

ECLA EUROPEAN CLASSIFICATION

B62D

MOTOR VEHICLES; TRAILERS (steering, or guiding on a desired track, of agricultural machines or implements [A01B69/00](#); 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) [[C9503](#)]

[N: **WARNING** [[C0811](#)]

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

[B62D25/13](#) covered by [B60J1/20](#), [B60R13/07](#)
[B62D25/22](#) covered by [B60R3/00](#)
[B62D65/08](#) covered by [B60J10/00G10](#)
]

Note

In this subclass, the following terms are used with the meanings indicated:
 - "vehicles" include motor vehicles and trailers;
 - "trailers" include forecars or sidecars.

Guide heading: **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 [B62D1/00](#) and relevant subsequent groups; these groups take precedence over [B64C](#); These elaborations also embrace steering of vehicles in general but applicable to land vehicles

B62D1/00

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

B62D1/02

. vehicle-mounted

B62D1/04

. . Hand wheels

B62D1/04B

. . . [N: with a device allowing single-hand operation of the steering wheel]

B62D1/04D

. . . [N: Adaptations on rotatable parts of the steering wheel for accommodation of switches] [[N0411](#)]

- B62D1/06 . . . Rims, e.g. with heating means; Rim covers ([B62D1/11](#) takes precedence)
- B62D1/06B [N: Steering wheels with heating and ventilating means (heating and ventilating arrangements for spaces of vehicles B60H)]
- B62D1/08 . . . Spokes, e.g. resilient ([B62D1/11](#) takes precedence)
- B62D1/10 . . . Hubs; Connecting hubs to steering columns, e.g. adjustable ([B62D1/11](#) takes precedence)
- B62D1/10B [N: Non-rotatable hubs, e.g. the central part of the steering wheel not rotating(for storing airbags[B60R21/203F](#))][\[N0411\]](#)
- B62D1/11 . . . incorporating energy-absorbing arrangements, e.g. by being yieldable or collapsible (padded linings associated with the steering wheel [B60R21/05](#); shock absorbers using plastic deformation of members in general [F16F7/12](#))
- B62D1/12 . . Hand levers
- B62D1/14 . . . Tillers, i.e. hand levers operating on steering columns
- B62D1/16 . . Steering columns
- B62D1/16B . . . [N: Part of the steering column replaced by flexible means, e.g. cable or belt] [\[N0411\]](#)
- B62D1/16D . . . [N: Means changing the transfer ratio between steering wheel and steering gear (by continuous supply of energy, e.g. from electric motor [B62D5/00D](#); controlling steering depending on driving conditions sensed and responded to [B62D6/00](#))] [\[N0411\]](#)
- B62D1/18 . . . yieldable or adjustable, e.g. tiltable (padded linings associated with the steering column [B60R21/05](#)) [\[C0411\]](#)
 [N: [NotesGroup B62D1/181](#) takes precedence over groups [B62D1/183](#) - [B62D1/187](#).
[\[N1104\]](#)
]
- B62D1/181 with power actuated adjustment, e.g. with position memory [\[N0411\]](#)
- B62D1/183 adjustable between in-use and out-of-use positions, e.g. to improve access [\[N0411\]](#)
- B62D1/184 Mechanisms for locking columns at selected positions [N: (locking of telescopic systems in general [F16B7/10](#))] [\[N0411\]](#)
- B62D1/185 adjustable by axial displacement, e.g. telescopically ([B62D1/183](#), [B62D1/187](#), [B62D1/19](#) take precedence) [\[N0411\]](#)
- B62D1/187 with tilt adjustment; with tilt and axial adjustment ([B62D1/183](#), [B62D1/19](#) takes precedence) [\[N0411\]](#)
- B62D1/189 the entire column being tiltable as a unit [\[N0411\]](#)
- B62D1/19 incorporating energy-absorbing arrangements, e.g. by being yieldable or collapsible (shock absorbers using plastic deformation of members in general [F16F7/12](#))
- B62D1/19B [N: Yieldable or collapsible columns]
- B62D1/19C [N: Yieldable supports for the steering column]
- B62D1/19D [N: incorporating devices for preventing ingress of the steering column into the passengers space in case of accident]
- B62D1/20 . . . Connecting steering column to steering gear
- B62D1/22 . . Alternative steering-control elements, e.g. for teaching purposes
- B62D1/24 . . not vehicle-mounted [N: (special adaptations of automatic tractor steering [A01B69/04](#); devices for lifting, movable on wheels, automatically guided [B66F9/06D](#))]

- B62D1/26 . . . mechanical, e.g. by a non-load-bearing guide ([railways B61](#))
- B62D1/26B [N: especially adapted for guiding road vehicles carrying loads or passengers, e.g. in urban networks for public transportation]
- B62D1/28 . . . non-mechanical [N: e.g. following a line or other known markers ([steering position indicators B62D15/02](#); [steering aids B62D15/02E](#); [parking aids B62D15/02H](#); [steering assistants B62D15/02K](#); [determination or calculation of trajectory of land vehicles G05D1/02E](#))] [C0411]
- B62D1/28B [N: for unmanned vehicles] [N0411]
- B62D1/28D [N: Systems for interrupting non-mechanical steering due to driver intervention] [N0411]

- B62D3/00** **Steering gears** ([power assisted or power driven B62D5/00](#); [steering linkages B62D7/00](#); [for non-deflectable wheels B62D11/00](#); [gearing in general F16H](#))

- B62D3/02 . . . mechanical
- B62D3/04 of worm type
- B62D3/06 with screw and nut
- B62D3/08 using intermediate balls or the like
- B62D3/10 with worm engaging in sector or roller gear
- B62D3/12 of rack-and-pinion type
- B62D3/12B [N: characterised by pressure yokes] [N0411]
- B62D3/12D [N: characterised by the rack] [N0411]

- B62D3/14 . . . hydraulic

- B62D5/00** **Power-assisted or power-driven steering** ([N: controlling steering depending on driving conditions sensed and responded to [B62D6/00](#);] [for non-deflectable wheels B62D11/00](#); [fluid pressure servomotors in general F15B](#)) [C0411]

- B62D5/00B . . . [N: Mechanical aspects of steer-by-wire systems, not otherwise provided in [B62D5](#) ([hydraulic steer-by-wire systems B62D5/09B](#))] [N0411]
- B62D5/00B2 [N: Backup systems, e.g. for manual steering ([B62D5/30](#) takes precedence)] [N0411]
- B62D5/00B4 [N: means for generating torque on steering wheel, e.g. feedback] [N0411]
- B62D5/00B4B [N: power actuated ([control thereof B62D6/00H](#))] [N0411]

- B62D5/00D . . . [N: Changing the transfer ratio between the steering wheel and the steering gear by variable supply of energy, e.g. by using a superposition gear] [N0411]

- B62D5/02 . . . 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

- B62D5/04 . . . electrical, e.g. using an electric servo-motor connected to, or forming part of, the steering gear
- B62D5/04B [N: characterised by constructional features, e.g. common housing for motor and gear box] [N0411]
- B62D5/04B2 [N: including housing for electronic control unit] [N0411]
- B62D5/04D [N: Electric motor acting on the steering column] [N0411]

