

## SECTION B — PERFORMING OPERATIONS; TRANSPORTING

### B60 VEHICLES IN GENERAL

#### B60B VEHICLE WHEELS (making wheels or wheel parts by rolling B21H 1/00, by forging, hammering or pressing B21K 1/28); CASTORS; AXLES; INCREASING WHEEL ADHESION

##### Note(s)

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

##### Subclass index

##### WHEELS

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##### Wheels

- 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	<ul style="list-style-type: none"> <li>having an element mounted for rotation independently of wheel rotation [5]</li> </ul>	
<b>9/00</b>	<b>Wheels of high resiliency</b>	
9/02	<ul style="list-style-type: none"> <li>using springs (wheels comprising resilient spokes B60B 9/26)</li> </ul>	
9/04	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>in leaf form</li> </ul> </li> </ul>	
9/06	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>in helical form</li> </ul> </li> </ul>	
9/08	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>in flat coiled form</li> </ul> </li> </ul>	
9/10	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>of rubber or the like</li> </ul> </li> </ul>	
9/12	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>in the form of sleeves or rings concentric with wheel axis</li> </ul> </li> </ul>	
9/14	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>with means limiting relative lateral movements between hub and remainder of wheel</li> </ul> </li> </ul>	
9/16	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>modified to ensure electric conductivity</li> </ul> </li> </ul>	
9/18	<ul style="list-style-type: none"> <li>using fluid (within spokes B60B 9/26)</li> </ul>	
9/20	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>in rings concentric with wheel axis</li> </ul> </li> </ul>	
9/22	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>inflatable</li> </ul> </li> </ul>	
9/24	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>with pistons and cylinders</li> </ul> </li> </ul>	
9/26	<ul style="list-style-type: none"> <li>comprising resilient spokes</li> </ul>	
9/28	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>with telescopic action</li> </ul> </li> </ul>	
<b>11/00</b>	<b>Units comprising multiple wheels arranged side by side; Wheels having more than one rim or capable of carrying more than one tyre</b>	
11/02	<ul style="list-style-type: none"> <li>Units of separate wheels mounted for independent or coupled rotation</li> </ul>	
11/04	<ul style="list-style-type: none"> <li>Wheels with a rim capable of carrying more than one tyre</li> </ul>	
11/06	<ul style="list-style-type: none"> <li>Wheels with more than one rim mounted on a single wheel body</li> </ul>	
11/08	<ul style="list-style-type: none"> <li>Arrangements of balancing mechanisms enabling a uniform distribution of load to the tyres</li> </ul>	
11/10	<ul style="list-style-type: none"> <li>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]</li> </ul>	
<b>15/00</b>	<b>Wheels or wheel attachments designed for increasing traction</b> (vehicle tyres B60C; non-skid devices temporarily attachable to resilient tyres or resiliently-tyred wheels B60C 27/00)	
15/02	<ul style="list-style-type: none"> <li>Wheels with spade lugs</li> </ul>	
15/04	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>with resiliently-mounted spade lugs</li> </ul> </li> </ul>	
15/06	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>with pivotally-mounted spade lugs</li> </ul> </li> </ul>	
15/08	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>with spade lugs axially displaced relatively to the tread surface of the tyre</li> </ul> </li> </ul>	
15/10	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>with radially-adjustable spade lugs; Control mechanisms therefor</li> </ul> </li> </ul>	
15/12	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>involving cams or eccentric hoops</li> </ul> </li> </ul>	
15/14	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>involving an axially-displaceable cone</li> </ul> </li> </ul>	
15/16	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>involving gearing, e.g. gear pinions acting upon threaded shafts on the spade lugs</li> </ul> </li> </ul>	
15/18	<ul style="list-style-type: none"> <li>Wheels with ground-engaging plate-like shoes</li> </ul>	
15/20	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>with resiliently-mounted shoes, e.g. on a spider</li> </ul> </li> </ul>	
15/22	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>connected by links to the hub</li> </ul> </li> </ul>	
15/24	<ul style="list-style-type: none"> <li>Tread bands or rings for fairing lugs when travelling on the road</li> </ul>	
15/26	<ul style="list-style-type: none"> <li>Auxiliary wheels or rings with traction-increasing surface attachable to the main wheel body</li> </ul>	
