

CPC COOPERATIVE PATENT CLASSIFICATION

B PERFORMING OPERATIONS; TRANSPORTING

(NOTES omitted)

TRANSPORTING

B64 AIRCRAFT; AVIATION; COSMONAUTICS

B64D EQUIPMENT FOR FITTING IN OR TO AIRCRAFT; FLYING SUITS; PARACHUTES; ARRANGEMENTS OR MOUNTING OF POWER PLANTS OR PROPULSION TRANSMISSIONS IN AIRCRAFT

WARNINGS

- The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

B64D 15/18	covered by	B64D 15/16
B64D 25/102	covered by	B64D 25/10
B64D 25/105	covered by	B64D 25/10
B64D 25/108	covered by	B64D 25/10
B64D 25/11	covered by	B64D 25/10
B64D 25/112	covered by	B64D 25/10
B64D 25/115	covered by	B64D 25/10
B64D 25/118	covered by	B64D 25/10
- In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

1/00	Dropping, ejecting, releasing, or receiving articles, liquids, or the like, in flight (with respect to weapon sights devices F41G takes precedence, parachutes per se B64D 17/00; ejectable seats B64D 25/10; ejectable capsules B64D 25/12; refuelling during flight B64D 39/00; launching apparatus for projecting projectiles or missiles F41F 1/00, F41F 7/00; rocket or torpedo launchers F41F 3/00)	7/00	Arrangements of military equipment, e.g. armaments, armament accessories, or military shielding, in aircraft; Adaptations of armament mountings for aircraft (dropping bombs or the like B64D 1/00; armaments or mountings therefor per se F41)
1/02	. Dropping, ejecting, or releasing articles (jettisonable fuel reservoirs B64D 37/12)	7/02	. the armaments being firearms
1/04	. . the articles being explosive, e.g. bombs (arming or setting bomb fuzes F42C)	7/04	. . fixedly mounted
1/06	. . . Bomb releasing; Bombs doors	7/06	. . movably mounted
1/08	. . the articles being load-carrying devices	7/08	. Arrangements of rocket launchers {or releasing means}(rocket launchers per se , e.g. rocket pods, F41F 3/06)
1/10	. . . Stowage arrangements for the devices in aircraft	9/00	Equipment for handling freight; Equipment for facilitating passenger embarkation or the like (emergency equipment B64D 17/00, B64D 19/00, B64D 25/00; structures integral with fuselage to facilitate loading, fuselage floors specially adapted for freight, steps mounted on and retractable within aircraft B64C; ground installations B64F)
1/12	. . . Releasing	9/003	. {Devices for retaining pallets or freight containers (securing freight containers on vehicles B60P 7/00)}
1/14	. . . Absorbing landing shocks	2009/006	. {Rollers or drives for pallets of freight containers, e.g. PDU}
1/16	. Dropping or releasing powdered, liquid, or gaseous matter, e.g. for fire-fighting (jettisoning fuel B64D 37/26)	10/00	Flying suits (helmets in general A42B 3/00; breathing helmets A62B 18/00)
1/18	. . by spraying, e.g. insecticides (spraying apparatus per se B05B)	2010/002	. {Anti-g suits or garments}
1/20	. . for sky-writing	2010/005	. {High altitude suits or garments, e.g. partial or total pressure}
1/22	. Taking-up articles from earth's surface	2010/007	. {Suits with cooling or heating means}
3/00	Aircraft adaptations to facilitate towing or being towed (B64D 39/00 takes precedence)	11/00	Passenger or crew accommodation; Flight-deck installations not otherwise provided for
3/02	. for towing targets		
5/00	Aircraft transported by aircraft, e.g. for release or reberthing during flight (flying units formed by separate aircraft B64C 37/02)		

