

# CPC COOPERATIVE PATENT CLASSIFICATION

## B PERFORMING OPERATIONS; TRANSPORTING (NOTES omitted)

### TRANSPORTING

#### B64 AIRCRAFT; AVIATION; COSMONAUTICS

#### B64D EQUIPMENT FOR FITTING IN OR TO AIRCRAFT; FLIGHT SUITS; PARACHUTES; ARRANGEMENT OR MOUNTING OF POWER PLANTS OR PROPULSION TRANSMISSIONS IN AIRCRAFT

##### WARNING

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	<a href="#">B64D 15/16</a>
B64D 25/102	covered by	<a href="#">B64D 25/10</a>
B64D 25/105	covered by	<a href="#">B64D 25/10</a>
B64D 25/108	covered by	<a href="#">B64D 25/10</a>
B64D 25/11	covered by	<a href="#">B64D 25/10</a>
B64D 25/112	covered by	<a href="#">B64D 25/10</a>
B64D 25/115	covered by	<a href="#">B64D 25/10</a>
B64D 25/118	covered by	<a href="#">B64D 25/10</a>

<b>1/00</b>	<b>Dropping, ejecting, releasing or receiving articles, liquids, or the like, in flight (refuelling during flight <a href="#">B64D 39/00</a>; launching apparatus for projecting projectiles or missiles <a href="#">F41F 1/00</a>, <a href="#">F41F 7/00</a>; rocket or torpedo launchers <a href="#">F41F 3/00</a>; weapon sights or aiming <a href="#">F41G</a>)</b>	7/06	. . movably mounted
		7/08	. Arrangement of rocket launchers
		<b>9/00</b>	<b>Equipment for handling freight; Equipment for facilitating passenger embarkation or the like</b>
		9/003	. {Devices for retaining pallets or freight containers}
1/02	. Dropping, ejecting, or releasing articles (jettisonable fuel reservoirs <a href="#">B64D 37/12</a> )	2009/006	. {Rollers or drives for pallets of freight containers, e.g. PDU}
1/04	. . the articles being explosive, e.g. bombs	<b>10/00</b>	<b>Flight suits</b>
1/06	. . . Bomb releasing; Bomb doors	2010/002	. {Anti-g suits or garments}
1/08	. . the articles being load-carrying devices	2010/005	. {High altitude suits or garments, e.g. partial or total pressure}
1/10	. . . Stowage arrangements for the devices in aircraft	2010/007	. {Suits with cooling or heating means}
1/12	. . . Releasing		
1/14	. . . Absorbing landing shocks	<b>11/00</b>	<b>Passenger or crew accommodation; Flight-deck installations not otherwise provided for</b>
1/16	. Dropping or releasing powdered, liquid, or gaseous matter, e.g. for fire-fighting (jettisoning fuel <a href="#">B64D 37/26</a> )	11/0007	. {Devices specially adapted for food or beverage distribution services}
1/18	. . by spraying, e.g. insecticides	11/0015	. {Arrangements for entertainment or communications, e.g. radio, television}
1/20	. . for sky-writing	11/00151	. . {Permanently mounted seat back monitors}
1/22	. Taking-up articles from earth's surface	11/00152	. . {Seat back fixtures for removable monitors, e.g. tablet computers}
<b>3/00</b>	<b>Aircraft adaptations to facilitate towing or being towed</b>	11/00153	. . {Monitors mounted on or in the seat other than the seat back}
3/02	. for towing targets	11/00154	. . {Loudspeakers mounted in the seat back}
<b>5/00</b>	<b>Aircraft transported by aircraft, e.g. for release or reberthing during flight</b>	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}
<b>7/00</b>	<b>Arrangement of military equipment, e.g. armaments, armament accessories or military shielding, in aircraft; Adaptations of armament mountings for aircraft (dropping bombs or the like <a href="#">B64D 1/00</a>)</b>	11/0023	. {Movable or removable cabin dividers, e.g. for class separation}
7/02	. the armaments being firearms	11/003	. {Stowage devices for passengers' personal luggage}
7/04	. . fixedly mounted	2011/0038	. {Illumination systems for cabins as a whole}