- B62D5/04D2 . . . [N: the axes of motor and steering column being parallel] [N0411]
- B62D5/04D2B [N: the axes being coaxial] [N0411]
- B62D5/04F . . [N: Electric motor acting on road wheel carriers] [N0411]
- B62D5/04H . . [N: Electric motor acting on or near steering gear] [N0411]
- B62D5/04H2 . . . [N: the axes of motor and final driven element of steering gear, e.g. rack, being parallel] [N0411]
- B62D5/04H2B [N: the axes being coaxial] [N0411]
- B62D5/04K . . [N: characterised by clutch means between driving element, e.g. motor, and driven element, e.g. steering column or steering gear] [N0411]
- B62D5/04K2 . . . [N: the clutch being of on-off type] [N0411]
- B62D5/04K2B [N: the clutch being a controlled emergency clutch, e.g. for disconnecting at motor break-down] [N0411]
- B62D5/04K4 . . . [N: Controllable friction clutches ([B62D5/04K2B](#) takes precedence)] [N0411]
- B62D5/04M . . [N: Conversion of rotational into longitudinal movement] [N0411]
- B62D5/04M2 . . . [N: Screw drives ([Screw mechanisms in general F16H25/20](#))] [N0411]
- B62D5/04M2B [N: Ball nuts] [N0411]
- B62D5/04M4 . . . [N: Roller spindle drives] [N0411]
- B62D5/04M6 . . . [N: Worm gears] [N0411]
- B62D5/04P . . [N: characterised by control features of the drive means as such ([controlling steering depending on driving conditions sensed and responded to B62D6/00](#); [determination of steering angle B62D15/02D](#); [measuring torque applied to steering wheels G01L5/22B](#); [control of electric motor as such H02P](#))] [N0411]
- B62D5/04P2 . . . [N: Controlling the motor] [N0411]
- B62D5/04P2B [N: for generating assisting torque] [N0411]
- B62D5/04P2D [N: for returning the steering wheel to neutral position] [N0411]
- B62D5/04P2F [N: End-of-stroke control] [N0411]
- B62D5/04P2H [N: for damping vibrations] [N0411]
- B62D5/04P4 . . . [N: Controlling other elements] [N0411]
- B62D5/04P4B [N: Clutches] [N0411]
- B62D5/04P6 . . . [N: monitoring the steering system, e.g. failures] [N0411]
- B62D5/04P6B [N: for reaction to failures, e.g. limp home] [N0411]
- B62D5/04P6D [N: detecting motor faults ([B62D5/04P6K](#) takes precedence)] [N0411]
- B62D5/04P6F [N: detecting sensor failures] [N0411]
- B62D5/04P6H [N: detecting processor errors, e.g. plausibility of steering direction] [N0411]
- B62D5/04P6K [N: by using a temperature sensor] [N0411]
- B62D5/06 . . fluid, i.e. using a pressurised fluid for most or all the force required for steering a vehicle
- B62D5/06G . . [N: provided with effort, steering lock, or end-of-stroke limiters] [C0411]
- B62D5/06K . . [N: Details, component parts]
- B62D5/06K2 . . . [N: Pump driven by vehicle engine ([B62D5/065](#) takes precedence)] [N0411]
- B62D5/06K4 . . . [N: Pump driven independently from vehicle engine, e.g. electric driven pump ([B62D5/065](#) takes precedence)] [N0411]
- B62D5/065 . . characterised by specially adapted means for varying pressurised fluid supply based on need, e.g. on-demand, variable assist [N0411]

- B62D5/07 . . . Supply of pressurised fluid for steering also supplying other consumers; [N: control thereof] [C0411]
- B62D5/07B [N: using priority valves (priority valves in general [F15B13/02D](#))] [N0411]
- B62D5/08 . . . characterised by type of [N: steering] valve used (valves in general [F16K](#)) [C0411]
- B62D5/08B [N: Seat valves] [N0411]
- B62D5/083 Rotary valves
- B62D5/083B [N: with elastic means other than a torsion bar, e.g. leaf springs] [N0411]
- B62D5/083D [N: 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 [B62D6/00](#))] [N0411]
- B62D5/083F [N: characterised by the shape of the control edges, e.g. to reduce noise] [N0411]
- B62D5/087 Sliding spool valves
- B62D5/09 . . . characterised by means for actuating valves
- B62D5/09B [N: Hydraulic steer-by-wire systems, e.g. the valve being actuated by an electric motor] [N0411]
- B62D5/09B2 [N: the electric motor being connected to the final driven element of the steering gear, e.g. rack] [N0411]
- B62D5/093 Telemotor driven by steering wheel movement ([hydraulic steering gear B62D3/14](#))
- B62D5/097 Gerotor type
- B62D5/10 . . . characterised by type of power unit
- B62D5/12 Piston and cylinder
- B62D5/14 Rotary motor
- B62D5/16 Expansible chamber with flexible wall
- B62D5/18 . . . characterised by power transmitting means
- B62D5/20 . . . specially adapted for particular type of steering gear or particular application ([steering gears per se B62D3/00](#); [steering linkages not characterised by being power-assisted or power-driven B62D7/00](#))
- B62D5/22 for rack-and-pinion type [N: (pressure yokes [B62D3/12B](#))] [N0411]
- B62D5/24 for worm type
- B62D5/26 for pivoted axles
- B62D5/28 for pivoted bogies
- B62D5/30 . . . Safety devices, e.g. alternate emergency power supply or transmission means to ensure steering upon failure of the primary steering means
- B62D5/32 for telemotor systems

B62D6/00 **Arrangements for automatically controlling steering depending on driving conditions sensed and responded to, e.g. control circuits** (means for initiating a change in direction [B62D1/00](#); steering valves [B62D5/06](#); combined with means for inclining the vehicle body or wheels on bends [B62D9/00](#)) [C9609]

Note

[N9609]When classifying in this group, classification is also made in the appropriate one of groups [B62D1/00](#) to [B62D5/00](#) or [B62D7/00](#) to [B62D19/00](#) if other aspects of the steering system are of interest

- B62D6/00B . . . [N: the torque NOT being among the input parameters] [N0411]

- B62D6/00D . [N: computing target steering angles for front or rear wheels ([B62D7/15G](#) takes precedence)] [N0411]
- B62D6/00D2 . . [N: in order to control vehicle yaw movement, i.e. around a vertical axis ([B62D6/00F](#) take precedence; stability systems acting on the brakes [B60T8/00B10H](#))] [N0411]
- B62D6/00D2B . . . [N: treating sensor outputs to obtain the actual yaw rate] [N0411]
- B62D6/00D4 . . [N: using a measured or estimated road friction coefficient] [N0411]
- B62D6/00F . [N: adjustable by the driver, e.g. sport mode] [N0411]
- B62D6/00H . [N: Control of feed-back to the steering input member, e.g. simulating road feel in steer-by-wire applications] [N0411]
- B62D6/02 . responsive only to vehicle speed
- B62D6/04 . responsive only to forces disturbing the intended course of the vehicle, e.g. forces acting transversely to the direction of vehicle travel
- B62D6/06 . responsive only to vehicle vibration dampening arrangements ([steering dampers for cycles \[B62K21/08\]\(#\)](#))
- B62D6/08 . responsive only to [N: driver] input torque [N0411]
- [N: **WARNING** [N0811]
Group [B62D6/08](#) is not complete. See also [B62D5/04](#)
]
- B62D6/10 . . characterised by means for sensing [N: or determining] torque [N0411]
- [N: **WARNING** [N0811]
Group [B62D6/10](#) is not complete. See also [G01L5/22](#)
]
- B62D7/00** **Steering linkage; Stub axles or their mountings** ([B62D13/00](#) takes precedence; power-assisted or power-driven steering [B62D5/00](#))
- B62D7/02 . for pivoted bogies
- B62D7/02B . . [N: Steering turntables]
- B62D7/02C . . [N: characterised by comprising more than one bogie, e.g. situated in more than one plane transversal to the longitudinal centre line of the vehicle]
- B62D7/04 . . with more than one wheel
- B62D7/06 . for individually-pivoted wheels, e.g. on king-pins
- B62D7/08 . . the pivotal axes being situated in a single plane transverse to the longitudinal centre line of the vehicle
- B62D7/09 . . . characterised by means varying the ratio between the steering angles of the steered wheels ([varying the ratio automatically depending on driving conditions \[B62D6/00\]\(#\)](#)) [C9609]
- B62D7/10 . . . with single-output steering gear
- B62D7/12 . . . with twin-output steering gear
- B62D7/14 . . the pivotal axes being situated in more than one plane transverse to the

