

# CPC COOPERATIVE PATENT CLASSIFICATION

## B PERFORMING OPERATIONS; TRANSPORTING

(NOTES omitted)

### TRANSPORTING

#### B60 VEHICLES IN GENERAL

(NOTE omitted)

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

##### NOTES

- Attention is drawn to the explanatory note following the class title [B60](#)
- 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.
- 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.

##### WARNINGS

- The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:  

<a href="#">B60G 23/00</a>	covered by	<a href="#">B60G 17/0165</a>
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- 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.

<b>1/00</b>	<b>Suspensions with rigid connection between axle and frame</b>	3/12	. . the arm being essentially parallel to the longitudinal axis of the vehicle
1/02	. with continuous axle	3/14	. . . the arm being rigid
1/04	. with divided axle	3/145	. . . . {the arm forming the axle housing}
<b>3/00</b>	<b>Resilient suspensions for a single wheel (pivoted suspensions arms <a href="#">per se</a>, attachment thereof to sprung part of the vehicle, buffer means for limiting movement of arms <a href="#">B60G 7/00</a>; {rigid axle suspensions <a href="#">B60G 9/00</a>;} characterised by arrangement, location or type of springs <a href="#">B60G 11/00</a>)</b>	3/16	. . . the arm itself being resilient, e.g. leaf spring { <a href="#">B60G 7/003</a> 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
3/01	. the wheel being mounted for sliding movement, e.g. in or on a vertical guide (camber maintaining means <a href="#">B60G 3/26</a> )	3/202	. . . {having one longitudinal arm and two parallel transversal arms, e.g. dual-link type strut suspension}
3/02	. with a single pivoted arm	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}
3/04	. . the arm being essentially transverse to the longitudinal axis of the vehicle	3/207	. . . . {the arms being essentially parallel to the longitudinal axis of the vehicle}
3/06	. . . the arm being rigid	3/22	. . . a rigid arm forming the axle housing
3/08	. . . . the arm forming the axle housing	3/225	. . . . {the arm being of the trailing wishbone type}
3/10	. . . the arm itself being resilient, e.g. leaf spring { <a href="#">B60G 7/003</a> takes precedence}		

- 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 movements**
- 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 springs only {(B60G 11/006 takes  
precedence)}
- 11/025 . . {repairing 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 absorbers 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 takes 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 takes 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 takes 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](#))



