

ECLA**EUROPEAN CLASSIFICATION****B60G****VEHICLE SUSPENSION ARRANGEMENTS** (air-cushion vehicles B60V; [N: cycle suspensions [B62K25/00](#)])[N: **WARNING**

[C2010.03] The following IPC groups are not used in the internal ECLA classification scheme. Subject matter covered by these groups is classified in the following ECLA groups:

- [B60G23/00](#) covered by [B60G17/0165](#)
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Note

Attention is drawn to the explanatory note following the class title B60

[N: **Note** [C1006]

1. Indexing codes [L60G200/00](#) to [L60G800/00](#) are dedicated to particular aspects of suspension arrangements:
 - [L60G200/00](#) refers to the type of suspension arrangement;
 - [L60G202/00](#) refers to the suspension elements used (springs, dampers and actuators);
 - [L60G204/00](#) refers to mounting features of suspension elements;
 - [L60G206/00](#) refers to constructional and manufacturing details of suspension elements;
 - [L60G300/00](#) refers to the type of vehicle;
 - [L60G400/00](#) to [L60G800/00](#) refer to the electronic control of suspension arrangements, whereby:
 - [L60G400/00](#) refers to input parameters of the control;
 - [L60G401/00](#) refers to types of sensors used;
 - [L60G500/00](#) refers to the controlled action or device;
 - [L60G600/00](#) refers to particular details of the control system;
 - [L60G800/00](#) refers to the result to be achieved by the control action.
2. Groups [L60G200/00](#) to [L60G800/00](#) 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.

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B60G1/00**Suspensions with rigid connection between axle and frame**

B60G1/02 . with continuous axle

B60G1/04 . with divided axle

B60G3/00 **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 [B60G7/00](#); [N: rigid axle suspensions [B60G9/00](#)]; characterised by arrangement, location or type of springs [B60G11/00](#)) [C9409]

B60G3/01 . the wheel being mounted for sliding movement, e.g. in or on a vertical guide (camber maintaining means [B60G3/26](#))

B60G3/02 . with a single pivoted arm

B60G3/04 . . the arm being essentially transverse to the longitudinal axis of the vehicle

B60G3/06 . . . the arm being rigid

B60G3/08 the arm forming the axle housing

B60G3/10 . . . the arm itself being resilient, e.g. leaf spring [N: ([B60G7/00A1](#) takes precedence)]

B60G3/12 . . the arm being essentially parallel to the longitudinal axis of the vehicle

B60G3/14 . . . the arm being rigid

B60G3/14B [N: the arm forming the axle housing]

B60G3/16 . . . the arm itself being resilient, e.g. leaf spring [N: ([B60G7/00A1](#) takes precedence)]

B60G3/18 . with two or more pivoted arms, e.g. parallelogram

B60G3/18B . . [N: the arms being essentially parallel to the longitudinal axis of the vehicle]

B60G3/20 . . all arms being rigid

B60G3/20A . . . [N: having one longitudinal arm and two parallel transversal arms, e.g. dual-link type strut suspension] [N9409]

B60G3/20A1 [N: 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] [N9409]

B60G3/20B . . . [N: the arms being essentially parallel to the longitudinal axis of the vehicle]

B60G3/22 . . . a rigid arm forming the axle housing

B60G3/22B [N: the arm being of the trailing wishbone type] [N9409]

B60G3/24 . . . a rigid arm being formed by the live axle [N: ([3B60G/22](#), [B60G3/26](#) take precedence; driving arrangements [B60K17/22](#), [B60K17/30](#), [B60K17/32](#))] [C9409]

B60G3/26 . . . Means for maintaining substantially-constant wheel camber during suspension movement; [N: Means for controlling the variation of the wheel position during suspension movement ([B60G3/20A](#), [B60G3/22](#), [B60G7/00A1](#), [B60G7/00D](#) take precedence; means for adjusting camber, castor, or toe-in [B62D17/00](#))] [C9501]

B60G3/26A [N: with a strut cylinder contributing to the suspension geometry by being linked to the wheel support via an articulation] [N9409]

B60G3/28 . . at least one of the arms itself being resilient, e.g. leaf spring [(N:[B60G7/00A1](#) takes precedence)]

B60G3/28B . . . [N: the arm being essentially parallel to the longitudinal axis of the vehicle]