- longitudinal centre line of the vehicle, e.g. all-wheel steering
- B62D7/14B . . . [N: specially adapted for particular vehicles, e.g. tractors, carts, earth-moving vehicles, trucks]
 - B62D7/14B1 [N: for vehicles with more than two axles]
 - B62D7/14C [N: 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 [B62D17/00](#))]
 - B62D7/14S [N: provided with safety devices]
 - B62D7/15 characterised by means varying the ratio between the steering angles of the steered wheels [N: [B62D7/14S](#) takes precedence] [N9609] [C0411]
 - B62D7/15B [N: with different steering modes, e.g. crab-steering, or steering specially adapted for reversing of the vehicle]
 - B62D7/15D [N: comprising a mechanical interconnecting system between the steering control means of the different axles]
 - B62D7/15D1 [N: comprising only mechanical parts, i.e. without assistance means]
 - B62D7/15D2 [N: provided with hydraulic assistance; (power-assisted fluid steering per se [B62D5/06](#))]
 - B62D7/15D3 [N: provided with electrical assistance; (power-assisted electrical steering per se [B62D5/04](#))]
 - B62D7/15E [N: comprising a fluid interconnecting system between the steering control means of the different axles; (power-assisted fluid steering per se [B62D5/06](#))]
 - B62D7/15E1 [N: provided with fluid control means; ([B62D7/15E2](#) takes precedence)]
 - B62D7/15E2 [N: provided with electro-hydraulic control means]
 - B62D7/15F [N: characterised by comprising an electrical interconnecting system between the steering control means of the different axles; (power-assisted electrical steering per se [B62D5/04](#))]
 - B62D7/15G [N: characterised by computing methods or stabilisation processes or systems, e.g. responding to yaw rate, lateral wind, load, road condition]

 - B62D7/16 Arrangement of linkage connections (pivots per se [F16C](#); [N: e.g. ball joints [F16C11/06](#)] [C0411])
 - B62D7/16B [N: substantially in axial direction, e.g. between rack bar and tie-rod] [N0411]
 - B62D7/16D [N: substantially perpendicular, e.g. between tie-rod and steering knuckle (steering knuckles in general [B62D7/18](#))] [N0411]

 - B62D7/18 Steering knuckles; King pins

 - B62D7/20 Links, e.g. track rods (means for adjusting camber, castor, or toe-in [B62D17/00](#))

 - B62D7/22 Arrangements for reducing or eliminating reaction, e.g. vibration, from parts, e.g. wheels, of the steering system [N: (dampers in general [F16F](#))] [C0411]
 - B62D7/22B [N: acting on the steering wheel] [N0411]
 - B62D7/22D [N: acting between the steering wheel and the steering gear, e.g. on the steering column] [N0411]
 - B62D7/22F [N: acting on the steering gear] [N0411]
 - B62D7/22H [N: acting between the steering gear and the road wheels, e.g. on tie-rod] [N0411]

 - B62D9/00** **Steering deflectable wheels not otherwise provided for** (steering position indicators [B62D15/02](#))

- B62D9/00B . [N: combined with means for differentially distributing power on the deflectable wheels during cornering] [N0411]
 - B62D9/00D . [N: Emergency systems using brakes for steering] [N0411]
 - B62D9/00F . [N: Emergency systems using the steering system for braking] [N0411]
 - B62D9/02 . combined with means for inwardly inclining vehicle body on bends
 - B62D9/04 . combined with means for [N: inwardly] inclining wheels on bends ([B62D9/02](#) takes precedence) [N0411]
- [N: **WARNING** [N0811]
Group [B62D9/04](#) is not complete. See also [B62D9/02](#)
]

B62D11/00 **Steering non-deflectable wheels; Steering endless tracks or the like**

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

- B62D11/00B . [N: control systems ([B62D11/18B](#) takes precedence)] [N0411]
- [N: **Note:**
[C0411]
When classifying in this group, classification is also made in the appropriate one of groups [B62D11/02](#) to [B62D11/24](#) if other aspects of the steering system are of interest
]
- B62D11/00B2 . . [N: Electric or electronic control systems] [N0411]
 - B62D11/00B4 . . [N: Hydraulic control systems] [N0411]
 - B62D11/00B6 . . [N: Mechanical control systems] [N0411]
 - B62D11/00B8 . . [N: Pneumatic control systems] [N0411]
- B62D11/02 . by differentially driving ground-engaging elements on opposite vehicle sides
 - B62D11/04 . . by means of separate power sources
 - B62D11/06 . . by means of a single main power source
 - B62D11/08 . . . using brakes or clutches as main steering-effecting means
 - B62D11/10 . . . using gearings with differential power outputs on opposite sides, e.g. with twin-differential or epicyclic gears [N: (**arrangements or mounting of transmissions in vehicles** [B60K17/00](#); **gearing in general** [F16H](#))]
 - B62D11/10B [N: using variable ratio belt and pulley gearings (**gearing for conveying rotary motion by endless flexible members** [F16H7/00](#), [F16H9/00](#))]
 - B62D11/12 using separate change-speed gearings
 - B62D11/14 differential power outputs being effected by additional power supply to one side, e.g. power originating from secondary power source
 - B62D11/16 the additional power supply being supplied mechanically
 - B62D11/18 the additional power supply being supplied hydraulically
 - B62D11/18B [N: Control systems therefor] [C0411]

- B62D11/18C [N: Uncoupling devices for the hydraulic motors, e.g. to allow towing]
- B62D11/20 . Endless-track steering having pivoted bogie carrying track ([B62D11/02](#) takes precedence)
- B62D11/22 . Endless track steering being effected by deflecting endless track rollers or the like
- B62D11/24 . Endless track steering specially adapted for vehicles having both steerable wheels and endless track

- B62D12/00** **Steering specially adapted for vehicles operating in tandem or having pivotally connected frames** (steering endless tracks or the like [B62D11/00](#); steering specially adapted for trailers [B62D13/00](#))

- B62D12/02 . for vehicles operating in tandem

- B62D13/00** **Steering specially adapted for trailers** (combined traction and steering hitches [B60D](#))

- B62D13/00B . [N: operated from tractor steering system]
- B62D13/02 . for centrally-pivoted axles
- B62D13/02B . . [N: the pivoted movement being initiated by the coupling means between tractor and trailer]
- B62D13/04 . for individually-pivoted wheels
- B62D13/06 . for backing a normally drawn trailer

- B62D15/00** **Steering not otherwise provided for**

- B62D15/02 . Steering position indicators; [N: Steering position determination; Steering aids] [C0411]
- B62D15/02B . . [N: Mechanical indicators, e.g. in or near steering wheel] [N0411]
- B62D15/02D . . [N: Determination of steering angle (sensors in general [G01B](#))] [N0411]
- B62D15/02D2 . . . [N: by measuring on the steering column] [N0411]
- B62D15/02D2B [N: on or near the connection between the steering wheel and steering column] [N0411]
- B62D15/02D4 . . . [N: by measuring on a steering gear element, e.g. on a rack bar] [N0411]
- B62D15/02D6 . . . [N: by measuring on the king pin] [N0411]
- B62D15/02D8 . . . [N: by measuring or deriving directly at the electric power steering motor] [N0411]
- B62D15/02D10 . . . [N: Other means for determination of steering angle without directly measuring it, e.g. deriving from wheel speeds on different sides of the car] [N0411]
- B62D15/02D12 . . . [N: Means or methods for determination of the central position of the steering system, e.g. straight ahead position] [N0411]
- B62D15/02F . . [N: Active steering aids, e.g. helping the driver by actively influencing the steering system after environment evaluation ([B62D1/28](#) takes precedence; parking aids [B62D15/02H](#))] [N0411]