15/28	<ul style="list-style-type: none"> <li>Wheel-ballasting weights; Their attachment</li> </ul>	
<b>17/00</b>	<b>Wheels characterised by rail-engaging elements</b> (of model railways A63H 19/22) [2]	
17/02	<ul style="list-style-type: none"> <li>with elastic tyres</li> </ul>	
<b>19/00</b>	<b>Wheels not otherwise provided for or having characteristics specified in one of the subgroups of this group</b>	
19/02	<ul style="list-style-type: none"> <li>convertible, e.g. from road wheel to rail wheel; Wheels specially designed for alternative use on road and rail</li> </ul>	
19/04	<ul style="list-style-type: none"> <li>expansible</li> </ul>	
19/06	<ul style="list-style-type: none"> <li>with compartments for fluid, packing, or loading material; Buoyant wheels</li> </ul>	
19/08	<ul style="list-style-type: none"> <li>with lubricating passages, channels, or reservoirs</li> </ul>	
19/10	<ul style="list-style-type: none"> <li>with cooling fins</li> </ul>	
19/12	<ul style="list-style-type: none"> <li>Roller-type wheels (B60B 19/06 takes precedence)</li> </ul>	
19/14	<ul style="list-style-type: none"> <li>Ball-type wheels (B60B 19/06 takes precedence)</li> </ul>	
<b>Rims; Hubs</b>		
<b>21/00</b>	<b>Rims</b> (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	<ul style="list-style-type: none"> <li>characterised by transverse section</li> </ul>	
21/04	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>with substantially-radial flanges (with rail-engaging flanges B60B 17/00)</li> </ul> </li> </ul>	
21/06	<ul style="list-style-type: none"> <li>characterised by means for attaching spokes</li> </ul>	
21/08	<ul style="list-style-type: none"> <li>characterised by having braking surfaces</li> </ul>	
21/10	<ul style="list-style-type: none"> <li>characterised by the form of tyre-seat or flange, e.g. corrugated (B60B 21/02 takes precedence)</li> </ul>	
21/12	<ul style="list-style-type: none"> <li>Accessories, e.g. lining bands</li> </ul>	
<b>23/00</b>	<b>Attaching rim to wheel body</b> (attaching spokes to rim B60B 1/04, B60B 1/14; attaching rims resiliently to wheel body B60B 9/00)	
<b>Note(s)</b>		
Group B60B 23/12 takes precedence over groups B60B 23/02-B60B 23/06.		
23/02	<ul style="list-style-type: none"> <li>by split or other expansible ring devices</li> </ul>	
23/04	<ul style="list-style-type: none"> <li>by bayonet-joint, screw-thread, or like attachments</li> </ul>	
23/06	<ul style="list-style-type: none"> <li>by screws, bolts, pins, or clips</li> </ul>	
23/08	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>arranged radially</li> </ul> </li> </ul>	
23/10	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>arranged axially</li> </ul> </li> </ul>	
23/12	<ul style="list-style-type: none"> <li>by devices arranged to permit variation of axial position of rim relative to wheel body for track-width adjustment</li> </ul>	
<b>25/00</b>	<b>Rims built-up of several main parts</b> (tools for assembling divided rims B60B 31/04)	
25/02	<ul style="list-style-type: none"> <li>Segmented rims, e.g. with segments arranged in sections; Connecting equipment, e.g. hinges; Insertable flange rings therefor</li> </ul>	
25/04	<ul style="list-style-type: none"> <li>Rims with dismountable flange rings, seat rings, or lock rings</li> </ul>	
25/06	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>Split flange rings, e.g. transversely split; Connecting equipment for overlapping the slot</li> </ul> </li> </ul>	
25/08	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>Continuous flange rings; Arrangement of recesses enabling the flange ring to be slipped over the rim body</li> </ul> </li> </ul>	
25/10	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>Seat rings for the tyre bead part, e.g. split</li> </ul> </li> </ul>	
25/12	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>with integral flange part</li> </ul> </li> </ul> </li> </ul>	
25/14	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>Locking means for flange rings or seat rings</li> </ul> </li> </ul>	
25/16	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>Arrangement of bayonet catches</li> </ul> </li> </ul> </li> </ul>	
25/18	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>Arrangement of split rings</li> </ul> </li> </ul> </li> </ul>	
25/20	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>Arrangement of screw, bolts, or shouldered pins</li> </ul> </li> </ul> </li> </ul>	
25/22	<ul style="list-style-type: none"> <li>Other accessories, e.g. for sealing the component parts enabling the use of tubeless tyres</li> </ul>	

**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**

**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]

**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