<b>21/00</b>	<b>Interconnection systems for two or more resiliently-suspended wheels, e.g. for stabilising a vehicle body with respect to acceleration, deceleration or centrifugal forces (<a href="#">B60G 17/033</a> takes precedence {; levelling or stabilising systems for tippers <a href="#">B60P 1/045</a>}; steering deflectable wheels combined with means for inwardly inclining the vehicle body on bends <a href="#">B62D 9/02</a>)</b>	2200/14	. . with lateral arms
21/002	. {longitudinally}	2200/141	. . . with one trailing arm and one lateral arm only
21/005	. {transversally}	2200/142	. . . with a single lateral arm, e.g. MacPherson type
21/007	. {means for adjusting the wheel inclination}	2200/1422	. . . . the lateral arm being resilient
21/02	. permanently interconnected	2200/1424	. . . . the lateral arm having an L-shape
21/023	. . {longitudinally}	2200/143	. . . with lateral arms crossing each other, i.e. X formation as seen along the longitudinal axis
21/026	. . {transversally}	2200/144	. . . with two lateral arms forming a parallelogram
21/04	. . mechanically	2200/1442	. . . . including longitudinal rods
21/045	. . . between wheels on different axles on the same side of the vehicle, i.e. the left or the right side	2200/154	. . . the lateral arm having an L-shape
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	2200/156	. . . wishbone-type arm formed by two links defining a virtual apex
21/051	. . . . {Trailing arm twist beam axles}	2200/17	. . with a strut contributing to the suspension geometry by being articulated onto the wheel support
21/052	. . . . {Mounting means therefor}	2200/18	. . Multilink suspensions, e.g. elastokinematic arrangements
21/053	. . . . . {adjustable}	2200/182	. . . with one longitudinal arm or rod and lateral rods
21/055	. . . . Stabiliser bars	2200/184	. . . Assymetric arrangements
21/0551	. . . . . {Mounting means therefor}	2200/20	. Semi-rigid axle suspensions
21/0553	. . . . . {adjustable}	2200/21	. . Trailing arms connected by a torsional beam, i.e. twist-beam axles
21/0555	. . . . . {including an actuator inducing vehicle roll}	2200/22	. . Trailing arms connected by a straight torsion bar
21/0556	. . . . . {including a releasable coupling ( <a href="#">B60G 21/0555</a> takes precedence)}	2200/23	. . Trailing arms connected by a U-shaped torsion bar
21/0558	. . . . . {including means varying the stiffness of the stabiliser ( <a href="#">B60G 21/0556</a> takes precedence)}	2200/24	. . Interconnected split axles
21/06	. . fluid	2200/30	. Rigid axle suspensions
21/067	. . . between wheels on different axles on the same side of the vehicle, i.e. the left or the right side	2200/31	. . with two trailing arms rigidly connected to the axle
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	2200/312	. . with one of the two trailing arms being rigidly connected to the axle
21/08	. characterised by use of gyroscopes ( <a href="#">gyroscopes for stabilising vehicle bodies without controlling suspension arrangements <a href="#">B62D 37/06</a></a> )	2200/314	. . with longitudinally arranged arms articulated on the axle
