

CPC COOPERATIVE PATENT CLASSIFICATION

B PERFORMING OPERATIONS; TRANSPORTING

(NOTES omitted)

TRANSPORTING

B62 LAND VEHICLES FOR TRAVELLING OTHERWISE THAN ON RAILS

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.

WARNINGS

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC 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 10/45 |
| B62D 101/00 - B62D 137/00 | covered by | |
2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

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

1/00 Steering controls, i.e. means for initiating a change of direction of the vehicle

- 1/02 . vehicle-mounted
- 1/04 . . Hand wheels
- 1/043 . . . {with a device allowing single-hand operation of the steering wheel}

- 1/046 . . . {Adaptations on rotatable parts of the steering wheel for accommodation of switches}
- 1/06 . . . Rims, e.g. with heating means; Rim covers ([B62D 1/11](#) takes precedence)
- 1/065 {Steering wheels with heating and ventilating means (heating and ventilating arrangements for spaces of vehicles [B60H](#))}
- 1/08 . . . Spokes, e.g. resilient ([B62D 1/11](#) takes precedence)
- 1/10 . . . Hubs; Connecting hubs to steering columns, e.g. adjustable ([B62D 1/11](#) takes precedence)
- 1/105 {Non-rotatable hubs, e.g. the central part of the steering wheel not rotating (for storing airbags [B60R 21/2032](#))}

- 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](#))
- 1/12 . . Hand levers
- 1/14 . . . Tillers, i.e. hand levers operating on steering columns
- 1/16 . . Steering columns
- 1/163 . . . {Part of the steering column replaced by flexible means, e.g. cable or belt}
- 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](#))}
- 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](#).
- 1/181 with power actuated adjustment, e.g. with position memory
- 1/183 adjustable between in-use and out-of-use positions, e.g. to improve access
- 1/184 Mechanisms for locking columns at selected positions {([locking of telescopic systems in general F16B 7/10](#))}
- 1/185 adjustable by axial displacement, e.g. telescopically ([B62D 1/183](#), [B62D 1/187](#), [B62D 1/19](#) take precedence)
- 1/187 with tilt adjustment; with tilt and axial adjustment ([B62D 1/183](#), [B62D 1/19](#) takes precedence)
- 1/189 the entire column being tiltable as a unit
- 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](#))
- 1/192 {Yieldable or collapsible columns}
- 1/195 {Yieldable supports for the steering column}
- 1/197 {incorporating devices for preventing ingress of the steering column into the passengers space in case of accident}
- 1/20 . . . Connecting steering column to steering gear
- 1/22 . . Alternative steering-control elements, e.g. for teaching purposes
- 1/24 . not vehicle-mounted {([special adaptations of automatic tractor steering A01B 69/008](#); devices for lifting, movable on wheels, automatically guided [B66F 9/063](#))}
- 1/26 . . mechanical, e.g. by a non-load-bearing guide ([railways B61](#))
- 1/265 . . . {especially adapted for guiding road vehicles carrying loads or passengers, e.g. in urban networks for public transportation}
- 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](#))}
- 1/283 . . . {for unmanned vehicles}
- 1/286 . . . {Systems for interrupting non-mechanical steering due to driver intervention}
- 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](#))**
- 3/02 . mechanical
- 3/04 . . of worm type
- 3/06 . . . with screw and nut
- 3/08 using intermediate balls or the like
- 3/10 . . . with worm engaging in sector or roller gear
- 3/12 . . of rack-and-pinion type
- 3/123 . . . {characterised by pressure yokes}
- 3/126 . . . {characterised by the rack}
- 3/14 . hydraulic
- 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](#))
- 5/001 . {Mechanical aspects of steer-by-wire systems, not otherwise provided in [B62D 5/00](#) (hydraulic steer-by-wire systems [B62D 5/091](#))}
- 5/003 . . {Backup systems, e.g. for manual steering ([B62D 5/30](#) takes precedence)}
- 5/005 . . {means for generating torque on steering wheel, e.g. feedback}
- 5/006 . . . {power actuated ([control thereof B62D 6/008](#))}
- 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}
- 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
- 5/04 . electrical, e.g. using an electric servo-motor connected to, or forming part of, the steering gear
- 5/0403 . . {characterised by constructional features, e.g. common housing for motor and gear box}
- 5/0406 . . . {including housing for electronic control unit}
- 5/0409 . . {Electric motor acting on the steering column}
- 5/0412 . . . {the axes of motor and steering column being parallel}
- 5/0415 {the axes being coaxial}
- 5/0418 . . {Electric motor acting on road wheel carriers}
- 5/0421 . . {Electric motor acting on or near steering gear}
- 5/0424 . . . {the axes of motor and final driven element of steering gear, e.g. rack, being parallel}
- 5/0427 {the axes being coaxial}
- 5/043 . . {characterised by clutch means between driving element, e.g. motor, and driven element, e.g. steering column or steering gear}
- 5/0433 . . . {the clutch being of on-off type}
- 5/0436 {the clutch being a controlled emergency clutch, e.g. for disconnecting at motor break-down}