2011/0046	. {Modular or preassembled units for creating cabin interior structures}	11/0641	. . . {Seats convertible into beds}
2011/0053	. {Cabin passenger reading lights}	11/0642	. . . {Adjustable headrests}
2011/0061	. {Windows displaying outside view, artificially generated}	11/0643	. . . {Adjustable foot or leg rests}
2011/0069	. {Rest berths, beds or the like}	11/0644	. . . {Adjustable arm rests}
2011/0076	. . {for crew members, e.g. for sleeping during flight}	11/0646	. . {Seats characterised by special features of stationary arms, foot or head rests}
2011/0084	. . {Bed units for passengers attached to the ceiling of the fuselage}	11/0647	. . {Seats characterised by special upholstery or cushioning features}
2011/0092	. . {Arrangements for mounting stretchers in aircraft cabins}	11/0648	. . {Lower frame constructions}
11/02	. Toilet fittings	11/0649	. . {Seats characterised by special features for reducing weight}
11/04	. Galleys	11/0689	. . {specially adapted for pilots}
11/06	. {Arrangements of seats, or adaptations or details specially adapted for aircraft seats ( <a href="#">crew seat constructions for emergency purposes B64D 25/04</a> )}	11/0691	. . {specially adapted for cabin crew}
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}	11/0693	. . {Width modification of seat assemblies, e.g. for class modification}
11/0602	. . {Seat modules, i.e. seat systems including furniture separate from the seat itself}	11/0696	. . {Means for fastening seats to floors, e.g. to floor rails}
11/0604	. . . {including a bed, e.g. cocoon type passenger seat modules}	11/0697	. . {Seats suspended from aircraft ceiling}
11/0605	. . . {including tables or desks}	11/0698	. . {Seats suspended from aircraft walls}
11/0606	. . {with privacy shells, screens, separators or the like ( <a href="#">class dividers B64D 11/0023</a> )}	<b>13/00</b>	<b>Arrangements or adaptations of air-treatment apparatus for aircraft crew or passengers, or freight space</b>
11/0607	. . {with devices specially adapted for exercising during travel; with devices specially adapted to prevent thrombosis}	2013/003	. {Cabin ventilation nozzles}
11/0611	. . {with means for holding the passenger in a standing position}	13/006	. {the air being used to cool structural parts of the aircraft}
11/0612	. . {specially adapted for children}	13/02	. the air being pressurised
11/0616	. . {with ejection means}	13/04	. . Automatic control of pressure
11/0619	. . {with energy absorbing means specially adapted for mitigating impact loads for passenger seats, e.g. at a crash}	13/06	. the air being conditioned ( <a href="#">pressurising B64D 13/02</a> )
11/062	. . {Belts or other passenger restraint means for passenger seats}	2013/0603	. . {Environmental Control Systems}
11/06205	. . . {Arrangements of airbags}	2013/0607	. . . {providing hot air or liquid for deicing aircraft parts, e.g. aerodynamic surfaces or windows}
11/0621	. . . . {Airbag initiation or activation means}	2013/0611	. . . {combined with auxiliary power units (APU's)}
11/0624	. . {Arrangements of electrical connectors, e.g. for earphone, internet or electric supply}	2013/0614	. . . {with subsystems for cooling avionics}
11/0626	. . {with individual temperature or ventilation control}	2013/0618	. . . {with arrangements for reducing or managing bleed air, using another air source, e.g. ram air}
11/0627	. . {Seats combined with storage means}	2013/0622	. . . {used in combination with boundary layer control systems}
11/0629	. . . {the storage means being specially adapted for emergency equipment}	2013/0625	. . . {comprising means for distribution effusion of conditioned air in the cabin}
11/0631	. . . . {for life vests}	2013/0629	. . . {with subsystems for cooling food, catering or special loads}
11/0632	. . . . {for breathing apparatus}	2013/0633	. . . {including chemical reaction-based thermal management systems}
11/0633	. . . . {for devices other than life vests and intended for external use, e.g. parachutes or life rafts}	2013/0637	. . . {with CO <sub>2</sub> removers}
11/0636	. . . {Personal storage means or waste disposal bags}	2013/064	. . . {comprising more than one system, e.g. dual systems}
11/0638	. . {with foldable tables, trays or cup holders}	2013/0644	. . . {including electric motors or generators}
11/0639	. . {with features for adjustment or converting of seats}	2013/0648	. . . {with energy recovery means, e.g. using turbines}
11/06395	. . . {characterised by the arrangement of electric motors for adjustment}	2013/0651	. . . {comprising filters, e.g. dust filters}
11/064	. . . {Adjustable inclination or position of seats}	2013/0655	. . . {with zone or personal climate controls}
		2013/0659	. . . {comprising provisions for cooling fuel systems}
		2013/0662	. . . {with humidity control}
		2013/0666	. . . {with means for preventing icing within the ECS components}
		2013/067	. . . {with air ionizers}
		2013/0674	. . . {comprising liquid subsystems}
		2013/0677	. . . {comprising on board oxygen generator systems}
		2013/0681	. . . {with oxygen control}
		2013/0685	. . . {with ozone control}