21/10	. not permanently interconnected, e.g. operative only on acceleration, only on deceleration or only at off-straight position of steering	2200/315	. . . at least one of the arms having an A or V shape
21/103	. . {longitudinally}	2200/318	. . two or more axles being mounted on a longitudinal rocking or walking beam
21/106	. . {transversally}	2200/32	. . pivoted
<b>99/00</b>	<b>Subject matter not provided for in other groups of this subclass</b>	2200/322	. . . with a single pivot point and a straight axle
99/002	. {Suspension details of the suspension of the vehicle body on the vehicle chassis}	2200/324	. . . with a single pivot point and a triangular "T" or "U"-shaped axle, e.g. DeDion arrangement
99/004	. {Other suspension arrangements with rubber springs}	2200/326	. . . with two laterally spaced pivots, e.g. trailing frame
99/006	. {Other suspension arrangements with metallic springs}	2200/34	. . Stabilising mechanisms, e.g. for lateral stability
99/008	. {Other suspension arrangements with fluid springs}	2200/341	. . . Panhard rod
<b>2200/00</b>	<b>Indexing codes relating to suspension types</b>	2200/3415	. . . . Scott-Russel linkage
2200/10	. Independent suspensions	2200/342	. . . Watt linkage
2200/13	. . with longitudinal arms only	2200/343	. . . with an axle suspended by two pivoted rods in "V"-arrangement, the rods being coupled at its apex
2200/132	. . . with a single trailing arm	2200/344	. . . with an axle suspended by two pivoted rods in an inverted "V"-arrangement, the rods being coupled at its apex
2200/1322	. . . . with a wishbone or triangular arm	2200/345	. . . with an axle suspended by two pivoted rods in "X"-arrangement
2200/1324	. . . . with a resilient trailing arm	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	2202/322	. . . the damper being controllable
2200/422	. . Driving wheels or live axles	2202/40	. Type of actuator
2200/44	. . steerable	2202/41	. . Fluid actuator
2200/445	. . Self-steered wheels	2202/412	. . . Pneumatic actuator
2200/446	. . Non-steerable wheels	2202/413	. . . Hydraulic actuator
2200/46	. . camber angle	2202/414	. . . using electrohydraulic valves
2200/462	. . Toe-in/out	2202/415	. . . using other types of valves, e.g. mechanically operated valves
2200/4622	. . . Alignment adjustment	2202/416	. . . using a pump, e.g. in the line connecting the lower chamber to the upper chamber of the actuator
2200/464	. . Caster angle		
2200/466	. . Damping acceleration or deceleration torque on wheel axle		
2202/00	<b>Indexing codes relating to the type of spring, damper or actuator</b>		
2202/10	. Type of spring	2202/42	. . Electric actuator
2202/11	. . Leaf spring	2202/422	. . . Linear motor
2202/112	. . . longitudinally arranged	2202/424	. . . electrostrictive materials, e.g. piezoelectric actuator
2202/114	. . . transversally arranged	2202/43	. . Mechanical actuator
2202/116	. . . having a "C" form loaded only at its ends transversally to its central axis	2202/432	. . . Spring motor
2202/117	. . . having a "C" form loaded parallel to its central axis	2202/44	. . Axial actuator, e.g. telescopic
2202/12	. . Wound spring	2202/441	. . . where axial movement is translated to rotation of the connected end part
