CPC  COOPERATIVE PATENT CLASSIFICATION

B  PERFORMING OPERATIONS; TRANSPORTING
(NOTES omitted)

TRANSPORTING

B60  VEHICLES IN GENERAL
(NOTE omitted)

B60N  SEATS SPECIALLY ADAPTED FOR VEHICLES; VEHICLE PASSENGER ACCOMMODATION NOT OTHERWISE PROVIDED FOR

NOTES
1. Attention is drawn to the Explanatory Note following the class title B60
2. In this subclass the following term is used with the meaning indicated:
   • “cushion”: seating part of a seat distinguished from the back-rest

2/00  Seats specially adapted for vehicles; Arrangement or mounting of seats in vehicles (railway seats B61D 33/00; cycle seats B62J 1/00; aircraft seats B64D 11/06, B64D 25/04, B64D 25/10)  
2/002 .  [Passenger detection systems]  
2/005 .  [Arrangement or mounting of seats in vehicles, e.g. dismountable auxiliary seats] (B60N 2/02 takes precedence [ ; for railway vehicles B61D 1/04])  
2002/0055 .  [characterised by special measures to ensure that no seat or seat part collides, during its movement, with other seats, seat parts or the vehicle itself]  
2/01 .  [The seat support being a part of the vehicle body or chassis]  
2/015 .  [Attaching seats directly to vehicle chassis]  
2/01508 .  [using quick release attachments]  
2/01516 .  .  .  [with locking mechanisms]  
2/01525 .  .  .  .  [with locking elements expanding inside or under the vehicle floor or rail]  
2/01533 .  .  .  .  .  [using balls interlocking with notches]  
2/01541 .  .  .  .  [using moving hooks (B60N 2/01583 takes precedence)]  
2/0155 .  .  .  [with the locking mechanism on the vehicle floor or rail]  
2/01558 .  .  .  .  [with key and slot]  
2/01566 .  .  .  [key rotating about a vertical axis]  
2/01575 .  .  [key sliding inside the vehicle floor or rail]  
2/01583 .  .  .  [locking on transversal elements on the vehicle floor or rail, e.g. transversal rods]  
2/01591 .  .  [with wheels coupled to the seat]  
2/02 .  [the seat or part thereof being movable, e.g. adjustable] (adjustable arm-rests B60N 2/75; adjustable head-rests B60N 2/806)  
2002/0204 .  .  .  [characterised by the seat or seat part turning about or moving along a non-standard, particular axis, i.e. an axis different from the axis characterising the conventional movement]  
2002/0208 .  .  .  [the seat or seat part turning about or moving along an inclined axis]  
2002/0212 .  .  .  [the seat or seat part turning about or moving along a longitudinal axis]  
2002/0216 .  .  .  [the seat or seat part turning about or moving along a transversal axis]  
2002/022 .  .  .  [the seat or seat part turning about or moving along a vertical axis]  
2/024 .  .  [Non-manual adjustment, e.g. with electrical operation]  
2/028 .  .  [Hand-activated switches]  
2/032 .  .  [electric motors]  
2002/0236 .  .  .  [characterised by details of the transmission between the electric motor and the seat or seat parts]  
2002/024 .  .  .  [characterised by details of the mounting of the electric motor]  
2/0244 .  .  [with logic circuits]  
2/0248 .  .  .  [with memory of positions]  
2002/0252 .  .  .  [with relations between different adjustments, e.g. height of headrest following longitudinal position of seat]  
2002/0256 .  .  .  [Arrangements helping the passenger to get in or out]  
2002/026 .  .  .  [varying hardness or support of upholstery, e.g. when driving curved roads]  
2002/0264 .  .  .  [characterised by the type of electrical connection, e.g. wiring, plugs or USB]  
2002/0268 .  .  .  [using sensors or detectors for adapting the seat or seat part, e.g. to the position of a passenger]  
2002/0272 .  .  .  [using sensors or detectors for detecting the position of seat parts]  
2002/0276 .  .  .  [reaction to emergency situations, e.g. crash]  
2/028 .  [Elastically mounted back-rests]  
2002/0284 .  .  [Adjustable seat-cushion length (B60N 2/0224 takes precedence)]  
2002/0288 .  .  [Adjustable seat width]  
2002/0292 .  .  [Multiple configuration seats, e.g. for spacious vehicles or mini-buses]  
2002/0296 .  .  [Central command actuator to selectively switch on or engage one of several special purpose circuits or mechanisms]  
2/04 .  [the whole seat being movable]
2/045 . . . [Longitudinal adjustment by means of articulated rods supporting the seat, e.g. parallelogram mechanisms (B60N 2/38 takes precedence)]