- 2013/0688 . . . {with means for recirculating cabin air}
- 2013/0692 . . . {with special provisions against smoke from cigarettes}
- 2013/0696 . . . {with provisions for starting power plants}
- 13/08 . . the air being heated or cooled
- 15/00 De-icing or preventing icing on exterior surfaces of aircraft**
- 15/02 . by ducted hot gas or liquid
- 15/04 . . Hot gas application
- 15/06 . . Liquid application
- 15/08 . . . exuded from surface
- 15/10 . . . sprayed over surface
- 15/12 . by electric heating (heating arrangements specially adapted for transparent or reflecting areas [H05B 3/84](#))
- 15/14 . . controlled cyclically along length of surface
- 15/16 . by mechanical means, e.g. pulsating mats or shoes attached to, or built into, surface
- 15/163 . . {using electro-impulsive devices}
- 15/166 . . {using pneumatic boots}
- 15/20 . Means for detecting icing or initiating de-icing
- 15/22 . . Automatic initiation by icing detector
- 17/00 Parachutes (non-canopied parachutes [B64D 19/00](#))**
- 17/02 . Canopy arrangement or construction

**NOTE**

{[B64D 17/025](#) takes precedence over [B64D 17/04](#) - [B64D 17/20](#)}

- 17/025 . . {for gliding chutes}
- 17/04 . . formed with two or more canopies arranged about a common axis
- 17/06 . . formed with two or more canopies arranged in a cluster
- 17/08 . . Secondary or shock-absorbing canopies attached to load line
- 17/10 . . Ribbon construction or the like
- 17/12 . . constructed to provide variable or non-uniform porosity over area of canopy
- 17/14 . . with skirt or air-deflecting panels
- 17/16 . . . secured to hem of main canopy
- 17/18 . . Vent arrangement or construction
- 17/20 . . . variable in area
- 17/22 . Load suspension
- 17/24 . . Rigging lines
- 17/26 . . . attached to hem of canopy
- 17/28 . . . attached to apex of canopy
- 17/30 . . Harnesses
- 17/32 . . . Construction of quick-release box
- 17/34 . . adapted to control direction or rate of descent
- 17/343 . . . {by reefing means}
- 17/346 . . . {by anti-squid lines}
- 17/36 . . incorporating friction devices or frangible connections to reduce shock loading of canopy  
{([B64D 17/343](#), [B64D 17/346](#) take precedence)}
- 17/38 . . Releasable fastening devices between parachute and load or pack
- 17/383 . . . {Cargo release hooks}
- 17/386 . . . {Devices adapted to cut lines or straps}
- 17/40 . Packs
- 17/42 . . rigid
- 17/44 . . . forming part of load

- 17/46 . . Closing means
- 17/48 . . with separate pack for extractor of auxiliary parachute
- 17/50 . . formed with separate compartments for main canopy, rigging lines, or auxiliary parachute
- 17/52 . . Opening, e.g. manual
- 17/54 . . . automatic
- 17/56 . . . . responsive to barometric pressure
- 17/58 . . . . responsive to time-delay mechanism
- 17/60 . . . . by static line
- 17/62 . Deployment
- 17/64 . . by extractor parachute
- 17/66 . . . attached to hem of main canopy
- 17/68 . . . attached to apex of main canopy
- 17/70 . . by springs
- 17/72 . . by explosive or inflatable means
- 17/725 . . . {by explosive means}
- 17/74 . . Sequential deployment of a plurality of canopies
- 17/76 . . facilitated by method of folding or packing
- 17/78 . in association with other load-retarding apparatus
- 17/80 . in association with aircraft, e.g. for braking thereof

**19/00 Non-canopied parachutes**

- 19/02 . Rotary-wing parachutes

**21/00 Testing of parachutes****23/00 Training of parachutists****25/00 Emergency apparatus or devices, not otherwise provided for**

- 25/02 . Supports or holding means for living bodies
- 25/04 . . Seat modifications
- 25/06 . . Harnessing
- 25/08 . Ejecting or escaping means
- 25/10 . . Ejector seats
- 25/12 . . Ejectable capsules
- 25/14 . . Inflatable escape chutes
- 25/16 . . Dinghy stowage
- 25/18 . . Flotation gear
- 25/20 . . Releasing of crash-position indicators

