

**CPC****COOPERATIVE PATENT CLASSIFICATION****B62D**

**MOTOR VEHICLES; TRAILERS** (steering, or guiding on a desired track, of agricultural machines or implements [A01B 69/00](#) ; wheels, castors, axles, increasing wheel adhesion [B60B](#); vehicle tyres, tyre inflation or tyre changing [B60C](#); connections between vehicles of a train or the like [B60D](#); vehicles for use on rail and road, amphibious or convertible vehicles [B60F](#); suspension arrangements [B60G](#); heating, cooling, ventilating or other air treating devices [B60H](#); windows, windscreens, non-fixed roofs, doors or similar devices, protective coverings for vehicles not in use [B60J](#); propulsion plant arrangements, auxiliary drives, transmissions, controls, instrumentation or dashboards [B60K](#); electric equipment or propulsion of electrically-propelled vehicles [B60L](#); power supply for electrically-propelled vehicles [B60M](#); passenger accommodation not otherwise provided for [B60N](#); adaptations for load transportation or to carry special loads or objects [B60P](#); arrangement of signalling or lighting devices, the mounting or supporting thereof or circuits therefor, for vehicles in general [B60Q](#); vehicles, vehicle fittings or vehicle parts not otherwise provided for [B60R](#); servicing, cleaning, repairing, supporting, lifting, or manoeuvring, not otherwise provided for, [B60S](#); brake arrangements, brake control systems or parts thereof [B60T](#); air-cushion vehicles [B60V](#); motor-cycles, accessories therefor [B62J](#), [B62K](#); testing of vehicles [G01M](#))

**NOTE**

In this subclass, the following terms are used with the meanings indicated:

- "vehicles" include motor vehicles and trailers;
- "trailers" include forecars or sidecars.

**WARNING**

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups:

<a href="#">B62D 25/13</a>	covered by	<a href="#">B60J 1/20</a>
,	<a href="#">B60R 13/07</a>	<a href="#">B62D 25/22</a> covered
by	<a href="#">B60R 3/00</a>	<a href="#">B62D 65/08</a> covered by
<a href="#">B60J 10/0088</a>		

**Steering of motor vehicles or trailers****NOTE**

Steering devices acting on ground-engaging wheels, endless tracks or the like and also applicable to aircraft are classified in [B62D 1/00](#) and relevant subsequent groups; these groups take precedence over [B64C](#) ; These elaborations also embrace steering of vehicles in general but applicable to land vehicles

**B62D 1/00**

**Steering controls, i.e. means for initiating a change of direction of the vehicle**

**B62D 1/02**

. vehicle-mounted

B62D 1/04	..	Hand wheels
B62D 1/043	...	{with a device allowing single-hand operation of the steering wheel}
B62D 1/046	...	{Adaptations on rotatable parts of the steering wheel for accomodation of switches}
B62D 1/06	...	Rims, e.g. with heating means; Rim covers ( <a href="#">B62D 1/11</a> takes precedence)
B62D 1/065	....	{Steering wheels with heating and ventilating means (heating and ventilating arrangements for spaces of vehicles <a href="#">B60H</a> )}
B62D 1/08	...	Spokes, e.g. resilient ( <a href="#">B62D 1/11</a> takes precedence)
B62D 1/10	...	Hubs; Connecting hubs to steering columns, e.g. adjustable ( <a href="#">B62D 1/11</a> takes precedence)
B62D 1/105	....	{Non-rotatable hubs, e.g. the central part of the steering wheel not rotating (for storing airbags <a href="#">B60R 21/2032</a> )}
B62D 1/11	...	incorporating energy-absorbing arrangements, e.g. by being yieldable or collapsible (padded linings associated with the steering wheel <a href="#">B60R 21/05</a> ; shock absorbers using plastic deformation of members in general <a href="#">F16F 7/12</a> )
B62D 1/12	..	Hand levers
B62D 1/14	...	Tillers, i.e. hand levers operating on steering columns
B62D 1/16	..	Steering columns
B62D 1/163	...	{Part of the steering column replaced by flexible means, e.g. cable or belt}
B62D 1/166	...	{Means changing the transfer ratio between steering wheel and steering gear (by continuous supply of energy, e.g. from electric motor <a href="#">B62D 5/008</a> ; controlling steering depending on driving conditions sensed and responded to <a href="#">B62D 6/00</a> )}
B62D 1/18	...	yieldable or adjustable, e.g. tiltable (padded linings associated with the steering column <a href="#">B60R 21/05</a> )

**NOTE**

Group [B62D 1/181](#) takes precedence over groups [B62D 1/183](#) - [B62D 1/187](#) .

B62D 1/181	....	with power actuated adjustment, e.g. with position memory
B62D 1/183	....	adjustable between in-use and out-of-use positions, e.g. to improve access
B62D 1/184	....	Mechanisms for locking columns at selected positions {(locking of telescopic systems in general <a href="#">F16B 7/10</a> )}
B62D 1/185	....	adjustable by axial displacement, e.g. telescopically ( <a href="#">B62D 1/183</a> , <a href="#">B62D 1/187</a> , <a href="#">B62D 1/19</a> take precedence)
B62D 1/187	....	with tilt adjustment; with tilt and axial adjustment ( <a href="#">B62D 1/183</a> , <a href="#">B62D 1/19</a> takes precedence)
B62D 1/189	.....	the entire column being tiltable as a unit
B62D 1/19	....	incorporating energy-absorbing arrangements, e.g. by being yieldable or collapsible (shock absorbers using plastic deformation of members in general <a href="#">F16F 7/12</a> )
B62D 1/192	.....	{Yieldable or collapsible columns}
B62D 1/195	.....	{Yieldable supports for the steering column}

- B62D 1/197 . . . . . {incorporating devices for preventing ingress of the steering column into the passengers space in case of accident}
- B62D 1/20 . . . Connecting steering column to steering gear
- B62D 1/22 . . . Alternative steering-control elements, e.g. for teaching purposes
- B62D 1/24 . . . not vehicle-mounted {(special adaptations of automatic tractor steering [A01B 69/008](#) ; devices for lifting, movable on wheels, automatically guided [B66F 9/063](#))}
- B62D 1/26 . . . mechanical, e.g. by a non-load-bearing guide ([railways B61](#))
- B62D 1/265 . . . {especially adapted for guiding road vehicles carrying loads or passengers, e.g. in urban networks for public transportation}
- B62D 1/28 . . . non-mechanical {e.g. following a line or other known markers (steering position indicators [B62D 15/02](#) ; steering aids [B62D 15/025](#) ; parking aids [B62D 15/027](#) ; steering assistants [B62D 15/029](#) ; determination or calculation of trajectory of land vehicles [G05D 1/021](#))}
- B62D 1/283 . . . {for unmanned vehicles}
- B62D 1/286 . . . {Systems for interrupting non-mechanical steering due to driver intervention}
  
- B62D 3/00** **Steering gears** (power assisted or power driven [B62D 5/00](#) ; steering linkages [B62D 7/00](#) ; for non-deflectable wheels [B62D 11/00](#) ; gearing in general [F16H](#))
- B62D 3/02 . . . mechanical
- B62D 3/04 . . . of worm type
- B62D 3/06 . . . with screw and nut
- B62D 3/08 . . . . . using intermediate balls or the like
- B62D 3/10 . . . with worm engaging in sector or roller gear
- B62D 3/12 . . . of rack-and-pinion type
- B62D 3/123 . . . {characterised by pressure yokes}
- B62D 3/126 . . . {characterised by the rack}
- B62D 3/14 . . . hydraulic
  