2202/122	. . . subjected to tension	2202/442	. . Rotary actuator
2202/13	. . Torsion spring	2202/45	. . Other types, e.g. external jets for stability with particular characteristics
2202/132	. . . comprising a longitudinal torsion bar and/or tube	2202/49	. . Other type, e.g. external jets for stability
2202/134	. . . comprising a transversal torsion bar and/or tube	2204/00	<b>Indexing codes related to suspensions <u>per se</u> or to auxiliary parts</b>
2202/135	. . . Stabiliser bar and/or tube	2204/10	. Mounting of suspension elements
2202/1351	. . . . comprising at least two stabiliser bars parallel to each other	2204/11	. . Mounting of sensors thereon
2202/136	. . . Twist-beam type arrangement	2204/111	. . . on pneumatic springs
2202/1362	. . . . including a second torsional element, e.g. second beam, stabiliser bar or tube	2204/112	. . . on dampers, e.g. fluid dampers
2202/14	. . Plastic spring, e.g. rubber	2204/113	. . . Tyre related sensors
2202/141	. . . subjected to tension	2204/114	. . . Steering column mounted sensors
2202/142	. . . subjected to shear, e.g. Neidhart type	2204/115	. . . Wheel hub bearing sensors
2202/1422	. . . . Axial	2204/116	. . . Sensors coupled to the suspension arm
2202/1424	. . . . Torsional	2204/1162	. . . . directly mounted on the suspension arm
2202/143	. . . subjected to compression	2204/12	. . Mounting of springs or dampers
2202/144	. . . of rotary type	2204/121	. . . Mounting of leaf springs
2202/15	. . Fluid spring	2204/122	. . . Mounting of torsion springs
2202/152	. . . Pneumatic spring	2204/1222	. . . . Middle mounts of stabiliser on vehicle body or chassis
2202/1522	. . . . of rotary type	2204/1224	. . . . End mounts of stabiliser on wheel suspension
2202/1524	. . . . with two air springs per wheel, arranged before and after the wheel axis	2204/1226	. . . . on the trailing arms of a twist beam type arrangement
2202/154	. . . with an accumulator	2204/124	. . . Mounting of coil springs
2202/16	. . Magnetic spring	2204/1242	. . . . on a damper, e.g. MacPerson strut
2202/20	. Type of damper	2204/12422	. . . . . anchoring the end coils on the spring support plate
2202/21	. . with two dampers per wheel, arranged before and after the wheel axis	2204/1244	. . . . on a suspension arm
2202/22	. . Rotary Damper	2204/1246	. . . . on twist beam axles
2202/23	. . Friction Damper	2204/125	. . . Mounting of rubber type springs
2202/24	. . Fluid damper	2204/126	. . . Mounting of pneumatic springs
2202/242	. . . Pneumatic damper	2204/1262	. . . . on a damper
2202/25	. . Dynamic 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
2202/30	. Spring/Damper and/or actuator Units	2204/128	. . . Damper mount on vehicle body or chassis
2202/31	. . with the spring arranged around the damper, e.g. MacPherson strut	2204/129	. . . Damper mount on wheel suspension or knuckle
2202/312	. . . The spring being a wound spring	2204/13	. . . with the spring, i.e. coil spring, or damper horizontally mounted
2202/314	. . . The spring being a pneumatic spring	2204/1302	. . . . inside the vehicle frame
2202/32	. . The spring being in series with the damper and/or actuator		

