

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:

B62D 25/13	covered by	B60J 1/20	,
B60R 13/07	B62D 25/22	covered by	B60R 3/00
B62D 65/08	covered by	B60J 10/0088	

Guidance 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 [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(B62D 1/11 takes precedence)
B62D 1/065	....	{Steering wheels with heating and ventilating means(heating and ventilating arrangements for spaces of vehicles B60H)}
B62D 1/08	...	Spokes, e.g. resilient(B62D 1/11 takes precedence)
B62D 1/10	...	Hubs; Connecting hubs to steering columns, e.g. adjustable(B62D 1/11 takes precedence)
B62D 1/105	....	{Non-rotatable hubs, e.g. the central part of the steering wheel not rotating(for storing airbags B60R 21/2032)}
B62D 1/11	...	incorporating energy-absorbing arrangements, e.g. by being yieldable or collapsible(padded linings associated with the steering wheel B60R 21/05 ; shock absorbers using plastic deformation of members in general F16F 7/12)
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 B62D 5/008 ; controlling steering depending on driving conditions sensed and responded to B62D 6/00)}
B62D 1/18	...	yieldable or adjustable, e.g. tiltable(padded linings associated with the steering column B60R 21/05)

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 F16B 7/10)}
B62D 1/185	....	adjustable by axial displacement, e.g. telescopically(B62D 1/183 , B62D 1/187 , B62D 1/19 take precedence)
B62D 1/187	....	with tilt adjustment; with tilt and axial adjustment(B62D 1/183 , B62D 1/19 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 F16F 7/12)
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 [A01B69/04](#) ; 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(B62D 5/0436 takes precedence)}
B62D 5/0442	..	{Conversion of rotational into longitudinal movement}
B62D 5/0445	...	{Screw drives(Screw mechanisms in general F16H 25/20)}
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(controlling steering depending on driving conditions sensed and responded to B62D 6/00 ; determination of steering angle B62D 15/021 ; measuring torque applied to steering wheels G01L 5/221 ; control of electric motor as such H02P)}
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(B62D 5/0496 takes precedence)}
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(B62D 5/065 takes precedence)}
B62D 5/064	...	{Pump driven independently from vehicle engine, e.g. electric driven pump(B62D 5/065 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 [F15B 13/022](#))}
- B62D 5/08 .. characterised by type of{steering}valve used(valves in general [F16K](#))
- 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 [B62D 6/00](#))}
- 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(hydraulic steering gear [B62D 3/14](#))
- 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 [B62D 3/00](#) ; steering linkages not characterised by being power-assisted or power-driven [B62D 7/00](#))
- B62D 5/22 ... for rack-and-pinion type{(pressure yokes [B62D 3/123](#))}
- 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

Guidance heading: 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 ,{ E05B65/19 ; devices for holding open E05C 17/00 , e.g. while carrying oversize objects E05C 17/042 }; hinges E05D ; counterbalancing means E05E ;; 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)(M1104}
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

Guidance heading: **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 [B62D 21/186](#) and [B62D 55/10](#))}
- 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 [B62D 63/064](#) to [B62D 63/067](#))}
- B62D 53/06 .. Semi-trailers

B62D 53/061	...	{of flat bed or low loader type or fitted with swan necks(detachable swan necks B62D 53/065 ; swan neck-fifth wheel couplings B62D 53/08)}
B62D 53/062	....	{having inclinable, lowerable platforms; Lift bed trailers; Straddle trailers(lifting coupling saddles B62D 53/0821 ; crane vehicles B60P 3/28)}
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 B60P 1/6418 ; convertible road transport vehicles in general B60P 3/42)}
B62D 53/068	...	{having devices to equalise or modify the load between the fifth wheel and the rear wheels(adjustable coupling saddles per se B62D 53/0807 ; load transfer devices to permit coupling or uncoupling B62D 53/0857 ; anti jack-knifing devices B62D 53/0871)}
B62D 53/08	..	Fifth wheel traction couplings{Tractors for handling trailers in terminals B62D 49/007 }
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 B62D 53/068)}
B62D 53/0821	....	{Lifting saddles, i.e. to lift the trailer front(tilting body constructions B60P)}
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 B60R 25/00)}
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 B62D 37/00 ; tractors B62D 49/08)}
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 B62D 59/00)}
B62D 53/10	...	with means for preventing accidental uncoupling
B62D 53/12	...	engaging automatically
B62D 53/125	....	{with simultaneous coupling of the service lines}
B62D 55/00		Endless track vehicles (steering aspects B62D 11/00 ; { characterised by the driver not being seated B62D 51/007)}
B62D 55/02	.	with tracks and additional ground wheels{ for multi-purpose tractors B62D 49/0635 }
B62D 55/04	.	with tracks and alternative ground wheels, e.g. changeable from endless track vehicle into wheeled vehicle and vice versa{ for multi-purpose tractors B62D 49/0635 }
B62D 55/06	.	with tracks without ground wheels