- B62D 5/00** **Power-assisted or power-driven steering** ({controlling steering depending on driving conditions sensed and responded to [B62D 6/00](#) ; } for non-deflectable wheels [B62D 11/00](#) ; fluid pressure servomotors in general [F15B](#))
- B62D 5/001 . . . {Mechanical aspects of steer-by-wire systems, not otherwise provided in [B62D 5/00](#)(hydraulic steer-by-wire systems [B62D 5/091](#))}
- B62D 5/003 . . . {Backup systems, e.g. for manual steering ([B62D 5/30](#) takes precedence)}
- B62D 5/005 . . . {means for generating torque on steering wheel, e.g. feedback}
- B62D 5/006 . . . {power actuated ([control thereof B62D 6/008](#))}
- B62D 5/008 . . . {Changing the transfer ratio between the steering wheel and the steering gear by variable supply of energy, e.g. by using a superposition gear}
- B62D 5/02 . . . mechanical, e.g. using a power-take-off mechanism for taking power from a rotating shaft of the vehicle and applying it to the steering gear
- B62D 5/04 . . . electrical, e.g. using an electric servo-motor connected to, or forming part of, the steering gear
- B62D 5/0403 . . . {characterised by constructional features, e.g. common housing for motor and gear box}
- B62D 5/0406 . . . {including housing for electronic control unit}

B62D 5/0409	..	{Electric motor acting on the steering column}
B62D 5/0412	...	{the axes of motor and steering column being parallel}
B62D 5/0415	....	{the axes being coaxial}
B62D 5/0418	..	{Electric motor acting on road wheel carriers}
B62D 5/0421	..	{Electric motor acting on or near steering gear}
B62D 5/0424	...	{the axes of motor and final driven element of steering gear, e.g. rack, being parallel}
B62D 5/0427	....	{the axes being coaxial}
B62D 5/043	..	{characterised by clutch means between driving element, e.g. motor, and driven element, e.g. steering column or steering gear}
B62D 5/0433	...	{the clutch being of on-off type}
B62D 5/0436	....	{the clutch being a controlled emergency clutch, e.g. for disconnecting at motor break-down}
B62D 5/0439	...	{Controllable friction clutches ( <a href="#">B62D 5/0436 takes precedence</a> )}
B62D 5/0442	..	{Conversion of rotational into longitudinal movement}
B62D 5/0445	...	{Screw drives ( <a href="#">Screw mechanisms in general F16H 25/20</a> )}
B62D 5/0448	....	{Ball nuts}
B62D 5/0451	...	{Roller spindle drives}
B62D 5/0454	...	{Worm gears}
B62D 5/0457	..	{characterised by control features of the drive means as such ( <a href="#">controlling steering depending on driving conditions sensed and responded to B62D 6/00</a> ; <a href="#">determination of steering angle B62D 15/021</a> ; <a href="#">measuring torque applied to steering wheels G01L 5/221</a> ; <a href="#">control of electric motor as such H02P</a> )}
B62D 5/046	...	{Controlling the motor}
B62D 5/0463	....	{for generating assisting torque}
B62D 5/0466	....	{for returning the steering wheel to neutral position}
B62D 5/0469	....	{End-of-stroke control}
B62D 5/0472	....	{for damping vibrations}
B62D 5/0475	...	{Controlling other elements}
B62D 5/0478	....	{Clutches}
B62D 5/0481	...	{monitoring the steering system, e.g. failures}
B62D 5/0484	....	{for reaction to failures, e.g. limp home}
B62D 5/0487	....	{detecting motor faults ( <a href="#">B62D 5/0496 takes precedence</a> )}
B62D 5/049	....	{detecting sensor failures}
B62D 5/0493	....	{detecting processor errors, e.g. plausibility of steering direction}
B62D 5/0496	....	{by using a temperature sensor}
B62D 5/06	.	fluid, i.e. using a pressurised fluid for most or all the force required for steering a vehicle
B62D 5/061	..	{provided with effort, steering lock, or end-of-stroke limiters}
B62D 5/062	..	{Details, component parts}
B62D 5/063	...	{Pump driven by vehicle engine ( <a href="#">B62D 5/065 takes precedence</a> )}

B62D 5/064	...	{Pump driven independently from vehicle engine, e.g. electric driven pump ( <a href="#">B62D 5/065</a> takes precedence)}
B62D 5/065	..	characterised by specially adapted means for varying pressurised fluid supply based on need, e.g. on-demand, variable assist
B62D 5/07	..	Supply of pressurised fluid for steering also supplying other consumers; {control thereof}
B62D 5/075	...	{using priority valves (priority valves in general <a href="#">F15B 13/022</a> )}
B62D 5/08	..	characterised by type of {steering} valve used (valves in general <a href="#">F16K</a> )
B62D 5/081	...	{Seat valves}
B62D 5/083	...	Rotary valves
B62D 5/0832	....	{with elastic means other than a torsion bar, e.g. leaf springs}
B62D 5/0835	....	{characterised by means for actively limiting the deflection angle, e.g. depending on driving parameters (controlling steering depending on driving conditions sensed and responded to <a href="#">B62D 6/00</a> )}
B62D 5/0837	....	{characterised by the shape of the control edges, e.g. to reduce noise}
B62D 5/087	...	Sliding spool valves
B62D 5/09	..	characterised by means for actuating valves
B62D 5/091	...	{Hydraulic steer-by-wire systems, e.g. the valve being actuated by an electric motor}
B62D 5/092	....	{the electric motor being connected to the final driven element of the steering gear, e.g. rack}
B62D 5/093	...	Telemotor driven by steering wheel movement ( <a href="#">hydraulic steering gear B62D 3/14</a> )
B62D 5/097	....	Gerotor type
B62D 5/10	..	characterised by type of power unit
B62D 5/12	...	Piston and cylinder
B62D 5/14	...	Rotary motor
B62D 5/16	...	Expansible chamber with flexible wall
B62D 5/18	..	characterised by power transmitting means
B62D 5/20	..	specially adapted for particular type of steering gear or particular application (steering gears per se <a href="#">B62D 3/00</a> ; steering linkages not characterised by being power-assisted or power-driven <a href="#">B62D 7/00</a> )
B62D 5/22	...	for rack-and-pinion type ({ <a href="#">pressure yokes B62D 3/123</a> })
B62D 5/24	...	for worm type
B62D 5/26	...	for pivoted axles
B62D 5/28	...	for pivoted bogies
B62D 5/30	..	Safety devices, e.g. alternate emergency power supply or transmission means to ensure steering upon failure of the primary steering means
B62D 5/32	...	for telemotor systems

**B62D 6/00**

**Arrangements for automatically controlling steering depending on driving conditions sensed and responded to, e.g. control circuits** (means for initiating a change in direction [B62D 1/00](#) ; steering valves [B62D 5/06](#) ; combined with means for inclining the vehicle body or wheels on bends [B62D 9/00](#))

**NOTE**

When classifying in this group, classification is also made in the appropriate one of groups [B62D 1/00](#) to [B62D 5/00](#) or [B62D 7/00](#) to [B62D 19/00](#) if other aspects of the steering system are of interest

- B62D 6/001 . {the torque NOT being among the input parameters}
- B62D 6/002 . {computing target steering angles for front or rear wheels ([B62D 7/159](#) takes precedence)}
- B62D 6/003 . . {in order to control vehicle yaw movement, i.e. around a vertical axis ([B62D 6/007](#) take precedence; stability systems acting on the brakes [B60T 8/1755](#))}
- B62D 6/005 . . . {treating sensor outputs to obtain the actual yaw rate}
- B62D 6/006 . . {using a measured or estimated road friction coefficient}
- B62D 6/007 . {adjustable by the driver, e.g. sport mode}
- B62D 6/008 . {Control of feed-back to the steering input member, e.g. simulating road feel in steer-by-wire applications}
- B62D 6/02 . responsive only to vehicle speed
- B62D 6/04 . responsive only to forces disturbing the intended course of the vehicle, e.g. forces acting transversely to the direction of vehicle travel
- B62D 6/06 . responsive only to vehicle vibration dampening arrangements (steering dampers for cycles [B62K 21/08](#))
- B62D 6/08 . responsive only to {driver} input torque

**WARNING**

Group [B62D 6/08](#) is not complete. See also [B62D 5/04](#)

- B62D 6/10 . . characterised by means for sensing {or determining} torque

**WARNING**

Group [B62D 6/10](#) is not complete. See also [G01L 5/22](#)

**B62D 7/00**

**Steering linkage; Stub axles or their mountings** ([B62D 13/00](#) takes precedence; power-assisted or power-driven steering [B62D 5/00](#))