- 5/0439 . . . {Controllable friction clutches ([B62D 5/0436 takes precedence](#))}
- 5/0442 . . {Conversion of rotational into longitudinal movement}
- 5/0445 . . . {Screw drives ([screw mechanisms in general F16H 25/20](#))}
- 5/0448 {Ball nuts}
- 5/0451 . . . {Roller spindle drives}
- 5/0454 . . . {Worm gears}
- 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](#))}
- 5/046 . . . {Controlling the motor}
- 5/0463 {for generating assisting torque}
- 5/0466 {for returning the steering wheel to neutral position}
- 5/0469 {End-of-stroke control}
- 5/0472 {for damping vibrations}
- 5/0475 . . . {Controlling other elements}
- 5/0478 {Clutches}
- 5/0481 . . . {monitoring the steering system, e.g. failures}
- 5/0484 {for reaction to failures, e.g. limp home}
- 5/0487 {detecting motor faults ([B62D 5/0496 takes precedence](#))}
- 5/049 {detecting sensor failures}
- 5/0493 {detecting processor errors, e.g. plausibility of steering direction}
- 5/0496 {by using a temperature sensor}
- 5/06 . . fluid, i.e. using a pressurised fluid for most or all the force required for steering a vehicle
- 5/061 . . {provided with effort, steering lock, or end-of-stroke limiters}
- 5/062 . . {Details, component parts}
- 5/063 . . . {Pump driven by vehicle engine ([B62D 5/065 takes precedence](#))}
- 5/064 . . . {Pump driven independently from vehicle engine, e.g. electric driven pump ([B62D 5/065 takes precedence](#))}
- 5/065 . . characterised by specially adapted means for varying pressurised fluid supply based on need, e.g. on-demand, variable assist
- 5/07 . . Supply of pressurised fluid for steering also supplying other consumers {; control thereof}
- 5/075 . . . {using priority valves ([priority valves in general F15B 13/022](#))}
- 5/08 . . characterised by type of {steering} valve used ([valves in general F16K](#))
- 5/081 . . . {Seat valves}
- 5/083 . . . Rotary valves
- 5/0832 {with elastic means other than a torsion bar, e.g. leaf springs}
- 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](#))}
- 5/0837 {characterised by the shape of the control edges, e.g. to reduce noise}
- 5/087 . . . Sliding spool valves
- 5/09 . . characterised by means for actuating valves
- 5/091 . . . {Hydraulic steer-by-wire systems, e.g. the valve being actuated by an electric motor}
- 5/092 {the electric motor being connected to the final driven element of the steering gear, e.g. rack}
- 5/093 . . . Telemotor driven by steering wheel movement ([hydraulic steering gear B62D 3/14](#))
- 5/097 gerotor type
- 5/10 . . characterised by type of power unit
- 5/12 . . . Piston and cylinder
- 5/14 . . . Rotary motor
- 5/16 . . . Expansible chamber with flexible wall
- 5/18 . . characterised by power transmitting means
- 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](#))
- 5/22 . . . for rack-and-pinion type {([pressure yokes B62D 3/123](#))}
- 5/24 . . . for worm type
- 5/26 . . . for pivoted axles
- 5/28 . . . for pivoted bogies
- 5/30 . . Safety devices, e.g. alternate emergency power supply or transmission means to ensure steering upon failure of the primary steering means
- 5/32 . . . for telemotor systems
- 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](#) - [B62D 5/00](#) or [B62D 7/00](#) - [B62D 19/00](#) if other aspects of the steering system are of interest
- 6/001 . . {the torque NOT being among the input parameters}
- 6/002 . . {computing target steering angles for front or rear wheels ([B62D 7/159 takes precedence](#))}
- 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](#))}
- 6/005 . . . {treating sensor outputs to obtain the actual yaw rate}
- 6/006 . . {using a measured or estimated road friction coefficient}
- 6/007 . . {adjustable by the driver, e.g. sport mode}
- 6/008 . . {Control of feed-back to the steering input member, e.g. simulating road feel in steer-by-wire applications}
- 6/02 . . responsive only to vehicle speed
- 6/04 . . responsive only to forces disturbing the intended course of the vehicle, e.g. forces acting transversely to the direction of vehicle travel
- 6/06 . . responsive only to vehicle vibration dampening arrangements ([steering dampers for cycles B62K 21/08](#))