- B62D15/02F2 . . . [N: Automatic changing of lane, e.g. for passing another vehicle] [N0411]
- B62D15/02F4 . . . [N: combined with automatic distance control, i.e. electronic tow bar] [N0411]
- B62D15/02F6 . . . [N: Automatic obstacle avoidance by steering] [N0411]
- B62D15/02H . . . [N: Parking aids, e.g. instruction means] [N0411]
- B62D15/02H2 . . . [N: by overlaying a vehicle path based on present steering angle over an image without processing that image] [N0411]
- B62D15/02H4 . . . [N: Guided parking by providing commands to the driver, e.g. acoustically or optically] [N0411]
- B62D15/02H6 . . . [N: Parking performed automatically] [N0411]
- B62D15/02K . . . [N: Steering assistants using warnings or proposing actions to the driver without influencing the steering system (parking aids [B62D15/02H](#), determination or calculation of trajectory of land vehicles [G05D1/02E](#), image processing [G06T](#))] [N0411]
- B62D15/02K2 . . . [N: by overlaying a vehicle path based on present steering angle over an image without processing that image] [N0411]

B62D17/00 Means on vehicles for adjusting camber, castor, or toe-in

B62D19/00 Radius rods, i.e. distance members

Guide heading: Understructures; Superstructures; Vehicle bodies

B62D21/00 Understructures, i.e. chassis frame on which a vehicle body may be mounted (combined frame and vehicle body [B62D23/00](#); [N: characterised by the material thereof [B62D29/00](#)]) [C9503]

- B62D21/02 . comprising longitudinally or transversely arranged frame members
- B62D21/03 . . transverse members providing body support
- B62D21/04 . . single longitudinal type
- B62D21/05 . . pinched frame type, i.e. formed of at least two longitudinal frame sections connected by other longitudinal frame sections of lesser transverse dimension
- B62D21/06 . 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
- B62D21/07 . 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
- B62D21/08 . built up with interlaced cross members
- B62D21/09 . Means for mounting load bearing surfaces
- B62D21/10 . in which the main member is plate-like
- B62D21/11 . with resilient means for suspension [N: , e.g. of wheels or engine; sub-frames for mounting engine or suspensions] [C9503]

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](#)

- B62D21/12 . assembled from readily detachable parts
- B62D21/14 . of adjustable length or width
- B62D21/15 . having impact absorbing means, e.g. a frame designed to permanently or temporarily change shape or dimension upon impact with another body ([bumpers B60R19/02](#); [shock absorbers in general F16F](#))
- B62D21/15A . . [N: Front or rear frames] [N0105]
- B62D21/15A1 . . . [N: Sub-frames or underguards] [N0105]
- B62D21/15B . . [N: for side impacts] [N0105]
- B62D21/16 . having fluid storage compartment
- B62D21/17 . forming fluid or electrical conduit means or having other means to accomodate the transmission of a force or signal
- B62D21/18 . characterised by the vehicle type and not provided for in groups [B62D21/02](#) to [B62D21/17](#)
- B62D21/18B . . [N: specially adapted for sports vehicles, e.g. race, dune buggies, go-karts ([tubular skeleton B62D23/00B](#))]
- B62D21/18C . . [N: for building site vehicles or multi-purpose tractors ([tracked vehicles B62D55/10](#); [tractors in general B62D49/00](#); [building site vehicles in general E02F](#); [lift-trucks B66F](#))]
- B62D21/20 . . trailer type, i.e. a frame specifically constructed for use in a non-powered vehicle

- B62D23/00** **Combined superstructure and frame, i.e. monocoque constructions** ([N: having impact absorbing means [B62D21/15](#)]; [superstructure](#) [N: or monocoque structure] [sub-units](#) [N: or parts or details thereof] [B62D25/00](#); [N: characterised by the material thereof [B62D29/00](#)]) [C0105] [M1104]
- B62D23/00B . [N: with integrated chassis in the whole shell e.g. meshwork, tubes, or the like ([B62D33/04C](#) takes precedence)]

- B62D24/00** **Connections between vehicle body and vehicle frame** ([B62D23/00](#), [B62D33/077](#) take precedence) [N9603]

[N: **WARNING**
Group [B62D24/00](#) and subgroups are not complete. See also other groups of [B62D](#) [N9603]
]
- B62D24/02 . Vehicle body, not intended to move relatively to the vehicle frame, and mounted on vibration absorbing mountings, e.g. rubber pads [N9603]
- B62D24/04 . Vehicle body mounted on resilient suspension for movement relative to the vehicle frame [N9603]

- B62D25/00** **Superstructure [N: or monocoque structure] sub-units; Parts or details thereof not**

herwise provided for [N: (having impact absorbing means [B62D21/15](#); running-boards, steps, or the like as superstructure sub-unit [B60R3/00](#))] [C0105]

- B62D25/02 . Side panels [N: ([B62D33/04D](#) takes precedence; sideboards for open load compartments [B62D33/023](#))] [C9605]
- B62D25/02B . . [N: Side sills thereof] [N1104]
- B62D25/04 . Door pillars; [N: windshield pillars] [M1104]
- B62D25/06 . Fixed roofs (non-fixed roofs or like shelters [B60J7/00](#); roof liners [B60R13/02](#); insulating elements [B60R13/08](#)) [M1104]
- B62D25/07 . . having water drainage or guide means integral with roof structure
- B62D25/08 . Front or rear portions [N: (sub-frames for mounting engine or suspensions [B62D21/11](#))] [C9503]
- B62D25/08B . . [N: Cowls (ventilating openings situated directly in front of the vehicle front window [B60H 1/28](#))]
- B62D25/08C . . [N: Engine compartments] [N0108]
- B62D25/08C1 . . . [N: Radiator supports] [N0108]
- B62D25/08C2 . . . [N: Front-end modules] [N1104]
- B62D25/08D . . [N: Luggage compartments] [N0108]
- B62D25/08E . . [N: Details of structures as upper supports for springs or dampers] [N0108]
- B62D25/10 . . Bonnets or lids, [N: e.g. for trucks, tractors, busses, work vehicles (for truck beds [B60J7/16B](#); for boats [B63B19/12](#); doors arranged at the vehicle rear [B60J5/10](#); inlet covers for vehicle fuel tanks [B60K15/05](#); for protecting non-occupants of a vehicle [B60R21/38](#))] [M1104]
- B62D25/10A . . . [N: for motor cars] [N0105]
- B62D25/12 . . . Parts or details thereof (locks [E05B](#), [N: [E05B65/19](#); devices for holding open [E05C17/00](#), e.g. while carrying oversize objects [E05C17/04B](#)]; hinges [E05D](#); counterbalancing means [E05F](#); [N: checks, stops, buffers [E05F5/00](#)]; springs, [N: e.g. pneumatic springs] [F16F](#)) [C9503] [M1104]
- B62D25/14 . . Dashboards as superstructure sub-units (other dashboard aspects [B60K](#))
- B62D25/14A . . . [N: having ventilation channels incorporated therein] [N0501]
- B62D25/14B . . . [N: having a crossbeam incorporated therein] [N0501]
- B62D25/14B1 [N: with adjustable connection to the A-pillars] [N0501]
- B62D25/16 . . Mud-guards or wings; Wheel cover panels (equipped with means for freeing wheels or tyres from foreign matter [B60S](#))
- B62D25/16B . . . [N: Mud-guards made of non-conventional material, e.g. rubber, plastics]
- B62D25/16C . . . [N: Mounting devices]
- B62D25/16C2 [N: including sealing devices]
- B62D25/16C3 [N: by rods or other distance-keeping devices]
- B62D25/16D . . . [N: Mud guards for utility vehicles]
- B62D25/18 . . . Parts or details thereof, e.g. mudguard flaps
- B62D25/18B [N: Movable mudguards, or mudguards comprising movable or detachable parts ([B62D25/18D](#) takes precedence)]
- B62D25/18B2 [N: to facilitate access to wheels]