11/0007	. {Devices specially adapted for food or beverage distribution services}	11/0626	. . {with individual temperature or ventilation control}
11/0015	. {Arrangements for entertainment or communications, e.g. radio, television}	11/0627	. . {Seats combined with storage means}
11/00151	. . {Permanently mounted seat back monitors}	11/0629	. . . {the storage means being specially adapted for emergency equipment}
11/00152	. . {Seat back fixtures for removable monitors, e.g. tablet computers}	11/0631	. . . . {for life vests}
11/00153	. . {Monitors mounted on or in the seat other than the seat back}	11/0632	. . . . {for breathing apparatus}
11/00154	. . {Loudspeakers mounted in the seat back}	11/0633	. . . . {for devices other than life vests and intended for external use, e.g. parachutes or life rafts}
11/00155	. . {Individual entertainment or communication system remote controls therefor, located in or connected to seat components, e.g. to seat back or arm rest}	11/0636	. . . {Personal storage means or waste disposal bags}
11/0023	. {Movable or removable cabin dividers, e.g. for class separation (bulkheads B64C 1/10)}	11/0638	. . {with foldable tables, trays or cup holders}
11/003	. {Stowage devices for passengers' personal luggage}	11/0639	. . {with features for adjustment or converting of seats}
2011/0038	. {Illumination systems for cabins as a whole}	11/06395	. . . {characterised by the arrangement of electric motors for adjustment}
2011/0046	. {Modular or preassembled units for creating cabin interior structures}	11/064	. . . {Adjustable inclination or position of seats}
2011/0053	. {Cabin passenger reading lights}	11/0641	. . . {Seats convertible into beds}
2011/0061	. {Windows displaying outside view, artificially generated}	11/0642	. . . {Adjustable headrests}
2011/0069	. {Rest berths, beds or the like}	11/0643	. . . {Adjustable foot or leg rests}
2011/0076	. . {for crew members, e.g. for sleeping during flight}	11/0644	. . . {Adjustable arm rests}
2011/0084	. . {Bed units for passengers attached to the ceiling of the fuselage}	11/0646	. . {Seats characterised by special features of stationary arms, foot or head rests}
2011/0092	. . {Arrangements for mounting stretchers in aircraft cabins}	11/0647	. . {Seats characterised by special upholstery or cushioning features}
11/02	. Toilet fittings (of general application A47K)	11/0648	. . {Lower frame constructions}
11/04	. Galleys	11/0649	. . {Seats characterised by special features for reducing weight}
11/06	. {Arrangements of seats, or adaptations or details specially adapted for aircraft seats (crew seat constructions for emergency purposes B64D 25/04)}	11/0689	. . {specially adapted for pilots}
11/0601	. . {Arrangement of seats for non-standard seating layouts, e.g. seats staggered horizontally or vertically, arranged in an angled or fishbone layout, or facing in other directions than the direction of flight}	11/0691	. . {specially adapted for cabin crew}
11/0602	. . {Seat modules, i.e. seat systems including furniture separate from the seat itself}	11/0693	. . {Width modification of seat assemblies, e.g. for class modification}
11/0604	. . . {including a bed, e.g. cocoon type passenger seat modules}	11/0696	. . {Means for fastening seats to floors, e.g. to floor rails}
11/0605	. . . {including tables or desks}	11/0697	. . {Seats suspended from aircraft ceiling}
11/0606	. . {with privacy shells, screens, separators or the like (class dividers B64D 11/0023)}	11/0698	. . {Seats suspended from aircraft walls}
11/0607	. . {with devices specially adapted for exercising during travel; with devices specially adapted to prevent thrombosis}	13/00	Arrangements or adaptations of air-treatment apparatus for aircraft crew or passenger, or freight space; {or structural parts of the aircraft}(treatment rooms with artificial climate for medical purposes A61G 10/02; respiratory apparatus in general A62B; for for vehicles in general B60H)
11/0611	. . {with means for holding the passenger in a standing position}	2013/003	. {Cabin ventilation nozzles}
11/0612	. . {specially adapted for children}	13/006	. {the air being used to cool structural parts of the aircraft}
11/0616	. . {with ejection means}	13/02	. the air being pressurised
11/0619	. . {with energy absorbing means specially adapted for mitigating impact loads for passenger seats, e.g. at a crash}	13/04	. . Automatic control of pressure
11/062	. . {Belts or other passenger restraint means for passenger seats}	13/06	. the air being conditioned (pressurising B64D 13/02)
11/06205	. . . {Arrangements of airbags}	2013/0603	. . {Environmental Control Systems}
11/0621	. . . . {Airbag initiation or activation means}	2013/0607	. . . {providing hot air or liquid for deicing aircraft parts, e.g. aerodynamic surfaces or windows}
11/0624	. . {Arrangements of electrical connectors, e.g. for earphone, internet or electric supply}	2013/0611	. . . {combined with auxiliary power units (APU's)}
		2013/0614	. . . {with subsystems for cooling avionics}
		2013/0618	. . . {with arrangements for reducing or managing bleed air, using another air source, e.g. ram air}
		2013/0622	. . . {used in combination with boundary layer control systems}
		2013/0625	. . . {comprising means for distribution effusion of conditioned air in the cabin}
		2013/0629	. . . {with subsystems for cooling food, catering or special loads}