- 6/08 . responsive only to {driver} input torque
- 6/10 . . characterised by means for sensing {or determining} torque
- WARNING**
- Group [B62D 6/10](#) is not complete. See also [G01L 5/22](#)
- 7/00 Steering linkage; Stub axles or their mountings** ([B62D 13/00](#) takes precedence; power-assisted or power-driven steering [B62D 5/00](#))
- 7/02 . for pivoted bogies
- 7/023 . . {Steering turntables}
- 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}
- 7/04 . . with more than one wheel
- 7/06 . for individually-pivoted wheels, e.g. on king-pins
- 7/08 . . the pivotal axes being situated in a single plane transverse to the longitudinal centre line of the vehicle
- 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](#))
- 7/10 . . . with single-output steering gear
- 7/12 . . . with twin-output steering gear
- 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
- 7/142 . . . {specially adapted for particular vehicles, e.g. tractors, carts, earth-moving vehicles, trucks}
- 7/144 {for vehicles with more than two axles}
- 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](#))}
- 7/148 . . . {provided with safety devices}
- 7/15 . . . characterised by means varying the ratio between the steering angles of the steered wheels {([B62D 7/148](#) takes precedence)}
- 7/1509 {with different steering modes, e.g. crab-steering, or steering specially adapted for reversing of the vehicle}
- 7/1518 {comprising a mechanical interconnecting system between the steering control means of the different axles}
- 7/1527 {comprising only mechanical parts, i.e. without assistance means}
- 7/1536 {provided with hydraulic assistance; ([power-assisted fluid steering per se B62D 5/06](#))}
- 7/1545 {provided with electrical assistance; ([power-assisted electrical steering per se B62D 5/04](#))}
- 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](#))}
- 7/1563 {provided with fluid control means; ([B62D 7/1572](#) takes precedence)}
- 7/1572 {provided with electro-hydraulic control means}
- 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](#))}
- 7/159 {characterised by computing methods or stabilisation processes or systems, e.g. responding to yaw rate, lateral wind, load, road condition}
- 7/16 . Arrangement of linkage connections ([pivots per se F16C](#) {; e.g. ball joints [F16C 11/06](#)})
- 7/163 . . {substantially in axial direction, e.g. between rack bar and tie-rod}
- 7/166 . . {substantially perpendicular, e.g. between tie-rod and steering knuckle ([steering knuckles in general B62D 7/18](#))}
- 7/18 . Steering knuckles; King pins
- 7/20 . Links, e.g. track rods ([means for adjusting camber, castor, or toe-in B62D 17/00](#))
- 7/22 . Arrangements for reducing or eliminating reaction, e.g. vibration, from parts, e.g. wheels, of the steering system {([dampers in general F16F](#))}
- 7/222 . . {acting on the steering wheel}
- 7/224 . . {acting between the steering wheel and the steering gear, e.g. on the steering column}
- 7/226 . . {acting on the steering gear}
- 7/228 . . {acting between the steering gear and the road wheels, e.g. on tie-rod}
- 9/00 Steering deflectable wheels not otherwise provided for** ([steering position indicators B62D 15/02](#))
- 9/002 . {combined with means for differentially distributing power on the deflectable wheels during cornering}
- 9/005 . {Emergency systems using brakes for steering}
- 9/007 . {Emergency systems using the steering system for braking}
- 9/02 . combined with means for inwardly inclining vehicle body on bends
- 9/04 . combined with means for {inwardly} inclining wheels on bends ([B62D 9/02](#) takes precedence)
- 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](#)
- 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](#) - [B62D 11/24](#) if other aspects of the steering system are of interest
- 11/003 . . {Electric or electronic control systems}
- 11/005 . . {Hydraulic control systems}
- 11/006 . . {Mechanical control systems}
- 11/008 . . {Pneumatic control systems}
- 11/02 . by differentially driving ground-engaging elements on opposite vehicle sides
- 11/04 . . by means of separate power sources
- 11/06 . . by means of a single main power source

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|---------|--|--|--|
| 11/08 | . . . using brakes or clutches as main steering-effecting means | 15/0245 | . . . {Means or methods for determination of the central position of the steering system, e.g. straight ahead position} |
| 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)} | 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)} |
| 11/105 | {using variable ratio belt and pulley gearings (gearing for conveying rotary motion by endless flexible members F16H 7/00 , F16H 9/00)} | 15/0255 | . . . {Automatic changing of lane, e.g. for passing another vehicle} |
| 11/12 | using separate change-speed gearings | 15/026 | . . . {combined with automatic distance control, i.e. electronic tow bar} |
| 11/14 | differential power outputs being effected by additional power supply to one side, e.g. power originating from secondary power source | 15/0265 | . . . {Automatic obstacle avoidance by steering} |
| 11/16 | the additional power supply being supplied mechanically | 15/027 | . . . {Parking aids, e.g. instruction means} |
| 11/18 | the additional power supply being supplied hydraulically | 15/0275 | . . . {by overlaying a vehicle path based on present steering angle over an image without processing that image} |
| 11/183 | {Control systems therefor} | 15/028 | . . . {Guided parking by providing commands to the driver, e.g. acoustically or optically} |
| 11/186 | {Uncoupling devices for the hydraulic motors, e.g. to allow towing} | 15/0285 | . . . {Parking performed automatically} |
| 11/20 | . Endless-track steering having pivoted bogie carrying track (B62D 11/02 takes precedence) | 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)} |
| 11/22 | . Endless track steering being effected by deflecting endless track rollers or the like | 15/0295 | . . . {by overlaying a vehicle path based on present steering angle over an image without processing that image} |
| 11/24 | . Endless track steering specially adapted for vehicles having both steerable wheels and endless track | 17/00 | Means on vehicles for adjusting camber, castor, or toe-in |
| 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) | 19/00 | Radius rods, i.e. distance members |
| 12/02 | . for vehicles operating in tandem | <u>Understructures; Superstructures; Vehicle bodies</u> | |
| 13/00 | Steering specially adapted for trailers (combined traction and steering hitches B60D) | 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) |
| 13/005 | . {operated from tractor steering system} | 21/02 | . comprising longitudinally or transversely arranged frame members |
| 13/02 | . for centrally-pivoted axles | 21/03 | . . transverse members providing body support |
| 13/025 | . . {the pivoted movement being initiated by the coupling means between tractor and trailer} | 21/04 | . . single longitudinal type |
| 13/04 | . for individually-pivoted wheels | 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 |
| 13/06 | . for backing a normally drawn trailer | 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 |
| 15/00 | Steering not otherwise provided for | 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 |
| 15/02 | . Steering position indicators {; Steering position determination; Steering aids} | 21/08 | . built up with interlaced cross members |
| 15/0205 | . . {Mechanical indicators, e.g. in or near steering wheel} | 21/09 | . Means for mounting load bearing surfaces |
| 15/021 | . . {Determination of steering angle (sensors in general G01B)} | 21/10 | . in which the main member is plate-like |
| 15/0215 | . . . {by measuring on the steering column} | 21/11 | . with resilient means for suspension {, e.g. of wheels or engine; sub-frames for mounting engine or suspensions} |
| 15/022 | {on or near the connection between the steering wheel and steering column} | | <u>NOTE</u> |
| 15/0225 | . . . {by measuring on a steering gear element, e.g. on a rack bar} | | This group <u>does not cover</u> subject matter primarily relating to the suspension, with only a nominal recitation of frame structure, which are covered by subclass B60G |
| 15/023 | . . . {by measuring on the king pin} | | |
| 15/0235 | . . . {by measuring or deriving directly at the electric power steering motor} | | |
| 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} | | |