2/06 . . . slidable (B60N 2/12, B60N 2/2209) take precedence

2/062 . . . [transversally slidable]
2/065 . . . [Rear seats]
2/067 . . . [by linear actuators, e.g. linear screw mechanisms]

2/07 . . . Slide construction
2/0702 . . . [characterised by its cross-section]
2/0705 . . . [omega-shaped]
2/0707 . . . [J-shaped]
2/071 . . . [T-shaped]
2/0712 . . . [H or double T-shaped]
2/0715 . . . [C or U-shaped]
2/0717 . . . [ Rounded, e.g. circular]
2/072 . . . [Complex cross-section, e.g. obtained by extrusion]
2/0722 . . . [Constructive details]
2/0725 . . . [Closing members for covering the slide]
2/0727 . . . [Stop members for limiting sliding movement]
2/073 . . . [Reinforcement members preventing slide dislocation]
2/0732 . . . [Attachment of seat frame to the slide, e.g. eyelets]
2/0735 . . . [Position and orientation of the slide as a whole]
2/0737 . . . [the slide path being substantially in a direction different from the longitudinal]
2/074 . . . [rotated about the transversal axis]
2/0742 . . . [rotated about the vertical axis]
2/0745 . . . [the slide path being curved]
2/0747 . . . [the opening of the cross section being oriented in a direction different from the vertical, e.g. transversal]

2/075 . . . roller-less
2/08 . . . characterised by the locking device
2/0806 . . . [with pin alignment systems, e.g. with at least one of a plurality of locking pins always aligned w.r.t. at least one of a plurality of pin-receiving elements]

2/0812 . . . [Location of the latch]
2/0818 . . . [inside the rail]
2/0825 . . . [outside the rail]
2/0831 . . . [Movement of the latch]
2/0837 . . . [pivoting]
2/0843 . . . [about a longitudinal axis]
2/085 . . . [about a transversal axis]
2/0856 . . . [about a vertical axis]
2/0862 . . . [sliding]
2/0868 . . . [in a transversal direction]
2/0875 . . . [in a vertical direction]
2/0881 . . . [Activation of the latches by the control mechanism]
2/0887 . . . [with synchronised movements]
2/0893 . . . [allowing independent movement of the latches, e.g. to recover tolerance errors]

2/10 . . . tiltable (B60N 2/12, B60N 2/2875) take precedence

2/12 . . . slidable and tiltable
2/123 . . . [and provided with memory locks]

2/14 . . . [the backrest being maintained in its tilted position until the seat has slided to its memorised position]
2/143 . . . [taking a position opposite to the original one]

2/146 . . . [characterised by the locking device]
2/16 . . . height-adjustable
2/1605 . . . [characterised by the cinematic]
2/161 . . . [Rods]
2/1615 . . . [Parallelogram-like structure]
2/162 . . . [Scissors-like structure]
2/1625 . . . [Combination of rods and slides]
2/163 . . . [Slides only]
2/1635 . . . [characterised by the drive mechanism]
2/164 . . . [Linear actuator, e.g. screw mechanism]
2/1645 . . . [Eccentric mechanism]
2/165 . . . [Gear wheel driven mechanism]
2/1655 . . . [Cycloidal or planetary mechanism]
2/166 . . . [Worm and worm gear articulations]
2/1665 . . . [Hydraulic or pneumatic actuation]
2/167 . . . [Ratchet mechanism]
2/1675 . . . [with weight compensating means]
2/168 . . . [and provided with braking systems]
2/1685 . . . [characterised by a lock]
2/169 . . . [Stepwise movement mechanisms, e.g. ratchets (B60N 2/167 takes precedence)]
2/1695 . . . [with simultaneous height and inclination adjustment]