- B62D 7/02 . for pivoted bogies
- B62D 7/023 . . {Steering turntables}
- B62D 7/026 . . {characterised by comprising more than one bogie, e.g. situated in more than one plane transversal to the longitudinal centre line of the vehicle}
- B62D 7/04 . . with more than one wheel
- B62D 7/06 . for individually-pivoted wheels, e.g. on king-pins

- B62D 7/08 . . the pivotal axes being situated in a single plane transverse to the longitudinal centre line of the vehicle
- B62D 7/09 . . . characterised by means varying the ratio between the steering angles of the steered wheels ([varying the ratio automatically depending on driving conditions B62D 6/00](#))
- B62D 7/10 . . . with single-output steering gear
- B62D 7/12 . . . with twin-output steering gear
- B62D 7/14 . . the pivotal axes being situated in more than one plane transverse to the longitudinal centre line of the vehicle, e.g. all-wheel steering
- B62D 7/142 . . . {specially adapted for particular vehicles, e.g. tractors, carts, earth-moving vehicles, trucks}
- B62D 7/144 . . . . {for vehicles with more than two axles}
- B62D 7/146 . . . {characterised by comprising means for steering by acting on the suspension system, e.g. on the mountings of the suspension arms ([means on vehicle for adjusting camber, castor or toe-in B62D 17/00](#))}
- B62D 7/148 . . . {provided with safety devices}
- B62D 7/15 . . . characterised by means varying the ratio between the steering angles of the steered wheels {([B62D 7/148 takes precedence](#))}
- B62D 7/1509 . . . . {with different steering modes, e.g. crab-steering, or steering specially adapted for reversing of the vehicle}
- B62D 7/1518 . . . . {comprising a mechanical interconnecting system between the steering control means of the different axles}
- B62D 7/1527 . . . . . {comprising only mechanical parts, i.e. without assistance means}
- B62D 7/1536 . . . . . {provided with hydraulic assistance; ([power-assisted fluid steering per se B62D 5/06](#))}
- B62D 7/1545 . . . . . {provided with electrical assistance; ([power-assisted electrical steering per se B62D 5/04](#))}
- B62D 7/1554 . . . . {comprising a fluid interconnecting system between the steering control means of the different axles; ([power-assisted fluid steering per se B62D 5/06](#))}
- B62D 7/1563 . . . . . {provided with fluid control means; ([B62D 7/1572 takes precedence](#))}
- B62D 7/1572 . . . . . {provided with electro-hydraulic control means}
- B62D 7/1581 . . . . {characterised by comprising an electrical interconnecting system between the steering control means of the different axles; ([power-assisted electrical steering per se B62D 5/04](#))}
- B62D 7/159 . . . . {characterised by computing methods or stabilisation processes or systems, e.g. responding to yaw rate, lateral wind, load, road condition}
- B62D 7/16 . . Arrangement of linkage connections ([pivots per se F16C](#) ; { e.g. ball joints [F16C 11/06](#)})
- B62D 7/163 . . {substantially in axial direction, e.g. between rack bar and tie-rod}
- B62D 7/166 . . {substantially perpendicular, e.g. between tie-rod and steering knuckle ([steering knuckles in general B62D 7/18](#))}
- B62D 7/18 . . Steering knuckles; King pins
- B62D 7/20 . . Links, e.g. track rods ([means for adjusting camber, castor, or toe-in B62D 17/00](#))
- B62D 7/22 . . Arrangements for reducing or eliminating reaction, e.g. vibration, from parts, e.g. wheels, of the steering system {([dampers in general F16F](#))}



- B62D 7/222      ..    {acting on the steering wheel}
- B62D 7/224      ..    {acting between the steering wheel and the steering gear, e.g. on the steering column}
- B62D 7/226      ..    {acting on the steering gear}
- B62D 7/228      ..    {acting between the steering gear and the road wheels, e.g. on tie-rod}

**B62D 9/00**      **Steering deflectable wheels not otherwise provided for** ([steering position indicators B62D 15/02](#))

- B62D 9/002      .    {combined with means for differentially distributing power on the deflectable wheels during cornering}
- B62D 9/005      .    {Emergency systems using brakes for steering}
- B62D 9/007      .    {Emergency systems using the steering system for braking}
- B62D 9/02       .    combined with means for inwardly inclining vehicle body on bends
- B62D 9/04       .    combined with means for {inwardly} inclining wheels on bends ([B62D 9/02 takes precedence](#))

**WARNING**

Group [B62D 9/04](#) is not complete. See also [B62D 9/02](#)

**B62D 11/00**      **Steering non-deflectable wheels; Steering endless tracks or the like**

**NOTE**

Gearings of interest apart from this application are also classified in the relevant group of subclass [F16H](#) covering gearings per se

- B62D 11/001      .    {control systems ([B62D 11/183 takes precedence](#))}

**NOTE**

When classifying in this group, classification is also made in the appropriate one of groups [B62D 11/02](#) to [B62D 11/24](#) if other aspects of the steering system are of interest

- B62D 11/003      ..    {Electric or electronic control systems}
- B62D 11/005      ..    {Hydraulic control systems}
- B62D 11/006      ..    {Mechanical control systems}
- B62D 11/008      ..    {Pneumatic control systems}
- B62D 11/02       .    by differentially driving ground-engaging elements on opposite vehicle sides
- B62D 11/04       ..    by means of separate power sources
- B62D 11/06       ..    by means of a single main power source
- B62D 11/08       ...    using brakes or clutches as main steering-effecting means
- B62D 11/10       ...    using gearings with differential power outputs on opposite sides, e.g. with twin-differential or epicyclic gears {(arrangements or mounting of transmissions in vehicles [B60K 17/00](#) ; gearing in general [F16H](#))}



- B62D 11/105 . . . . {using variable ratio belt and pulley gearings (gearing for conveying rotary motion by endless flexible members [F16H 7/00](#) , [F16H 9/00](#))}
- B62D 11/12 . . . . using separate change-speed gearings
- B62D 11/14 . . . . differential power outputs being effected by additional power supply to one side, e.g. power originating from secondary power source
- B62D 11/16 . . . . . the additional power supply being supplied mechanically
- B62D 11/18 . . . . . the additional power supply being supplied hydraulically
- B62D 11/183 . . . . . {Control systems therefor}
- B62D 11/186 . . . . . {Uncoupling devices for the hydraulic motors, e.g. to allow towing}
- B62D 11/20 . . . . . Endless-track steering having pivoted bogie carrying track ([B62D 11/02](#) takes precedence)
- B62D 11/22 . . . . . Endless track steering being effected by deflecting endless track rollers or the like
- B62D 11/24 . . . . . Endless track steering specially adapted for vehicles having both steerable wheels and endless track
  
- B62D 12/00** **Steering specially adapted for vehicles operating in tandem or having pivotally connected frames** (steering endless tracks or the like [B62D 11/00](#) ; steering specially adapted for trailers [B62D 13/00](#))
- B62D 12/02 . . . . . for vehicles operating in tandem
  
- B62D 13/00** **Steering specially adapted for trailers** (combined traction and steering hitches [B60D](#))
- B62D 13/005 . . . . {operated from tractor steering system}
- B62D 13/02 . . . . for centrally-pivoted axles
- B62D 13/025 . . . . {the pivoted movement being initiated by the coupling means between tractor and trailer}
- B62D 13/04 . . . . for individually-pivoted wheels
- B62D 13/06 . . . . for backing a normally drawn trailer
  
- B62D 15/00** **Steering not otherwise provided for**
- B62D 15/02 . . . . Steering position indicators; {Steering position determination; Steering aids}
- B62D 15/0205 . . . . {Mechanical indicators, e.g. in or near steering wheel}
- B62D 15/021 . . . . {Determination of steering angle (sensors in general [G01B](#))}
- B62D 15/0215 . . . . {by measuring on the steering column}
- B62D 15/022 . . . . . {on or near the connection between the steering wheel and steering column}
- B62D 15/0225 . . . . {by measuring on a steering gear element, e.g. on a rack bar}
- B62D 15/023 . . . . {by measuring on the king pin}
- B62D 15/0235 . . . . {by measuring or deriving directly at the electric power steering motor}
- B62D 15/024 . . . . {Other means for determination of steering angle without directly measuring it, e.g. deriving from wheel speeds on different sides of the car}
- B62D 15/0245 . . . . {Means or methods for determination of the central position of the steering system, e.g. straight ahead position}
- B62D 15/025 . . . . {Active steering aids, e.g. helping the driver by actively influencing the steering system after environment evaluation ([B62D 1/28](#) takes precedence; parking aids [B62D 15/027](#))}