**27/00 Arrangement or mounting of power plants in aircraft; Aircraft characterised by the type or position of power plants**

- 2027/005 . {Aircraft with an unducted turbofan comprising contra-rotating rotors, e.g. contra-rotating open rotors [CROR]}
- 27/02 . Aircraft characterised by the type or position of power plants
- 27/023 . . {of rocket type, e.g. for assisting taking-off or braking}
- 27/026 . . {comprising different types of power plants, e.g. combination of a piston engine and a gas-turbine ([Hybrid electric aircraft \[B64D 27/33\]\(#\)](#))}
- 27/04 . . of piston type
- 27/06 . . . within, or attached to, wings
- 27/08 . . . within, or attached to, fuselages
- 27/10 . . of gas-turbine type ([jet aircraft \[B64D 27/16\]\(#\)](#))
- 27/12 . . . within, or attached to, wings
- 27/14 . . . within, or attached to, fuselages
- 27/16 . . of jet type
- 27/18 . . . within, or attached to, wings
- 27/20 . . . within, or attached to, fuselages
- 27/22 . . using atomic energy

27/24	. . using steam or spring force ( <a href="#">jet aircraft B64D 27/16</a> )	2033/045	. . {comprising infrared suppressors}
27/30	. . Aircraft characterised by electric power plants	33/06	. . {Silencing exhaust or propulsion jets}
27/31	. . . within, or attached to, wings	33/08	. of power plant cooling systems
27/32	. . . within, or attached to, fuselages	33/10	. . Radiator arrangement
27/33	. . . Hybrid electric aircraft	33/12	. . . of retractable type
27/34	. . . All-electric aircraft	<b>35/00</b>	<b>Transmitting power from power plants to propellers or rotors; Arrangements of transmissions</b>
27/35	. . . Arrangements for on-board electric energy production, distribution, recovery or storage	35/02	. specially adapted for specific power plants
27/351	. . . . using energy recovery	35/021	. . for electric power plants
27/353	. . . . using solar cells	35/022	. . . of hybrid-electric type
27/355	. . . . using fuel cells	35/023	. . . . of series-parallel type
27/357	. . . . using batteries	35/024	. . . . of series type
27/359	. . . . using capacitors	35/025	. . . . of parallel type
27/40	. Arrangements for mounting power plants in aircraft	35/026	. . . the electric power plant being integral with the propeller or rotor
27/402	. . {comprising box like supporting frames, e.g. pylons or arrangements for embracing the power plant}	35/04	. characterised by the transmission driving a plurality of propellers or rotors
27/404	. . {Suspension arrangements specially adapted for supporting vertical loads}	35/06	. . the propellers or rotors being counter-rotating
27/406	. . {Suspension arrangements specially adapted for supporting thrust loads, e.g. thrust links}	35/08	. characterised by the transmission being driven by a plurality of power plants ( <a href="#">for hybrid-electric power plants B64D 35/022</a> )
<b>29/00</b>	<b>Power-plant nacelles, fairings or cowlings</b>	<b>37/00</b>	<b>Arrangements in connection with fuel supply for power plant (<a href="#">refuelling during flight B64D 39/00</a>)</b>
29/02	. associated with wings	37/005	. {Accessories not provided for in the groups <a href="#">B64D 37/02</a> - <a href="#">B64D 37/28</a> }
29/04	. associated with fuselages	37/02	. Tanks ( <a href="#">tanks constructed integrally with aircraft wings B64C 3/34</a> )
29/06	. Attaching of nacelles, fairings or cowlings	37/04	. . Arrangement thereof in or on aircraft
29/08	. Inspection panels for power plants	37/06	. . Constructional adaptations thereof
<b>31/00</b>	<b>Power plant control systems; Arrangement of power plant control systems in aircraft</b>	37/08	. . . Internal partitioning
31/02	. Initiating means	37/10	. . . to facilitate fuel pressurisation
31/04	. . actuated personally	37/12	. . . jettisonable
31/06	. . actuated automatically	37/14	. . Filling or emptying ( <a href="#">transferring fuels to adjust aircraft trim B64C 17/10</a> )
31/08	. . . for keeping cruising speed constant	37/16	. . . Filling systems ( <a href="#">ground installations for fuelling aircraft B64F 1/28</a> )
31/09	. . . in response to power plant failure	37/18	. . . . Conditioning fuel during filling
31/10	. . . . for preventing asymmetric thrust	37/20	. . . Emptying systems
31/12	. . . for equalising or synchronising power plants	37/22	. . . . facilitating emptying in any position of tank
31/14	. Transmitting means between initiating means and power plants	37/24	. . . . using gas pressure
31/16	. for electric power plants	37/26	. . . . Jettisoning of fuel
31/18	. . for hybrid-electric power plants	37/28	. . . . Control thereof
<b>33/00</b>	<b>Arrangement in aircraft of power plant parts or auxiliaries not otherwise provided for</b>	37/30	. Fuel systems for specific fuels
33/02	. of combustion air intakes	37/32	. Safety measures not otherwise provided for, e.g. preventing explosive conditions
2033/0206	. . {comprising noise reduction means, e.g. acoustic liners}	2037/325	. . {Fuel tanks with provisions for reduction hydraulic ram shocks due to projectile impacts}
2033/0213	. . {specially adapted for auxiliary power units (APU's)}	37/34	. Conditioning fuel, e.g. heating ( <a href="#">during filling B64D 37/18</a> )
2033/022	. . {comprising bird or foreign object protections}	<b>39/00</b>	<b>Refuelling during flight</b>
2033/0226	. . {comprising boundary layer control means}	39/02	. Means for paying-in or out hose
2033/0233	. . {comprising de-icing means}	39/04	. Adaptations of hose construction
2033/024	. . {comprising cooling means}	39/06	. Connecting hose to aircraft; Disconnecting hose therefrom
2033/0246	. . {comprising particle separators}	<b>41/00</b>	<b>Power installations for auxiliary purposes</b>
2033/0253	. . {specially adapted for particular type of aircraft}	2041/002	. {Mounting arrangements for auxiliary power units (APU's)}
2033/026	. . . {for supersonic or hypersonic aircraft}	2041/005	. {Fuel cells}
2033/0266	. . {specially adapted for particular type of power plants}	41/007	. {Ram air turbines}
2033/0273	. . . {for jet engines}		
2033/028	. . . {for piston engines}		
2033/0286	. . . {for turbofan engines}		
2033/0293	. . . {for turboprop engines}		
33/04	. of exhaust outlets or jet pipes		