2/18 . . . [the front or the rear portion of the seat being adjustable, e.g. independently of each other]

2/1803 . . . [with independent front and/or rear adjustment]
2/1807 . . . [characterised by the cinematic]
2/181 . . . [Rods]
2/1814 . . . [Parallelogram-like structure]
2/1817 . . . [Scissors-like structure]
2/1821 . . . [Combination of Rods and slides]
2/1825 . . . [including a curved slide]
2/1828 . . . [Slides only]
2/1832 . . . [including a curved slide]
2/1835 . . . [pivoting about an axis located in the front]
2/1839 . . . [pivoting about an axis located in an intermediate position]
2/1842 . . . [pivoting about an axis located in the rear]
2/1846 . . . [pivoting about a distant axis, e.g. virtual]
2/185 . . . [characterised by the drive mechanism]
2/1853 . . . [Linear actuator, e.g. screw mechanism]
2/1857 . . . [Eccentric mechanism]
2/186 . . . [with a transversal pin displaced by a moving slot or a cam along a predetermined path]

2/1864 . . . [Gear wheel driven mechanism]
2/1867 . . . [Cycloidal or planetary mechanism]
2/1871 . . . [Worm and worm gear articulations]
2/1875 . . . . . [Racks]
2/1878 . . . . . [Hydraulic or pneumatic actuation]
2/1882 . . . . . [Ratchet mechanism]
2/1885 . . . . . [with weight compensating means]
2/1898 . . . . . [and provided with braking systems]
2/1892 . . . . . [characterised by a lock]
2/1896 . . . . . [Stepwise movement mechanisms, e.g. ratchets (B60N 2/1882 takes precedence)]

2/20 the back-rest being tiltable, e.g. to permit easy access (B60N 2/204, B60N 2/222, B60N 2/238 takes precedence)
2/203 . . . . . [taking a position opposite to the original one] 
2/206 . . . . . [to a position in which it can be used as a support for objects, e.g. as a tray]
2/22 . . . the back-rest being adjustable ([B60N 2/2878 takes precedence])
2002/2204 . . . [Adjustable back-rest height or length]
2/2209 . . . . . [by longitudinal displacement of the cushion, e.g. back-rest hinged on the bottom to the cushion and linked on the top to the vehicle frame]
2/2213 . . . . . [Gear wheel driven mechanism (B60N 2/231, B60N 2/252 takes precedence)]
2/2218 . . . . . [Transversally moving locks]
2/2222 . . . . . [the back-rest having two or more parts]
2/2227 . . . . . [and provided with braking systems]
2/2231 . . . . . [Worm and worm gear articulations]
2/2236 . . . . . [with a transversal pin displaced by a slot or a cam along a predetermined path]
2/224 . . . . . [Stepwise movement mechanisms, e.g. ratchets]
2/2245 . . . . . [provided with a lock mechanism on the upper part of the back-rest]
2/225 . . . . . by cycloidal or planetary mechanisms
2/2251 . . . . . [with gears having orbital motion, e.g. sun and planet gears]
2/2252 . . . . . [in which the central axis of the gearing lies inside the periphery of an orbital gear, e.g. one gear without sun gear]
2/2254 . . . . . [provided with braking systems]
2/2255 . . . . . [with coiled springs]
2/2257 . . . . . [with rollers or balls]
2/2258 . . . . . [with ratchets]
2/23 . . . . . by [linear actuators, e.g. linear screw mechanisms]
2/231 . . . . . [by hydraulic actuators]
2/232 . . . . . [provided with memory locks]
2/233 . . . . . [by linear screw mechanisms]
2/235 . . . . . by gear-pawl type mechanisms
2/2352 . . . . . [with external pawls]
2/2354 . . . . . [and provided with memory locks]
2/2356 . . . . . [with internal pawls]
2/2358 . . . . . [and provided with memory locks]
2/236 . . . . . [linearly movable]
2/2362 . . . . . [rotatably movable]
2/24 . . . . . for particular purposes or particular vehicles
2/242 . . . . . [Bus seats]
2/245 . . . . . [for handicapped persons]
2002/247 . . . . . {to support passengers in a half-standing position}
2/26 . . . . . for children (B60N 2/30 takes precedence)
2/265 . . . . . [Adaptations for seat belts]