2013/0633	. . . {including chemical reaction-based thermal management systems}	17/20	. . . variable in area
2013/0637	. . . {with CO ₂ removers}	17/22	. Load suspension
2013/064	. . . {comprising more than one system, e.g. dual systems}	17/24	. . Rigging lines
2013/0644	. . . {including electric motors or generators}	17/26	. . . attached to hem of canopy
2013/0648	. . . {with energy recovery means, e.g. using turbines}	17/28	. . . attached to apex of canopy
2013/0651	. . . {comprising filters, e.g. dust filters}	17/30	. . Harnesses (harnesses per se A62B)
2013/0655	. . . {with zone or personal climate controls}	17/32	. . . Construction of quick-release box
2013/0659	. . . {comprising provisions for cooling fuel systems}	17/34	. . adapted to control direction or rate of descent
2013/0662	. . . {with humidity control}	17/343	. . . {by reefing means}
2013/0666	. . . {with means for preventing icing within the ECS components}	17/346	. . . {by anti-squid lines}
2013/067	. . . {with air ionizers}	17/36	. . incorporating friction devices or frangible connections to reduce shock loading of canopy (B64D 17/343 , B64D 17/346 take precedence)
2013/0674	. . . {comprising liquid subsystems}	17/38	. . Releasable fastening devices between parachute and load or pack
2013/0677	. . . {comprising on board oxygen generator systems}	17/383	. . . {Cargo release hooks}
2013/0681	. . . {with oxygen control}	17/386	. . . {Devices adapted to cut lines or straps}
2013/0685	. . . {with ozone control}	17/40	. Packs
2013/0688	. . . {with means for recirculating cabin air}	17/42	. . rigid
2013/0692	. . . {with special provisions against smoke from cigarettes}	17/44	. . . forming part of load
2013/0696	. . . {with provisions for starting power plants}	17/46	. . Closing means
13/08	. . the air being heated or cooled	17/48	. . with separate pack for extractor of auxiliary parachute
15/00	De-icing or preventing icing on exterior surfaces of aircraft (motor vehicles specially adapted for carrying de-icing equipment B60P)	17/50	. . formed with separate compartments for main canopy, rigging lines, or auxiliary parachute
15/02	. by ducted hot gas or liquid	17/52	. . Opening, e.g. manual
15/04	. . Hot gas application	17/54	. . . automatic
15/06	. . Liquid application (in general B05)	17/56	. . . . responsive to barometric pressure
15/08	. . . exuded from surface	17/58	. . . . responsive to time-delay mechanism
15/10	. . . sprayed over surface	17/60	. . . . by static line
15/12	. by electric heating (electric heating elements in general H05B)	17/62	. Deployment
15/14	. . controlled cyclically along length of surface	17/64	. . by extractor parachute
15/16	. by mechanical means	17/66	. . . attached to hem of main canopy
15/163	. . {using electro-impulsive devices}	17/68	. . . attached to apex of main canopy
15/166	. . {using pneumatic boots}	17/70	. . by springs
15/20	. Means for detecting icing or initiating de-icing	17/72	. . by explosive or inflatable means
15/22	. . Automatic initiation by icing detector	17/725	. . . {by explosive means}
17/00	Parachutes (non canopied parachutes B64D 19/00)	17/74	. . Sequential deployment of a plurality of canopies
17/02	. Canopy arrangement or construction	17/76	. . facilitated by method of folding or packing
	NOTE	17/78	. in association with other load-retarding apparatus
	B64D 17/025 takes precedence over B64D 17/04 - B64D 17/18	17/80	. in association with aircraft, e.g. for braking thereof
17/025	. . {for gliding chutes}	19/00	Non-canopied parachutes
17/04	. . formed with two or more canopies arranged about a common axis	19/02	. Rotary-wing parachutes
17/06	. . formed with two or more canopies arranged in a cluster	21/00	Testing of parachutes
17/08	. . Secondary or shock-absorbing canopies attached to load line	23/00	Training of parachutists
17/10	. . Ribbon construction or the like	25/00	Emergency apparatus or devices, not otherwise provided for (parachutes B64D 17/00, B64D 19/00; jettisoning of fuel tanks or fuel per se B64D 37/00; {specially adapted for protection against criminal attack, e.g. anti-hijacking systems B64D 45/0015}; safety belts or body harnesses in general A62B 35/00; safety belts or body harnesses for land vehicles B60R 22/00; jettisonable parts of fuselage facilitating emergency escape B64C)
17/12	. . constructed to provide variable or non-uniform porosity over area of canopy	25/02	. Supports or holding means for living bodies
17/14	. . with skirt or air-deflecting panels	25/04	. . Seat modifications
17/16	. . . secured to hem of main canopy	25/06	. . Harnessing
17/18	. . Vent arrangement or construction	25/08	. Ejecting or escaping means (escape apertures B64C)
		25/10	. . Ejector seats
		25/12	. . Ejectable capsules