2204/14	. . Mounting of suspension arms	2204/424	. . Mechanisms for force adjustment, e.g. constant force mechanisms
2204/143	. . . on the vehicle body or chassis	2204/43	. . Fittings, brackets or knuckles
2204/1431	. . . . of an L-shaped arm	2204/4302	. . . for fixing suspension arm on the vehicle body or chassis
2204/1432	. . . . by vertical bolts or studs	2204/4304	. . . Bracket for lower cylinder mount of McPherson strut
2204/1434	. . . . in twist-beam axles arrangement	2204/4305	. . . Bracket for mounting of hydraulic lines on a damper cylinder
2204/147	. . . on the vehicle engine body	2204/4306	. . . Bracket or knuckle for rigid axles, e.g. for clamping
2204/148	. . . on the unsprung part of the vehicle, e.g. wheel knuckle or rigid axle	2204/43065	. . . . U-shaped bolts crossing each other
2204/1482	. . . . on rigid axle by elastic mount	2204/4307	. . . Bracket or knuckle for torsional springs
2204/1484	. . . . on an intermediate upright strut upon which the stub axle is pivoted	2204/4308	. . . Protecting guards, e.g. for rigid axle damage protection
2204/149	. . . Mounting of rigid axle on wheel knuckle	2204/44	. . Centering or positioning means
2204/15	. . Mounting of subframes	2204/4402	. . . Spacers or shims
2204/16	. . Mounting of vehicle body on chassis	2204/4404	. . . Retainers for holding a fixing element, e.g. bushing, nut, bolt etc., until it is tightly fixed in position
2204/162	. . . Cabins, e.g. for trucks, tractors	2204/45	. . Stops limiting travel
2204/17	. . Mounting of bogies, e.g. for trailers	2204/4502	. . . using resilient buffer
2204/18	. . Mounting of vehicle engines	2204/45021	. . . . for limiting upper mount movement of a McPherson strut
2204/182	. . . Electric motor on wheel support	2204/4504	. . . using cable or band to prevent extension
2204/19	. . Mounting of transmission differential	2204/46	. . Means for locking the suspension
2204/20	. . Mounting of accessories, e.g. pump, compressor	2204/4602	. . . Locking of a McPerson type strut upper mount on the vehicle body
2204/201	. . . of fluid lines	2204/4604	. . . mechanically, e.g. using a hook as anticreep mechanism
2204/202	. . . of cables	2204/4605	. . . hydraulically, e.g. interrupting communication between the chambers of a hydraulic cylinder
2204/2022	. . . . using a suspension element (e.g. link, damper or spring) as part of the electrical circuitry	2204/47	. . Means for retracting the suspension
2204/22	. . Linking of trailers to trucks, e.g. truck-trailer connections	2204/4702	. . . pneumatically
2204/30	. . In-wheel mountings	2204/61	. Adjustable during maintenance
2204/40	. Auxiliary suspension parts; Adjustment of suspensions	2204/62	. Adjustable continuously, e.g. during driving
2204/41	. . Elastic mounts, e.g. bushings	2204/80	. Interactive suspensions; arrangement affecting more than one suspension unit
2204/4102	. . . having a pin or stud extending perpendicularly to the axis of the elastic mount	2204/81	. . front and rear unit
2204/4103	. . . having an eccentrically located inner sleeve	2204/8102	. . . diagonally arranged
2204/4104	. . . Bushings having modified rigidity in particular directions	2204/82	. . left and right unit on same axle
2204/41042	. . . . by using internal cam surfaces	2204/83	. . Type of interconnection
2204/41043	. . . . formed by a U-shaped external bracket	2204/8302	. . . Mechanical
2204/41044	. . . . in a shell for being loaded mainly in axial direction, e.g. piston rod mounts, longitudinal push-pull rod mounts	2204/83022	. . . . using cables, wires, belts or chains
2204/41046	. . . . having the axis of an inner sleeve or pin inclined to the axis of the bush	2204/8304	. . . using a fluid
2204/4106	. . . Elastokinematic mounts	2204/8306	. . . Permanent; Continuous
2204/41062	. . . . hydromounts; interconnected mounts		
2204/4108	. . . Resilient element being enclosed and or pre-stressed in a solid container	<b>2206/00</b>	<b>Indexing codes related to the manufacturing of suspensions: constructional features, the materials used, procedures or tools</b>
2204/414	. . Cardan joints	2206/01	. Constructional features of suspension elements, e.g. arms, dampers, springs
2204/416	. . Ball or spherical joints	2206/011	. . Modular constructions
2204/418	. . Bearings, e.g. ball or roller bearings	2206/0112	. . . Bogies for heavy vehicles
2204/419	. . Gears	2206/0114	. . . Independent suspensions on subframes
2204/4191	. . . Planetary or epicyclic gears	2206/0116	. . . Integrated distribution control units with valves, accumulators, PCB's or the like
2204/4192	. . . rack and pinion	2206/012	. . Hollow or tubular elements
2204/4193	. . . worm gears	2206/0122	. . . having a U profile with plate closing the profile in the total or partial length of the element
2204/42	. . Joints with cam surfaces	2206/013	. . with embedded inserts for material reinforcement
2204/421	. . Pivoted lever mechanisms for mounting suspension elements, e.g. Watt linkage	2206/014	. . with reinforcing nerves or branches
2204/422	. . Links for mounting suspension elements	2206/016	. . allowing controlled deformation during collision
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		