2/28 . . . . . Seats readily mountable on, and dismountable from, existing seats [or other parts] of the vehicle
2/2803 . . . . . [Adaptations for seat belts]
2/2806 . . . . . [securing the child seat to the vehicle]
2/2809 . . . . . [with additional tether connected to the top of the child seat and passing above the top of the back-rest]
2/2812 . . . . . [securing the child to the child seat]
2002/2815 . . . . . [with seat belt accessories, e.g. a belt tension detector]
2002/2818 . . . . . [characterised by guiding means for children belts]
2/2821 . . . . . [having a seat and a base part]
2/2824 . . . . . [part of the base being supported by the vehicle frame (B60N 2/289 takes precedence)]
2/2827 . . . . . [part of the base being supported by the seat sub-frame (B60N 2/2893 takes precedence)]
2/283 . . . . . [suspended]
2/2833 . . . . . [back-rest suspended]
2/2836 . . . . . [window-frame suspended]
2/2839 . . . . . [having a front guard or barrier]
2/2842 . . . . . [adapted to carry the child, when dismounted from the vehicle]
2/2845 . . . . . [having handles]
2/2848 . . . . . [being convertible or adaptable to a pram, e.g. a baby-carriage or a push-chair]
2/2851 . . . . . [provided with head-rests]
2/2854 . . . . . [Children's cots; Hammocks]
2/2857 . . . . . [characterised by the peculiar orientation of the child (B60N 2/2869 takes precedence)]
2/286 . . . . . [forward facing (B60N 2/2866 takes precedence)]
2/2863 . . . . . [backward facing]
2/2866 . . . . . [booster cushions, e.g. to lift a child to allow proper use of the conventional safety belts]
2/2869 . . . . . [rotatable about a vertical axis]
2/2872 . . . . . [provided with side rests]
2/2875 . . . . . [inclinable, as a whole or partially]
2/2878 . . . . . [the back-rest being inclinable]
2/2881 . . . . . [Upholstery, padded or cushioned members therefor]
2/2884 . . . . . [with protection systems against abnormal g-forces]
2/2887 . . . . . [Fixation to a transversal anchorage bar, e.g. isofix]
2/289 . . . . . [coupled to the vehicle frame]
2/2893 . . . . . [coupled to the seat sub-frame]
2002/2896 . . . . . [the child seat being foldable, e.g. to facilitate transport]
2/30 . . . . . [Non-dismountable (or dismountable) seats storable in a non-use position, e.g. foldable spare seats]
2/3002 . . . . . [back-rest movements]
2/3004 . . . . . [by rotation only]
2/3006 . . . . . [about longitudinal axis]
2/3009 . . . . . [about transversal axis]
2/3011 . . . . . [the back-rest being hinged on the cushion, e.g. "portefeuille movement"]
Saddle type

Seats tiltable to compensate for roll inclination

Dismountable seats storable in a non-use the vehicle when in an in-use position}

Safety locks for back-rests, e.g. with locking arms activated by inertia

Safety locks for back-rests, e.g. with locking bars activated by inertia

Seat suspension devices

[Seat guided by rods]

[Parallelogram-like structure]

[Scissors-like structure]

[Seat guided by slides or the like]

[using fluid means]

[characterised by dampening means]

[using gas]

[using liquids]

[using mechanical springs]

[made of rubber or other material having high internal friction, e.g. polymers]

[Compression or tension springs (B60N 2/542 takes precedence)]

[Leaf- or flexion springs]