B60G5/00 **Resilient suspensions for a set of tandem wheels or axles having interrelated**

movement

- B60G5/00C . [N: the wheels being fixed on a non-pivotal structure, e.g. a sliding mount]
- B60G5/01 . the set being characterised by having more than two successive axles
- B60G5/02 . mounted on a single pivoted arm, [N: e.g. the arm being rigid]
- B60G5/02C . . [N: the arm being transverse to the longitudinal axis of the vehicle]
- B60G5/03 . . the arm itself being resilient, e.g. a leafspring ([B60G5/053](#) takes precedence)
- B60G5/04 . with two or more pivoted arms, the movements of which are resiliently interrelated, [N: e.g. the arms being rigid]
- B60G5/04C . . [N: the arms being transverse to the longitudinal axis of the vehicle]
- B60G5/047 . . [N: at least one arm being resilient, e.g. a leafspring ([B60G5/053](#) takes precedence)]
- B60G5/053 . . a leafspring being used as equilibration unit between two axle-supporting units
- B60G5/06 . . the arms turning on a common pivot [N: e.g. being rigid]
- B60G5/06B . . . [N: at least one arm being resilient]

- B60G7/00** **Pivoted suspension arms; Accessories thereof** (means for maintaining substantially constant wheel camber during suspension movement [B60G3/26](#); [N: articulations for wheels [B60G5/00](#); leaf spring attaching means [B60G11/10](#), [B60G11/12](#); trailing arm twist beam axle attaching means [B60G21/05C1](#); articulations in general [F16C](#)]) [C9409]
- B60G7/00A . [N: Suspension arms, e.g. constructional features ([B60G7/00D](#) takes precedence)]
- B60G7/00A1 . . [N: of adjustable length]
- B60G7/00B . [N: Ball joints ([B60G7/00D](#) takes precedence; for steering linkage [B62D7/16](#); ball joints per se [F16C11/06](#))] [C9607]
- B60G7/00D . [N: 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 ([B62D7/14C](#) takes precedence)]
- B60G7/00W . [N: Attaching arms to unsprung part of vehicle ([B60G7/00B](#), [B60G7/00D](#) take precedence)] [N9607]
- B60G7/02 . Attaching arms to sprung part of vehicle [N: ([B60G7/00D](#) takes precedence)]
- B60G7/04 . Buffer means for limiting movement of arms [N: (stops limiting fluid passage in fluid dampers [F16F9/49](#); stroke-limiting stops for fluid dampers [F16F9/58](#))]

- B60G9/00** **Resilient suspensions of a rigid axle or axle housing for two or more wheels** [N: (the axle being a part of a set of tandem axles [B60G5/00](#)-[B60G5/06B](#); with leaf springs [B60G11/02](#)-[B60G11/08](#))] [C9412]
- B60G9/00B . [N: the axle being rigidly connected to a trailing guiding device] [N9412]
- B60G9/00C . [N: the axle being connected to two trailing arms with only one of them being rigidly connected to the axle] [N9605]

- B60G9/02
 - the axle or housing being pivotally mounted on the vehicle, [N: e.g. the pivotal axis being parallel to the longitudinal axis of the vehicle ([B60G9/00B](#) takes precedence)] [C9412]
- B60G9/02B
 - [N: the axle having an imaginary pivotal point] [N9412]
- B60G9/02B1
 - [N: using linkages for the suspension of the axle allowing its lateral swinging displacement] [N9412]
- B60G9/02D
 - [N: 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] [N9605]
- B60G9/04
 - [N: the axle or housing not being pivotally mounted on the vehicle ([B60G9/00B](#) takes precedence)] [C9412]
- B60G11/00**

Resilient suspensions characterised by arrangement, location or kind of springs
(single wheel suspension by pivoted arm resilient in itself [B60G3/00](#); adjusting spring characteristic [B60G17/00](#); 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.
- B60G11/00B
 - [N: Lubrication devices for springs and dampers (vehicle lubrication devices in general [B60R17/00](#); for leaf springs in general [F16F1/24](#))] [C9409]
- B60G11/00C
 - [N: Centrally located spring units, e.g. all wheels being connected to a common spring unit ([B60G5/00](#), [B60G17/033](#) take precedence)]
- B60G11/02
 - having leaf spring only [N: ([B60G11/00C](#) takes precedence)]
- B60G11/02B
 - [N: repairing devices for leaf springs]
- B60G11/04
 - arranged substantially parallel to the longitudinal axis of the vehicle
- B60G11/06
 - arranged obliquely to the longitudinal axis of the vehicle
- B60G11/08
 - arranged substantially transverse to the longitudinal axis of the vehicle
- B60G11/10
 - characterised by means specially adapted for attaching the spring to axle or sprung part of the vehicle
- B60G11/107
 - Sliding or rolling mountings
- B60G11/113
 - Mountings on the axle ([B60G11/107](#) takes precedence)
- B60G11/12
 - Links, pins, or bushes
- B60G11/12B
 - [N: Multiple-eye arrangements] [N9409]
- B60G11/14
 - having helical, spiral or coil springs only [N: ([B60G11/00C](#) takes precedence)]
- B60G11/15
 - Coil springs resisting deflection by winding up
- B60G11/16
 - characterised by means specially adapted for attaching the spring to axle or sprung part of the vehicle
- B60G11/18
 - having torsion-bar springs only [N: ([B60G11/00C](#) takes precedence; having rubber springs of the torsional-energy-absorption type [B60G11/23](#))] [C9409]