- 21/12 . . assembled from readily detachable parts
- 21/14 . . of adjustable length or width
- 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](#))
- 21/152 . . {Front or rear frames}
- 21/155 . . . {Sub-frames or underguards}
- 21/157 . . {for side impacts}
- 21/16 . . having fluid storage compartment
- 21/17 . . forming fluid or electrical conduit means or having other means to accommodate the transmission of a force or signal
- 21/18 . . characterised by the vehicle type and not provided for in groups [B62D 21/02](#) - [B62D 21/17](#)
- 21/183 . . {specially adapted for sports vehicles, e.g. race, dune buggies, go-karts (tubular skeleton [B62D 23/005](#))}
- 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](#))}
- 21/20 . . trailer type, i.e. a frame specifically constructed for use in a non-powered vehicle
- 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](#))}
- 23/005 . . {with integrated chassis in the whole shell, e.g. meshwork, tubes, or the like ([B62D 33/044](#) takes precedence)}
- 24/00 Connections between vehicle body and vehicle frame** ([B62D 23/00](#), [B62D 33/077](#) take precedence)
- 24/02 . . Vehicle body, not intended to move relatively to the vehicle frame, and mounted on vibration absorbing mountings, e.g. rubber pads
- 24/04 . . Vehicle body mounted on resilient suspension for movement relative to the vehicle frame
- 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](#))}
- 25/02 . . Side panels {([B62D 33/046](#) takes precedence; sideboards for open load compartments [B62D 33/023](#))}
- 25/025 . . {Side sills thereof}
- 25/04 . . Door pillars {; windshield pillars}
- 25/06 . . Fixed roofs (non-fixed roofs or like shelters [B60J 7/00](#); roof liners [B60R 13/02](#); insulating elements [B60R 13/08](#))
- 25/07 . . having water drainage or guide means integral with roof structure
- 25/08 . . Front or rear portions {(sub-frames for mounting engine or suspensions [B62D 21/11](#))}
- 25/081 . . {Cowls (ventilating openings situated directly in front of the vehicle front window [B60H 1/28](#))}
- 25/082 . . {Engine compartments}
- 25/084 . . . {Radiator supports}
- 25/085 . . . {Front-end modules}
- 25/087 . . {Luggage compartments}
- 25/088 . . {Details of structures as upper supports for springs or dampers}
- 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](#))}
- 25/105 . . . {for motor cars}
- 25/12 . . . Parts or details thereof (locks [E05B](#), {[E05B 83/16](#); devices for holding open [E05C 17/00](#), e.g. while carrying oversize objects [E05C 17/042](#); hinges [E05D](#); counterbalancing means [E05F](#); {checks, stops, buffers [E05F 5/00](#); } springs, {e.g. pneumatic springs} [F16F](#))}
- 25/14 . . Dashboards as superstructure sub-units (other dashboard aspects [B60K](#))
- 25/142 . . . {having ventilation channels incorporated therein}
- 25/145 . . . {having a crossbeam incorporated therein}
- 25/147 {with adjustable connection to the A-pillars}
- 25/16 . . Mud-guards or wings; Wheel cover panels (equipped with means for freeing wheels or tyres from foreign matter [B60S](#))
- 25/161 . . . {Mud-guards made of non-conventional material, e.g. rubber, plastics}
- 25/163 . . . {Mounting devices}
- 25/165 {including sealing devices}
- 25/166 {by rods or other distance-keeping devices}
- 25/168 . . . {Mud guards for utility vehicles}
- 25/18 . . . Parts or details thereof, e.g. mudguard flaps
- 25/182 {Movable mudguards, or mudguards comprising movable or detachable parts ([B62D 25/188](#) takes precedence)}
- 25/184 {to facilitate access to wheels}
- 25/186 {being attached or suspended laterally from the wheel ([B62D 25/184](#) takes precedence)}
- 25/188 {Mud-guard flaps for utility vehicles}
- 25/20 . . Floors or bottom sub-units {(sub-frames for mounting engine or suspensions [B62D 21/11](#); drip trays [F16N 31/006](#))}
- 25/2009 . . {in connection with other superstructure subunits}
- 25/2018 . . . {the subunits being front structures}
- 25/2027 . . . {the subunits being rear structures}
- 25/2036 . . . {the subunits being side panels, sills or pillars ([B62D 21/157](#) takes precedence)}
- 25/2045 . . . {the subunits being fire walls}
- 25/2054 . . {Load carrying floors for commercial vehicles}
- 25/2063 . . {Floor elements for repairs}
- 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](#))}
- 25/2081 . . {Jack receiving devices}
- 25/209 . . {Arrangements for the mounting of vehicle hitches (vehicle connections in general [B60D](#))}