[Torsion springs, e.g. torsion helicoidal springs]

Heating or ventilating devices

[Leaf- or flexion springs]

[by liquid]
Seat frames

Back-rests (B60N 2/2222)

Thigh-rests (B60N 2/914)

takes precedence

Seat coverings

Particular seat belt attachment and guiding

Panel like structures

Joining means

shape of the cushion

shape of the back-rests (B60N 2/66 takes precedence)

shape of the back-rests (B60N 2/66 takes precedence)

shape of the cushion

Lumbar supports

portable with attachment to the back-rest

using inflatable bladders

vertically adjustable

having flexible support member bowed by applied forces

with cable actuators

with motor driven adjustments

Seat frames

Joining means

the back rest being mounted or joined with an easy attachment system to the seat

Panel like structures

Particular seat belt attachment and guiding

Upholstery springs (B60N 2/70)

Upholstery springs (B60N 2/70)

detachable

of substantially two-dimensional shape, e.g. hammock-like, plastic shells, fabrics

Manufacturing methods specially adapted therefor

Coach-like constructions

back-rests

Cushions

Fixation of covers and springs

Springs

Springs using a combination of metal and rubber

Metallic springs

helicoidal

with rubber blocks

with rubber bands

with air or fluid cushions (B60N 2/914 takes precedence)

with valves (B60N 2/914 takes precedence)

Arm-rests

movable to an inoperative position

in a recess of the back-rest

in a recess of the cushion

adjustable

Angle adjustment

Height adjustment

Longitudinal adjustment

Transversal adjustment

post or panel mounted

sill suspended, e.g. window sill

detachable

Adaptations for additional use of the arm-rests

for use as storage compartments

for use as electrical control means, e.g. switches

Head-rests

fixed

Removable protective coverings

covering more than only the seat

attachments thereof

by hooks, staples, clips, snap fasteners or the like

by hook-and-loop type fasteners

by clamping means

by buckle passages

by elastic means

by thermal welding

by adhesion, e.g. gluing

by sewing, stitching or threading

Manufacturing methods specially adapted therefor

2/70

2/7005

2/7011

2/7017

2/7023

2/7029

2/7035

2/7041

2/7047

2/7052

2/7058

2/7064

2/707

2/7076

2/7082

2/7088

2/7094

2/72

2/75

2/753

2/757

2/76

2/763

2/767

2/77

2/773

2/777

2/78

2/783

2/787

2/79

2/793

2/797

2/80

2/803

2/806

2/812

2/815

2/818

WARNING

Group B60N 2/803 is incomplete pending reclassification of documents from group B60N 2/879.

Groups B60N 2/879 and B60N 2/803 should be considered in order to perform a complete search.

movable or adjustable

WARNING

Group B60N 2/806 is incomplete pending reclassification of documents from group B60N 2/879.

Groups B60N 2/879 and B60N 2/806 should be considered in order to perform a complete search.

vertically slidable

characterised by their locking devices

Release mechanisms, e.g. buttons

with stepwise positioning
with continuous positioning
using springs
using rubber-type material
characterised by their adjusting mechanisms, e.g. electric motors
movable to an inoperative or stowed position
specially adapted for rear seats
Tilted
characterised by their locking devices
Release mechanisms, e.g. buttons
with stepwise positioning
with continuous positioning
characterised by their adjusting mechanisms, e.g. electric motors
movable to an inoperative or stowed position
specially adapted for rear seats
with means for maintaining a desired position when the seat-back is adjusted, e.g. parallelogram mechanisms
providing a fore-and-aft movement with respect to the occupant's head
providing a lateral movement parallel to the occupant's shoulder
movable to an inoperative or stowed position
(B60N 2/832, B60N 2/885 take precedence)
specially adapted for rear seats
(B60N 2/835, B60N 2/885 take precedence)
with additional features not related to head-rest positioning, e.g. heating or cooling devices or loudspeakers

**WARNING**

Group B60N 2/879 is impacted by reclassification into groups B60N 2/803 and B60N 2/806.
Groups B60N 2/879, B60N 2/803 and B60N 2/806 should be considered in order to perform a complete search.