- B62D25/18B4 [N: being attached or suspended laterally from the wheel ([B62D25/18B2](#) takes precedence)]
- B62D25/18D [N: Mud-guard flaps for utility vehicles]
- B62D25/20 . Floors or bottom sub-units [N: (sub-frames for mounting engine or suspensions [B62D21/11](#); drip trays [F16N31/00C](#))] [C9503]
- B62D25/20A . . . [N: in connection with other superstructure subunits] [N0502]
- B62D25/20A1 . . . [N: the subunits being front structures] [N0502]
- B62D25/20A2 . . . [N: the subunits being rear structures] [N0502]
- B62D25/20A3 . . . [N: the subunits being side panels, sills or pillars ([B62D21/15B](#) takes precedence)] [N0502]
- B62D25/20A4 . . . [N: the subunits being fire walls] [N0502]
- B62D25/20B . . . [N: Load carrying floors for commercial vehicles]
- B62D25/20C . . . [N: Floor elements for repairs]
- B62D25/20F . . . [N: Floor protection, e.g. from corrosion or scratching (floor mats [B60N3/04](#), armour [F41H7/04B](#), insulation [B60R13/08](#), streamlining [B62D35/02](#))] [C0502] [M1104]
- B62D25/20G . . . [N: Jack receiving devices]
- B62D25/20H . . . [N: Arrangements for the mounting of vehicle hitches (vehicle connections in general [B60D](#))]
- B62D25/24 . Superstructure sub-units with access [N: or drainage] openings having movable or removable closures; [N: Sealing means therefor] (inlet covers for vehicle fuel tanks [B60K15/05](#)) [N9505]
- B62D27/00** **Connections between superstructure [N: or understructure] sub-units [N: ([B62D33/02D](#), [B62D33/04C](#) take precedence; between sub-units predominantly made of synthetic material [B62D29/04D](#))] [C9503]**
- B62D27/02 . rigid
- B62D27/02B . . . [N: Assembly of structural joints]
- B62D27/02C . . . [N: Connections by glue bonding (in general [F16B11/00](#); processes [C09J5/00](#))]
- B62D27/04 . resilient
- B62D27/06 . readily releasable
- B62D27/06A . . . [N: using screwthread (Connection of crossbeam to A- pillars [B62D25/14B1](#); mounting load bearing surfaces [B62D21/09](#); securing mudguards [B62D25/16C](#); connections for synthetic parts [B62D29/04D](#))] [N0502]
- B62D29/00** **Superstructures, [N: understructures, or sub-units thereof,] characterised by the material thereof [N: ([B62D33/04C](#), [B62D33/04F](#) take precedence)] [C9811] [M1104]**
- B62D29/00A . . . [N: characterised by combining metal and synthetic material] [N1104]
- B62D29/00A1 . . . [N: a foamable synthetic material or metal being added in situ (shaping of substances in a plastic state by foaming, in general [B29C44/00](#))] [N1104]
- B62D29/00A2 . . . [N: the metal being over-moulded by the synthetic material, e.g. in a mould] [N1104]
- B62D29/00A3 . . . [N: preformed metal and synthetic material elements being joined together, e.g. by

- adhesives] [N1104]
- B62D29/00B . [N: predominantly of special steel or specially treated steel, e.g. stainless steel or locally surface hardened steel] [M1104]
- B62D29/00C . [N: predominantly of light alloys, e.g. extruded]
- B62D29/02 . predominantly of wood
- B62D29/04 . predominantly of synthetic material (working of plastics or substances in a plastic state B29) [C9503] [M1104]
- B62D29/04A . . [N: Understructures] [N9503]
- B62D29/04B . . [N: Superstructures ([B62D25/16B](#) takes precedence)] [N9503] [C1104]
- B62D29/04B1 . . . [N: Van bodies composed of substantially rectangular panels] [N9503] [M1104]
- B62D29/04C . . [N: Combined superstructure and frame, i.e. monocoque constructions] [N9503]
- B62D29/04D . . [N: Connections therefor, e.g. joints ([B62D29/04B1](#) takes precedence)] [N9503] [M1104]

- B62D31/00** **Superstructure for passenger vehicles** (passenger vehicles specially adapted to co-operate with aircraft or terminal buildings [B64F1/31](#)) [M1104]
- B62D31/00B . [N: compact cars e.g. city cars]
- B62D31/00B2 . . [N: foldable ([droppable B60F5/00B2](#))]
- B62D31/02 . for carrying large numbers of passengers, e.g. omnibus
- B62D31/02B . . [N: having modular sections]
- B62D31/04 . with more than one deck

- B62D33/00** **Superstructures for load-carrying vehicles** ([N: having impact absorbing means [B62D21/15](#);] in which a load-carrying element is movable B60P; liners [B60R13/00](#); [N: joining sheets or plates to one another or to strips or bars parallel to them [F16B5/00](#)]) [C0105]
- B62D33/02 . Platforms; Open load compartments [N: ([Flat wagons including posts or standards B61D3/08](#))] [C9505]
- B62D33/02D . . [N: Connections of movable or detachable racks or stanchions to platforms] [N9409] [C9502]
- B62D33/02D2 . . . [N: for log hauling vehicles ([vehicles for log transport in general B60P3/41](#))] [N9409] [C9512]
- B62D33/02F . . [N: Connecting elements between stanchions, e.g. roof supporting elements, stiffeners ([non-fixed roofs B60J7/00](#); [securing and covering of load B60P7/00](#))] [N9409]
- B62D33/023 . . Sideboard or tailgate structures [N: ([vehicle side panels in general B62D25/02](#))] [N9505]
- B62D33/027 . . . movable [N9505]
- B62D33/027A [N: Movable tailboards for vehicles comprising non-movable sideboards, e.g. pick-up trucks ([B62D33/037](#) takes precedence)] [N9505]
- B62D33/027B [N: by vertical translation ([B62D33/027A](#) takes precedence)] [N9505]

- B62D33/03 by swinging down [N: ([B62D33/027A](#) takes precedence)] [N9505]
- B62D33/033 removable [N: ([B62D33/027A](#) takes precedence)] [N9505]
- B62D33/037 Latching means therefor [N9505]

- B62D33/04 . Enclosed load compartments [N: Frameworks for movable panels, tarpaulins or side curtains ([tarpaulins per se B60J7/00](#), [B60P7/04](#); [side curtains per se B60J5/06B1](#))] [C9609]
- B62D33/04B . . [N: divided into compartments (movable bulk heads [B60P7/14](#); cattle transport [B60P3/04](#); bottled liquids [B60P3/02](#))]
- B62D33/04C . . [N: built up with profiles of constant elongated shape, e.g. extruded, mechanically interconnected by coupling members, e.g. by clamping, riveting or bolting]
- B62D33/04D . . [N: built up with flat self-supporting panels; Fixed connections between panels ([B62D29/04B1](#), [B62D33/04F](#) take precedence)] [N9605] [C9811]
- B62D33/04F . . [N: for refrigerated goods vehicles] [N9811]