- 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](#))
- 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](#))}
- 27/02 . rigid
- 27/023 . . {Assembly of structural joints}
- 27/026 . . {Connections by glue bonding (in general [F16B 11/00](#); processes [C09J 5/00](#))}
- 27/04 . resilient
- 27/06 . readily releasable
- 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](#))}
- 29/00 Superstructures, {understructures, or sub-units thereof,} characterised by the material thereof** {([B62D 33/044](#), [B62D 33/048](#) take precedence)}
- 29/001 . {characterised by combining metal and synthetic material}
- 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](#))}
- 29/004 . . {the metal being over-moulded by the synthetic material, e.g. in a mould}
- 29/005 . . {preformed metal and synthetic material elements being joined together, e.g. by adhesives}
- 29/007 . {predominantly of special steel or specially treated steel, e.g. stainless steel or locally surface hardened steel}
- 29/008 . {predominantly of light alloys, e.g. extruded}
- 29/02 . predominantly of wood
- 29/04 . predominantly of synthetic material (working of plastics or substances in a plastic state [B29](#))
- 29/041 . . {Understructures}
- 29/043 . . {Superstructures ([B62D 25/161](#) takes precedence)}
- 29/045 . . . {Van bodies composed of substantially rectangular panels}
- 29/046 . . {Combined superstructure and frame, i.e. monocoque constructions}
- 29/048 . . {Connections therefor, e.g. joints ([B62D 29/045](#) takes precedence)}
- 31/00 Superstructures for passenger vehicles** (passenger vehicles specially adapted to co-operate with aircraft or terminal buildings [B64F 1/31](#))
- 31/003 . {compact cars, e.g. city cars}
- 31/006 . . {foldable (droppable [B60F 5/006](#))}
- 31/02 . for carrying large numbers of passengers, e.g. omnibus
- 31/025 . . {having modular sections}
- 31/04 . with more than one deck
- 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](#))}
- 33/02 . Platforms; Open load compartments {(flat wagons including posts or standards [B61D 3/08](#))}
- 33/0207 . . {Connections of movable or detachable racks or stanchions to platforms}
- 33/0215 . . . {for log hauling vehicles (vehicles for log transport in general [B60P 3/41](#))}
- 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](#))}
- 33/023 . . Sideboard or tailgate structures {(vehicle side panels in general [B62D 25/02](#))}
- 33/027 . . . movable
- 33/0273 {Movable tailboards for vehicles comprising non-movable sideboards, e.g. pick-up trucks ([B62D 33/037](#) takes precedence)}
- 33/0276 {by vertical translation ([B62D 33/0273](#) takes precedence)}
- 33/03 by swinging down {([B62D 33/0273](#) takes precedence)}
- 33/033 removable {([B62D 33/0273](#) takes precedence)}
- 33/037 Latching means therefor
- 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](#))}
- 33/042 . . {divided into compartments (movable bulk heads [B60P 7/14](#); cattle transport [B60P 3/04](#); bottled liquids [B60P 3/22](#))}
- 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}
- 33/046 . . {built up with flat self-supporting panels; Fixed connections between panels ([B62D 29/045](#), [B62D 33/048](#) take precedence)}
- 33/048 . . {for refrigerated goods vehicles}
- 33/06 . Drivers' cabs {(overhead guards, e.g. against loads falling down [B60R 21/11](#); roll-over protection [B60R 21/13](#))}
- 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](#))}
- 33/0608 . . . {pneumatic or hydraulic suspension}
- 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](#))}
- 33/0617 . . {for tractors or off-the-road vehicles (protective devices for drivers in case of overturning of tractors [B60R 21/131](#))}
- 33/0621 . . . {able to be dismantled, folding}