- B62D 55/062 .. {Tracked vehicles of great dimensions adapted for moving bulky loads or gear}
- B62D 55/065 .. Multi-track vehicles, i.e. more than two tracks({ soil-shifting machines [E02F](#) ; mining machines [E21C](#))}
- B62D 55/0655 ... {Articulated endless track vehicles(steering specially adapted for trailers [B62D 13/00](#) ; articulated buses [B62D 47/025](#) ; tractor-trailer combinations or road trains comprising a uni-axle unit and a uni-axle trailer [B62D 53/02](#))}
- B62D 55/07 .. Mono-track vehicles
- B62D 55/075 .. Tracked vehicles for ascending or descending stairs,{steep slopes or vertical surfaces}(magnetic or pneumatic ground-engaging parts [B62D 55/265](#) ; chairs or multi-track cycles specially adapted for invalids [A61G 5/00](#))
- B62D 55/08 . Endless track units; Parts thereof
- B62D 55/084 .. Endless-track units or carriages mounted separably, adjustably or extensibly on vehicles, e.g. portable track units([B62D 55/07](#) takes precedence)
- B62D 55/0842 ... {Tracked vehicle with track carriages suspended on three points, e.g. by an equaliser bar}
- B62D 55/0845 ... {Protection devices}
- B62D 55/0847 ... {Track blocking devices mounted on the frame; Track guides}
- B62D 55/088 .. with means to exclude or remove foreign matter, e.g. sealing means, self-cleaning track links or sprockets, deflector plates or scrapers
- B62D 55/0882 ... {Track or sprocket cleaning devices mounted on the frame(wheel cleaning devices in general [B60S](#))}
- B62D 55/0885 ... {Self-cleaning sprockets}
- B62D 55/0887 ... {Track-articulation sealings against dust, water, mud or the like(sealing of bearings in general [F16C 33/72](#) ; chain bushings in general [F16G 15/00](#))}
- B62D 55/092 .. with lubrication means(lubricating in general [F16N](#))
- B62D 55/096 .. with noise reducing means
- B62D 55/0963 ... {Anti-noise driving sprockets}
- B62D 55/0966 ... {Low noise rollers, e.g. with antivibration means(elastic wheel rims in general [B60B 9/00](#))}
- B62D 55/10 .. Bogies; Frames(track-tensioning means [B62D 55/30](#))
- B62D 55/104 .. Suspension devices for wheels, rollers, bogies or frames(vehicle suspension in general [B60G](#))
- B62D 55/108 ... with mechanical springs, e.g. torsion bars
- B62D 55/1083 {Torsion-bar springs}
- B62D 55/1086 {Rubber springs}
- B62D 55/112 ... with fluid springs, e.g. hydraulic pneumatic
- B62D 55/1125 {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 B62D 55/12)}
B62D 55/15	...	Mounting devices, e.g. bushings, axles, bearings, sealings{(with lubrication means B62D 55/092)}
B62D 55/18	..	Tracks(self-cleaning track links B62D 55/088)
B62D 55/20	...	of articulated type, e.g. chains{(with lubrication means B62D 55/092)}
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 B60C 29/00)
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 B60F 3/0015 }
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
B62D 57/00		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)
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)}