CPC COOPERATIVE PATENT CLASSIFICATION

B60G VEHICLE SUSPENSION ARRANGEMENTS (air-cushion vehicles B60V; {cycle suspensions B62K 25/00})

NOTES

1. Attention is drawn to the explanatory note following the class title B60
2. Indexing codes B60G 2200/00 - B60G 2800/00 are dedicated to particular aspects of suspension arrangements:
   - B60G 2200/00 refers to the type of suspension arrangement;
   - B60G 2202/00 refers to the suspension elements used (springs, dampers and actuators);
   - B60G 2204/00 refers to mounting features of suspension elements;
   - B60G 2206/00 refers to constructional and manufacturing details of suspension elements;
   - B60G 2300/00 refers to the type of vehicle;
   - B60G 2400/00 - B60G 2800/00 refer to the electronic control of suspension arrangements, whereby:
     - B60G 2400/00 refers to input parameters of the control;
     - B60G 2401/00 refers to types of sensors used;
     - B60G 2500/00 refers to the controlled action or device;
     - B60G 2600/00 refers to particular details of the control system;
     - B60G 2800/00 refers to the result to be achieved by the control action.
3. Groups B60G 2200/00 - B60G 2800/00 are to be used in multi-aspect classification, so that subject matter characterised by aspects covered by more than one of these groups, which is considered to represent information of interest for search, should be classified in a combination of at least one relevant "invention information" symbol in association with indexing codes from each of these groups.

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:

B60G 23/00	covered by	B60G 17/0165

1/00 Suspensions with rigid connection between axle and frame

1/02 . with continuous axle

1/04 . with divided axle

3/00 Resilient suspension for a single wheel (pivoted suspension arms per se, attachment thereof to sprung part of the vehicle, buffer means for limiting movement of arms B60G 7/00; {rigid axle suspensions B60G 9/00;} characterised by arrangement, location or type of springs B60G 11/00)

3/01 . the wheel being mounted for sliding movement, e.g. in or on a vertical guide (camber maintaining means B60G 3/26)

3/02 . with a single pivoted arm

3/04 . . the arm being essentially transverse to the longitudinal axis of the vehicle

3/06 . . . the arm being rigid

3/08 . . . . the arm forming the axle housing

3/10 . . . the arm itself being resilient, e.g. leaf spring {(B60G 7/003 takes precedence)}

3/12 . . the arm being essentially parallel to the longitudinal axis of the vehicle

3/14 . . . the arm being rigid

3/145 . . . . {the arm forming the axle housing}

3/16 . . . the arm itself being resilient, e.g. leaf spring {(B60G 7/003 takes precedence)}

3/18 . with two or more pivoted arms, e.g. parallelogram

3/185 . . {the arms being essentially parallel to the longitudinal axis of the vehicle}

3/20 . . all arms being rigid

3/202 . . . {having one longitudinal arm and two parallel transversal arms, e.g. dual-link type strut suspension}

3/205 . . . . {with the pivotal point of the longitudinal arm being on the vertical plane defined by the wheel rotation axis and the wheel ground contact point}

3/207 . . . {the arms being essentially parallel to the longitudinal axis of the vehicle}

3/22 . . . a rigid arm forming the axle housing

3/225 . . . . {the arm being of the trailing wishbone type}

3/24 . . . a rigid arm being formed by the live axle {(B60G 3/22, B60G 3/26 take precedence; driving arrangements B60K 17/22, B60K 17/30, B60K 17/32)}

3/26 . . . Means for maintaining substantially-constant wheel camber during suspension movement; {Means for controlling the variation of the wheel position during suspension movement (B60G 3/202, B60G 3/22, B60G 7/003, B60G 7/006 take precedence; means for adjusting camber, castor, or toe-in B62D 17/00)}

3/265 . . . . {with a strut cylinder contributing to the suspension geometry by being linked to the wheel support via an articulation}

3/28 . . at least one of the arms itself being resilient, e.g. leaf spring {(B60G 7/003 takes precedence)}

3/285 . . . {the arm being essentially parallel to the longitudinal axis of the vehicle}

5/00 Resilient suspensions for a set of tandem wheels or axles having interrelated movement

5/005 . {the wheels being fixed on a non-pivotal structure, e.g. a sliding mount}
5/01 . the set being characterised by having more than two successive axles
5/02 . mounted on a single pivoted arm, {e.g. the arm being rigid}
5/025 . . {the arm being transverse to the longitudinal axis of the vehicle}
5/03 . . the arm itself being resilient, e.g. a leafspring (B60G 5/053 takes precedence)
5/04 . with two or more pivoted arms, the movements of which are resiliently interrelated, {e.g. the arms being rigid}
5/043 . . {the arms being transverse to the longitudinal axis of the vehicle}
5/047 . . at least one arm being resilient, e.g. a leafspring (B60G 5/053 takes precedence)
5/053 . . a leafspring being used as equilibration unit between two axle-supporting units
5/06 . . the arms turning on a common pivot {, e.g. being rigid}
5/065 . . . {at least one arm being resilient}

7/00 **Pivoted suspension arms; Accessories thereof** (means for maintaining substantially constant wheel camber during suspension movement B60G 3/26; {articulations for wheels B60G 5/00; leaf spring attaching means B60G 11/10, B60G 11/12; trailing arm twist beam axle attaching means B60G 21/052; articulations in general F16C})
7/001 . {Suspension arms, e.g. constructional features (B60G 7/006 takes precedence)}
7/003 . . {of adjustable length}
7/005 . {Ball joints (B60G 7/006 takes precedence; for steering linkage B62D 7/16; ball joints per se F16C 11/06)}
7/006 . {Attaching arms to sprung or unsprung part of vehicle, characterised by comprising attachment means controlled by an external actuator, e.g. a fluid or electrical motor (B62D 7/146 takes precedence)}
7/008 . {Attaching arms to unsprung part of vehicle (B60G 7/005, B60G 7/006 take precedence)}
7/02 . Attaching arms to sprung part of vehicle {(B60G 7/006 takes precedence)}
7/04 . Buffer means for limiting movement of arms {(stops limiting fluid passage in fluid dampers F16F 9/49; stroke-limiting stops for fluid dampers F16F 9/58)}

9/00 **Resilient suspensions of a rigid axle or axle housing for two or more wheels {**(the axle being a part of a set of tandem axles B60G 5/00-B60G 5/065; with leaf springs B60G 11/02-B60G 11/08)**}**
9/003 . {the axle being rigidly connected to a trailing guiding device}
9/006 . {the axle being connected to two trailing arms with only one of them being rigidly connected to the axle}
9/02 . the axle or housing being pivotally mounted on the vehicle, {e.g. the pivotal axis being parallel to the longitudinal axis of the vehicle (B60G 9/003 takes precedence)}
9/022 . . {the axle having an imaginary pivotal point}
9/025 . . . {using linkages for the suspension of the axle allowing its lateral swinging displacement}
9/027 . . {the axle having either a triangular, a "T" or "U" shape and being directly articulated with the chassis only by its middle apex, e.g. De Dion suspension}
9/04 . the axle or housing not being pivotally mounted on the vehicle {(B60G 9/003 takes precedence)}

11/00 **Resilient suspensions characterised by arrangement, location or kind of springs** (single wheel suspension by pivoted arm resilient in itself B60G 3/00; adjusting spring characteristic B60G 17/00; springs per se F16F)

NOTE

The term "torsion bar" includes torsion tube or the like. The term "rubber" includes synthetic substitutes of a similar nature.