- B62D 15/0255 . . . {Automatic changing of lane, e.g. for passing another vehicle}
- B62D 15/026 . . . {combined with automatic distance control, i.e. electronic tow bar}
- B62D 15/0265 . . . {Automatic obstacle avoidance by steering}
- B62D 15/027 . . {Parking aids, e.g. instruction means}
- B62D 15/0275 . . . {by overlaying a vehicle path based on present steering angle over an image without processing that image}
- B62D 15/028 . . . {Guided parking by providing commands to the driver, e.g. acoustically or optically}
- B62D 15/0285 . . . {Parking performed automatically}
- B62D 15/029 . . {Steering assistants using warnings or proposing actions to the driver without influencing the steering system (parking aids [B62D 15/027](#) , determination or calculation of trajectory of land vehicles [G05D 1/021](#) , image processing [G06T](#))}
- B62D 15/0295 . . . {by overlaying a vehicle path based on present steering angle over an image without processing that image}

**B62D 17/00 Means on vehicles for adjusting camber, castor, or toe-in**

**B62D 19/00 Radius rods, i.e. distance members**

### **Understructures; Superstructures; Vehicle bodies**

**B62D 21/00 Understructures, i.e. chassis frame on which a vehicle body may be mounted (combined frame and vehicle body [B62D 23/00](#) ; { characterised by the material thereof [B62D 29/00](#)})**

- B62D 21/02 . comprising longitudinally or transversely arranged frame members
- B62D 21/03 . . transverse members providing body support
- B62D 21/04 . . single longitudinal type
- B62D 21/05 . . pinched frame type, i.e. formed of at least two longitudinal frame sections connected by other longitudinal frame sections of lesser transverse dimension
- B62D 21/06 . of X-shaped or fork-shaped construction, i.e. having members which form an X or fork as the frame is seen in plan view
- B62D 21/07 . wide-hipped frame type, i.e. a wide box-shaped mid portion with narrower sections extending from said mid portion in both fore and aft directions
- B62D 21/08 . built up with interlaced cross members
- B62D 21/09 . Means for mounting load bearing surfaces
- B62D 21/10 . in which the main member is plate-like
- B62D 21/11 . with resilient means for suspension {, e.g. of wheels or engine; sub-frames for mounting engine or suspensions}

### **NOTE**

This group does not cover subject matter primarily relating to the suspension, with only a nominal recitation of frame structure, which are covered by subclass [B60G](#)

- B62D 21/12 . assembled from readily detachable parts

- B62D 21/14 . of adjustable length or width
- B62D 21/15 . having impact absorbing means, e.g. a frame designed to permanently or temporarily change shape or dimension upon impact with another body ([bumpers B60R 19/02](#) ; [shock absorbers in general F16F](#))
- B62D 21/152 . . {[Front or rear frames](#)}
- B62D 21/155 . . . {[Sub-frames or underguards](#)}
- B62D 21/157 . . {[for side impacts](#)}
- B62D 21/16 . having fluid storage compartment
- B62D 21/17 . forming fluid or electrical conduit means or having other means to accomodate the transmission of a force or signal
- B62D 21/18 . characterised by the vehicle type and not provided for in groups [B62D 21/02](#) to [B62D 21/17](#)
- B62D 21/183 . . {[specially adapted for sports vehicles, e.g. race, dune buggies, go-karts \(tubular skeleton B62D 23/005\)](#)}
- B62D 21/186 . . {[for building site vehicles or multi-purpose tractors \(tracked vehicles B62D 55/10 ; tractors in general B62D 49/00 ; building site vehicles in general E02F ; lift-trucks B66F\)](#)}
- B62D 21/20 . . trailer type, i.e. a frame specifically constructed for use in a non-powered vehicle

**B62D 23/00** **Combined superstructure and frame, i.e. monocoque constructions** ({[having impact absorbing means B62D 21/15](#) ; }[superstructure {or monocoque structure} sub-units {or parts or details thereof} B62D 25/00](#) ; { characterised by the material thereof [B62D 29/00](#)})

- B62D 23/005 . {[with integrated chassis in the whole shell e.g. meshwork, tubes, or the like \(B62D 33/044 takes precedence\)](#)}

**B62D 24/00** **Connections between vehicle body and vehicle frame** ([B62D 23/00](#) , [B62D 33/077](#) take precedence)

### **WARNING**

[Group B62D 24/00](#) and subgroups are not complete. [See also other groups of B62D](#)

- B62D 24/02 . Vehicle body, not intended to move relatively to the vehicle frame, and mounted on vibration absorbing mountings, e.g. rubber pads
- B62D 24/04 . Vehicle body mounted on resilient suspension for movement relative to the vehicle frame

**B62D 25/00** **Superstructure {or monocoque structure} sub-units; Parts or details thereof not otherwise provided for** ({[having impact absorbing means B62D 21/15](#) ; [running-boards, steps, or the like as superstructure sub-unit B60R 3/00](#)})

- B62D 25/02 . Side panels ({[B62D 33/046](#) takes precedence; [sideboards for open load compartments B62D 33/023](#)})
- B62D 25/025 . . {[Side sills thereof](#)}
- B62D 25/04 . Door pillars; {[windshield pillars](#)}
- B62D 25/06 . Fixed roofs ([non-fixed roofs or like shelters B60J 7/00](#) ; [roof liners B60R 13/02](#) ; [insulating elements B60R 13/08](#))

- B62D 25/07      ..      having water drainage or guide means integral with roof structure
- B62D 25/08      .      Front or rear portions {(sub-frames for mounting engine or suspensions [B62D 21/11](#))}
- B62D 25/081    ..      {Cowls (ventilating openings situated directly in front of the vehicle front window [B60H 1/28](#))}
- B62D 25/082    ..      {Engine compartments}
- B62D 25/084    ...      {Radiator supports}
- B62D 25/085    ...      {Front-end modules}
- B62D 25/087    ..      {Luggage compartments}
- B62D 25/088    ..      {Details of structures as upper supports for springs or dampers}
- B62D 25/10     ..      Bonnets or lids, {e.g. for trucks, tractors, busses, work vehicles (for truck beds [B60J 7/1607](#) ; for boats [B63B 19/12](#) ; doors arranged at the vehicle rear [B60J 5/10](#) ; inlet covers for vehicle fuel tanks [B60K 15/05](#) ; for protecting non-occupants of a vehicle [B60R 21/38](#))}
- B62D 25/105    ...      {for motor cars}
- B62D 25/12     ...      Parts or details thereof (locks [E05B](#), {[E05B 83/16](#) ; devices for holding open [E05C 17/00](#) , e.g. while carrying oversize objects [E05C 17/042](#); hinges [E05D](#); counterbalancing means [E05F](#); { checks, stops, buffers [E05F 5/00](#) ; }springs, {e.g. pneumatic springs} [F16F](#))
- B62D 25/14     ..      Dashboards as superstructure sub-units (other dashboard aspects [B60K](#))
- B62D 25/142    ...      {having ventilation channels incorporated therein}
- B62D 25/145    ...      {having a crossbeam incorporated therein}
- B62D 25/147    ....      {with adjustable connection to the A-pillars}
- B62D 25/16     ..      Mud-guards or wings; Wheel cover panels (equipped with means for freeing wheels or tyres from foreign matter [B60S](#))
- B62D 25/161    ...      {Mud-guards made of non-conventional material, e.g. rubber, plastics}
- B62D 25/163    ...      {Mounting devices}
- B62D 25/165    ....      {including sealing devices}
- B62D 25/166    ....      {by rods or other distance-keeping devices}
- B62D 25/168    ...      {Mud guards for utility vehicles}
- B62D 25/18     ...      Parts or details thereof, e.g. mudguard flaps
- B62D 25/182    ....      {Movable mudguards, or mudguards comprising movable or detachable parts ([B62D 25/188](#) takes precedence)}
- B62D 25/184    .....      {to facilitate access to wheels}
- B62D 25/186    .....      {being attached or suspended laterally from the wheel ([B62D 25/184](#) takes precedence)}
- B62D 25/188    ....      {Mud-guard flaps for utility vehicles}
- B62D 25/20     .      Floors or bottom sub-units {(sub-frames for mounting engine or suspensions [B62D 21/11](#) ; drip trays [F16N 31/006](#))}
- B62D 25/2009    ..      {in connection with other superstructure subunits}
- B62D 25/2018    ...      {the subunits being front structures}
- B62D 25/2027    ...      {the subunits being rear structures}
- B62D 25/2036    ...      {the subunits being side panels, sills or pillars ([B62D 21/157](#) takes precedence)}
- B62D 25/2045    ...      {the subunits being fire walls}