<b>43/00</b>	<b>Arrangements or adaptations of instruments</b>	<b>2203/00</b>	<b>Aircraft or airfield lights using LEDs</b>
43/02	. for indicating aircraft speed or stalling conditions	<b>2205/00</b>	<b>Aircraft with means for ground manoeuvring, such as taxiing, using an auxiliary thrust system, e.g. jet-engines, propellers or compressed air</b>
<b>45/00</b>	<b>Aircraft indicators or protectors not otherwise provided for</b>	<b>2221/00</b>	<b>Electric power distribution systems onboard aircraft</b>
45/0005	. {Devices specially adapted to indicate the position of a movable element of the aircraft, e.g. landing gear}	<b>2231/00</b>	<b>Emergency oxygen systems</b>
2045/001	. . {for indicating symmetry of flaps deflection}	2231/02	. Supply or distribution systems
45/0015	. {Devices specially adapted for the protection against criminal attack, e.g. anti-hijacking systems}	2231/025	. . Oxygen masks; Mask storages; Features related to mask deployment
45/0018	. . {means on aircraft for restricting unauthorized access to the aircraft}	<b>2241/00</b>	<b>NACA type air intakes</b>
45/0021	. . {means for restricting access to flight deck}		
45/0026	. . . {by creating a secure space between the flight deck and cabin}		
45/0028	. . . {doors or door arrangements specially adapted to restrict unauthorized access}		
45/0029	. . . . {electrically actuated}		
45/0031	. . {means for overriding or restricting access to flight controls}		
45/0034	. . . {by ground-control override}		
45/0036	. . {by disabling or restraining attackers}		
45/0039	. . . {by electrical shock}		
45/0042	. . . {by spraying or injecting chemicals}		
45/0044	. . . {by restraining within seats}		
45/0048	. . . {by harnesses, nets, ropes, or the like (B64D 45/0044 takes precedence)}		
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		
45/04	. Landing aids; Safety measures to prevent collision with earth's surface		
45/06	. . mechanical		
45/08	. . optical		
<b>47/00</b>	<b>Equipment not otherwise provided for</b>		
47/02	. Arrangements or adaptations of signal or lighting devices		
47/04	. . the lighting devices being primarily intended to illuminate the way ahead		
47/06	. . for indicating aircraft presence		
47/08	. Arrangements of cameras		
<b>2201/00</b>	<b>Airbags mounted in aircraft for any use</b>		