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| 33/0625 | . . . {open} | 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)} |
| 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 | 47/006 | . {Vehicles which can be divided in sub-vehicles; nestable vehicles} |
| 33/0633 | . . . {pivotable about a vertical axis} | 47/02 | . for large numbers of passengers, e.g. omnibus |
| 33/0636 | . . . {displaceable along a linear path} | 47/025 | . . {articulated buses with interconnecting passageway, e.g. bellows (coupling aspects B60D 5/00)} |
| 33/067 | . . . tiltable | | |
| 33/07 | characterised by the device for locking the cab in the tilted or in the driving position | 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)} |
| 33/071 | {Locking devices for cabins in driving position; Shock and vibration absorbing devices therefor} | 49/002 | . {characterised by being of the low ground pressure type} |
| 33/073 | . . . characterised by special adaptations of vehicle control devices | 49/005 | . {Tractors for semi-trailers (combinations of tractor plus semi- trailer B62D 53/06)} |
| 33/077 | . characterised by the connection of the superstructure to the vehicle frame (B62D 33/06 takes precedence)} | 49/007 | . . {Tractors for handling trailers, e.g. roll-trailers in terminals} |
| 33/08 | . comprising adjustable means (B62D 33/10 takes precedence) | 49/02 | . modified to take lifting devices |
| 33/10 | . . comprising means for the suspension of the superstructure on the frame | 49/04 | . modified to take pushing devices |
| 35/00 | Vehicle bodies characterised by streamlining | 49/06 | . adapted for multi-purpose use |
| 35/001 | . {For commercial vehicles or tractor-trailer combinations, e.g. caravans} | 49/0607 | . . {Straddle tractors, used for instance above vine stocks, rows of bushes, or the like} |
| 35/002 | . . {for caravans (B62D 35/004 takes precedence)} | 49/0614 | . . {equipped with visual aids for positioning implements or to control working condition (optical signalling for vehicles in general B60Q 1/26)} |
| 35/004 | . . {Inflatable nose or rear cones} | 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)} |
| 35/005 | . {Front spoilers (B62D 35/001 takes precedence)} | 49/0628 | . . . {using detachable weights (counterweights against overturning B62D 49/085 ; movable stabilisation masses B62D 37/04)} |
| 35/007 | . {Rear spoilers (B62D 35/001 takes precedence)} | 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)} |
| 35/008 | . {Side spoilers (B62D 35/001 takes precedence)} | 49/0642 | . . . {by coupling of tractors} |
| 35/02 | . Streamlining the undersurfaces (B62D 35/005 , B62D 35/007 , B62D 35/008 take precedence)} | 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)} |
| 37/00 | Stabilising vehicle bodies without controlling suspension arrangements | 49/0657 | . . {Asymmetrical tractors} |
| 37/02 | . by aerodynamic means | 49/0664 | . . {Light, simple, and economical tractors (B62D 49/002 takes precedence)} |
| 37/04 | . by means of movable masses | 49/0671 | . . . {the driver riding on the tractor} |
| 37/06 | . . using gyroscopes | 49/0678 | . . {Tractors of variable track width or wheel base (for vehicles in general B60B 23/12 and B60B 35/10)} |
| 39/00 | Vehicle bodies not otherwise provided for {, e.g. safety vehicles (safety equipment B60R 21/00)} | 49/0685 | . . {Reversible tractors adapted for shuttle work} |
| 41/00 | Fittings for identifying vehicles in case of collision; Fittings for marking or recording collision areas | 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)} |
| 43/00 | Spare wheel stowing, holding, or mounting arrangements | 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) |
| 43/002 | . {Handling devices, mainly for heavy wheels (via cables and chains B62D 43/045)} | | |
| 43/005 | . {Protective coverings for spare wheels} | | |
| 43/007 | . {Anti-theft devices for spare wheels} | | |
| 43/02 | . external to the vehicle body | | |
| 43/04 | . . attached beneath the vehicle body | | |
| 43/045 | . . . {the wheel or its cradle being attached to one or more chains or cables for handling} | | |
| 43/06 | . within the vehicle body | | |
| 43/08 | . . and arranged substantially vertically | | |
| 43/10 | . . and arranged substantially horizontally | | |
| Motor vehicles or trailers classified according to type; Parts or accessories thereof (frames for vehicles of special type B62D 21/18) | | | |
| 47/00 | Motor vehicles or trailers predominantly for carrying passengers (superstructures B62D 31/00) | | |