25/14	. . Inflatable escape chutes	33/02	. of combustion air intakes (air intakes for gas-turbine plants or jet-propulsion plants per se F02C 7/04 ; air intakes for combustion engines in general F02M 35/00)
25/16	. . Dinghy stowage	2033/0206	. . {comprising noise reduction means, e.g. acoustic liners}
25/18	. . Flotation gear (aircraft alighting gear B64C)	2033/0213	. . {specially adapted for auxiliary power units (APU's)}
25/20	. . Releasing of crash position indicators	2033/022	. . {comprising bird or foreign object protections}
27/00	Arrangement or mounting of power plant in aircraft; Aircraft characterised thereby (attitude, flight direction, or altitude control of aircraft by jet reaction B64C)	2033/0226	. . {comprising boundary layer control means}
2027/005	. . {Aircraft with an unducted turbofan comprising contra-rotating rotors, e.g. contra-rotating open rotors [CROR]}	2033/0233	. . {comprising de-icing means}
27/02	. Aircraft characterised by the type or position of power plant (fuselages or wings adapted for mounting power plant B64C)	2033/024	. . {comprising cooling means}
27/023	. . {of rocket type, e.g. for assisting taking-off or braking}	2033/0246	. . {comprising particle separators}
2027/026	. . {comprising different types of power plants, e.g. combination of an electric motor and a gas-turbines}	2033/0253	. . {specially adapted for particular type of aircraft}
27/04	. . of piston type	2033/026	. . . {for supersonic or hypersonic aircraft}
27/06	. . . within or attached to wing	2033/0266	. . {specially adapted for particular type of power plants}
27/08	. . . within or attached to fuselage	2033/0273	. . . {for jet engines}
27/10	. . of gas-turbine type (B64D 27/16 takes precedence)	2033/028	. . . {for piston engines}
27/12	. . . within or attached to wing	2033/0286	. . . {for turbofan engines}
27/14	. . . within or attached to fuselage	2033/0293	. . . {for turboprop engines}
27/16	. . of jet type	33/04	. of exhaust outlets or jet pipes (exhaust outlets for combustion engines in general F01N ; jet pipes or nozzles for jet-propulsion plants per se F02K ; plants characterised by the form or arrangement of the jet pipe or nozzle F02K {; attitude, flight direction, or altitude control by jet reaction B64C })
27/18	. . . within or attached to wing	2033/045	. . {comprising infrared suppressors}
27/20	. . . within or attached to fuselage	33/06	. . {Silencing exhaust or propulsion jets (ground installations B64F)}
27/22	. . using atomic energy	33/08	. of power plant cooling systems (cooling of internal-combustion engines per se F01P ; cooling of gas-turbine plants or jet-propulsion plants per se F02C , F02K)
27/24	. . using steam, electricity, or spring force (B64D 27/16 takes precedence)	33/10	. . Radiator arrangement
27/26	. Aircraft characterised by construction of power-plant mounting	33/12	. . . of retractable type
2027/262	. . {Engine support arrangements or elements}	35/00	Transmitting power from power plant to propellers or rotors; Arrangements of transmissions (propellers or rotors per se, helicopter transmissions B64C)
2027/264	. . . {comprising box like supporting frames}	35/02	. characterised by the type of power plant
2027/266	. . . {comprising suspension arrangements for supporting vertical loads}	35/04	. characterised by the transmission driving a plurality of propellers or rotors
2027/268	. . . {comprising thrust links}	35/06	. . the propellers or rotors being counter-rotating
29/00	Power-plant nacelles, fairings, or cowlings (nacelles not otherwise provided for B64C)	35/08	. characterised by the transmission being driven by a plurality of power plants
29/02	. associated with wings (wings adapted for mounting power plant B64C)	37/00	Arrangements in connection with fuel supply for power plant (refuelling during flight B64D 39/00)
29/04	. associated with fuselages	37/005	. . {Accessories not provided for in the groups B64D 37/02 - B64D 37/28 }
29/06	. Attaching of nacelles, fairings or cowlings	37/02	. Tanks (tanks constructed integrally with aircraft wings B64C ; shape or construction of tanks per se B65D)
29/08	. Inspection panels for power plants	37/04	. . Arrangement thereof in or on aircraft
31/00	Power plant control; Arrangement thereof ({F02 takes precedence} flying controls B64C)	37/06	. . Constructional adaptations thereof
31/02	. Initiating means	37/08	. . . Internal partitioning
31/04	. . actuated personally	37/10	. . . to facilitate fuel pressurisation
31/06	. . actuated automatically	37/12	. . . jettisonable
31/08	. . . for keeping cruising speed constant (conjoint control of power plant and propeller B64C)	37/14	. . Filling or emptying (transferring fuels to adjust aircraft trim B64C)
31/10	. . . for preventing asymmetric thrust upon failure of one power plant	37/16	. . . Filling systems (ground installations for fuelling aircraft B64F)
31/12	. . . for equalising or synchronising power plants		
31/14	. Transmitting means between initiating means and power plants		
33/00	Arrangements in aircraft of power plant parts or auxiliaries not otherwise provided for		