2206/017	. . forming an eye for the bushing	2206/71	. . . Light weight materials
2206/10	. . Constructional features of arms	2206/7101	. . . . Fiber-reinforced plastics [FRP]
2206/11	. . . the arm being a radius or track or torque or steering rod or stabiliser end link	2206/7102	. . . . Aluminium alloys
2206/111	. . . . of adjustable length	2206/7103	. . . . Magnesium alloys
2206/1112	. . . . . Manually, for alignment purposes	2206/7104	. . . . Thermoplastics
2206/1114	. . . . . Self-adjustable during driving	2206/71042	. . . . . Polyester elastomer
2206/1116	. . . . . Actively adjustable during driving	2206/71043	. . . . . Polyamid elastomer
2206/12	. . . with two attachment points on the sprung part of the vehicle	2206/71044	. . . . . Soft nylon
2206/121	. . . the arm having an H or X-shape	2206/7105	. . . . Porous materials, ceramics, e.g. as filling material
2206/122	. . . the arm having L-shape	2206/72	. . . Steel
2206/123	. . . the arm having T-shape	2206/722	. . . . Plates
2206/124	. . . the arm having triangular or Y-shape, e.g. wishbone	2206/724	. . . . Wires, bars or the like
2206/13	. . . with more than two attachment points on the sprung part of the vehicle	2206/73	. . . Rubber; Elastomers
2206/14	. . . the arm forming a U-shaped recess for fitting a bush	2206/80	. . Manufacturing procedures
2206/141	. . . . The recess being integrally or seamlessly formed	2206/81	. . . Shaping
2206/15	. . . the arm being resilient	2206/8101	. . . . by casting
2206/16	. . . the arm having a U profile and/or made of a plate	2206/81012	. . . . . by injection moulding
2206/161	. . . . with middle section narrower than end section	2206/8102	. . . . . by stamping
2206/162	. . . . with a plate closing the profile in the total or partial length of the arm	2206/81022	. . . . . by forging
2206/20	. . Constructional features of semi-rigid axles, e.g. twist beam type axles	2206/8103	. . . . . by folding or bending
2206/201	. . . with detachable cross beam and/or torsion stabiliser bar/tube	2206/81035	. . . . . involving heating to relieve internal stresses
2206/202	. . . with a radially deformed tube as a cross member	2206/8104	. . . . . by drawing
2206/203	. . . with outwardly bent trailing arms to increase the width of the support or wheelbase	2206/8105	. . . . . by extrusion
2206/30	. . Constructional features of rigid axles	2206/8106	. . . . . by thermal treatment, e.g. curing hardening, vulcanisation
2206/31	. . . Straight axle	2206/81062	. . . . . to relieve internal stresses, e.g. during folding or bending
2206/312	. . . Cranked axle	2206/8107	. . . . . by hydroforming
2206/32	. . . Hollow cross section	2206/8108	. . . . . by twisting
2206/40	. . Constructional features of dampers and/or springs	2206/8109	. . . . . by rolling
2206/41	. . . Dampers	2206/811	. . . . . by cutting
2206/42	. . . Springs	2206/8111	. . . . . by machining
2206/422	. . . . Accumulators for hydropneumatic springs	2206/8112	. . . . . by thermal spraying of molten material
2206/4222	. . . . . with a flexible separating wall; Membrane construction	2206/82	. . . Joining
2206/424	. . . . Plunger or top retainer construction for bellows or rolling lobe type air springs	2206/8201	. . . . by welding
2206/426	. . . . Coil springs having a particular shape, e.g. curved axis, pig-tail end coils	2206/82012	. . . . . Pressure welding
2206/427	. . . . Stabiliser bars or tubes	2206/82013	. . . . . Friction or heat welding
2206/428	. . . . Leaf springs	2206/82014	. . . . . Magnetic pulse welding ( <a href="#">welding by magnetic pulse in general B23K 20/06</a> )
2206/50	. . Constructional features of wheel supports or knuckles, e.g. steering knuckles, spindle attachments	2206/8205	. . . . by conical or compressed rubber clamping inserts as joining means
2206/60	. . Subframe construction	2206/8206	. . . . by riveting
2206/601	. . . Hanger bracket	2206/8207	. . . . by screwing
2206/602	. . . Single transverse beam	2206/8208	. . . . by hemming or seaming, e.g. by folding of the rim
2206/604	. . . with two parallel beams connected by cross members	2206/8209	. . . . by deformation
2206/605	. . . Flexible constructions	2206/82092	. . . . . by press-fitting
2206/606	. . . Complex constructions	2206/821	. . . . by gluing
2206/70	. . Materials used in suspensions	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	2400/05144	. . . . Wheel toe
2206/94	. . . Tools used for supporting parts	2400/05146	. . . . Wheel caster
2206/99	. . . Suspension element selection procedure depending on loading or performance requirements, e.g. selection of damper, spring or bush	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
<b>2300/00</b>	<b>Indexing codes relating to the type of vehicle</b>		
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 mechanism 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		
<b>2400/00</b>	<b>Indexing codes relating to detected, measured or calculated conditions or factors</b>		
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		