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| 49/085 | . . {Counterweight} | 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)} |
| 51/00 | Motor vehicles characterised by the driver not being seated {(wheeled carriers for golf bags A63B 55/60)} | 53/068 | . . . {having devices to equalise or modify the load between the fifth wheel and the rear wheels (adjustable coupling saddles <i>per se</i> B62D 53/0807 ; load transfer devices to permit coupling or uncoupling B62D 53/0857 ; anti jack-knifing devices B62D 53/0871)} |
| 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)} | 53/08 | . . Fifth wheel traction couplings {(tractors for handling trailers in terminals B62D 49/007)} |
| 51/002 | . . {comprising safety arrangements (safety devices for vehicle propulsion unit control B60K 28/00)} | 53/0807 | . . . {adjustable coupling saddles mounted on sub-frames; Mounting plates therefor} |
| 51/004 | . {characterised by the transmission (arrangements or mounting of transmissions in vehicles B60K 17/00 ; gearing in general F16H)} | 53/0814 | {with adjustment of the clearance between the tractor or the trailer (devices modifying the load in tractor-trailer combinations B62D 53/068)} |
| 51/005 | . {Vehicular characteristics of load handling vehicles, e.g. pedestrian trucks (fork-lift trucks B66F 9/06)} | 53/0821 | {Lifting saddles, i.e. to lift the trailer front (tilting body constructions B60P)} |
| 51/007 | . {the vehicle being of the endless track type (endless track vehicles in general B62D 55/00)} | 53/0828 | {Removable or fold-away traction couplings for non-specialised tractor vehicles} |
| 51/008 | . {characterised by the vehicle being formed by articulated or separable units (road trains B62D 53/00)} | 53/0835 | {Coupling saddles able to rock in all directions, e.g. for use in rough terrain} |
| 51/02 | . the driver standing in the vehicle | 53/0842 | . . . {King pins} |
| 51/04 | . the driver walking | 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)} |
| 51/06 | . . Uniaxle walk-type tractors | 53/0857 | . . . {Auxiliary semi-trailer handling or loading equipment, e.g. ramps, rigs, coupling supports} |
| 51/065 | . . . {the vehicle having only one wheel} | 53/0864 | {Dollies for fifth wheel coupling} |
| 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) | 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)} |
| 53/005 | . {Combinations with at least three axles and comprising two or more articulated parts (articulated buses B62D 47/025)} | 53/0878 | {the fifth wheel coupling incorporating braking or restraining means} |
| 53/02 | . comprising a uniaxle tractor unit and a uniaxle trailer unit {(see B60B 11/00 - B60B 11/08)} | 53/0885 | . . . {Comprising devices to limit or to compensate for wear or excessive play; Lubricating, shock absorbing, bearing devices, or the like} |
| 53/021 | . . {comprising a universal coupling joint} | 53/0892 | . . . {comprising power transmission shafts (trailers with driven ground wheels B62D 59/00)} |
| 53/023 | . . {with two or more coupling joints allowing staggering of the units from a central plane} | 53/10 | . . . with means for preventing accidental uncoupling |
| 53/025 | . . {Comprising a transmission shaft passing through the coupling joints (B62D 53/021 takes precedence; trailers with powered axles B62D 59/00)} | 53/12 | . . . engaging automatically |
| 53/026 | . . . {With all wheels powered} | 53/125 | {with simultaneous coupling of the service lines} |
| 53/028 | . . {Having only coupling joints other than directional (articulated frames B62D 21/186 and B62D 55/10)} | 55/00 | Endless track vehicles (steering aspects B62D 11/00 ; {characterised by the driver not being seated B62D 51/007)} |
| 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 | 55/02 | . with tracks and additional ground wheels {(for multi-purpose tractors B62D 49/0635)} |
| 53/045 | . . {with rigid linkage in the horizontal plane (luggage trailers B62D 63/064 - B62D 63/067)} | 55/04 | . with tracks and alternative ground wheels, e.g. changeable from endless track vehicle into wheeled vehicle and <i>vice versa</i> {(for multi-purpose tractors B62D 49/0635)} |
| 53/06 | . . Semi-trailers | 55/06 | . with tracks without ground wheels |
| 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)} | 55/062 | . . {Tracked vehicles of great dimensions adapted for moving bulky loads or gear} |
| 53/062 | {having inclinable, lowerable platforms; Lift bed trailers; Straddle trailers (lifting coupling saddles B62D 53/0821 ; crane vehicles B60P 3/28)} | 55/065 | . . Multi-track vehicles, i.e. more than two tracks {(soil-shifting machines E02F ; mining machines E21C)} |
| 53/064 | {inclining platforms by detachable bogies} | | |
| 53/065 | {inclining platforms by detachable or folding swan necks} | | |

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| 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)} | 55/18 | . . Tracks (self-cleaning track links B62D 55/088) |
| 55/07 | . . Mono-track vehicles | 55/20 | . . . of articulated type, e.g. chains {(with lubrication means B62D 55/092)} |
| 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) | 55/202 | {Wheel engaging parts; Wheel guides on links} |
| 55/08 | . Endless track units; Parts thereof | 55/205 | Connections between track links |
| 55/084 | . . Endless-track units or carriages mounted separably, adjustably or extensibly on vehicles, e.g. portable track units (B62D 55/07 takes precedence) | 55/21 | Links connected by transverse pivot pins |
| 55/0842 | . . . {Tracked vehicle with track carriages suspended on three points, e.g. by an equaliser bar} | 55/211 | {Bitubular chain links assembled by pins and double connectors} |
| 55/0845 | . . . {Protection devices} | 55/213 | {Master track links} |
| 55/0847 | . . . {Track blocking devices mounted on the frame; Track guides} | 55/215 | Resilient connections between links |
| 55/088 | . . with means to exclude or remove foreign matter, e.g. sealing means, self-cleaning track links or sprockets, deflector plates or scrapers | 55/22 | Arrangements for preventing or modifying back-flexing |
| 55/0882 | . . . {Track or sprocket cleaning devices mounted on the frame (wheel cleaning devices in general B60S)} | 55/24 | . . . of continuously flexible type, e.g. rubber belts |
| 55/0885 | . . . {Self-cleaning sprockets} | 55/242 | {The flexible band being semi-rigid for resisting back-flexing and contributing to spring the vehicle} |
| 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)} | 55/244 | {Moulded in one piece, with either smooth surfaces or surfaces having projections, e.g. incorporating reinforcing elements} |
| 55/092 | . . with lubrication means (lubricating in general F16N) | 55/247 | Gas filled or inflatable flexible tracks (connection of valves to inflatable elastic bodies B60C 29/00) |
| 55/096 | . . with noise reducing means | 55/253 | having elements interconnected by one or more cables or like elements |
| 55/0963 | . . . {Anti-noise driving sprockets} | 55/26 | . . . Ground engaging parts or elements {(tracks specially adapted for amphibious vehicles B60F 3/0015)} |
| 55/0966 | . . . {Low noise rollers, e.g. with antivibration means (elastic wheel rims in general B60B 9/00)} | 55/265 | having magnetic or pneumatic adhesion |
| 55/10 | . . Bogies; Frames (track-tensioning means B62D 55/30) | 55/27 | having different types of crampons for progression over varying ground |
| 55/104 | . . Suspension devices for wheels, rollers, bogies or frames (vehicle suspension in general B60G) | 55/275 | with street plate, i.e. means to prevent tread from cutting into road surface |
| 55/108 | . . . with mechanical springs, e.g. torsion bars | 55/28 | detachable |
| 55/1083 | {Torsion-bar springs} | 55/283 | {and movable, e.g. around an axis or perpendicularly to the track} |
| 55/1086 | {Rubber springs} | 55/286 | {For soft grounds, e.g. consisting of snow or swamp} |
| 55/112 | . . . with fluid springs, e.g. hydraulic pneumatic | 55/30 | . . Track-tensioning means |
| 55/1125 | {Hydro-pneumatic or pneumatic, e.g. air-cushioned} | 55/305 | . . . {acting on pivotably mounted idlers} |
| 55/116 | . . . Attitude or position control of chassis by action on suspension, e.g. to compensate for a slope | 55/32 | . Assembly, disassembly, repair or servicing of endless-track systems |
| 55/12 | . . Arrangement, location, or adaptation of driving sprockets | 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) |
| 55/125 | . . . Final drives | 57/02 | . with ground-engaging propulsion means, e.g. walking members |
| 55/13 | readily interchangeable modular type | 57/021 | . . {the ground engaging means being sequentially inflatable bags for peristaltic movement (B62D 57/024 takes precedence)} |
| 55/135 | . . . with dismountable driving crown | 57/022 | . . {consisting of members having both rotational and walking movements} |
| 55/14 | . . Arrangement, location, or adaptation of rollers | 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) |
| 55/145 | . . . {Rollers with replaceable wear rings or rims (driving sprockets with replaceable rims B62D 55/12)} | 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) |
| 55/15 | . . . Mounting devices, e.g. bushings, axles, bearings, sealings {(with lubrication means B62D 55/092)} | | |

