mechanical [1, 2006.01]
- 11/34 • • • automatic [1, 2006.01]
- 11/36 • • • non-automatic [1, 2006.01]
- 11/38 • • fluid, e.g. hydraulic [1, 2006.01]
- 11/40 • • • automatic [1, 2006.01]
- 11/42 • • • non-automatic [1, 2006.01]
- 11/44 • • electric [1, 2006.01]
- 11/46 • Arrangements of, or constructional features peculiar to, multiple propellers [1, 2006.01]
- 11/48 • • Units of two or more coaxial propellers [1, 2006.01]
- 11/50 • • Phase synchronisation between multiple propellers [1, 2006.01]
- 13/00 Control systems or transmitting systems for actuating flying-control surfaces, lift-increasing flaps, air brakes, or spoilers [1, 2006.01]**
- 13/02 • Initiating means [1, 2006.01]
- 13/04 • • actuated personally [1, 2006.01]
- 13/06 • • • adjustable to suit individual persons [1, 2006.01]
- 13/08 • • • Trimming zero positions [1, 2006.01]
- 13/10 • • • comprising warning devices [1, 2006.01]
- 13/12 • • • Dual control apparatus [1, 2006.01]
- 13/14 • • • lockable [1, 2006.01]
- 13/16 • • actuated automatically, e.g. responsive to gust detectors [1, 2006.01]
- 13/18 • • • using automatic pilot [1, 2006.01]
- 13/20 • • • using radiated signals [1, 2006.01]
- 13/22 • • • readily revertible to personal control [1, 2006.01]
- 13/24 • Transmitting means [1, 2006.01]
- 13/26 • • without power amplification or where power amplification is irrelevant [1, 2006.01]
- 13/28 • • • mechanical [1, 2006.01]
- 13/30 • • • • using cable, chain, or rod mechanisms [1, 2006.01]

- 13/32 • • • • using cam mechanisms [1, 2006.01]
- 13/34 • • • • using toothed gearing [1, 2006.01]
- 13/36 • • • fluid [1, 2006.01]
- 13/38 • • with power amplification [1, 2006.01]
- 13/40 • • • using fluid pressure [1, 2006.01]
- 13/42 • • • • having duplication or stand-by provisions [1, 2006.01]
- 13/44 • • • • overriding of personal controls; with automatic return to inoperative position [1, 2006.01]
- 13/46 • • • • with artificial feel [1, 2006.01]
- 13/48 • • • • characterised by the fluid being gaseous [1, 2006.01]
- 13/50 • • • using electrical energy [1, 2006.01]

15/00 Attitude, flight direction or altitude control by jet reaction [1, 3, 2006.01]

- 15/02 • the jets being propulsion jets [1, 2006.01]
- 15/12 • the power plant being tiltable [1, 2006.01]
- 15/14 • the jets being other than main propulsion jets (jet flaps B64C 9/38) [1, 2006.01]

17/00 Aircraft stabilisation not otherwise provided for [1, 2006.01]

- 17/02 • by gravity or inertia-actuated apparatus [1, 2006.01]
- 17/04 • • by pendular bodies [1, 2006.01]
- 17/06 • • by gyroscopic apparatus [1, 2006.01]
- 17/08 • by ballast supply or discharge [1, 2006.01]
- 17/10 • Transferring fuel to adjust trim [1, 2006.01]

19/00 Aircraft control not otherwise provided for [1, 2006.01]

- 19/02 • Conjoint controls [1, 2006.01]

Influencing air flow over aircraft surfaces, not otherwise provided for

21/00 Influencing air flow over aircraft surfaces by affecting boundary layer flow [1, 2006.01, 2023.01]

- 21/01 • Boundary layer ingestion [BLI] propulsion [2023.01]
- 21/02 • by use of slot, ducts, porous areas or the like [1, 2006.01]
- 21/04 • • for blowing [1, 2006.01, 2023.01]
- 21/06 • • for sucking (BLI propulsion B64C 21/01) [1, 2006.01, 2023.01]
- 21/08 • • adjustable [1, 2006.01, 2023.01]
- 21/10 • using other surface properties, e.g. roughness [1, 2006.01]

23/00 Influencing air flow over aircraft surfaces, not otherwise provided for [1, 2006.01]

- 23/02 • by means of rotating members of cylindrical or similar form [1, 2006.01]
- 23/04 • by generating shock waves [1, 2006.01]
- 23/06 • by generating vortices [1, 2006.01]
- 23/08 • using Magnus effect [1, 2006.01]

25/00 Alighting gear (air-cushion alighting gear B60V 3/08) [1, 2006.01]