- B62D33/06 . Drivers` cabs [N: ([overhead guards, e.g. against loads falling down B60R21/11](#); [roll-over protection B60R21/13](#))]
- B62D33/06C . . [N: Cabs insulated against vibrations or noise, e.g. with elastic suspension ([resilient connections between superstructure sub-units B62D27/04](#); [damping noise in general G10K11/00](#); for vehicles in general [B60R13/08](#))]
- B62D33/06C2 . . . [N: pneumatic or hydraulic suspension]
- B62D33/06D . . [N: 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 [A47C17/80](#); sanitation devices in vehicles in general [B60R15/20](#); living accommodation in vehicles in general [B60P3/32](#); passenger fittings in general [B60N3/00](#))] [C0606]
- B62D33/06E . . [N: for tractors or off-the-road vehicles ([protective devices for drivers in case of overturning of tractors B60R21/13B](#))]
- B62D33/06E2 . . . [N: able to be dismantled, folding]
- B62D33/06E3 . . . [N: open]
- B62D33/063 . . 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 [N9603]
- B62D33/063B . . . [N: pivotable about a vertical axis] [N9603]
- B62D33/063C . . . [N: displaceable along a linear path] [N9603]
- B62D33/067 . . . tiltable [N9603]
- B62D33/07 characterised by the device for locking the cab in the tilted or in the driving position [N9603]
- B62D33/07B [N: Locking devices for cabins in driving position; Shock and vibration absorbing devices therefor] [N9603]
- B62D33/073 . . . characterised by special adaptations of vehicle control devices [N9603]

- B62D33/077 . characterised by the connection of the superstructure to the vehicle frame [N: ([B62D33/06](#) takes precedence)] [N9603]

- B62D33/08 . comprising adjustable means ([B62D33/10](#) takes precedence) [C9603]
- B62D33/10 . . comprising means for the suspension of the superstructure on the frame [N9603]

- B62D35/00** **Vehicle bodies characterised by streamlining**

- B62D35/00B . [N: For commercial vehicles or tractor-trailer combinations e.g. caravans]

- B62D35/00B1 . . [N: for caravans ([B62D35/00B2](#) takes precedence)] [N9512]
- B62D35/00B2 . . [N: Inflatable nose or rear cones]
- B62D35/00C . [N: Front spoilers ([B62D35/00B](#) takes precedence)]
- B62D35/00D . [N: Rear spoilers ([B62D35/00B](#) takes precedence)]
- B62D35/00F . [N: Side spoilers ([B62D35/00B](#) takes precedence)]
- B62D35/02 . Streamlining the undersurfaces [N: ([B62D35/00C](#), [B62D35/00D](#), [B62D35/00F](#) take precedence)]

B62D37/00 **Stabilising vehicle bodies without controlling suspension arrangements**

- B62D37/02 . by aerodynamic means
- B62D37/04 . by means of movable masses
- B62D37/06 . . using gyroscopes

B62D39/00 **Vehicle bodies not otherwise provided for [N: e.g. safety vehicles (safety equipment [B60R21/00](#))]**

B62D41/00 **Fittings for identifying vehicles in case of collision; Fittings for marking or recording collision areas**

B62D43/00 **Spare wheel stowing, holding, or mounting arrangements**

- B62D43/00B . [N: Handling devices, mainly for heavy wheels (via cables and chains [B62D43/04B](#))]
- B62D43/00C . [N: Protective coverings for spare wheels]
- B62D43/00D . [N: Anti-theft devices for spare wheels]
- B62D43/02 . external to the vehicle body
- B62D43/04 . . attached beneath the vehicle body
- B62D43/04B . . . [N: the wheel or its cradle being attached to one or more chains or cables for handling]
- B62D43/06 . within the vehicle body
- B62D43/08 . . and arranged substantially vertically
- B62D43/10 . . and arranged substantially horizontally

Guide heading: **Motor vehicles or trailers classified according to type; Parts or accessories thereof (frames for vehicles of special type [B62D21/18](#))**

B62D47/00 **Motor vehicles or trailers predominantly for carrying passengers ([superstructures B62D31/00](#))**

- B62D47/00B . [N: convertible in order to modify the number of seats ([foldable compact cars B62D31/00B2](#); convertible from one use to a different one [B60P3/42](#))]
- B62D47/00C . [N: Vehicles which can be divided in sub-vehicles; nestable vehicles]
- B62D47/02 . for large numbers of passengers, e.g. omnibus
- B62D47/02B . . [N: articulated buses with interconnecting passageway, e.g. bellows ([coupling aspects B60D5/00](#))]

- B62D49/00** **Tractors** (of walk type [B62D51/04](#); endless- track features [B62D55/00](#)) [N: tractors for handling aircraft [B64F1/22](#); transport specially adapted for underground galleries [E21F13/02](#)]

- B62D49/00A . [N: characterised by being of the low ground pressure type]
- B62D49/00B . [N: Tractors for semi-trailers ([combinations of tractor plus semi- trailer B62D53/06](#))]
- B62D49/00B2 . . [N: Tractors for handling trailers, e.g. roll-trailers in terminals]
- B62D49/02 . modified to take lifting devices
- B62D49/04 . modified to take pushing devices
- B62D49/06 . adapted for multi-purpose use
- B62D49/06B . . [N: Straddle tractors, used for instance above vine stocks, rows of bushes, or the like]
- B62D49/06C . . [N: equipped with visual aids for positioning implements or to control working condition ([optical signalling for vehicles in general B60Q1/26](#))]
- B62D49/06D . . [N: 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 B60B15/02, B60B39/12](#); arrangements of transmission for driving both front and rear wheels or tandem wheels of vehicles [B60K17/34, B60K17/36](#))]
- B62D49/06D2 . . . [N: using detachable weights ([counterweights against overturning B62D49/08B](#); [movable stabilisation masses B62D37/04](#))]
- B62D49/06D3 . . . [N: using additional ground engaging means, e.g. endless tracks ([vehicles with endless tracks and either additional or alternative ground wheels B62D55/02, B62D55/04](#))]
- B62D49/06D4 . . . [N: by coupling of tractors]
- B62D49/06E . . [N: Coupling of multi-purpose tractors with equipment ([towing bars B60D](#); with load transfer [B62D53/08](#); [power take-off B60K](#); with lifting devices [B62D49/02](#); pushing gear [B62D49/04](#))]
- B62D49/06F . . [N. Asymmetrical tractors]
- B62D49/06G . . [N: Light, simple, and economical tractors ([B62D49/00A takes precedence](#))]
- B62D49/06G2 . . . [N: the driver riding on the tractor]
- B62D49/06H . . [N. Tractors of variable track width or wheel base ([for vehicles in general B60B23/12 and B60B35/10](#))]
- B62D49/06J . . [N. Reversible tractors adapted for shuttle work]
- B62D49/06K . . [N: 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]]

- B62D49/08 . having means for preventing overturning or tipping (safety devices for propulsion-unit control, specially adapted for, or arranged in, vehicles [B60K28/00](#))
- B62D49/08B . . [N. Counterweight]
- B62D51/00** **Motor vehicles characterised by the driver not being seated** [N: (wheeled carriers for golf bags [A63B55/08](#))]
- B62D51/00B . [N: characterised by the vehicle control device (mechanical features of control devices in general [G05G](#); arrangements of vehicle control devices in general [B60K20/00](#), [B60K23/00](#), [B60K26/00](#))]
- B62D51/00B2 . . [N: comprising safety arrangements (safety devices for vehicle propulsion unit control [B60K28/00](#))]
- B62D51/00C . [N: characterised by the transmission (arrangements or mounting of transmissions in vehicles [B60K17/00](#); gearing in general [F16H](#))]
- B62D51/00D . [N: Vehicular characteristics of load handling vehicles, e.g. pedestrian trucks (fork-lift trucks [B66F9/06](#))]
- B62D51/00E . [N: the vehicle being of the endless track type (endless track vehicles in general [B62D55/00](#))]
- B62D51/00F . [N: characterised by the vehicle being formed by articulated or separable units (road trains [B62D53/00](#))]
- B62D51/02 . the driver standing in the vehicle
- B62D51/04 . the driver walking
- B62D51/06 . . Uniaxle walk-type tractors
- B62D51/06D . . . [N: the vehicle having only one wheel]
- B62D53/00** **Tractor-trailer combinations; Road trains** (traction couplings other than fifth wheel coupling [B60D](#)) [N: tracked vehicles comprising at least two articulated parts [B62D55/06B2](#)]
- B62D53/00B . [N: Combinations with at least three axles and comprising two or more articulated parts (articulated buses [B62D47/02B](#))]
- B62D53/02 . comprising a uniaxle tractor unit and a uniaxle trailer unit [N: see [B60B11/00](#) - [B60B11/08](#)]
- B62D53/02C . . [N: comprising a universal coupling joint]
- B62D53/02D . . [N: with two or more coupling joints allowing staggering of the units from a central plane]
- B62D53/02E . . [N: Comprising a transmission shaft passing through the coupling joints ([B62D53/02C](#) takes precedence; trailers with powered axles [B62D59/00](#))]
- B62D53/02E2 . . . [N: With all wheels powered]
- B62D53/02F . . [N: Having only coupling joints other than directional (articulated frames [B62D21/18C](#) and [B62D55/10](#))]