- 57/032 . . with alternately or sequentially lifted supporting base and legs; with alternately or sequentially lifted feet or skid ([B62D 57/024](#) takes precedence)
- 57/036 . . screw type, e.g. Archimedian screw {(amphibious vehicles comprising screw-type ground-engaging means [B60F 3/0023](#))}
- 57/04 . having other than ground-engaging propulsion means, e.g. having propellers (arrangement of jet-propulsion units [B60K](#))
- 59/00 Trailers with driven ground wheels or the like**
- 59/02 . driven from external propulsion unit
- 59/04 . driven from propulsion unit on trailer
- 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**
- 61/02 . with two road wheels in tandem on the longitudinal centre line of the vehicle
- 61/04 . . with two other wheels which are coaxial
- 61/06 . with only three wheels
- 61/065 . . {with single rear wheel}
- 61/08 . . with single front wheel
- 61/10 . with more than four wheels {(tractors of the low ground pressure type [B62D 49/002](#))}
- 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](#))
- 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](#))}
- 63/00 Motor vehicles or trailers not otherwise provided for**
- 63/02 . Motor vehicles
- 63/025 . . {Modular vehicles (superstructures for busses having modular sections [B62D 31/025](#))}
- 63/04 . . Component parts or accessories
- 63/06 . Trailers (vehicles comprising living accommodation for people, e.g. caravans, camping or like vehicles [B60P 3/32](#))
- 63/061 . . {Foldable, extensible or yielding trailers (foldable caravans [B60P 3/34](#); adjustable chassis frames [B62D 21/14](#))}
- 63/062 . . {Trailers with one axle or two wheels (semi-trailers [B62D 53/06](#))}
- 63/064 . . . {light luggage or equipment trailers, e.g. for batteries, gas generators, gas bottles, stretchers (luggage carriers per se [B60R](#))}
- 63/065 . . . {forming an extension of the towing vehicle, i.e. with two point fixation}
- 63/067 {single wheeled (rigid or semi-rigid coupling)}
- 63/068 . . {with more than two axles or more than four wheels (vehicles with more than four wheels in general [B62D 61/10](#))}
- 63/08 . . Component parts or accessories
- 65/00 Designing, manufacturing, e.g. assembling, facilitating disassembly, or structurally modifying motor vehicles or trailers, not otherwise provided for**
- 65/005 . {Inspection and final control devices}
- 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
- 65/022 . . {Transferring or handling sub-units or components, e.g. in work stations or between workstations and transportation systems}
- 65/024 . . {Positioning of sub-units or components with respect to body shell or other sub-units or components}
- 65/026 . . . {by using a jig or the like; Positioning of the jig}
- 65/028 . . . {by determining relative positions by measurement}
- 65/04 . . Joining preassembled modular units composed of sub-units performing diverse functions, e.g. engine and bonnet ([B62D 65/06](#) - [B62D 65/16](#) take precedence)
- 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 10/45](#))}
- 65/10 . . the sub-units or components being engines, clutches or transmissions
- 65/12 . . the sub-units or components being suspensions, brakes or wheel units
- 65/14 . . the sub-units or components being passenger compartment fittings, e.g. seats, linings, trim, instrument panels
- 65/16 . . the sub-units or components being exterior fittings, e.g. bumpers, lights, wipers {, exhausts}
- 65/18 . . Transportation, conveyor or haulage systems specially adapted for motor vehicle or trailer assembly lines {(conveyors and haulage in general [B65G](#))}
- 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](#))}**