11/003 . {Lubrication devices for springs and dampers (vehicle lubrication devices in general B60R 17/00; for leaf springs in general F16F 1/24)}
11/006 . {Centrally located spring units, e.g. all wheels being connected to a common spring unit (B60G 5/00, B60G 17/033 take precedence)}
11/02 . having leaf spring only {(B60G 11/006 takes precedence)}
11/025 . . {reparing devices for leaf springs}
11/04 . . arranged substantially parallel to the longitudinal axis of the vehicle
11/06 . . arranged obliquely to the longitudinal axis of the vehicle
11/08 . . arranged substantially transverse to the longitudinal axis of the vehicle
11/10 . . characterised by means specially adapted for attaching the spring to axle or sprung part of the vehicle
11/107 . . . Sliding or rolling mountings
11/113 . . . Mountings on the axle (B60G 11/107 takes precedence)
11/12 . . . Links, pins, or bushes
11/125 . . . . {Multiple-eye arrangements}
11/14 . having helical, spiral or coil springs only {(B60G 11/006 takes precedence)}
11/15 . . Coil springs resisting deflection by winding up
11/16 . . characterised by means specially adapted for attaching the spring to axle or sprung part of the vehicle
11/18 . having torsion-bar springs only {(B60G 11/006 takes precedence; having rubber springs of the torsional-energy-absorption type B60G 11/23)}

NOTE

B60G 11/184 takes precedence over B60G 11/181 - B60G 11/183

11/181 . . {arranged in a plane parallel to the longitudinal axis of the vehicle}
11/182 . . {arranged in a plane oblique to the longitudinal axis of the vehicle}
11/183 . . {arranged in a plane transverse to the longitudinal axis of the vehicle}
11/184 . . {the torsion-bar consisting of a bundle of torsion elements}
11/185 . . . {the elements being rods}
11/186 . . . . {of hexagonal cross-section}

11/187 . . . {the elements being leaf-springs loaded by twisting}
11/188 . . . {the elements being cables}
11/189 . . {the torsion spring consisting of a tube with a slit}
11/20 . . characterised by means specially adapted for attaching the spring to axle or sprung part of the vehicle
11/22 . having rubber springs only {(B60G 11/006 takes precedence)}
11/225 . . {Neidhart type rubber springs}
11/23 . . of the torsional-energy-absorption type
11/24 . . characterised by means specially adapted for attaching the spring to axle or sprung part of the vehicle
11/26 . having fluid springs only, e.g. hydropneumatic springs ({B60G 11/006,} B60G 15/12 take precedence)
11/265 . . {hydraulic springs}
11/27 . . wherein the fluid is a gas
11/28 . . characterised by means specially adapted for attaching the spring to axle or sprung part of the vehicle
11/30 . . having pressure fluid accumulator therefor, e.g. accumulator arranged in vehicle frame {(dampers accumulating utilisable energy B60G 13/14)}
11/32 . having springs of different kinds {(B60G 11/006 takes precedence)}
11/34 . . including leaf springs
11/36 . . . and also helical, spiral or coil springs
11/38 . . . and also rubber springs
11/40 . . . . the rubber springs being attached to the axle
11/42 . . . . the rubber springs being attached to sprung part of the vehicle
11/44 . . . and also torsion-bar springs
11/46 . . . and also fluid springs
11/465 . . . . {with a flexible wall}
11/48 . . not including leaf springs
11/50 . . . having helical, spiral or coil springs, and also torsion-bar springs
11/52 . . . having helical, spiral or coil springs, and also rubber springs
11/54 . . . . with rubber springs arranged within helical, spiral or coil springs
11/56 . . . having helical, spiral or coil springs, and also fluid springs
11/58 . . . . arranged coaxially
11/60 . . . having both rubber springs and torsion-bar springs
11/62 . . . having both rubber springs and fluid springs
11/64 . . . having both torsion-bar springs and fluid springs

13/00 Resilient suspensions characterised by arrangement, location or type of vibration dampers (adjusting damping effect B60G 17/06; vibration dampers per se F16F)

13/001 . {Arrangements for attachment of dampers (mounting arrangements of combined spring and damper units B60G 15/00; mountings of fluid dampers in general F16F 9/54)}
13/003 . . {characterised by the mounting on the vehicle body or chassis of the damper unit}
13/005 . . {characterised by the mounting on the axle or suspension arm of the damper unit}
13/006 . . . {on the stub axle}
13/008 . . . {involving use of an auxiliary cylinder (B60G 13/006 takes precedence)}
13/02 . having dampers dissipating energy, e.g. frictionally
13/04 . . mechanically, e.g. having frictionally-engaging springs as damping elements
13/06 . . of fluid type
13/08 . . . hydraulic
13/10 . . . pneumatic
13/12 . . . quasi-fluid, i.e. having powdered medium
13/14 . having dampers accumulating utilisable energy, e.g. compressing air {(fluid springs with an accumulator B60G 11/30)}
13/16 . having dynamic absorber as main damping means, i.e. spring-mass system vibrating out of phase
13/18 . . combined with energy-absorbing means

15/00 Resilient suspensions characterised by arrangement, location or type of combined spring and vibration damper, e.g. telescopic type (combined spring and vibration-dampers per se F16F)

15/02 . having mechanical spring
15/04 . . and mechanical damper {or dynamic damper}
15/06 . . and fluid damper
15/061 . . . {with a coil spring being mounted inside the damper}
15/062 . . . {the spring being arranged around the damper (B60G 15/061, B60G 15/067, B60G 15/07 take precedence)}
15/063 . . . . {characterised by the mounting of the spring on the damper (B60G 15/065, B60G 15/066 take precedence)}
15/065 . . . . {characterised by the use of a combination of springs}
15/066 . . . . {the spring being different from a coil spring (B60G 15/065 takes precedence)}
15/067 . . . {characterised by the mounting on the vehicle body or chassis of the spring and damper unit}
15/068 . . . . {specially adapted for MacPherson strut-type suspension}
15/07 . . . the damper being connected to the stub axle and the spring being arranged around the damper {(B60G 15/068 takes precedence)}
15/08 . having fluid spring
15/10 . . and mechanical damper {or dynamic damper}
15/12 . . and fluid damper
15/14 . . . the damper being connected to the stub axle and the spring being arranged around the damper

17/00 Resilient suspensions having means for adjusting the spring or vibration-damper characteristics, for regulating the distance between a supporting surface and a sprung part of vehicle or for locking suspension during use to meet varying vehicular or surface conditions, e.g. due to speed or load {(levelling or stabilising systems for tippers B60P 1/045)**}**

