

B60 VEHICLES IN GENERAL**B60B VEHICLE WHEELS; CASTORS; AXLES; INCREASING WHEEL ADHESION**

Attention is drawn to the Note following the title of class B60.

WHEELS

General structure.....	1/00, 3/00	hubs.....	27/00
Characterised by the material	5/00	Other wheels.....	19/00
Ornamental characteristics	7/00	AXLES; WHEEL-AXLE COMBINATIONS.....	35/00; 37/00
Particular structures: highly-resilient; multiple or multi-tyred; adhesion-increasing; rail-engaging.....	9/00; 11/00; 15/00; 17/00	INCREASING WHEEL ADHESION, OTHERWISE THAN BY WHEEL STRUCTURE	39/00
Component parts		MOUNTING, HOLDING OR ASSEMBLING WHEELS	29/00, 30/00, 31/00
spokes; rims.....	1/00; 21/00, 23/00, 25/00	CASTORS IN GENERAL	33/00

Wheels (wheels for roller skates A63C 17/22; making wheels or wheel parts by rolling B21H 1/00, by forging, hammering, or pressing B21K 1/28)

- 1/00 Spoked wheels; Spokes thereof** (non-metallic B60B 5/00) [2]
- 1/02 . Wheels with wire or other tension spokes
 - 1/04 . . Attaching spokes to rim or hub
 - 1/06 . Wheels with compression spokes (wheels of high resiliency B60B 9/00)
 - 1/08 . . formed by casting
 - 1/10 . . fabricated from sheet metal (B60B 1/12, B60B 3/08 take precedence)
 - 1/12 . . with tubular spokes (B60B 1/08 takes precedence)
 - 1/14 . . Attaching spokes to rim or hub
- 3/00 Disc wheels, i.e. wheels with load-supporting disc body** (non-metallic B60B 5/00; wheel cover discs B60B 7/00)
- 3/02 . with a single disc body integral with rim
 - 3/04 . with a single disc body not integral with rim
 - 3/06 . formed by casting
 - 3/08 . with disc body formed by two or more axially-spaced discs
 - 3/10 . apertured to simulate spoked wheels
 - 3/12 . Means of reinforcing disc bodies
 - 3/14 . Attaching disc body to hub (resiliently B60B 9/00; attaching rim to wheel body B60B 23/00)
 - 3/16 . . by bolts or the like
 - 3/18 . . by circlips or the like
- 5/00 Wheels, spokes, disc bodies, rims, hubs, wholly or predominantly made of non-metallic material** (wheel cover discs B60B 7/00; wheels of high resiliency B60B 9/00)
- 5/02 . made of synthetic material
 - 5/04 . made of wood

- 7/00 Wheel cover discs, rings, or the like, for ornamenting, protecting, or obscuring, wholly or in part, the wheel body, rim, hub, or tyre sidewall** [2,5]
- 7/01 . Rings specially adapted for covering only the wheel rim or the tyre sidewall, e.g. removable tyre sidewall trim rings [5]
 - 7/02 . made essentially in one part (B60B 7/01 takes precedence) [5]
 - 7/04 . built-up of several main parts (B60B 7/01, B60B 7/20 take precedence) [5]
 - 7/06 . Fastening arrangements therefor (B60B 7/01, B60B 7/16 take precedence) [5]
 - 7/08 . . having gripping elements consisting of formations integral with the cover [5]
 - 7/10 . . comprising a plurality of spaced spring clips individually mounted on the cover, e.g. riveted, welded or readily releasable [5]
 - 7/12 . . comprising an annular spring or gripping element mounted on the cover (B60B 7/08 takes precedence) [5]
 - 7/14 . . comprising screw-threaded means [5]
 - 7/16 . Anti-theft devices [5]
 - 7/18 . simulating spoked or wire wheel [5]
 - 7/20 . having an element mounted for rotation independently of wheel rotation [5]
- 9/00 Wheels of high resiliency**
- 9/02 . using springs (wheels comprising resilient spokes B60B 9/26)
 - 9/04 . . in leaf form
 - 9/06 . . in helical form
 - 9/08 . . in flat coiled form
 - 9/10 . . of rubber or the like
 - 9/12 . . . in the form of sleeves or rings concentric with wheel axis
 - 9/14 . . . with means limiting relative lateral movements between hub and remainder of wheel
 - 9/16 . . . modified to ensure electric conductivity
 - 9/18 . using fluid (within spokes B60B 9/26)
 - 9/20 . . in rings concentric with wheel axis
 - 9/22 . . . inflatable