- 25/02 • Undercarriages [1, 2006.01]
- 25/04 • • Arrangement or disposition on aircraft [1, 2006.01]
- 25/06 • • fixed [1, 2006.01]
- 25/08 • • non-fixed, e.g. jettisonable [1, 2006.01]

- 25/10 • • • retractable, foldable, or the like [1, 2006.01]
- 25/12 • • • • sideways [1, 2006.01]
- 25/14 • • • • fore-and-aft [1, 2006.01]
- 25/16 • • • • Fairings movable in conjunction with undercarriage elements [1, 2006.01]
- 25/18 • • • • Operating mechanisms [1, 2006.01]
- 25/20 • • • • • mechanical [1, 2006.01]
- 25/22 • • • • • fluid [1, 2006.01]
- 25/24 • • • • • electric [1, 2006.01]
- 25/26 • • • • • Control or locking systems therefor [1, 2006.01]
- 25/28 • • • • • • with indicating or warning devices [1, 2006.01]
- 25/30 • • • • • • emergency actuated [1, 2006.01]
- 25/32 • characterised by elements which contact the ground or similar surface (arrester hooks B64C 25/68) [1, 2006.01]
- 25/34 • • wheeled type, e.g. multi-wheeled bogies [1, 2006.01]
- 25/36 • • • Arrangements or adaptations of wheels, tyres or axles in general [1, 2006.01]
- 25/38 • • endless-track type [1, 2006.01]
- 25/40 • • the elements being rotated before touch-down [1, 2006.01]
- 25/42 • • Arrangement or adaptation of brakes [1, 4, 2006.01]
- 25/44 • • • Actuating mechanisms [1, 2006.01]
- 25/46 • • • • Brake regulators for preventing skidding or aircraft somersaulting [1, 2006.01]
- 25/48 • • • • differentially operated for steering purposes [1, 2006.01]
- 25/50 • • Steerable undercarriages; Shimmy-damping [1, 2006.01]
- 25/52 • • Skis or runners [1, 2006.01]
- 25/54 • • Floats [1, 2006.01]
- 25/56 • • • inflatable [1, 2006.01]
- 25/58 • • Arrangements or adaptations of shock-absorbers or springs (shimmy-dampers B64C 25/50) [1, 2006.01]
- 25/60 • • • Oleo legs [1, 2006.01]
- 25/62 • • • Spring shock-absorbers; Springs [1, 2006.01]
- 25/64 • • • • using rubber or like elements [1, 2006.01]
- 25/66 • • Convertible alighting gear; Combinations of different kinds of ground or like engaging elements [1, 2006.01]
- 25/68 • Arrester hooks [1, 2006.01]

Aircraft kinds or components not otherwise provided for

27/00 Rotorcraft; Rotors peculiar thereto [1, 2006.01]

- 27/02 • Gyroplanes [1, 2006.01]
- 27/04 • Helicopters [1, 2006.01]
- 27/06 • • with single rotor [1, 2006.01]
- 27/08 • • with two or more rotors [1, 2006.01, 2023.01]
- 27/10 • • • arranged coaxially [1, 2006.01, 2023.01]
- 27/12 • • Rotor drives [1, 2006.01]
- 27/14 • • • Direct drive between power plant and rotor hub [1, 2006.01]
- 27/16 • • • Drive of rotors by means, e.g. propellers, mounted on rotor blades [1, 2006.01]
- 27/18 • • • • the means being jet-reaction apparatus [1, 2006.01]
- 27/20 • Rotorcraft characterised by having shrouded rotors, e.g. flying platforms [1, 2006.01, 2023.01]