- B62D 25/2054 . . {Load carrying floors for commercial vehicles}
- B62D 25/2063 . . {Floor elements for repairs}
- B62D 25/2072 . . {Floor protection, e.g. from corrosion or scratching (floor mats [B60N 3/04](#) , armour [F41H 7/042](#) , insulation [B60R 13/08](#) , streamlining [B62D 35/02](#))}
- B62D 25/2081 . . {Jack receiving devices}
- B62D 25/209 . . {Arrangements for the mounting of vehicle hitches (vehicle connections in general [B60D](#))}
- B62D 25/24 . Superstructure sub-units with access {or drainage} openings having movable or removable closures; {Sealing means therefor} (inlet covers for vehicle fuel tanks [B60K 15/05](#))

**B62D 27/00****Connections between superstructure {or understructure} sub-units**

{(B62D 33/0207 , B62D 33/044 take precedence; between sub-units predominantly made of synthetic material [B62D 29/048](#))}

- B62D 27/02 . rigid
- B62D 27/023 . . {Assembly of structural joints}
- B62D 27/026 . . {Connections by glue bonding (in general [F16B 11/00](#) ; processes [C09J 5/00](#))}
- B62D 27/04 . resilient
- B62D 27/06 . readily releasable
- B62D 27/065 . . {using screwthread (Connection of crossbeam to A- pillars [B62D 25/147](#) ; mounting load bearing surfaces [B62D 21/09](#) ; securing mudguards [B62D 25/163](#) ; connections for synthetic parts [B62D 29/048](#))}

**B62D 29/00****Superstructures, {understructures, or sub-units thereof,} characterised by the material thereof {(B62D 33/044 , B62D 33/048 take precedence)}**

- B62D 29/001 . {characterised by combining metal and synthetic material}
- B62D 29/002 . . {a foamable synthetic material or metal being added in situ (shaping of substances in a plastic state by foaming, in general [B29C 44/00](#))}
- B62D 29/004 . . {the metal being over-moulded by the synthetic material, e.g. in a mould}
- B62D 29/005 . . {preformed metal and synthetic material elements being joined together, e.g. by adhesives}
- B62D 29/007 . {predominantly of special steel or specially treated steel, e.g. stainless steel or locally surface hardened steel}
- B62D 29/008 . {predominantly of light alloys, e.g. extruded}
- B62D 29/02 . predominantly of wood
- B62D 29/04 . predominantly of synthetic material (working of plastics or substances in a plastic state [B29](#))
- B62D 29/041 . . {Understructures}
- B62D 29/043 . . {Superstructures ([B62D 25/161](#) takes precedence)}
- B62D 29/045 . . . {Van bodies composed of substantially rectangular panels}
- B62D 29/046 . . {Combined superstructure and frame, i.e. monocoque constructions}
- B62D 29/048 . . {Connections therefor, e.g. joints ([B62D 29/045](#) takes precedence)}

**B62D 31/00****Superstructure for passenger vehicles (passenger vehicles specially adapted to co-operate with aircraft or terminal buildings [B64F 1/31](#))**

- B62D 31/003 . {compact cars e.g. city cars}
- B62D 31/006 .. {foldable (droppable [B60F 5/006](#))}
- B62D 31/02 . for carrying large numbers of passengers, e.g. omnibus
- B62D 31/025 .. {having modular sections}
- B62D 31/04 . with more than one deck
  
- B62D 33/00** **Superstructures for load-carrying vehicles** ({having impact absorbing means [B62D 21/15](#) ; } in which a load-carrying element is movable [B60P](#); liners [B60R 13/00](#) ; { joining sheets or plates to one another or to strips or bars parallel to them [F16B 5/00](#)})
- B62D 33/02 . Platforms; Open load compartments {(Flat wagons including posts or standards [B61D 3/08](#))}
- B62D 33/0207 .. {Connections of movable or detachable racks or stanchions to platforms}
- B62D 33/0215 ... {for log hauling vehicles (vehicles for log transport in general [B60P 3/41](#))}
- B62D 33/0222 .. {Connecting elements between stanchions, e.g. roof supporting elements, stiffeners (non-fixed roofs [B60J 7/00](#) ; securing and covering of load [B60P 7/00](#))}
- B62D 33/023 .. Sideboard or tailgate structures {(vehicle side panels in general [B62D 25/02](#))}
- B62D 33/027 ... movable
- B62D 33/0273 .... {Movable tailboards for vehicles comprising non-movable sideboards, e.g. pick-up trucks ([B62D 33/037](#) takes precedence)}
- B62D 33/0276 .... {by vertical translation ([B62D 33/0273](#) takes precedence)}
- B62D 33/03 .... by swinging down {([B62D 33/0273](#) takes precedence)}
- B62D 33/033 .... removable {([B62D 33/0273](#) takes precedence)}
- B62D 33/037 .... Latching means therefor
- B62D 33/04 . Enclosed load compartments {Frameworks for movable panels, tarpaulins or side curtains (tarpaulins per se [B60J 7/00](#) , [B60P 7/04](#) ; side curtains per se [B60J 5/065](#))}
- B62D 33/042 .. {divided into compartments (movable bulk heads [B60P 7/14](#) ; cattle transport [B60P 3/04](#) ; bottled liquids [B60P 3/22](#))}
- B62D 33/044 .. {built up with profiles of constant elongated shape, e.g. extruded, mechanically interconnected by coupling members, e.g. by clamping, riveting or bolting}
- B62D 33/046 .. {built up with flat self-supporting panels; Fixed connections between panels ([B62D 29/045](#) , [B62D 33/048](#) take precedence)}
- B62D 33/048 .. {for refrigerated goods vehicles}
- B62D 33/06 . Drivers` cabs {(overhead guards, e.g. against loads falling down [B60R 21/11](#) ; roll-over protection [B60R 21/13](#))}
- B62D 33/0604 .. {Cabs insulated against vibrations or noise, e.g. with elastic suspension (resilient connections between superstructure sub-units [B62D 27/04](#) ; damping noise in general [G10K 11/00](#) ; for vehicles in general [B60R 13/08](#))}
- B62D 33/0608 ... {pneumatic or hydraulic suspension}
- B62D 33/0612 .. {Cabins with living accommodation, especially for long distance road vehicles, i.e. sleeping, cooking, or other facilities (beds in general adapted to be used in vehicles [A47C 17/80](#) ; sanitation devices in vehicles in general [B60R 15/00](#) ; living accommodation in vehicles in general [B60P 3/32](#) ; passenger fittings in general [B60N 3/00](#))}
- B62D 33/0617 .. {for tractors or off-the-road vehicles (protective devices for drivers in case of overturning of tractors [B60R 21/131](#))}