B60B

- 9/24 . . with pistons and cylinders
- 9/26 . comprising resilient spokes
- 9/28 . . with telescopic action

11/00 Units comprising multiple wheels arranged side by side; Wheels having more than one rim or capable of carrying more than one tyre

- 11/02 . Units of separate wheels mounted for independent or coupled rotation
- 11/04 . Wheels with a rim capable of carrying more than one tyre
- 11/06 . Wheels with more than one rim mounted on a single wheel body
- 11/08 . Arrangements of balancing mechanisms enabling a uniform distribution of load to the tyres
- 11/10 . Emergency wheels (tyres collapsible into storage or non-use condition B60C 3/08; tyres characterised by means enabling restricted operation in damaged or deflated condition B60C 17/00) [5]

15/00 Wheels or wheel attachments designed for increasing traction (vehicle tyres B60C; non-skid devices temporarily attachable to resilient tyres or resiliently-tyred wheels B60C 27/00)

- 15/02 . Wheels with spade lugs
- 15/04 . . with resiliently-mounted spade lugs
- 15/06 . . with pivotally-mounted spade lugs
- 15/08 . . with spade lugs axially displaced relatively to the tread surface of the tyre
- 15/10 . . with radially-adjustable spade lugs; Control mechanisms therefor
- 15/12 . . . involving cams or eccentric hoops
- 15/14 . . . involving an axially-displaceable cone
- 15/16 . . . involving gearing, e.g. gear pinions acting upon threaded shafts on the spade lugs
- 15/18 . Wheels with ground-engaging plate-like shoes
- 15/20 . . with resiliently-mounted shoes, e.g. on a spider
- 15/22 . . connected by links to the hub
- 15/24 . Tread bands or rings for fairing lugs when travelling on the road
- 15/26 . Auxiliary wheels or rings with traction-increasing surface attachable to the main wheel body
- 15/28 . Wheel-ballasting weights; Their attachment

17/00 Wheels characterised by rail-engaging elements (of model railways A63H 19/22) [2]

- 17/02 . with elastic tyres

19/00 Wheels not otherwise provided for or having characteristics specified in one of the subgroups of this group

- 19/02 . convertible, e.g. from road wheel to rail wheel; Wheels specially designed for alternative use on road and rail
- 19/04 . expandable
- 19/06 . with compartments for fluid, packing, or loading material; Buoyant wheels
- 19/08 . with lubricating passages, channels, or reservoirs
- 19/10 . with cooling fins
- 19/12 . Roller-type wheels (B60B 19/06 takes precedence)
- 19/14 . Ball-type wheels (B60B 19/06 takes precedence)

Rims; Hubs

21/00 Rims (non-metallic B60B 5/00; of high resiliency B60B 9/00; capable of carrying more than one tyre B60B 11/04; multiple rims on single wheel body B60B 11/06; of multi-part type B60B 25/00; metal tyres B60C)

- 21/02 . characterised by transverse section
- 21/04 . . with substantially-radial flanges (with rail-engaging flanges B60B 17/00)
- 21/06 . characterised by means for attaching spokes
- 21/08 . characterised by having braking surfaces
- 21/10 . characterised by the form of tyre-seat or flange, e.g. corrugated (B60B 21/02 takes precedence)
- 21/12 . Accessories, e.g. lining bands

23/00 Attaching rim to wheel body (attaching spokes to rim B60B 1/04, B60B 1/14; attaching rims resiliently to wheel body B60B 9/00)

Group B60B 23/12 takes precedence over groups B60B 23/02 B60B 23/06.