[N: **Note**
[N9409][B60G11/18F](#) takes precedence over [B60G11/18B](#) to [B60G11/18D](#)]

- B60G11/18B . . [N: arranged in a plane parallel to the longitudinal axis of the vehicle]
- B60G11/18C . . [N: arranged in a plane oblique to the longitudinal axis of the vehicle]
- B60G11/18D . . [N: arranged in a plane transverse to the longitudinal axis of the vehicle]
- B60G11/18F . . [N: the torsion-bar consisting of a bundle of torsion elements] [N9409]
- B60G11/18F1 . . . [N: the elements being rods] [N9409]
- B60G11/18F1A [N: of hexagonal cross-section] [N9409]
- B60G11/18F2 . . . [N: the elements being leaf-springs loaded by twisting] [N9409]
- B60G11/18F3 . . . [N: the elements being cables] [N9409]
- B60G11/18T . . [N: the torsion spring consisting of a tube with a slit] [N0102]
- B60G11/20 . . characterised by means specially adapted for attaching the spring to axle or sprung part of the vehicle

- B60G11/22 . having rubber springs only [N:([B60G11/00C](#) takes precedence)]
- B60G11/22C . . [N: Neidhart type rubber springs]
- B60G11/23 . . of the torsional-energy-absorption type
- B60G11/24 . . characterised by means specially adapted for attaching the spring to axle or sprung part of the vehicle

- B60G11/26 . having fluid springs only, e.g. hydropneumatic springs ([N: [B60G11/00C](#),] [B60G15/12](#) take precedence) [C9409]
- B60G11/26B . . [N: hydraulic springs]
- B60G11/27 . . wherein the fluid is a gas
- B60G11/28 . . characterised by means specially adapted for attaching the spring to axle or sprung part of the vehicle
- B60G11/30 . . having pressure fluid accumulator therefor, e.g. accumulator arranged in vehicle frame [N: ([dampers accumulating utilisable energy](#) [B60G13/14](#))] [C9409]

- B60G11/32 . having springs of different kinds [N:([B60G11/00C](#) takes precedence)]
- B60G11/34 . . including leaf springs
- B60G11/36 . . . and also helical, spiral or coil springs
- B60G11/38 . . . and also rubber springs
- B60G11/40 the rubber springs being attached to the axle
- B60G11/42 the rubber springs being attached to sprung part of the vehicle
- B60G11/44 . . . and also torsion-bar springs
- B60G11/46 . . . and also fluid springs
- B60G11/46B [N: with a flexible wall]
- B60G11/48 . . not including leaf springs
- B60G11/50 . . . having helical, spiral or coil springs, and also torsion-bar springs
- B60G11/52 . . . having helical, spiral or coil springs, and also rubber springs
- B60G11/54 with rubber springs arranged within helical, spiral or coil springs
- B60G11/56 . . . having helical, spiral or coil springs, and also fluid springs
- B60G11/58 arranged coaxially
- B60G11/60 . . . having both rubber springs and torsion-bar springs
- B60G11/62 . . . having both rubber springs and fluid springs
- B60G11/64 . . . having both torsion-bar springs and fluid springs

B60G13/00 **Resilient suspensions characterised by arrangement, location or type of vibration dampers** (adjusting damping effect [B60G17/06](#); vibration dampers per se [F16F](#))

- B60G13/00B . [N: Arrangements for attachment of dampers (mounting arrangements of combined spring and damper units [B60G15/00](#); mountings of fluid dampers in general [F16F9/54](#))] [C9409]
- B60G13/00B2 . . [N: characterised by the mounting on the vehicle body or chassis of the damper unit] [N9409]
- B60G13/00B4 . . [N: characterised by the mounting on the axle or suspension arm of the damper unit] [N9409]
- B60G13/00B4B . . . [N: on the stub axle] [N9409]
- B60G13/00B4D . . . [N: involving use of an auxiliary cylinder ([B60G13/00B4B](#) takes precedence)] [N9409]
- B60G13/02 . having dampers dissipating energy, e.g. frictionally
- B60G13/04 . . mechanically, e.g. having frictionally-engaging springs as damping elements
- B60G13/06 . . of fluid type
- B60G13/08 . . . hydraulic
- B60G13/10 . . . pneumatic
- B60G13/12 . . . quasi-fluid, i.e. having powdered medium
- B60G13/14 . . having dampers accumulating utilisable energy, e.g. compressing air [N: (fluid springs with an accumulator [B60G11/30](#))] [C9409]
- B60G13/16 . having dynamic absorber as main damping means, i.e. spring-mass system vibrating out of phase
- B60G13/18 . . combined with energy-absorbing means