- B62D 33/0621 . . . {able to be dismantled, folding}
- B62D 33/0625 . . . {open}
- B62D 33/063 . . movable from one position into at least one other position, e.g. tiltable, pivotable about a vertical axis, displaceable from one side of the vehicle to the other
- B62D 33/0633 . . . {pivotable about a vertical axis}
- B62D 33/0636 . . . {displaceable along a linear path}
- B62D 33/067 . . . tiltable
- B62D 33/07 . . . . characterised by the device for locking the cab in the tilted or in the driving position
- B62D 33/071 . . . . {Locking devices for cabins in driving position; Shock and vibration absorbing devices therefor}
- B62D 33/073 . . . characterised by special adaptations of vehicle control devices
- B62D 33/077 . characterised by the connection of the superstructure to the vehicle frame {(B62D 33/06 takes precedence)}
- B62D 33/08 . comprising adjustable means (B62D 33/10 takes precedence)
- B62D 33/10 . . comprising means for the suspension of the superstructure on the frame

**B62D 35/00****Vehicle bodies characterised by streamlining**

- B62D 35/001 . {For commercial vehicles or tractor-trailer combinations e.g. caravans}
- B62D 35/002 . . {for caravans (B62D 35/004 takes precedence)}
- B62D 35/004 . . {Inflatable nose or rear cones}
- B62D 35/005 . {Front spoilers (B62D 35/001 takes precedence)}
- B62D 35/007 . {Rear spoilers (B62D 35/001 takes precedence)}
- B62D 35/008 . {Side spoilers (B62D 35/001 takes precedence)}
- B62D 35/02 . Streamlining the undersurfaces {(B62D 35/005 , B62D 35/007 , B62D 35/008 take precedence)}

**B62D 37/00****Stabilising vehicle bodies without controlling suspension arrangements**

- B62D 37/02 . by aerodynamic means
- B62D 37/04 . by means of movable masses
- B62D 37/06 . . using gyroscopes

**B62D 39/00****Vehicle bodies not otherwise provided for {e.g. safety vehicles (safety equipment B60R 21/00)}****B62D 41/00****Fittings for identifying vehicles in case of collision; Fittings for marking or recording collision areas****B62D 43/00****Spare wheel stowing, holding, or mounting arrangements**

- B62D 43/002 . {Handling devices, mainly for heavy wheels (via cables and chains B62D 43/045)}
- B62D 43/005 . {Protective coverings for spare wheels}
- B62D 43/007 . {Anti-theft devices for spare wheels}
- B62D 43/02 . external to the vehicle body
- B62D 43/04 . . attached beneath the vehicle body



- B62D 43/045 . . . {the wheel or its cradle being attached to one or more chains or cables for handling}
- B62D 43/06 . within the vehicle body
- B62D 43/08 . . and arranged substantially vertically
- B62D 43/10 . . and arranged substantially horizontally

**Motor vehicles or trailers classified according to type; Parts or accessories thereof** (frames for vehicles of special type [B62D 21/18](#))

**B62D 47/00**      **Motor vehicles or trailers predominantly for carrying passengers**  
(superstructures [B62D 31/00](#))

- B62D 47/003 . {convertible in order to modify the number of seats (foldable compact cars [B62D 31/006](#) ; convertible from one use to a different one [B60P 3/42](#))}
- B62D 47/006 . {Vehicles which can be divided in sub-vehicles; nestable vehicles}
- B62D 47/02 . for large numbers of passengers, e.g. omnibus
- B62D 47/025 . . {articulated buses with interconnecting passageway, e.g. bellows (coupling aspects [B60D 5/00](#))}

**B62D 49/00**      **Tractors** (of walk type [B62D 51/04](#) ; endless- track features [B62D 55/00](#){ tractors for handling aircraft [B64F 1/22](#) ; transport specially adapted for underground galleries [E21F 13/02](#))}

- B62D 49/002 . {characterised by being of the low ground pressure type}
- B62D 49/005 . {Tractors for semi-trailers (combinations of tractor plus semi- trailer [B62D 53/06](#))}
- B62D 49/007 . . {Tractors for handling trailers, e.g. roll-trailers in terminals}
- B62D 49/02 . modified to take lifting devices
- B62D 49/04 . modified to take pushing devices
- B62D 49/06 . adapted for multi-purpose use
- B62D 49/0607 . . {Straddle tractors, used for instance above vine stocks, rows of bushes, or the like}
- B62D 49/0614 . . {equipped with visual aids for positioning implements or to control working condition (optical signalling for vehicles in general [B60Q 1/26](#))}
- B62D 49/0621 . . {comprising traction increasing arrangements e.g. all-wheel traction devices, multiple-axle traction arrangements, auxiliary traction increasing devices (anti-skid or anti-slip devices fitted onto the wheels [B60B 15/02](#) , [B60B 39/12](#) ; arrangements of transmission for driving both front and rear wheels or tandem wheels of vehicles [B60K 17/34](#) , [B60K 17/36](#))}
- B62D 49/0628 . . . {using detachable weights (counterweights against overturning [B62D 49/085](#) ; movable stabilisation masses [B62D 37/04](#))}
- B62D 49/0635 . . . {using additional ground engaging means, e.g. endless tracks (vehicles with endless tracks and either additional or alternative ground wheels [B62D 55/02](#) , [B62D 55/04](#))}
- B62D 49/0642 . . . {by coupling of tractors}
- B62D 49/065 . . {Coupling of multi-purpose tractors with equipment (towing bars [B60D](#) ; with load transfer [B62D 53/08](#) ; power take-off [B60K](#) ; with lifting devices [B62D 49/02](#) ; pushing gear [B62D 49/04](#))}
- B62D 49/0657 . . {Asymmetrical tractors}

- B62D 49/0664 . . {Light, simple, and economical tractors ([B62D 49/002](#) takes precedence)}
- B62D 49/0671 . . . {the driver riding on the tractor}
- B62D 49/0678 . . {Tractors of variable track width or wheel base (for vehicles in general [B60B 23/12](#) and [B60B 35/10](#))}
- B62D 49/0685 . . {Reversible tractors adapted for shuttle work}
- B62D 49/0692 . . {characterised by the particular arrangement of control devices, e.g. having more than one control stand, operable from vehicle extension (control devices or systems characterised by mechanical features only)}
- B62D 49/08 . . having means for preventing overturning or tipping (safety devices for propulsion-unit control, specially adapted for, or arranged in, vehicles [B60K 28/00](#))
- B62D 49/085 . . {Counterweight}
  
- B62D 51/00** **Motor vehicles characterised by the driver not being seated** {(wheeled carriers for golf bags [A63B 55/08](#))}
- B62D 51/001 . {characterised by the vehicle control device (mechanical features of control devices in general [G05G](#) ; arrangements of vehicle control devices in general [B60K 20/00](#) , [B60K 23/00](#) , [B60K 26/00](#))}
- B62D 51/002 . . {comprising safety arrangements (safety devices for vehicle propulsion unit control [B60K 28/00](#))}
- B62D 51/004 . {characterised by the transmission (arrangements or mounting of transmissions in vehicles [B60K 17/00](#) ; gearing in general [F16H](#))}
- B62D 51/005 . {Vehicular characteristics of load handling vehicles, e.g. pedestrian trucks (fork-lift trucks [B66F 9/06](#))}
- B62D 51/007 . {the vehicle being of the endless track type (endless track vehicles in general [B62D 55/00](#))}
- B62D 51/008 . {characterised by the vehicle being formed by articulated or separable units (road trains [B62D 53/00](#))}
- B62D 51/02 . the driver standing in the vehicle
- B62D 51/04 . the driver walking
- B62D 51/06 . . Uniaxle walk-type tractors
- B62D 51/065 . . . {the vehicle having only one wheel}
  
- B62D 53/00** **Tractor-trailer combinations; Road trains** (traction couplings other than fifth wheel coupling [B60D](#){ tracked vehicles comprising at least two articulated parts [B62D 55/0655](#))}
- B62D 53/005 . {Combinations with at least three axles and comprising two or more articulated parts (articulated buses [B62D 47/025](#))}
- B62D 53/02 . comprising a uniaxle tractor unit and a uniaxle trailer unit {(see [B60B 11/00](#) - [B60B 11/08](#))}
- B62D 53/021 . . {comprising a universal coupling joint}
- B62D 53/023 . . {with two or more coupling joints allowing staggering of the units from a central plane}
- B62D 53/025 . . {Comprising a transmission shaft passing through the coupling joints ([B62D 53/021](#) takes precedence; trailers with powered axles [B62D 59/00](#))}
- B62D 53/026 . . . {With all wheels powered}