detachable
provided with side-rests
with arrangements for protecting against abnormal g-forces, e.g. by displacement of the head-rest
with the head-rest being comma-shaped in side view
with rods solidly attached to the back-rest
with sleeves located in the back-rest for guiding the rods of the head-rest
(characterised by structural or mechanical details not otherwise provided for)
Details or parts not otherwise provided for
(the head-rest or seat used as an anchorage point, for an object not covered by groups in B60N, e.g. for a canvas)
[Panels between front seats]
[Hydro-pneumatic adjustments of the shape]
[Positioning and locking mechanisms (B60N 2/16, B60N 2/18, B60N 2/22, B60N 2/225 take precedence)]
[using electric or hydraulic energy]
[linear]
[rotatable]
[and provided with braking systems]

**Stepwise movement mechanisms, e.g. ratchets**

[the actuation of the positioning or locking mechanism for one seat part being dependent on the position of another seat part, e.g. the seats floor lock being unlocked when the backrest is inclined or the backrest can be tilted only when the seat is in its rear position]

(characterised by details of the locking system)

(the locking system prevents an abnormal or wrong mounting situation, i.e. deployment or functioning of a seat part being prevented if the seat or seat part is not properly mounted)

(the locking system disabling tilting of the back-rest to the vertical position, when the seat is not properly installed)

(the locking system prevents tilt of whole seat by retaining and locking the seat in a vertical storage position)

(the locking system being an element distinct from articulation means, retaining the seat or seat part in its folded position, e.g. controlled by a wire)

[massaging systems]

(Warning systems, e.g. the seat or seat parts vibrates to warn the passenger when facing a danger)

(Side-rests (B60N 2/2872, B60N 2/885 take precedence))

[adjustable]

[Lower-leg-rests, e.g. calf-rests]

Arrangements or adaptations of other passenger fittings, not otherwise provided for (of radio sets, television sets, telephones, (stowing or holding appliances), safety belts or the like B60R)

[of tables or trays]

[of trays]

[of foldable trays mounted on the back-rest]

[mounted on the steering wheel]

[mounted on the window sill]

[of beds]

[of hand grips or straps]

[movable]

(characterised by the fixing means (B60N 3/023 takes precedence))

[of floor mats (or carpets)]

[of carpets (B60N 3/046, B60N 3/048 take precedence)]

[of removable mats (B60N 3/046, B60N 3/048 take precedence)]

(characterised by the fixing means)

(characterised by their structure)

[of footrests]

(with adjustment systems)

[with protection systems against abnormal g-forces]

[of receptacles for refuse, e.g. ash-trays]

[Ash-trays]

[with refuse evacuation means]

[of receptacles for food or beverages, e.g. refrigerated]

[(fixed)]

(storable or foldable in a non-use position)
3/103  .  .  {detachable}
3/104  .  .  {with refrigerating or warming systems}
3/105  .  .  {for receptacles of different size or shape}
3/106  .  .  .  {with adjustable clamping mechanisms}
3/107  .  .  .  {with different elements of fixed geometry}
3/108  .  .  .  {with resilient holding elements}
3/12  .  of receptacles for cigarettes or the like
3/14  .  of electrically-heated lighters
3/16  .  of cooking or boiling devices
3/18  .  of drinking-water {or other beverage} dispensing devices

5/00  Arrangements or devices on vehicles for entrance or exit control of passengers, e.g. turnstiles

99/00  Subject matter not provided for in other groups of this subclass

2205/00  General mechanical or structural details
2205/20  .  Measures for elimination or compensation of play or backlash
2205/30  .  Seat or seat parts characterised by comprising plural parts or pieces
2205/35  .  .  Seat, bench or back-rests being split laterally in two or more parts
2205/40  .  Dual or redundant actuating means, e.g. backrest tilting can be actuated alternatively by a lever at the backrest or a lever in the luggage compartment
2205/50  .  Interlocking shaft arrangements transmitting movement between hinge mechanisms on both sides of a seat