- 23/02 . by split or other expansible ring devices
- 23/04 . by bayonet-joint, screw-thread, or like attachments
- 23/06 . by screws, bolts, pins, or clips
- 23/08 . . arranged radially
- 23/10 . . arranged axially
- 23/12 . by devices arranged to permit variation of axial position of rim relative to wheel body for track-width adjustment

25/00 Rims built-up of several main parts (tools for assembling divided rims B60B 31/04)

- 25/02 . Segmented rims, e.g. with segments arranged in sections; Connecting equipment, e.g. hinges; Insertable flange rings therefor
- 25/04 . Rims with dismountable flange rings, seat rings, or lock rings
- 25/06 . . Split flange rings, e.g. transversely split; Connecting equipment for overlapping the slot
- 25/08 . . Continuous flange rings; Arrangement of recesses enabling the flange ring to be slipped over the rim body
- 25/10 . . Seat rings for the tyre bead part, e.g. split
- 25/12 . . . with integral flange part
- 25/14 . . Locking means for flange rings or seat rings
- 25/16 . . . Arrangement of bayonet catches
- 25/18 . . . Arrangement of split rings
- 25/20 . . . Arrangement of screw, bolts, or shouldered pins
- 25/22 . Other accessories, e.g. for sealing the component parts enabling the use of tubeless tyres

27/00 Hubs (non-metallic B60B 5/00; of high resiliency B60B 9/00)

- 27/02 . adapted to be rotatably arranged on axle
- 27/04 . . housing driving means, e.g. sprockets
- 27/06 . adapted to be fixed on axle

Apparatus or tools for mounting, holding or assembling wheels

(hand tools in general B25; tools for mounting tyres B60C 25/00; joining wheel units to motor vehicles or trailers during manufacturing, e.g. assembling, B62D 65/12)

29/00 Apparatus or tools for mounting or dismounting wheels (characterised by the means for holding the wheels B60B 30/00) [5]

- 30/00 Means for holding wheels or parts thereof** (spare wheel stowing, holding or mounting arrangements on vehicles B62D 43/00) [5]
- 30/02 . engaging the tyre, e.g. the tyre being mounted on the wheel rim [5]
- 30/04 . . the tyre not being mounted on a rim, i.e. holders or supports for tyres alone [5]
- 30/06 . engaging the wheel body, e.g. the rim [5]
- 30/08 . . the central part of the wheel body [5]
- 30/10 . characterised by being provided on a dolly [5]
- 31/00 Apparatus or tools for assembling or disassembling wheels**
- 31/02 . for tightening or straightening wire spokes in situ; for extracting spokes from wheels
- 31/04 . for assembling divided rims
- 31/06 . for removing or attaching cover discs, hub caps, or the like [2]
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- 33/00 Castors in general** (castors for large containers B65D 90/18)
- 33/02 . with disengageable swivel action
- 33/04 . adjustable
- 33/06 . . mounted retractably
- 33/08 . Ball castors
- 35/00 Axle units; Parts thereof** (resilient suspension of a rigid axle or axle housing B60G 9/00; steerable vehicle stub-axles B62D)
- 35/02 . Dead axles, i.e. not transmitting torque (axle housings for torque transmitting elements B60B 35/16)
- 35/04 . . straight
- 35/06 . . cranked
- 35/08 . . of closed hollow section
- 35/10 . . adjustable for varying track
- 35/12 . Torque-transmitting axles
- 35/14 . . composite or split, e.g. half-axles; Couplings between axle parts or sections (B60G 3/24 takes precedence)
- 35/16 . . characterised by the axle housings for the torque transmitting elements, e.g. for shafts
- 35/18 . . characterised by the arrangement of the bearings for the torque transmitting elements in the axle housings
- 37/00 Wheel-axle combinations, e.g. wheel sets** (units comprising multiple wheels arranged side by side B60B 11/00; rail-vehicle axle-boxes B61F)
- 37/02 . the wheels being integral with solid axles
- 37/04 . the wheels being rigidly attached to solid axles
- 37/06 . the wheels being integral with, or rigidly attached to, hollow axles
- 37/08 . . the hollow axles being rotatable around fixed axles
- 37/10 . the wheels being individually rotatable around the axles
- 37/12 . Axles with a fixed wheel and a loose wheel
- 39/00 Increasing wheel adhesion** (wheels or wheel attachments designed for increasing traction B60B 15/00; vehicle tyres B60C; non-skid devices temporarily attachable to resilient tyres or resiliently-tyred wheels B60C 27/00; road surface conditioning to prevent slipperiness E01C)
- 39/02 . Vehicle fittings for scattering or dispensing material in front of its wheels
- 39/04 . . the material being granular, e.g. sand (combined control of sanding apparatus and brakes of rail vehicles B61H)
- 39/06 . . . the dispensing being effected by mechanical means
- 39/08 . . . the dispensing being effected by fluid means
- 39/10 . . . the dispensing being controlled electrically or electromagnetically
- 39/12 . . the material being sheet-like or web-like