17/002 . {by temperature regulation of the suspension unit, e.g. heat operated systems}
17/005 . Suspension locking arrangements {(for retractable wheels B62D 61/12)}

17/015 . the regulating means comprising electric or electronic elements ({B60G 17/002}, B60G 17/005 take precedence)
17/0152 . . {characterised by the action on a particular type of suspension unit (B60G 17/01941 takes precedence)}
17/0155 . . . {pneumatic unit}
17/0157 . . . {non-fluid unit, e.g. electric motor}
17/016 . . characterised by their responsiveness, when the vehicle is travelling, to specific motion, a specific condition, or driver input {(B60G 17/017 takes precedence)}
17/0161 . . . {mainly during straight-line motion (B60G 17/0164 takes precedence)}
17/0162 . . . {mainly during a motion involving steering operation, e.g. cornering, overtaking (B60G 17/0164 takes precedence)}
17/0163 . . . . {the control involving steering geometry, e.g. four-wheel steering}
17/0164 . . . {mainly during accelerating or braking}
17/0165 . . . to an external condition, e.g. rough road surface, side wind
17/017 . . characterised by their use when the vehicle is stationary, e.g. during loading, engine start-up or switch-off
17/018 . . characterised by the use of a specific signal treatment or control method
17/0182 . . . {involving parameter estimation, e.g. observer, Kalman filter}
17/0185 . . . for failure detection
17/019 . . characterised by the type of sensor or the arrangement thereof {(B60G 17/01941 takes precedence)}
17/01908 . . . {Acceleration or inclination sensors (characterised by the use of gyroscopes B60G 21/08)}
17/01916 . . . . {Mercury-switch type devices}
17/01925 . . . . {Pendulum-type devices}
17/01933 . . . {Velocity, e.g. relative velocity-displacement sensors}
17/01941 . . . {characterised by the use of piezo-electric elements, e.g. sensors or actuators}
17/0195 . . characterised by the regulation being combined with other vehicle control systems {(Conjoint control of vehicle sub-units including control of suspension systems B60W 10/22)}
17/02 . Spring characteristics {, e.g. mechanical springs and mechanical adjusting means} (B60G 17/005, B60G 17/015 take precedence)
17/021 . . {the mechanical spring being a coil spring (B60G 17/0272 takes precedence)}
17/023 . . {the mechanical spring being a leaf spring (B60G 17/0275 takes precedence)}
17/025 . . {the mechanical spring being a torsion spring (B60G 17/0277, B60G 21/0553 take precedence)}
17/027 . . Mechanical springs regulated by fluid means (B60G 17/033 takes precedence)
17/0272 . . . {the mechanical spring being a coil spring}
17/0275 . . . {the mechanical spring being a leaf spring}
17/0277 . . . {the mechanical spring being a torsion spring (B60G 21/0553 takes precedence)}
17/033 . . characterised by regulating means acting on more than one spring
17/04 . . fluid spring characteristics
17/0408 . . . {details, e.g. antifreeze for suspension fluid, pumps, retarding means per se}
17/0416 . . . {regulated by varying the resiliency of hydropneumatic suspensions (B60G 17/048 takes precedence)}
17/0424 . . . . {by varying the air pressure of the accumulator}
17/0432 . . . . {by varying the number of accumulators connected to the hydraulic cylinder (B60G 17/0424 takes precedence)}
17/044 . . . Self-pumping fluid springs (pumps for liquids F04)
17/048 . . . with the regulating means inside the fluid springs (B60G 17/044 takes precedence)
17/0485 . . . . {the springs being pneumatic springs with a flexible wall, e.g. with levelling valves}
17/052 . . . Pneumatic spring characteristics (B60G 17/048 takes precedence {; valves per se F16K})
17/0521 . . . . {the spring having a flexible wall}
17/0523 . . . . {Regulating distributors or valves for pneumatic springs}
17/0525 . . . . . {Height adjusting or levelling valves}
17/0526 . . . . . {Distributor units, e.g. for retractable wheels (vehicles with retractable wheels per se B62D 61/12)}
17/0528 . . . . . {Pressure regulating or air filling valves}
17/056 . . . Regulating distributors or valves {for hydropneumatic systems} (B60G 17/044 - B60G 17/048, {B60G 17/0416} take precedence; {Fluid interconnection systems to control vehicle inclination B60G 21/06, B60G 21/10}; valves per se F16K)
17/0565 . . . . {Height adjusting valves}
17/06 . Characteristics of dampers {, e.g. mechanical dampers} (B60G 17/015 takes precedence)
17/08 . . Characteristics of fluid dampers (adjusting fluid dampers in general F16F 9/44 - F16F 9/53)

21/00 Interconnection systems for two or more resiliently-suspended wheels, e.g. for stabilising a vehicle body with respect to acceleration, deceleration or centrifugal forces (B60G 17/033 takes precedence; {levelling or stabilising systems for tippers B60P 1/045}; steering deflectable wheels combined with means for inwardly inclining the vehicle body on bends B62D 9/02)

21/002 . {longitudinally}
21/005 . {transversally}
21/007 . {means for adjusting the wheel inclination}
21/02 . permanently interconnected
21/023 . . {longitudinally}
21/026 . . {transversally}
21/04 . . mechanically
21/045 . . . between wheels on different axles on the same side of the vehicle, i.e. the left or the right side
21/05 . . . between wheels on the same axle but on different sides of the vehicle, i.e. the left and right wheel suspensions being interconnected
21/051 . . . . {Trailing arm twist beam axles}
21/052 . . . . . {Mounting means therefor}
21/053 . . . . . {adjustable}
21/055 . . . . Stabiliser bars
21/0551 . . . . . {Mounting means therefor}

21/0553 . . . . . {adjustable}
21/0555 . . . . . {including an actuator inducing vehicle roll}
21/0556 . . . . . {including a releasable coupling (B60G 21/0555 takes precedence)}
21/0558 . . . . . {including means varying the stiffness of the stabiliser (B60G 21/0556 takes precedence)}
21/06 . . fluid
21/067 . . . between wheels on different axles on the same side of the vehicle, i.e. the left or the right side
21/073 . . . between wheels on the same axle but on different sides of the vehicle, i.e. the left and right wheel suspensions being interconnected
21/08 . characterised by use of gyroscopes (gyroscopes for stabilising vehicle bodies without controlling suspension arrangements B62D 37/06)
21/10 . not permanently interconnected, e.g. operative only on acceleration, only on deceleration or only at off-straight position of steering
21/103 . . {longitudinally}
21/106 . . {transversally}

99/00 Subject matter not provided for in other groups of this subclass

99/002 . {Suspension details of the suspension of the vehicle body on the vehicle chassis}
99/004 . {Other suspension arrangements with rubber springs}
99/006 . {Other suspension arrangements with metallic springs}
99/008 . {Other suspension arrangements with fluid springs}