37/18	. . . . Conditioning fuel during filling	45/0021	. . {means for restricting access to flight deck}
37/20	. . . Emptying systems		
37/22	. . . . facilitating emptying in any position of tank		
37/24	. . . . using gas pressure		
37/26	. . . . Jettisoning of fuel		
37/28	. . . . Control thereof		
37/30	. Fuel systems for specific fuels		
37/32	. Safety measures not otherwise provided for, e.g. preventing explosive conditions (extinguishing or preventing fires in aircraft A62C)		
2037/325	. . {Fuel tanks with provisions for reduction hydraulic ram shocks due to projectile impacts}	45/0026	. . . {by creating a secure space between the flight deck and cabin}
37/34	. Conditioning fuel, e.g. heating (during filling B64D 37/18)		
39/00	Refuelling during flight (filling or emptying fuel tanks B64D 37/14)		
39/02	. Means for paying-in or out hose		
39/04	. Adaptations of hose construction (pipes in general F16L)		
39/06	. Connecting hose to aircraft; Disconnecting hose therefrom	45/0028	. . . {doors or door arrangements specially adapted to restrict unauthorized access}
41/00	Power installations for auxiliary purposes		
2041/002	. {Mounting arrangements for auxiliary power units (APU's)}		
2041/005	. {Fuel cells}		
41/007	. {Ram air turbines}		
43/00	Arrangements or adaptations of instruments (arrangements of cameras B64D 47/08; aeronautical measuring instruments per se G01C)		
43/02	. for indicating aircraft speed or stalling conditions	45/0029	. . . . {electrically actuated}
45/00	Aircraft indicators or protectors not otherwise provided for (camouflage F41H 3/00)		
45/0005	. {Devices specially adapted to indicate the position of a movable element of the aircraft, e.g. landing gear}		
2045/001	. . {for indicating symmetry of flaps deflection}		
45/0015	. {Devices specially adapted for the protection against criminal attack, e.g. anti-hijacking systems}		
	WARNING		
	Group B64D 45/0015 is impacted by reclassification into groups B64D 45/0018, B64D 45/0021, B64D 45/0026, B64D 45/0028 and B64D 45/0029.		
	All groups listed in this Warning should be considered in order to perform a complete search.		
45/0018	. . {means on aircraft for restricting unauthorized access to the aircraft}	45/0031	. . {means for overriding or restricting access to flight controls}
	WARNING		
	Group B64D 45/0018 is incomplete pending reclassification of documents from group B64D 45/0015.		
	Groups B64D 45/0015 and B64D 45/0018 should be considered in order to perform a complete search.		
			WARNING
			Group B64D 45/0031 is impacted by reclassification into group B64D 45/0034.
			Groups B64D 45/0031 and B64D 45/0034 should be considered in order to perform a complete search.
		45/0034	. . . {by ground-control override}
			WARNING
			Group B64D 45/0034 is incomplete pending reclassification of documents from group B64D 45/0031.
			Groups B64D 45/0031 and B64D 45/0034 should be considered in order to perform a complete search.