B62D 53/028	..	{Having only coupling joints other than directional (articulated frames <a href="#">B62D 21/186</a> and <a href="#">B62D 55/10</a> )}
B62D 53/04	.	comprising a vehicle carrying an essential part of the other vehicle's load by having supporting means for the front or rear part of the other vehicle
B62D 53/045	..	{with rigid linkage in the horizontal plane (luggage trailers <a href="#">B62D 63/064</a> to <a href="#">B62D 63/067</a> )}
B62D 53/06	..	Semi-trailers
B62D 53/061	...	{of flat bed or low loader type or fitted with swan necks (detachable swan necks <a href="#">B62D 53/065</a> ; swan neck-fifth wheel couplings <a href="#">B62D 53/08</a> )}
B62D 53/062	....	{having inclinable, lowerable platforms; Lift bed trailers; Straddle trailers (lifting coupling saddles <a href="#">B62D 53/0821</a> ; crane vehicles <a href="#">B60P 3/28</a> )}
B62D 53/064	.....	{inclining platforms by detachable bogies}
B62D 53/065	.....	{inclining platforms by detachable or folding swan necks}
B62D 53/067	...	{Multi-purpose, convertible or extendable load surface semi-trailers (for container transport <a href="#">B60P 1/6418</a> ; convertible road transport vehicles in general <a href="#">B60P 3/42</a> )}
B62D 53/068	...	{having devices to equalise or modify the load between the fifth wheel and the rear wheels (adjustable coupling saddles per se <a href="#">B62D 53/0807</a> ; load transfer devices to permit coupling or uncoupling <a href="#">B62D 53/0857</a> ; anti jack-knifing devices <a href="#">B62D 53/0871</a> )}
B62D 53/08	..	Fifth wheel traction couplings {(Tractors for handling trailers in terminals <a href="#">B62D 49/007</a> )}
B62D 53/0807	...	{adjustable coupling saddles mounted on sub-frames; Mounting plates therefor}
B62D 53/0814	....	{with adjustment of the clearance between the tractor or the trailer (devices modifying the load in tractor-trailer combinations <a href="#">B62D 53/068</a> )}
B62D 53/0821	....	{Lifting saddles, i.e. to lift the trailer front (tilting body constructions <a href="#">B60P</a> )}
B62D 53/0828	....	{Removable or fold-away traction couplings for non-specialised tractor vehicles}
B62D 53/0835	....	{Coupling saddles able to rock in all directions, e.g. for use in rough terrain}
B62D 53/0842	...	{King pins}
B62D 53/085	....	{fitted with anti-coupling devices, pivotal or retractable king pins, e.g. to prevent theft (vehicle fittings for preventing theft in general <a href="#">B60R 25/00</a> )}
B62D 53/0857	...	{Auxiliary semi-trailer handling or loading equipment, e.g. ramps, rigs, coupling supports}
B62D 53/0864	....	{Dollies for fifth wheel coupling}
B62D 53/0871	...	{with stabilising means, e.g. to prevent jack-knifing, pitching, rolling, buck jumping (stabilising in general <a href="#">B62D 37/00</a> ; tractors <a href="#">B62D 49/08</a> )}
B62D 53/0878	....	{the fifth wheel coupling incorporating braking or restraining means}
B62D 53/0885	...	{Comprising devices to limit or to compensate for wear or excessive play; Lubricating, shock absorbing, bearing devices, or the like}
B62D 53/0892	...	{comprising power transmission shafts (trailers with driven ground wheels <a href="#">B62D 59/00</a> )}
B62D 53/10	...	with means for preventing accidental uncoupling
B62D 53/12	...	engaging automatically
B62D 53/125	....	{with simultaneous coupling of the service lines}

<b>B62D 55/00</b>	<b>Endless track vehicles</b> (steering aspects <a href="#">B62D 11/00</a> ; { characterised by the driver not being seated <a href="#">B62D 51/007</a> })
<a href="#">B62D 55/02</a>	. with tracks and additional ground wheels {(for multi-purpose tractors <a href="#">B62D 49/0635</a> )}
<a href="#">B62D 55/04</a>	. with tracks and alternative ground wheels, e.g. changeable from endless track vehicle into wheeled vehicle and vice versa {(for multi-purpose tractors <a href="#">B62D 49/0635</a> )}
<a href="#">B62D 55/06</a>	. with tracks without ground wheels
<a href="#">B62D 55/062</a>	.. {Tracked vehicles of great dimensions adapted for moving bulky loads or gear}
<a href="#">B62D 55/065</a>	.. Multi-track vehicles, i.e. more than two tracks {(soil-shifting machines <a href="#">E02F</a> ; mining machines <a href="#">E21C</a> )}
<a href="#">B62D 55/0655</a>	... {Articulated endless track vehicles (steering specially adapted for trailers <a href="#">B62D 13/00</a> ; articulated buses <a href="#">B62D 47/025</a> ; tractor-trailer combinations or road trains comprising a uni-axle unit and a uni-axle trailer <a href="#">B62D 53/02</a> )}
<a href="#">B62D 55/07</a>	.. Mono-track vehicles
<a href="#">B62D 55/075</a>	.. Tracked vehicles for ascending or descending stairs, {steep slopes or vertical surfaces} (magnetic or pneumatic ground-engaging parts <a href="#">B62D 55/265</a> ; chairs or multi-track cycles specially adapted for invalids <a href="#">A61G 5/00</a> )
<a href="#">B62D 55/08</a>	. Endless track units; Parts thereof
<a href="#">B62D 55/084</a>	.. Endless-track units or carriages mounted separably, adjustably or extensibly on vehicles, e.g. portable track units ( <a href="#">B62D 55/07</a> takes precedence)
<a href="#">B62D 55/0842</a>	... {Tracked vehicle with track carriages suspended on three points, e.g. by an equaliser bar}
<a href="#">B62D 55/0845</a>	... {Protection devices}
<a href="#">B62D 55/0847</a>	... {Track blocking devices mounted on the frame; Track guides}
<a href="#">B62D 55/088</a>	.. with means to exclude or remove foreign matter, e.g. sealing means, self-cleaning track links or sprockets, deflector plates or scrapers
<a href="#">B62D 55/0882</a>	... {Track or sprocket cleaning devices mounted on the frame (wheel cleaning devices in general <a href="#">B60S</a> )}
<a href="#">B62D 55/0885</a>	... {Self-cleaning sprockets}
<a href="#">B62D 55/0887</a>	... {Track-articulation sealings against dust, water, mud or the like (sealing of bearings in general <a href="#">F16C 33/72</a> ; chain bushings in general <a href="#">F16G 15/00</a> )}
<a href="#">B62D 55/092</a>	.. with lubrication means (lubricating in general <a href="#">F16N</a> )
<a href="#">B62D 55/096</a>	.. with noise reducing means
<a href="#">B62D 55/0963</a>	... {Anti-noise driving sprockets}
<a href="#">B62D 55/0966</a>	... {Low noise rollers, e.g. with antivibration means (elastic wheel rims in general <a href="#">B60B 9/00</a> )}
<a href="#">B62D 55/10</a>	.. Bogies; Frames (track-tensioning means <a href="#">B62D 55/30</a> )
<a href="#">B62D 55/104</a>	.. Suspension devices for wheels, rollers, bogies or frames (vehicle suspension in general <a href="#">B60G</a> )
<a href="#">B62D 55/108</a>	... with mechanical springs, e.g. torsion bars
<a href="#">B62D 55/1083</a>	.... {Torsion-bar springs}
<a href="#">B62D 55/1086</a>	.... {Rubber springs}
<a href="#">B62D 55/112</a>	... with fluid springs, e.g. hydraulic pneumatic
<a href="#">B62D 55/1125</a>	.... {Hydro-pneumatic or pneumatic, e.g. air-cushioned}