2200/00 Indexing codes relating to suspension types

2200/10 . Independent suspensions
2200/13 . . with longitudinal arms only
2200/132 . . . with a single trailing arm
2200/1322 . . . . with a wishbone or triangular arm
2200/1324 . . . . with a resilient trailing arm
2200/14 . . with lateral arms
2200/141 . . . with one trailing arm and one lateral arm only
2200/142 . . . with a single lateral arm, e.g. MacPherson type
2200/1422 . . . . the lateral arm being resilient
2200/1424 . . . . the lateral arm having an L-shape
2200/143 . . . with lateral arms crossing each other, i.e. X formation as seen along the longitudinal axis
2200/144 . . . with two lateral arms forming a parallelogram
2200/1442 . . . . including longitudinal rods
2200/154 . . . the lateral arm having an L-shape
2200/156 . . . wishbone-type arm formed by two links defining a virtual apex
2200/17 . . with a strut contributing to the suspension geometry by being articulated onto the wheel support
2200/18 . . Multilink suspensions, e.g. elastokinematic arrangements
2200/182 . . . with one longitudinal arm or rod and lateral rods
2200/184 . . . Assymetric arrangements
2200/20 . Semi-rigid axle suspensions
2200/21 . . Trailing arms connected by a torsional beam, i.e. twist-beam axles
2200/22 . . Trailing arms connected by a straight torsion bar
2200/23 . . Trailing arms connected by a U-shaped torsion bar
2200/24 . . Interconnected split axles
2200/30 . Rigid axle suspensions
2200/31 . . with two trailing arms rigidly connected to the axle
2200/312 . . with one of the two trailing arms being rigidly connected to the axle
2200/314 . . with longitudinally arranged arms articulated on the axle
2200/315 . . . at least one of the arms having an A or V shape
2200/318 . . two or more axles being mounted on a longitudinal rocking or walking beam
2200/32 . . pivoted
2200/322 . . . with a single pivot point and a straight axle
2200/324 . . . with a single pivot point and a triangular "T" or "U"-shaped axle, e.g. DeDion arrangement
2200/326 . . . with two laterally spaced pivots, e.g. trailing frame
2200/34 . . Stabilising mechanisms, e.g. for lateral stability
2200/341 . . . Panhard rod
2200/3415 . . . . Scott-Russel linkage
2200/342 . . . Watt linkage
2200/343 . . . with an axle suspended by two pivoted rods in "V"-arrangement, the rods being coupled at its apex
2200/344 . . . with an axle suspended by two pivoted rods in an inverted "V"-arrangement, the rods being coupled at its apex
2200/345 . . . with an axle suspended by two pivoted rods in "X"-arrangement
2200/346 . . . with an axle suspended by two laterally displaced rods having an imaginary point of intersection above the wheel axis
2200/347 . . . with an axle suspended by two laterally displaced rods having an imaginary point of intersection below the wheel axis
2200/40 . Indexing codes relating to the wheels in the suspensions
2200/42 . . Driven wheels or dead axles
2200/422 . . Driving wheels or live axles
2200/44 . . steerable
2200/445 . . Self-steered wheels
2200/446 . . Non-steerable wheels
2200/46 . . camber angle
2200/462 . . Toe-in/out
2200/4622 . . . Alignment adjustment
2200/464 . . Caster angle
2200/466 . . Damping acceleration or deceleration torque on wheel axle

2202/00 Indexing codes relating to the type of spring, damper or actuator

2202/10 . Type of spring
2202/11 . . Leaf spring
2202/112 . . . longitudinally arranged
2202/114 . . . transversally arranged
2202/116 . . . having a "C" form loaded only at its ends transversally to its central axis
2202/117 . . . having a "C" form loaded parallel to its central axis
2202/12 . . Wound spring
2202/122 . . . subjected to tension
2202/13 . . Torsion spring

2202/132 . . . comprising a longitudinal torsion bar and/or tube
2202/134 . . . comprising a transversal torsion bar and/or tube
2202/135 . . . Stabiliser bar and/or tube
2202/1351 . . . . comprising at least two stabiliser bars parallel to each other
2202/136 . . . Twist-beam type arrangement
2202/1362 . . . . including a second torsional element, e.g. second beam, stabiliser bar or tube
2202/14 . . Plastic spring, e.g. rubber
2202/141 . . . subjected to tension
2202/142 . . . subjected to shear, e.g. Neidhart type
2202/1422 . . . . Axial
2202/1424 . . . . Torsional
2202/143 . . . subjected to compression
2202/144 . . . of rotary type
2202/15 . . Fluid spring
2202/152 . . . Pneumatic spring
2202/1522 . . . . of rotary type
2202/1524 . . . . with two air springs per wheel, arranged before and after the wheel axis
2202/154 . . . with an accumulator
2202/16 . . Magnetic spring
2202/20 . Type of damper
2202/21 . . with two dampers per wheel, arranged before and after the wheel axis
2202/22 . . Rotary Damper
2202/23 . . Friction Damper
2202/24 . . Fluid damper
2202/242 . . . Pneumatic damper
2202/25 . . Dynamic damper
2202/30 . Spring/Damper and/or actuator Units
2202/31 . . with the spring arranged around the damper, e.g. MacPherson strut
2202/312 . . . The spring being a wound spring
2202/314 . . . The spring being a pneumatic spring
2202/32 . . The spring being in series with the damper and/or actuator
2202/322 . . . the damper being controllable
2202/40 . Type of actuator
2202/41 . . Fluid actuator
2202/412 . . . Pneumatic actuator
2202/413 . . . Hydraulic actuator
2202/414 . . . using electrohydraulic valves
2202/415 . . . using other types of valves, e.g. mechanically operated valves
2202/416 . . . using a pump, e.g. in the line connecting the lower chamber to the upper chamber of the actuator
2202/42 . . Electric actuator
2202/422 . . . Linear motor
2202/424 . . . electrostrictive materials, e.g. piezoelectric actuator
2202/43 . . Mechanical actuator
2202/432 . . . Spring motor
2202/44 . . Axial actuator, e.g. telescopic
2202/441 . . . where axial movement is translated to rotation of the connected end part
2202/442 . . Rotary actuator
2202/45 . . Other types, e.g. external jets for stability with particular characteristics
2202/49 . . Other type, e.g. external jets for stability

2204/00 Indexing codes related to suspensions <u>per se</u> or to auxiliary parts