B64C

- 27/22 • Compound rotorcraft, i.e. aircraft using in flight the features of both aeroplane and rotorcraft [1, 2006.01]
- 27/24 • • with rotor blades fixed in flight to act as lifting surfaces [1, 2006.01]
- 27/26 • • characterised by provision of fixed wings [1, 2006.01]
- 27/28 • • with forward-propulsion propellers pivotable to act as lifting rotors [1, 2006.01]
- 27/30 • • with provision for reducing drag of inoperative rotor [1, 2006.01]
- 27/32 • Rotors [1, 2006.01]
- 27/33 • • having flexing arms [3, 2006.01]
- 27/35 • • having elastomeric joints [3, 2006.01]
- 27/37 • • having articulated joints [3, 2006.01]
- 27/39 • • • with individually articulated blades, i.e. with flapping or drag hinges [3, 2006.01]
- 27/41 • • • with flapping hinge or universal joint, common to the blades [3, 2006.01]
- 27/43 • • • • see-saw type, i.e. two-bladed rotor [3, 2006.01]
- 27/45 • • • with a feathering hinge only [3, 2006.01]
- 27/46 • • Blades [1, 2006.01]
- 27/467 • • • Aerodynamic features [6, 2006.01]
- 27/473 • • • Constructional features [6, 2006.01]
- 27/48 • • • • Root attachment to rotor head [1, 2006.01]
- 27/50 • • • • Blades foldable to facilitate stowage of aircraft [1, 2006.01]
- 27/51 • Damping of blade movements [3, 2006.01]
- 27/52 • Tilting of rotor bodily relative to fuselage (of see-saw type construction B64C 27/43) [1, 2006.01]
- 27/54 • Mechanisms for controlling blade adjustment or movement relative to rotor head, e.g. lag-lead movement [1, 2006.01]
- 27/56 • • characterised by the control initiating means, e.g. manually actuated [1, 2006.01]
- 27/57 • • • automatic or condition responsive, e.g. responsive to rotor speed, torque or thrust [3, 2006.01]
- 27/58 • • Transmitting means, e.g. interrelated with initiating means or means acting on blades (means acting on blades B64C 27/72) [1, 2006.01]
- 27/59 • • • mechanical [3, 2006.01]
- 27/605 • • • • including swash plate, spider or cam mechanisms [3, 2006.01]
- 27/615 • • • • including flaps mounted on blades [3, 2006.01]
- 27/625 • • • • including rotating masses or servo rotors [3, 2006.01]
- 27/635 • • • • specially for controlling lag-lead movements of blades [3, 2006.01]
- 27/64 • • • using fluid pressure, e.g. having fluid power amplification [1, 3, 2006.01]
- 27/68 • • • using electrical energy, e.g. having electrical power amplification [1, 3, 2006.01]
- 27/72 • • Means acting on blades [1, 2006.01]
- 27/78 • • in association with pitch adjustment of blades of anti-torque rotor [1, 2006.01]
- 27/80 • • for differential adjustment of blade pitch between two or more lifting rotors [1, 2006.01]
- 27/82 • characterised by the provision of an auxiliary rotor or fluid-jet device for counter-balancing lifting-rotor torque or changing direction of rotorcraft [1, 2006.01]
- 29/00 **Aircraft capable of landing or taking-off vertically, e.g. vertical take-off and landing [VTOL] aircraft (rotorcraft B64C 27/00) [1, 2006.01]**
- 29/02 • having its flight directional axis vertical when grounded [1, 2006.01]
- 29/04 • • characterised by jet-reaction propulsion [1, 2006.01]
- 30/00 **Supersonic type aircraft [3, 2006.01]**
- 31/00 **Aircraft intended to be sustained without power plant; Powered hang-glider-type aircraft; Microlight-type aircraft [1, 2006.01]**
- 31/02 • Gliders, e.g. sailplanes (hang-gliders B64C 31/028) [1, 6, 2006.01]
- 31/024 • • with auxiliary power plant [6, 2006.01]
- 31/028 • Hang-glider-type aircraft; Microlight-type aircraft [6, 2006.01]
- 31/032 • • having delta shaped wing [6, 2006.01]
- 31/036 • • having parachute-type wing [6, 2006.01]
- 31/04 • Man-powered aircraft [1, 2006.01]
- 31/06 • Kites (toy aspects A63H 27/08; airborne towed targets, e.g. kites, F41J 9/10) [1, 2006.01, 2020.01]
- 33/00 **Ornithopters [1, 2006.01]**
- 33/02 • Wings; Actuating mechanisms therefor [1, 2006.01]
- 35/00 **Flying-boats; Seaplanes [1, 2006.01]**
- 35/02 • Flying-boat hulls [3, 2006.01]
- 37/00 **Convertible aircraft [1, 2006.01]**
- 37/02 • Flying units formed by separate aircraft (towing B64D 3/00; aircraft transported by aircraft B64D 5/00; air-refuelling B64D 39/00) [1, 2006.01]
- 39/00 **Aircraft not otherwise provided for [1, 2006.01, 2023.01]**
- 39/02 • characterised by special use [1, 2006.01, 2023.01]
- 39/04 • having multiple fuselages or tail booms [3, 2006.01]
- 39/06 • having disc- or ring-shaped wings [3, 2006.01]
- 39/08 • having multiple wings [3, 2006.01]
- 39/10 • All-wing aircraft [3, 2006.01]
- 39/12 • Canard-type aircraft [3, 2006.01]

- 99/00 **Subject matter not provided for in other groups of this subclass [2010.01, 2023.01]**