2400/61	. . Load distribution	2401/21	. Laser
2400/62	. . Seat occupation; Passenger presence	2401/22	. Radioactivity sensitive materials
2400/63	. . Location of the center of gravity	2401/23	. Memory materials
2400/64	. . Wheel forces, e.g. on hub, spindle or bearing	2401/24	. Heat sensitive materials; temperature gauge
2400/70	. Temperature of vehicle part or in the vehicle	2401/25	. Capacitance type, e.g. as level indicator
2400/71	. . of suspension unit	2401/26	. Resistance type, e.g. as level indicator
2400/712	. . . of spring	2401/27	. Gravitational, e.g. pendulum or axial movement type
2400/7122	. . . . Fluid spring	2401/28	. Gyroscopes
2400/716	. . . of damper	2401/90	. Single sensor for two or more measurements
2400/7162	. . . . Fluid damper	2401/902	. . the sensor being an xy axis sensor
2400/72	. . in vehicle interior	2401/904	. . the sensor being an xyz axis sensor
2400/73	. . of other part than suspension unit		
2400/732	. . . of propulsion unit	<b>2500/00</b>	<b>Indexing codes relating to the regulated action or device</b>
2400/80	. Exterior conditions	2500/02	. Supply or exhaust flow rates; Pump operation
2400/82	. . Ground surface	2500/022	. . Minimisation of pressure cavitation effects upon demand
2400/821	. . . Uneven, rough road sensing affecting vehicle body vibration	2500/04	. using inertia type valves
2400/822	. . . Road friction coefficient determination affecting wheel traction	2500/10	. Damping action or damper
2400/8222	. . . . Hydroplaning	2500/102	. . stepwise
2400/823	. . . Obstacle sensing	2500/104	. . continuous
2400/824	. . . Travel path sensing; Track monitoring	2500/106	. . duty rate
2400/84	. . Atmospheric conditions	2500/11	. . Damping valves
2400/841	. . . Wind	2500/112	. . . Fluid actuation
2400/842	. . . Temperature	2500/114	. . . pressure regulating valves
2400/8422	. . . . of air	2500/116	. . . for damping pressure oscillations of the fluid in hydraulic lines
2400/8424	. . . . of ground or road	2500/20	. Spring action or springs
2400/843	. . . Humidity; Rainfall	2500/201	. . Air spring system type
2400/845	. . . Darkness	2500/2012	. . . Open systems
2400/847	. . . Sunshine; Light	2500/2014	. . . Closed systems
2400/90	. Other conditions or factors	2500/202	. . Height or leveling valve for air-springs
2400/91	. . Frequency	2500/2021	. . . Arrangement of valves
2400/92	. . Travelling or driving time	2500/2022	. . . with valve seat actuation for selectively adjusting neutral height
2400/922	. . Travelling distance	2500/203	. . Distributor valve units comprising several elements, e.g. valves, pump or accumulators
2400/94	. . Deformation of a vehicle part	2500/204	. . Pressure regulating valves for air-springs
2400/942	. . . of vehicle body	2500/2041	. . . for variable volume air springs, e.g. using accumulators as expansion chambers
2400/95	. . Position of vehicle body elements	2500/2042	. . . Air filling valves
2400/952	. . . of door or bonnet	2500/2043	. . . Wheatstone bridge type valve arrangements
2400/954	. . . Wheelbase	2500/2044	. . . Air exhausting valves
2400/96	. . Presence, absence or inactivity of driver	2500/2046	. . . Pressure equalising valves between two units
2400/97	. . Relation between towing and towed vehicle, e.g. tractor-trailer combination	2500/205	. . Air-compressor operation
2400/972	. . . Angle of articulation	2500/206	. . Variable pressure accumulators for hydropneumatic suspensions
2400/98	. . Stabiliser movement	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
<b>2401/00</b>	<b>Indexing codes relating to the type of sensors based on the principle of their operation</b>	2500/22	. . Spring constant
2401/10	. Piezoelectric elements	2500/30	. Height or ground clearance
2401/11	. Electrostrictive transducers	2500/302	. . using distributor valves
2401/12	. Strain gauge	2500/32	. . of only one vehicle part or side
2401/122	. . Wheatstone bridge circuit	2500/322	. . . only front part
2401/14	. Photo or light sensitive means, e.g. Infrared	2500/324	. . . only rear part
2401/142	. . Visual Display Camera, e.g. LCD	2500/326	. . . only left or right side
2401/144	. . Fiber optic sensor	2500/40	. Steering
2401/15	. Doppler effect	2500/42	. . Sensibility
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		