2204/10 . Mounting of suspension elements
2204/11 . . Mounting of sensors thereon
2204/111 . . . on pneumatic springs
2204/112 . . . on dampers, e.g. fluid dampers
2204/113 . . . Tyre related sensors
2204/114 . . . Steering column mounted sensors
2204/115 . . . Wheel hub bearing sensors
2204/116 . . . Sensors coupled to the suspension arm
2204/1162 . . . . directly mounted on the suspension arm
2204/12 . . Mounting of springs or dampers
2204/121 . . . Mounting of leaf springs
2204/122 . . . Mounting of torsion springs
2204/1222 . . . . Middle mounts of stabiliser on vehicle body or chassis
2204/1224 . . . . End mounts of stabiliser on wheel suspension
2204/1226 . . . . on the trailing arms of a twist beam type arrangement
2204/124 . . . Mounting of coil springs
2204/1242 . . . . on a damper, e.g. MacPerson strut
2204/12422 . . . . . anchoring the end coils on the spring support plate
2204/1244 . . . . on a suspension arm
2204/1246 . . . . on twist beam axles
2204/125 . . . Mounting of rubber type springs
2204/126 . . . Mounting of pneumatic springs
2204/1262 . . . . on a damper
2204/127 . . . with the mounting of springs or dampers moving so that the direction of the related force vector can be changed, thus contributing to a variation of the loading of the wheel
2204/128 . . . Damper mount on vehicle body or chassis
2204/129 . . . Damper mount on wheel suspension or knuckle
2204/13 . . . with the spring, i.e. coil spring, or damper horizontally mounted
2204/1302 . . . . inside the vehicle frame
2204/14 . . Mounting of suspension arms
2204/143 . . . on the vehicle body or chassis
2204/1431 . . . . of an L-shaped arm
2204/1432 . . . . by vertical bolts or studs
2204/1434 . . . . in twist-beam axles arrangement
2204/147 . . . on the vehicle engine body
2204/148 . . . on the unsprung part of the vehicle, e.g. wheel knuckle or rigid axle
2204/1482 . . . . on rigid axle by elastic mount
2204/1484 . . . . on an intermediate upright strut upon which the stub axle is pivoted
2204/149 . . . Mounting of rigid axle on wheel knuckle
2204/15 . . Mounting of subframes
2204/16 . . Mounting of vehicle body on chassis
2204/162 . . . Cabins, e.g. for trucks, tractors
2204/17 . . Mounting of bogies, e.g. for trailers
2204/18 . . Mounting of vehicle engines
2204/182 . . . Electric motor on wheel support
2204/19 . . Mounting of transmission differential
2204/20 . . Mounting of accessories, e.g. pump, compressor
2204/201 . . . of fluid lines
2204/202 . . . of cables
2204/2022 . . . . using a suspension element (e.g. link, damper or spring) as part of the electrical circuitry

2204/22 . . Linking of trailers to trucks, e.g. truck-trailer connections
2204/30 . . In-wheel mountings
2204/40 . Auxiliary suspension parts; Adjustment of suspensions
2204/41 . . Elastic mounts, e.g. bushings
2204/4102 . . . having a pin or stud extending perpendicularly to the axis of the elastic mount
2204/4103 . . . having an eccentrically located inner sleeve
2204/4104 . . . Bushings having modified rigidity in particular directions
2204/41042 . . . . by using internal cam surfaces
2204/41043 . . . . formed by a U-shaped external bracket
2204/41044 . . . . in a shell for being loaded mainly in axial direction, e.g. piston rod mounts, longitudinal push-pull rod mounts
2204/41046 . . . . having the axis of an inner sleeve or pin inclined to the axis of the bush
2204/4106 . . . Elastokinematic mounts
2204/41062 . . . . hydromounts; interconnected mounts
2204/4108 . . . Resilient element being enclosed and or pres-tressed in a solid container
2204/414 . . Cardan joints
2204/416 . . Ball or spherical joints
2204/418 . . Bearings, e.g. ball or roller bearings
2204/419 . . Gears
2204/4191 . . . Planetary or epicyclic gears
2204/4192 . . . rack and pinion
2204/4193 . . . worm gears
2204/42 . . Joints with cam surfaces
2204/421 . . Pivoted lever mechanisms for mounting suspension elements, e.g. Watt linkage
2204/422 . . Links for mounting suspension elements
2204/4222 . . . for movement on predefined locus of, e.g. the wheel center
2204/423 . . Rails, tubes, or the like, for guiding the movement of suspension elements
2204/4232 . . . Sliding mounts
2204/424 . . Mechanisms for force adjustment, e.g. constant force mechanisms
2204/43 . . Fittings, brackets or knuckles
2204/4302 . . . for fixing suspension arm on the vehicle body or chassis
2204/4304 . . . Bracket for lower cylinder mount of McPherson strut
2204/4305 . . . Bracket for mounting of hydraulic lines on a damper cylinder
2204/4306 . . . Bracket or knuckle for rigid axles, e.g. for clamping
2204/43065 . . . . U-shaped bolts crossing each other
2204/4307 . . . Bracket or knuckle for torsional springs
2204/4308 . . . Protecting guards, e.g. for rigid axle damage protection
2204/44 . . Centering or positioning means
2204/4402 . . . Spacers or shims
2204/4404 . . . Retainers for holding a fixing element, e.g. bushing, nut, bolt etc., until it is tightly fixed in position
2204/45 . . Stops limiting travel
2204/4502 . . . using resilient buffer
2204/45021 . . . . for limiting upper mount movement of a McPherson strut
2204/4504 . . . using cable or band to prevent extension
2204/46 . . Means for locking the suspension
2204/4602 . . . Locking of a McPerson type strut upper mount on the vehicle body
2204/4604 . . . mechanically, e.g. using a hook as anticreep mechanism
2204/4605 . . . hydraulically, e.g. interrupting communication between the chambers of a hydraulic cylinder
2204/47 . . Means for retracting the suspension
2204/4702 . . . pneumatically
2204/61 . Adjustable during maintenance
2204/62 . Adjustable continuously, e.g. during driving
2204/80 . Interactive suspensions; arrangement affecting more than one suspension unit
2204/81 . . front and rear unit
2204/8102 . . . diagonally arranged
2204/82 . . left and right unit on same axle
2204/83 . . Type of interconnection
2204/8302 . . . Mechanical
2204/83022 . . . . using cables, wires, belts or chains
2204/8304 . . . using a fluid
2204/8306 . . . Permanent; Continuous

2206/00 Indexing codes related to the manufacturing of suspensions: constructional features, the materials used, procedures or tools

2206/01 . Constructional features of suspension elements, e.g. arms, dampers, springs
2206/011 . . Modular constructions
2206/0112 . . . Bogies for heavy vehicles
2206/0114 . . . Independent suspensions on subframes
2206/0116 . . . Integrated distribution control units with valves, accumulators, PCB's or the like
2206/012 . . Hollow or tubular elements
2206/0122 . . . having a U profile with plate closing the profile in the total or partial length of the element
2206/013 . . with embedded inserts for material reinforcement
2206/014 . . with reinforcing nerves or branches
2206/016 . . allowing controlled deformation during collision
2206/017 . . forming an eye for the bushing
2206/10 . . Constructional features of arms
2206/11 . . . the arm being a radius or track or torque or steering rod or stabiliser end link
2206/111 . . . . of adjustable length
2206/1112 . . . . . Manually, for alignment purposes
2206/1114 . . . . . Self-adjustable during driving
2206/1116 . . . . . Actively adjustable during driving
2206/12 . . . with two attachment points on the sprung part of the vehicle
2206/121 . . . the arm having an H or X-shape
2206/122 . . . the arm having L-shape
2206/123 . . . the arm having T-shape
2206/124 . . . the arm having triangular or Y-shape, e.g. wishbone
2206/13 . . . with more than two attachment points on the sprung part of the vehicle
2206/14 . . . the arm forming a U-shaped recess for fitting a bush
2206/141 . . . . The recess being integrally or seamlessly formed
2206/15 . . . the arm being resilient
2206/16 . . . the arm having a U profile and/or made of a plate