- B62D53/04 . . . 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
- B62D53/04B . . . [N: with rigid linkage in the horizontal plane (luggage trailers [B62D63/06C2](#) to [B62D63/06C3B](#))]
- B62D53/06 . . . Semi-trailers
- B62D53/06B [N: of flat bed or low loader type or fitted with swan necks (detachable swan necks [B62D53/06B2C](#); swan neck-fifth wheel couplings [B62D53/08](#))]
- B62D53/06B2 [N: having inclinable, lowerable platforms; Lift bed trailers; Straddle trailers (lifting coupling saddles [B62D53/08B2](#); crane vehicles [B60P3/28](#))]
- B62D53/06B2B [N: inclining platforms by detachable bogies]
- B62D53/06B2C [N: inclining platforms by detachable or folding swan necks]
- B62D53/06C [N: Multi-purpose, convertible or extendable load surface semi-trailers (for container transport [B60P1/64C](#); convertible road transport vehicles in general [B60P3/42](#))]
- B62D53/06F [N: having devices to equalise or modify the load between the fifth wheel and the rear wheels (adjustable coupling saddles per se [B62D53/08B](#); load transfer devices to permit coupling or uncoupling [B62D53/08D](#); anti jack-knifing devices [B62D53/08E](#))]
- B62D53/08 . . . Fifth wheel traction couplings [N: Tractors for handling trailers in terminals [49/00B2](#)]
- B62D53/08B [N: adjustable coupling saddles mounted on sub-frames; Mounting plates therefor]
- B62D53/08B1 [N: with adjustment of the clearance between the tractor or the trailer (devices modifying the load in tractor-trailer combinations [B62D53/06F](#))]
- B62D53/08B2 [N: Lifting saddles, i.e. to lift the trailer front (tilting body constructions [B60P](#))]
- B62D53/08B3 [N: Removable or fold-away traction couplings for non-specialised tractor vehicles]
- B62D53/08B4 [N: Coupling saddles able to rock in all directions, e.g. for use in rough terrain]
- B62D53/08C [N: King pins]
- B62D53/08C2 [N: fitted with anti-coupling devices, pivotal or retractable king pins, e.g. to prevent theft (vehicle fittings for preventing theft in general [B60R25/00](#))]
- B62D53/08D [N: Auxiliary semi-trailer handling or loading equipment, e.g. ramps, rigs, coupling supports]
- B62D53/08D3 [N: Dollies for fifth wheel coupling]
- B62D53/08E [N: with stabilising means, e.g. to prevent jack-knifing, pitching, rolling, buck jumping (stabilising in general [B62D37/00](#); tractors [B62D49/08](#))]
- B62D53/08E2 [N: the fifth wheel coupling incorporating braking or restraining means]
- B62D53/08F [N: Comprising devices to limit or to compensate for wear or excessive play; Lubricating, shock absorbing, bearing devices, or the like]
- B62D53/08G [N: comprising power transmission shafts (trailers with driven ground wheels [B62D59/00](#))]
- B62D53/10 with means for preventing accidental uncoupling
- B62D53/12 engaging automatically
- B62D53/12B [N: with simultaneous coupling of the service lines]

- B62D55/00** **Endless track vehicles** (steering aspects [B62D11/00](#); [N: characterised by the driver not being seated [B62D51/00E](#)])

- B62D55/02 . with tracks and additional ground wheels [N: for multi-purpose tractors [B62D49/06D3](#)]
- B62D55/04 . with tracks and alternative ground wheels, e.g. changeable from endless track vehicle into wheeled vehicle and vice versa [N: for multi-purpose tractors [B62D49/06D3](#)]
- B62D55/06 . with tracks without ground wheels
- B62D55/06C . . [N: Tracked vehicles of great dimensions adapted for moving bulky loads or gear]
- B62D55/065 . . Multi-track vehicles, i.e. more than two tracks [N: (soil-shifting machines [E02F](#); mining machines [E21C](#))]
- B62D55/065B . . . [N: Articulated endless track vehicles (steering specially adapted for trailers [B62D13/00](#); articulated buses [B62D47/02B](#); tractor-trailer combinations or road trains comprising a uni-axle unit and a uni-axle trailer [B62D53/02](#))]
- B62D55/07 . . Mono-track vehicles
- B62D55/075 . . Tracked vehicles for ascending or descending stairs, [N: steep slopes or vertical surfaces] (magnetic or pneumatic ground-engaging parts [B62D55/265](#); chairs or multi-track cycles specially adapted for invalids [A61G5/00](#)) [[C9608](#)]
- B62D55/08 . Endless track units; Parts thereof
- B62D55/084 . . Endless-track units or carriages mounted separably, adjustably or extensibly on vehicles, e.g. portable track units ([B62D55/07](#) takes precedence)
- B62D55/084B . . . [N: Tracked vehicle with track carriages suspended on three points, e.g. by an equaliser bar]
- B62D55/084C . . . [N: Protection devices]
- B62D55/084D . . . [N: Track blocking devices mounted on the frame; Track guides]
- B62D55/088 . . with means to exclude or remove foreign matter, e.g. sealing means, self-cleaning track links or sprockets, deflector plates or scrapers
- B62D55/088B . . . [N: Track or sprocket cleaning devices mounted on the frame (wheel cleaning devices in general [B60S](#))]
- B62D55/088C . . . [N: Self-cleaning sprockets]
- B62D55/088D . . . [N: Track-articulation sealings against dust, water, mud or the like (sealing of bearings in general [F16C33/72](#); chain bushings in general [F16G15/00](#))]
- B62D55/092 . . with lubrication means (lubricating in general [F16N](#))
- B62D55/096 . . with noise reducing means
- B62D55/096B . . . [N: Anti-noise driving sprockets]
- B62D55/096C . . . [N: Low noise rollers, e.g. with antivibration means (elastic wheel rims in general [B60B9/00](#))]
- B62D55/10 . . Bogies; Frames (track-tensioning means [B62D55/30](#))
- B62D55/104 . . Suspension devices for wheels, rollers, bogies or frames (vehicle suspension in general [B60G](#))
- B62D55/108 . . . with mechanical springs, e.g. torsion bars
- B62D55/108B [N: Torsion-bar springs]
- B62D55/108C [N: Rubber springs]
- B62D55/112 . . . with fluid springs, e.g. hydraulic pneumatic
- B62D55/112B [N: Hydro-pneumatic or pneumatic, e.g. air-cushioned]
- B62D55/116 . . . Attitude or position control of chassis by action on suspension, e.g. to compensate for a slope
- B62D55/12 . . Arrangement, location, or adaptation of driving sprockets