<b>2600/00</b>	<b>Indexing codes relating to particular elements, systems or processes used on suspension systems or suspension control systems</b>	
2600/02	. Retarders, delaying means, dead zones, threshold values, cut-off frequency, timer interruption	2600/43 . MIMO system, i.e. multi input - multi output system
2600/04	. Means for informing, instructing or displaying	2600/44 . Vibration noise suppression
2600/042	. . Monitoring means	2600/60 . Signal noise suppression; Electronic filtering means
2600/0422	. . . involving data transmission, e.g. via satellite or GPS; for data monitoring, telemetry or platooning purposes	2600/602 . . high pass
2600/044	. . Alarm means	2600/604 . . low pass
2600/07	. Inhibiting means	2600/66 . Humidifying or drying means
2600/08	. Failure or malfunction detecting means	2600/68 . Filtering means, e.g. fluid filters
2600/082	. . Sensor drift	2600/70 . Computer memory; Data storage, e.g. maps for adaptive control
2600/084	. . Supervisory systems	2600/702 . . Parallel processing
2600/086	. . Redundant systems	2600/704 . . Electronic tags containing data, e.g. identification number of a component; Gain values for the control of the unit, etc.
2600/09	. Feedback signal	2600/71 . Distributed control; Master - slave controllers; Remote control units
2600/11	. Feedforward signal	2600/72 . Cooling or warming means
2600/12	. Sampling or average detecting; Addition or subtraction	2600/73 . Electrical control
2600/122	. . Summation signal	2600/74 . Analog systems
2600/124	. . Error signal	2600/76 . Digital systems
2600/14	. Differentiating means, i.e. differential control	2600/77 . A/D, D/A signal converters
2600/16	. Integrating means, i.e. integral control	2600/82 . duty rate function
2600/17	. Proportional control, i.e. gain control	2600/85 . Speed of regulation
2600/172	. . Weighting coefficients or factors	2600/90 . other signal treatment means
2600/18	. Automatic control means	<b>2800/00</b> <b>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</b>
2600/181	. . Signal modulation; pulse-width, frequency-phase	2800/01 . Attitude or posture control
2600/182	. . Active control means	2800/012 . . Rolling condition
2600/184	. . Semi-Active control means	2800/0122 . . . Roll rigidity ratio; Warping
2600/186	. . Analogue Controller Details and Signal Treatment	2800/0124 . . . Roll-over conditions
2600/187	. . Digital Controller Details and Signal Treatment	2800/014 . . Pitch; Nose dive
2600/1871	. . . Optimal control; Kalman Filters	2800/016 . . Yawing condition
2600/1872	. . . Observer; Luapinov function	2800/019 . . Inclination due to load distribution or road gradient
2600/1873	. . . Model Following	2800/0192 . . . longitudinal with regard to vehicle
2600/1874	. . . Modal analysis	2800/0194 . . . transversal with regard to vehicle
2600/1875	. . . Other parameter or state estimation methods not involving the mathematical modelling of the vehicle	2800/16 . Running
2600/1876	. . . Artificial intelligence	2800/162 . . Reducing road induced vibrations
2600/1877	. . . Adaptive Control	2800/164 . . Heaving; Squatting
2600/1878	. . . Neural Networks	2800/166 . . Platooning
2600/1879	. . . Fuzzy Logic Control	2800/18 . Starting, accelerating
2600/188	. . Spectral analysis; Transformations	2800/182 . . Traction
2600/1881	. . . Integral	2800/20 . Stationary vehicle
2600/1882	. . . Fourier	2800/202 . . kneeling, e.g. for letting passengers on/off
2600/1883	. . . z-transform	2800/203 . . lowering the floor for loading/unloading
2600/1884	. . . Laplace	2800/204 . . adjusting floor height to the loading ramp level
2600/1885	. . . Euler equations	2800/2042 . . . using an anticreep mechanism to lock the height
2600/189	. . Statistical analysis	2800/205 . . jacking-up for changing tyre or vehicle inspection
2600/20	. Manual control or setting means	2800/21 . Traction, slip, skid or slide control
2600/202	. . using a remote, e.g. cordless, transmitter or receiver unit	2800/212 . . Transversal; Side-slip during cornering
2600/204	. . Joystick actuated suspension	2800/213 . . by applying forward/backward torque on each wheel individually
2600/206	. . Control-by-wire	2800/214 . . by varying the load distribution
2600/21	. Self-controlled or adjusted	2800/215 . . by applying a braking action on each wheel individually
2600/22	. Magnetic elements	2800/22 . Braking, stopping
2600/24	. . permanent magnets	2800/222 . . during collision
2600/26	. . Electromagnets; Solenoids	2800/224 . . automatically, based on dangerous living style
2600/28	. Temporary fluctuations	2800/226 . . automatically, based on stopping at a preset or target point position
2600/41	. SISO system, i.e. single input - single output system	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