2206/161 . . . . with middle section narrower than end section
2206/162 . . . . with a plate closing the profile in the total or partial length of the arm
2206/20 . . Constructional features of semi-rigid axles, e.g. twist beam type axles
2206/201 . . . with detachable cross beam and/or torsion stabiliser bar/tube
2206/202 . . . with a radially deformed tube as a cross member
2206/203 . . . with outwardly bent trailing arms to increase the width of the support or wheelbase
2206/30 . . Constructional features of rigid axles
2206/31 . . . Straight axle
2206/312 . . . Cranked axle
2206/32 . . . Hollow cross section
2206/40 . . Constructional features of dampers and/or springs
2206/41 . . . Dampers
2206/42 . . . Springs
2206/422 . . . . Accumulators for hydropneumatic springs
2206/4222 . . . . . with a flexible separating wall; Membrane construction
2206/424 . . . . Plunger or top retainer construction for bellows or rolling lobe type air springs
2206/426 . . . . Coil springs having a particular shape, e.g. curved axis, pig-tail end coils
2206/427 . . . . Stabiliser bars or tubes
2206/428 . . . . Leaf springs
2206/50 . . Constructional features of wheel supports or knuckles, e.g. steering knuckles, spindle attachments
2206/60 . . Subframe construction
2206/601 . . . Hanger bracket
2206/602 . . . Single transverse beam
2206/604 . . . with two parallel beams connected by cross members
2206/605 . . . Flexible constructions
2206/606 . . . Complex constructions
2206/70 . . Materials used in suspensions
2206/71 . . . Light weight materials
2206/7101 . . . . Fiber-reinforced plastics [FRP]
2206/7102 . . . . Aluminium alloys
2206/7103 . . . . Magnesium alloys
2206/7104 . . . . Thermoplastics
2206/71042 . . . . . Polyester elastomer
2206/71043 . . . . . Polyamid elastomer
2206/71044 . . . . . Soft nylon
2206/7105 . . . . Porous materials, ceramics, e.g. as filling material
2206/72 . . . Steel
2206/722 . . . . Plates
2206/724 . . . . Wires, bars or the like
2206/73 . . . Rubber; Elastomers
2206/80 . . Manufacturing procedures
2206/81 . . . Shaping
2206/8101 . . . . by casting
2206/81012 . . . . . by injection moulding
2206/8102 . . . . by stamping
2206/81022 . . . . . by forging
2206/8103 . . . . by folding or bending
2206/81035 . . . . . involving heating to relieve internal stresses
2206/8104 . . . . by drawing
2206/8105 . . . . by extrusion
2206/8106 . . . . by thermal treatment, e.g. curing hardening, vulcanisation
2206/81062 . . . . . to relieve internal stresses, e.g. during folding or bending
2206/8107 . . . . by hydroforming
2206/8108 . . . . by twisting
2206/8109 . . . . by rolling
2206/811 . . . . by cutting
2206/8111 . . . . by machining
2206/8112 . . . . by thermal spraying of molten material
2206/82 . . . Joining
2206/8201 . . . . by welding
2206/82012 . . . . . Pressure welding
2206/82013 . . . . . Friction or heat welding
2206/82014 . . . . . Magnetic pulse welding (welding by magnetic pulse in general B23K 20/06)
2206/8205 . . . . by conical or compressed rubber clamping inserts as joining means
2206/8206 . . . . by riveting
2206/8207 . . . . by screwing
2206/8208 . . . . by hemming or seaming, e.g. by folding of the rim
2206/8209 . . . . by deformation
2206/82092 . . . . . by press-fitting
2206/821 . . . . by gluing
2206/83 . . . Punching
2206/84 . . . Hardening
2206/8401 . . . . Annealing
2206/8402 . . . . Quenching
2206/8403 . . . . Shot-peening
2206/85 . . . Filament winding
2206/90 . . Maintenance
2206/91 . . . Assembly procedures
2206/911 . . . . using a modification kit
2206/92 . . . Tools or equipment used for assembling
2206/921 . . . . Coil spring compressor
2206/93 . . . Tools used for adjustments
2206/931 . . . . McPherson strut positioning tool
2206/94 . . . Tools used for supporting parts
2206/99 . . . Suspension element selection procedure depending on loading or performance requirements, e.g. selection of damper, spring or bush

2300/00 Indexing codes relating to the type of vehicle
2300/02 . Trucks; Load vehicles
2300/022 . . Fork lift trucks, Clark
2300/024 . . Light trucks
2300/026 . . Heavy duty trucks
2300/0262 . . . Multi-axle trucks
2300/03 . Silo or fluid transporting vehicles
2300/04 . Trailers
2300/042 . . Semi-trailers
2300/044 . . Truck-trailer connections
2300/06 . Cranes
2300/07 . Off-road vehicles
2300/08 . Agricultural vehicles
2300/082 . . Tractors
2300/083 . . Boom carrying vehicles, e.g. for crop spraying
2300/084 . . Ridable lawn mowers

2300/09 . Construction vehicles, e.g. graders, excavators
2300/10 . Railway vehicles
2300/102 . . having track following mechanismn for lateral stability
2300/12 . Cycles; Motorcycles
2300/122 . . Trikes
2300/124 . . Quads
2300/13 . Small sized city motor vehicles
2300/14 . Buses
2300/16 . Aeroplanes
2300/18 . Helicopters
2300/20 . Toys
2300/22 . Perambulators
2300/24 . Wheelchairs
2300/26 . Carts
2300/27 . Racing vehicles, e.g. F1
2300/28 . Amphibious vehicles
2300/30 . Load ramps
2300/32 . Track vehicles
2300/322 . . Snowmobiles
2300/34 . Ambulances
2300/36 . Independent Multi-axle long vehicles
2300/37 . Vehicles having steerable wheels mounted on a vertically moving column
2300/38 . Low or lowerable bed vehicles
2300/40 . Variable track or wheelbase vehicles
2300/402 . . Extra load carrying wheels, e.g. tag axles
2300/45 . Rolling frame vehicles
2300/50 . Electric vehicles; Hybrid vehicles
2300/60 . Vehicles using regenerative power

2400/00 Indexing codes relating to detected, measured or calculated conditions or factors