B62D 55/116	...	Attitude or position control of chassis by action on suspension, e.g. to compensate for a slope
B62D 55/12	..	Arrangement, location, or adaptation of driving sprockets
B62D 55/125	...	Final drives
B62D 55/13	....	readily interchangeable modular type
B62D 55/135	...	with dismountable driving crown
B62D 55/14	..	Arrangement, location, or adaptation of rollers
B62D 55/145	...	{Rollers with replaceable wear rings or rims (driving sprockets with replaceable rims <a href="#">B62D 55/12</a> )}
B62D 55/15	...	Mounting devices, e.g. bushings, axles, bearings, sealings {(with lubrication means <a href="#">B62D 55/092</a> )}
B62D 55/18	..	Tracks (self-cleaning track links <a href="#">B62D 55/088</a> )
B62D 55/20	...	of articulated type, e.g. chains {(with lubrication means <a href="#">B62D 55/092</a> )}
B62D 55/202	....	{Wheel engaging parts; Wheel guides on links}
B62D 55/205	....	Connections between track links
B62D 55/21	.....	Links connected by transverse pivot pins
B62D 55/211	.....	{Bitubular chain links assembled by pins and double connectors}
B62D 55/213	.....	{Master track links}
B62D 55/215	.....	{Resilient connections between links}
B62D 55/22	....	Arrangements for preventing or modifying back-flexing
B62D 55/24	...	of continuously flexible type, e.g. rubber belts
B62D 55/242	....	{The flexible band being semi-rigid for resisting back-flexing and contributing to spring the vehicle}
B62D 55/244	....	{Moulded in one piece, with either smooth surfaces or surfaces having projections, e.g. incorporating reinforcing elements}
B62D 55/247	....	Gas filled or inflatable flexible tracks (connection of valves to inflatable elastic bodies <a href="#">B60C 29/00</a> )
B62D 55/253	....	having elements interconnected by one or more cables or like elements
B62D 55/26	...	Ground engaging parts or elements {(tracks specially adapted for amphibious vehicles <a href="#">B60F 3/0015</a> )}
B62D 55/265	....	having magnetic or pneumatic adhesion
B62D 55/27	....	having different types of crampons for progression over varying ground
B62D 55/275	....	with street plate, i.e. means to prevent tread from cutting into road surface
B62D 55/28	....	detachable
B62D 55/283	.....	{and movable, e.g. around an axis or perpendicularly to the track}
B62D 55/286	.....	{For soft grounds, e.g. consisting of snow or swamp}
B62D 55/30	..	Track-tensioning means
B62D 55/305	...	{acting on pivotably mounted idlers}
B62D 55/32	.	Assembly, disassembly, repair or servicing of endless-track systems
<b>B62D 57/00</b>		<b>Vehicles characterised by having other propulsion or other ground- engaging means than wheels or endless track, alone or in addition to wheels or endless track (sledges <a href="#">B62B</a> ; motor sledges <a href="#">B62M</a>)</b>

- B62D 57/02 . with ground-engaging propulsion means, e.g. walking members
- B62D 57/021 . . {the ground engaging means being sequentially inflatable bags for peristaltic movement (B62D 57/024 takes precedence)}
- B62D 57/022 . . {consisting of members having both rotational and walking movements}
- B62D 57/024 . . specially adapted for moving on inclined or vertical surfaces (endless-track vehicles for ascending or descending stairs B62D 55/075 ; hand-carts with provision for travelling up or down stairs B62B 5/02)
- B62D 57/028 . . having wheels and mechanical legs (B62D 57/024 takes precedence; ground-engaging vehicle fittings for supporting, lifting or manoeuvring the vehicle, wholly or in part B60S 9/00)
- B62D 57/032 . . with alternately or sequentially lifted supporting base and legs; with alternately or sequentially lifted feet or skid (B62D 57/024 takes precedence)
- B62D 57/036 . . screw type, e.g. Archimedian screw {(amphibious vehicles comprising screw-type ground-engaging means B60F 3/0023)}
- B62D 57/04 . having other than ground-engaging propulsion means, e.g. having propellers (arrangement of jet-propulsion units B60K)

**B62D 59/00****Trailers with driven ground wheels or the like**

- B62D 59/02 . driven from external propulsion unit
- B62D 59/04 . driven from propulsion unit on trailer

**B62D 61/00****Motor vehicles or trailers, characterised by the arrangement or number of wheels, not otherwise provided for, e.g. four wheels in diamond pattern**

- B62D 61/02 . with two road wheels in tandem on the longitudinal centre line of the vehicle
- B62D 61/04 . . with two other wheels which are coaxial
- B62D 61/06 . with only three wheels
- B62D 61/065 . . {with single rear wheel}
- B62D 61/08 . . with single front wheel
- B62D 61/10 . with more than four wheels {(tractors of the low ground pressure type B62D 49/002)}
- B62D 61/12 . with variable number of ground engaging wheels, e.g. with some wheels arranged higher than others, or with retractable wheels (for manoeuvring purposes only B60S)
- B62D 61/125 . . {the retractable wheel being a part of a set of tandem wheels (resilient suspension for a single set of tandem wheels B60G 5/00)}

**B62D 63/00****Motor vehicles or trailers not otherwise provided for**

- B62D 63/02 . Motor vehicles
- B62D 63/025 . . {Modular vehicles (superstructures for busses having modular sections B62D 31/025)}
- B62D 63/04 . . Component parts or accessories
- B62D 63/06 . Trailers (vehicles comprising living accommodation for people, e.g. caravans, camping or like vehicles B60P 3/32)
- B62D 63/061 . . {Foldable, extensible or yielding trailers (foldable caravans B60P 3/34 ; adjustable chassis frames B62D 21/14)}
- B62D 63/062 . . {Trailers with one axle or two wheels (semi-trailers B62D 53/06)}



- B62D 63/064 . . . {light luggage or equipment trailers, e.g. for batteries, gas generators, gas bottles, stretchers (luggage carriers per se [B60R](#))}
- B62D 63/065 . . . {forming an extension of the towing vehicle, i.e. with two point fixation}
- B62D 63/067 . . . . {single wheeled (rigid or semi-rigid coupling)}
- B62D 63/068 . . {with more than two axles or more than four wheels (vehicles with more than four wheels in general [B62D 61/10](#))}
- B62D 63/08 . . Component parts or accessories
  
- B62D 65/00** **Designing, manufacturing, e.g. assembling, facilitating disassembly, or structurally modifying motor vehicles or trailers, not otherwise provided for**
- B62D 65/005 . {Inspection and final control devices}
- B62D 65/02 . Joining sub-units or components to, or positioning sub-units or components with respect to, body shell or other sub-units or components
- B62D 65/022 . . {Transferring or handling sub-units or components, e.g. in work stations or between workstations and transportation systems}
- B62D 65/024 . . {Positioning of sub-units or components with respect to body shell or other sub-units or components}
- B62D 65/026 . . . {by using a jig or the like; Positioning of the jig}
- B62D 65/028 . . . {by determining relative positions by measurement}
- B62D 65/04 . . Joining preassembled modular units composed of sub-units performing diverse functions, e.g. engine and bonnet ([B62D 65/06 to B62D 65/16 take precedence](#))
- B62D 65/06 . . the sub-units or components being doors, windows, openable roofs, lids, bonnets, or weather strips or seals therefor {(assembling sealing arrangements with vehicle parts, e.g. doors, windows [B60J 10/0088](#))}
- B62D 65/10 . . the sub-units or components being engines, clutches or transmissions
- B62D 65/12 . . the sub-units or components being suspensions, brakes or wheel units
- B62D 65/14 . . the sub-units or components being passenger compartment fittings, e.g. seats, linings, trim, instrument panels
- B62D 65/16 . . the sub-units or components being exterior fittings, e.g. bumpers, lights, wipers {, exhausts}
- B62D 65/18 . . Transportation, conveyor or haulage systems specially adapted for motor vehicle or trailer assembly lines {(conveyers and haulage in general [B65G](#))}
  
- B62D 67/00** **Systematic disassembly of vehicles for recovery of salvageable components, e.g. for recycling (for disposal of vehicles by destroying or transformation [B09B 3/00](#) , [B09B 5/00](#){ ; General arrangement of separating plants [B03B 9/00](#) ; Recovery of plastics [B29B 17/00](#))}**