- B62D55/125 . . . Final drives
- B62D55/13 readily interchangeable modular type
- B62D55/135 with dismountable driving crown
- B62D55/14 . . . Arrangement, location, or adaptation of rollers
- B62D55/14D . . . [N: Rollers with replaceable wear rings or rims (driving sprockets with replaceable rims [B62D55/12](#))]
- B62D55/15 . . . Mounting devices, e.g. bushings, axles, bearings, sealings [N: (with lubrication means [B62D55/092](#))]
- B62D55/18 . . . Tracks (self-cleaning track links [B62D55/088](#))
- B62D55/20 of articulated type, e.g. chains [N: (with lubrication means [B62D55/092](#))]
- B62D55/20E [N: Wheel engaging parts; Wheel guides on links]
- B62D55/205 Connections between track links
- B62D55/21 Links connected by transverse pivot pins
- B62D55/21B [N: Bitubular chain links assembled by pins and double connectors]
- B62D55/21C [N: Master track links]
- B62D55/215 [N: Resilient connections between links]
- B62D55/22 Arrangements for preventing or modifying back-flexing
- B62D55/24 of continuously flexible type, e.g. rubber belts
- B62D55/24B [N: The flexible band being semi-rigid for resisting back-flexing and contributing to spring the vehicle]
- B62D55/24D [N: Moulded in one piece, with either smooth surfaces or surfaces having projections, e.g. incorporating reinforcing elements]
- B62D55/247 Gas filled or inflatable flexible tracks (connection of valves to inflatable elastic bodies [B60C29/00](#)) [C9608]
- B62D55/253 having elements interconnected by one or more cables or like elements
- B62D55/26 Ground engaging parts or elements [N: tracks specially adapted for amphibious vehicles [B60F3/00B2](#)]
- B62D55/265 having magnetic or pneumatic adhesion
- B62D55/27 having different types of crampons for progression over varying ground
- B62D55/275 with street plate, i.e. means to prevent tread from cutting into road surface
- B62D55/28 detachable
- B62D55/28C [N: and movable, e.g. around an axis or perpendicularly to the track]
- B62D55/28D [N: For soft grounds, e.g. consisting of snow or swamp]
- B62D55/30 . . . Track-tensioning means
- B62D55/30B [N: acting on pivotably mounted idlers]
- B62D55/32 . . . Assembly, disassembly, repair or servicing of endless-track systems

B62D57/00 **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 [B62B](#); motor sledges [B62M](#))**

- B62D57/02 . . . with ground-engaging propulsion means, e.g. walking members
- B62D57/02B . . . [N: the ground engaging means being sequentially inflatable bags for peristaltic movement ([B62D57/024](#) takes precedence)]

- B62D57/02C . . [N: consisting of members having both rotational and walking movements]
- B62D57/024 . . specially adapted for moving on inclined or vertical surfaces (endless-track vehicles for ascending or descending stairs [B62D55/075](#); hand-carts with provision for travelling up or down stairs [B62B5/02](#))
- B62D57/028 . . having wheels and mechanical legs ([B62D57/024](#) takes precedence; ground-engaging vehicle fittings for supporting, lifting or manoeuvring the vehicle, wholly or in part [B60S9/00](#))
- B62D57/032 . . with alternately or sequentially lifted supporting base and legs; with alternately or sequentially lifted feet or skid ([B62D57/024](#) takes precedence)
- B62D57/036 . . screw type, e.g. Archimedian screw [N: (amphibious vehicles comprising screw-type ground-engaging means [B60F3/00B3](#))]
- B62D57/04 . . having other than ground-engaging propulsion means, e.g. having propellers (arrangement of jet-propulsion units [B60K](#))

B62D59/00 Trailers with driven ground wheels or the like

- B62D59/02 . . driven from external propulsion unit
- B62D59/04 . . driven from propulsion unit on trailer

B62D61/00 Motor vehicles or trailers, characterised by the arrangement or number of wheels, not otherwise provided for, e.g. four wheels in diamond pattern [C9608]

- B62D61/02 . . with two road wheels in tandem on the longitudinal centre line of the vehicle
- B62D61/04 . . with two other wheels which are coaxial
- B62D61/06 . . with only three wheels
- B62D61/06B . . [N: with single rear wheel] [N1207]
- B62D61/08 . . with single front wheel
- B62D61/10 . . with more than four wheels [N: (tractors of the low ground pressure type [B62D49/00A](#))]
- B62D61/12 . . 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](#))
- B62D61/12B . . [N: the retractable wheel being a part of a set of tandem wheels (resilient suspension for a single set of tandem wheels [B60G5/00](#))]

B62D63/00 Motor vehicles or trailers not otherwise provided for

- B62D63/02 . . Motor vehicles
- B62D63/02A . . [N: Modular vehicles (superstructures for busses having modular sections [B62D31/02B](#))] [N1104]
- B62D63/04 . . Component parts or accessories
- B62D63/06 . . Trailers (vehicles comprising living accommodation for people, e.g. caravans, camping or like vehicles [B60P3/32](#)) [C9608]
- B62D63/06B . . [N: Foldable, extensible or yielding trailers (foldable caravans [B60P3/34](#); adjustable

- chassis frames [B62D21/14](#)]
- B62D63/06C . . [N: Trailers with one axle or two wheels ([semi-trailers B62D53/06](#))]
- B62D63/06C2 . . . [N: light luggage or equipment trailers, e.g. for batteries, gas generators, gas bottles, stretchers ([luggage carriers per se B60R](#))]
- B62D63/06C3 . . . [N: forming an extension of the towing vehicle, i.e. with two point fixation]
- B62D63/06C3B [N: single wheeled (rigid or semi-rigid coupling)]
- B62D63/06D . . [N: with more than two axles or more than four wheels ([vehicles with more than four wheels in general B62D61/10](#))]
- B62D63/08 . . Component parts or accessories
- B62D65/00** **Designing, manufacturing, e.g. assembling, facilitating disassembly, or structurally modifying motor vehicles or trailers, not otherwise provided for [M1104]**
- B62D65/00G . [N: Inspection and final control devices]
- B62D65/02 . Joining sub-units or components to, or positioning sub-units or components with respect to, body shell or other sub-units or components [N0504]
- B62D65/02B . . [N: Transferring or handling sub-units or components, e.g. in work stations or between workstations and transportation systems] [N1104]
- B62D65/02D . . [N: Positioning of sub-units or components with respect to body shell or other sub-units or components] [N1104]
- B62D65/02D2 . . . [N: by using a jig or the like; Positioning of the jig] [N1104]
- B62D65/02D4 . . . [N: by determining relative positions by measurement] [N1104]
- B62D65/04 . . Joining preassembled modular units composed of sub-units performing diverse functions, e.g. engine and bonnet ([B62D65/06 to B62D65/16 take precedence](#)) [N0504]
- B62D65/06 . . the sub-units or components being doors, windows, openable roofs, lids, bonnets, or weather strips or seals therefor [N: ([assembling sealing arrangements with vehicle parts, e.g. doors, windows B60J10/00G10](#))] [N0504] [M1104]
- B62D65/10 . . the sub-units or components being engines, clutches or transmissions [N0504] [M1104]
- B62D65/12 . . the sub-units or components being suspensions, brakes or wheel units [N0504]
- B62D65/14 . . the sub-units or components being passenger compartment fittings, e.g. seats, linings, trim, instrument panels [N0504]
- B62D65/16 . . the sub-units or components being exterior fittings, e.g. bumpers, lights, wipers [N: , exhausts] [N0504]
- B62D65/18 . . Transportation, conveyor or haulage systems specially adapted for motor vehicle or trailer assembly lines [N: ([conveyers and haulage in general B65G](#))] [N0504]
- B62D67/00** **Systematic disassembly of vehicles for recovery of salvageable components, e.g. for recycling (for disposal of vehicles by destroying or transformation [B09B3/00](#), [B09B5/00](#) [N: ; General arrangement of separating plants [B03B9/00](#); Recovery of plastics [B29B17/00](#)]) [N0504]**