2400/05 . Attitude
2400/051 . . Angle
2400/0511 . . . Roll angle
2400/0512 . . . Pitch angle
2400/0513 . . . Yaw angle
2400/0514 . . . Wheel angle detection
2400/05142 . . . . Wheel camber
2400/05144 . . . . Wheel toe
2400/05146 . . . . Wheel caster
2400/0516 . . . Angular position of a suspension element
2400/05162 . . . . the element being a suspension arm
2400/052 . . Angular rate
2400/0521 . . . Roll rate
2400/0522 . . . Pitch rate
2400/0523 . . . Yaw rate
2400/053 . . Angular acceleration
2400/0531 . . . Roll acceleration
2400/0532 . . . Pitch acceleration
2400/0533 . . . Yaw acceleration
2400/10 . Acceleration; Deceleration
2400/102 . . vertical
2400/104 . . lateral or transversal with regard to vehicle
2400/1042 . . . using at least two sensors
2400/106 . . longitudinal with regard to vehicle, e.g. braking
2400/1062 . . . using at least two sensors
2400/20 . Speed
2400/202 . . Piston speed; Relative velocity between vehicle body and wheel
2400/204 . . Vehicle speed
2400/2042 . . . Lateral speed
2400/206 . . Body oscillation speed; Body vibration frequency
2400/208 . . of wheel rotation
2400/25 . Stroke; Height; Displacement
2400/252 . . vertical
2400/256 . . horizontal
2400/257 . . . transversal with regard to vehicle
2400/258 . . . longitudinal with regard to vehicle
2400/30 . Propulsion unit conditions
2400/302 . . Selected gear ratio; Transmission function
2400/304 . . . neutral position
2400/306 . . . overdrive
2400/31 . . Clutch condition
2400/32 . . Torque on propulsion shaft
2400/33 . . Throttle position
2400/34 . . Accelerator pedal position
2400/35 . . Position of fuel or air injector
2400/36 . . Functioning of turbocharger
2400/37 . . Brake pad or disc friction
2400/38 . . Speed of engine rotation
2400/382 . . . Ignition switch
2400/39 . . Brake pedal position
2400/40 . Steering conditions
2400/41 . . Steering angle
2400/412 . . . of steering wheel or column
2400/4122 . . . . Neutral position detection
2400/42 . . Steering torque
2400/44 . . Steering speed
2400/46 . . Steering frequency
2400/47 . . Rear wheel steering
2400/50 . Pressure
2400/51 . . in suspension unit
2400/512 . . . in spring
2400/5122 . . . . Fluid spring
2400/51222 . . . . . Pneumatic
2400/518 . . . in damper
2400/5182 . . . . Fluid damper
2400/52 . . in tyre
2400/60 . Load
2400/61 . . Load distribution
2400/62 . . Seat occupation; Passenger presence
2400/63 . . Location of the center of gravity
2400/64 . . Wheel forces, e.g. on hub, spindle or bearing
2400/70 . Temperature of vehicle part or in the vehicle
2400/71 . . of suspension unit
2400/712 . . . of spring
2400/7122 . . . . Fluid spring
2400/716 . . . of damper
2400/7162 . . . . Fluid damper
2400/72 . . in vehicle interior
2400/73 . . of other part than suspension unit
2400/732 . . . of propulsion unit
2400/80 . Exterior conditions
2400/82 . . Ground surface
2400/821 . . . Uneven, rough road sensing affecting vehicle body vibration
2400/822 . . . Road friction coefficient determination affecting wheel traction
2400/8222 . . . . Hydroplaning
2400/823 . . . Obstacle sensing
2400/824 . . . Travel path sensing; Track monitoring

2400/84 . . Atmospheric conditions
2400/841 . . . Wind
2400/842 . . . Temperature
2400/8422 . . . . of air
2400/8424 . . . . of ground or road
2400/843 . . . Humidity; Rainfall
2400/845 . . . Darkness
2400/847 . . . Sunshine; Light
2400/90 . Other conditions or factors
2400/91 . . Frequency
2400/92 . . Travelling or driving time
2400/922 . . Travelling distance
2400/94 . . Deformation of a vehicle part
2400/942 . . . of vehicle body
2400/95 . . Position of vehicle body elements
2400/952 . . . of door or bonnet
2400/954 . . . Wheelbase
2400/96 . . Presence, absence or inactivity of driver
2400/97 . . Relation between towing and towed vehicle, e.g. tractor-trailer combination
2400/972 . . . Angle of articulation
2400/98 . . Stabiliser movement

2401/00 Indexing codes relating to the type of sensors based on the principle of their operation

2401/10 . Piezoelectric elements
2401/11 . Electrostrictive transducers
2401/12 . Strain gauge
2401/122 . . Wheatstone bridge circuit
2401/14 . Photo or light sensitive means, e.g. Infrared
2401/142 . . Visual Display Camera, e.g. LCD
2401/144 . . Fiber optic sensor
2401/15 . Doppler effect
2401/16 . GPS track data
2401/17 . Magnetic/Electromagnetic
2401/172 . . Hall effect
2401/174 . . Radar
2401/176 . . Radio or audio sensitive means, e.g. Ultrasonic
2401/19 . Speech recognising means
2401/20 . Switches, e.g. mercury or ball type switches
2401/21 . Laser
2401/22 . Radioactivity sensitive materials
2401/23 . Memory materials
2401/24 . Heat sensitive materials; temperature gauge
2401/25 . Capacitance type, e.g. as level indicator
2401/26 . Resistance type, e.g. as level indicator
2401/27 . Gravitational, e.g. pendulum or axial movement type
2401/28 . Gyroscopes
2401/90 . Single sensor for two or more measurements
2401/902 . . the sensor being an xy axis sensor
2401/904 . . the sensor being an xyz axis sensor

2500/00 Indexing codes relating to the regulated action or device

2500/02 . Supply or exhaust flow rates; Pump operation
2500/022 . . Minimisation of pressure cavitation effects upon demand
2500/04 . using inertia type valves
2500/10 . Damping action or damper
2500/102 . . stepwise
2500/104 . . continuous
2500/106 . . duty rate
2500/11 . . Damping valves
2500/112 . . . Fluid actuation
2500/114 . . . pressure regulating valves
2500/116 . . . for damping pressure oscillations of the fluid in hydraulic lines
2500/20 . Spring action or springs
2500/201 . . Air spring system type
2500/2012 . . . Open systems
2500/2014 . . . Closed systems
2500/202 . . Height or leveling valve for air-springs
2500/2021 . . . Arrangement of valves
2500/2022 . . . with valve seat actuation for selectively adjusting neutral height
2500/203 . . Distributor valve units comprising several elements, e.g. valves, pump or accumulators
2500/204 . . Pressure regulating valves for air-springs
2500/2041 . . . for variable volume air springs, e.g. using accumulators as expansion chambers
2500/2042 . . . Air filling valves
2500/2043 . . . Wheatstone bridge type valve arrangements
2500/2044 . . . Air exhausting valves
2500/2046 . . . Pressure equalising valves between two units
2500/205 . . Air-compressor operation
2500/206 . . Variable pressure accumulators for hydropneumatic suspensions
2500/2062 . . . by varying the air-pressure of the accumulator
2500/2064 . . . by varying the number of accumulators connected in parallel to the hydraulic cylinder
2500/22 . . Spring constant
2500/30 . Height or ground clearance
2500/302 . . using distributor valves
2500/32 . . of only one vehicle part or side
2500/322 . . . only front part
2500/324 . . . only rear part
2500/326 . . . only left or right side
2500/40 . Steering
2500/42 . . Sensibility