45/0036	. . {by disabling or restraining attackers}	45/04	. Landing aids; Safety measures to prevent collision with earth's surface
	WARNING	45/06	. . mechanical
	Group B64D 45/0036 is impacted by reclassification into groups B64D 45/0039 , B64D 45/0044 , and B64D 45/0048 .	45/08	. . optical
	All groups listed in this Warning should be considered in order to perform a complete search.	47/00	Equipment not otherwise provided for
45/0039	. . . {by electrical shock}	47/02	. Arrangements or adaptations of signal or lighting devices
	WARNING	47/04	. . the lighting devices being primarily intended to illuminate the way ahead
	Group B64D 45/0039 is incomplete pending reclassification of documents from group B64D 45/0036 .	47/06	. . for indicating aircraft presence
	Groups B64D 45/0036 and B64D 45/0039 should be considered in order to perform a complete search.	47/08	. Arrangements of cameras
45/0042	. . . {by spraying or injecting chemicals}	2201/00	Airbags mounted in aircraft for any use
45/0044	. . . {by restraining within seats}	2203/00	Aircraft or airfield lights using LEDs
	WARNING	2205/00	Aircraft with means for ground manoeuvring, such as taxiing, using an auxiliary thrust system, e.g. jet-engines, propellers or compressed air
	Group B64D 45/0044 is incomplete pending reclassification of documents from group B64D 45/0036 .	2211/00	Arrangements of solar panels on aircraft
	Groups B64D 45/0036 and B64D 45/0044 should be considered in order to perform a complete search.	2221/00	Electric power distribution systems onboard aircraft
45/0048	. . . {by harnesses, nets, ropes, or the like (B64D 45/0044 takes precedence)}	2231/00	Emergency oxygen systems
	WARNING	2231/02	. Supply or distribution systems
	Group B64D 45/0048 is incomplete pending reclassification of documents from group B64D 45/0036 .	2231/025	. . Oxygen masks; Mask storages (seats combined with storage means, said storage means being specially adapted for emergency equipment B64D 11/0629); Features related to mask deployment
	Groups B64D 45/0036 and B64D 45/0048 should be considered in order to perform a complete search.	2241/00	NACA type air intakes
45/0051	. . {by monitoring passengers or crew on aircraft}		
45/0053	. . . {using visual equipment, e.g. cameras}		
45/0056	. . . {detecting passenger or crew behavior by sensors, e.g. biometrics}		
45/0059	. . {by communicating emergency situations to ground control or between crew members}		
45/0061	. . {by protecting cabin or cargo hold from bombs}		
45/0063	. . {by avoiding the use of electronic equipment during flight, e.g. of mobile phones or laptops}		
2045/0065	. {Black boxes, devices automatically broadcasting distress signals}		
2045/007	. {Indicators or signs in the cabin, e.g. exit signs or seat numbering}		
2045/0075	. {Adaptations for use of electronic flight bags in aircraft; Supports therefor in the cockpit}		
2045/008	. {Devices for detecting or indicating hard landing}		
2045/0085	. {Devices for aircraft health monitoring, e.g. monitoring flutter or vibration}		
2045/009	. {Fire detection or protection; Erosion protection, e.g. from airborne particles}		
2045/0095	. {Devices specially adapted to avoid bird strike}		
45/02	. Lightning protectors; Static dischargers (in general H01T)		