2600/00 Indexing codes relating to particular elements, systems or processes used on suspension systems or suspension control systems

2600/02 . Retarders, delaying means, dead zones, threshold values, cut-off frequency, timer interruption
2600/04 . Means for informing, instructing or displaying
2600/042 . . Monitoring means
2600/0422 . . . involving data transmission, e.g. via satellite or GPS; for data monitoring, telemetry or platooning purposes
2600/044 . . Alarm means
2600/07 . Inhibiting means
2600/08 . Failure or malfunction detecting means
2600/082 . . Sensor drift
2600/084 . . Supervisory systems
2600/086 . . Redundant systems
2600/09 . Feedback signal
2600/11 . Feedforward signal
2600/12 . Sampling or average detecting; Addition or substraction
2600/122 . . Summation signal
2600/124 . . Error signal
2600/14 . Differentiating means, i.e. differential control
2600/16 . Integrating means, i.e. integral control
2600/17 . Proportional control, i.e. gain control

2600/172 . . Weighting coefficients or factors
2600/18 . Automatic control means
2600/181 . . Signal modulation; pulse-width, frequency-phase
2600/182 . . Active control means
2600/184 . . Semi-Active control means
2600/186 . . Analogue Controller Details and Signal Treatment
2600/187 . . Digital Controller Details and Signal Treatment
2600/1871 . . . Optimal control; Kalman Filters
2600/1872 . . . Observer; Luaponov function
2600/1873 . . . Model Following
2600/1874 . . . Modal analysis
2600/1875 . . . Other parameter or state estimation methods not involving the mathematical modelling of the vehicle
2600/1876 . . . Artificial intelligence
2600/1877 . . . Adaptive Control
2600/1878 . . . Neural Networks
2600/1879 . . . Fuzzy Logic Control
2600/188 . . Spectral analysis; Transformations
2600/1881 . . . Integral
2600/1882 . . . Fourier
2600/1883 . . . z-transform
2600/1884 . . . Laplace
2600/1885 . . . Euler equations
2600/189 . . Statistical analysis
2600/20 . Manual control or setting means
2600/202 . . using a remote, e.g. cordless, transmitter or receiver unit
2600/204 . . Joystick actuated suspension
2600/206 . . Control-by-wire
2600/21 . Self-controlled or adjusted
2600/22 . Magnetic elements
2600/24 . . permanent magnets
2600/26 . . Electromagnets; Solenoids
2600/28 . Temporary fluctuations
2600/41 . SISO system, i.e. single input - single output system
2600/43 . MIMO system, i.e. multi input - multi output system
2600/44 . Vibration noise suppression
2600/60 . Signal noise suppression; Electronic filtering means
2600/602 . . high pass
2600/604 . . low pass
2600/66 . Humidifying or drying means
2600/68 . Filtering means, e.g. fluid filters
2600/70 . Computer memory; Data storage, e.g. maps for adaptive control
2600/702 . . Parallel processing
2600/704 . . Electronic tags containing data, e.g. identification number of a component; Gain values for the control of the unit, etc.
2600/71 . Distributed control; Master - slave controllers; Remote control units
2600/72 . Cooling or warming means
2600/73 . Electrical control
2600/74 . Analog systems
2600/76 . Digital systems
2600/77 . A/D, D/A signal converters
2600/82 . duty rate function
2600/85 . Speed of regulation
2600/90 . other signal treatment means

2800/00 Indexing codes relating to the type of movement or to the condition of the vehicle and to the end result to be achieved by the control action

2800/01 . Attitude or posture control
2800/012 . . Rolling condition
2800/0122 . . . Roll rigidity ratio; Warping
2800/0124 . . . Roll-over conditions
2800/014 . . Pitch; Nose dive
2800/016 . . Yawing condition
2800/019 . . Inclination due to load distribution or road gradient
2800/0192 . . . longitudinal with regard to vehicle
2800/0194 . . . transversal with regard to vehicle
2800/16 . Running
2800/162 . . Reducing road induced vibrations
2800/164 . . Heaving; Squatting
2800/166 . . Platooning
2800/18 . Starting, accelerating
2800/182 . . Traction
2800/20 . Stationary vehicle
2800/202 . . kneeling, e.g. for letting passengers on/off
2800/203 . . lowering the floor for loading/unloading
2800/204 . . adjusting floor height to the loading ramp level
2800/2042 . . . using an anticreep mechanism to lock the height
2800/205 . . jacking-up for changing tyre or vehicle inspection
2800/21 . Traction, slip, skid or slide control
2800/212 . . Transversal; Side-slip during cornering
2800/213 . . by applying forward/backward torque on each wheel individually
2800/214 . . by varying the load distribution
2800/215 . . by applying a braking action on each wheel individually
2800/22 . Braking, stopping
2800/222 . . during collision
2800/224 . . automatically, based on dangerous living style
2800/226 . . automatically, based on stopping at a preset or target point position
2800/24 . Steering, cornering
2800/242 . . Obstacle avoidance manoeuvre
2800/244 . . Oversteer
2800/246 . . Understeer
2800/248 . . Neutral steering behaviour
2800/70 . Estimating or calculating vehicle parameters or state variables
2800/702 . . Improving accuracy of a sensor signal
2800/7022 . . . Calibration of a sensor, e.g. automatically
2800/704 . . predicting unorthodox driving conditions for safe or optimal driving
2800/80 . Detection or control after a system or component failure
2800/802 . . Diagnostics
2800/85 . System Prioritisation
2800/87 . System configuration based on vehicle type or model
2800/90 . System Controller type
2800/91 . . Suspension Control
2800/912 . . . Attitude Control; levelling control
2800/9122 . . . . ARS - Anti-Roll System Control
2800/9123 . . . . Active Body Control [ABC]
2800/9124 . . . . Roll-over protection systems, e.g. for warning or control

2800/914 . . . Height Control System
2800/915 . . . Suspension load distribution
2800/916 . . . Body Vibration Control
2800/92 . . ABS - Brake Control
2800/922 . . . EBV - Electronic brake force distribution
2800/925 . . Airbag deployment systems
2800/93 . . Skid or slide control [ASR]
2800/94 . . Electronic Stability Program (ESP, i.e. ABS +ASC+EMS)
2800/95 . . Automatic Traction or Slip Control [ATC]
2800/952 . . . Electronic driving torque distribution
2800/954 . . . Four-wheel drive
2800/96 . . ASC - Assisted or power Steering control
2800/962 . . . Four-wheel steering
2800/963 . . . Steer-by-wire
2800/964 . . . Auto-navigation
2800/965 . . . Automatic or driver-independent manoeuvre, e.g. for obstacle avoidance or roll-over prevention
2800/97 . . Engine Management System [EMS]
2800/972 . . Electronic Differential Lock [EDS]
2800/98 . . Intelligent Transportation System or Bus [IDB]
2800/982 . . Active Cruise Control, e.g. DISTRONIC type
2800/984 . . Tyre Pressure Monitoring Systems