B60G15/00 **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](#))

- B60G15/02 . having mechanical spring
- B60G15/04 . . and mechanical damper [N: or dynamic damper]
- B60G15/06 . . and fluid damper
- B60G15/06C . . . [N: with a coil spring being mounted inside the damper]
- B60G15/06D . . . [N: the spring being arranged around the damper ([B60G15/06C](#), [B60G15/06F](#), [B60G15/07](#) take precedence)]
- B60G15/06D1 [N: characterised by the mounting of the spring on the damper ([B60G15/06D2](#), [B60G15/06D3](#) take precedence)] [N9412]
- B60G15/06D2 [N: characterised by the use of a combination of springs] [N9412]
- B60G15/06D3 [N: the spring being different from a coil spring ([B60G15/06D2](#) takes precedence)] [N9412]
- B60G15/06F . . . [N: characterised by the mounting on the vehicle body or chassis of the spring and damper unit] [C9409]
- B60G15/06F1 [N: specially adapted for MacPherson strut-type suspension] [N9412]
- B60G15/07 . . . the damper being connected to the stub axle and the spring being arranged around the damper [N: ([B60G15/06F1](#) takes precedence)] [C9412]

- B60G15/08 . having fluid spring
 - B60G15/10 . . and mechanical damper [N: or dynamic damper]
 - B60G15/12 . . and fluid damper
 - B60G15/14 . . . the damper being connected to the stub axle and the spring being arranged around the damper
- B60G17/00** **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 [N: (levelling or stabilising systems for tippers [B60P1/04B](#))] [C9607]**
- B60G17/00T . [N: by temperature regulation of the suspension unit, e.g. heat operated systems]
 - B60G17/005 . Suspension locking arrangements [N: (for retractable wheels [B62D61/12](#))] [C9605]
 - B60G17/015 . the regulating means comprising electric or electronic elements ([N: [B60G17/00T](#)], [B60G17/005](#) take precedence)
 - B60G17/015B . . [N: characterised by the action on a particular type of suspension unit (B60G17/019P takes precedence)] [C0705]
 - B60G17/015B1 . . . [N: pneumatic unit]
 - B60G17/015B2 . . . [N: non-fluid unit, e.g. electric motor]
 - B60G17/016 . . characterised by their responsiveness, when the vehicle is travelling, to specific motion, a specific condition, or driver input [N: [B60G17/017](#) takes precedence] [N0502]
 - B60G17/016D . . . [N: mainly during straight-line motion ([B60G17/016H](#) takes precedence)] [N0502]
 - B60G17/016F . . . [N: mainly during a motion involving steering operation, e.g. cornering, overtaking ([B60G17/016H](#) takes precedence)] [N0502]
 - B60G17/016F2 [N: the control involving steering geometry, e.g. four-wheel steering] [N0502]
 - B60G17/016H . . . [N: mainly during accelerating or braking] [N0502]
 - B60G17/0165 . . . [N: NPC8] to an external condition, e.g. rough road surface, side wind [N0502]
 - B60G17/017 . . characterised by their use when the vehicle is stationary, e.g. during loading, engine start-up or switch-off [N0502]
 - B60G17/018 . . characterised by the use of a specific signal treatment or control method [N0502]
 - B60G17/018C . . . [N: involving parameter estimation, e.g. observer, Kalman filter] [N0502]
 - B60G17/0185 . . . for failure detection [N0502]
 - B60G17/019 . . characterised by the type of sensor or the arrangement thereof [N: [B60G17/015P](#) takes precedence] [N0502]
 - B60G17/019B . . . [N: Acceleration or inclination sensors (characterised by the use of gyroscopes [B60G21/08](#))] [N0502]
 - B60G17/019B3 [N: Mercury-switch type devices] [N0502]
 - B60G17/019B5 [N: Pendulum-type devices] [N0502]
 - B60G17/019E . . . [N: Velocity, e.g. relative velocity-displacement sensors] [N0502]
 - B60G17/019P . . . [N: characterised by the use of piezo-electric elements, e.g. sensors or actuators] [N0705]
 - B60G17/0195 . . characterised by the regulation being combined with other vehicle control systems

[N: (Conjoint control of vehicle sub-units including control of suspension systems [B60W10/22](#))] [N0502]

- B60G17/02 . Spring characteristics [N: e.g. mechanical springs and mechanical adjusting means] ([B60G17/005](#), [B60G17/015](#) take precedence)
- B60G17/02C . . [N: the mechanical spring being a coil spring ([B60G17/027C](#) takes precedence)] [N9605]
- B60G17/02D . . [N: the mechanical spring being a leaf spring ([B60G17/027D](#) takes precedence)] [N9605]
- B60G17/02T . . [N: the mechanical spring being a torsion spring ([B60G17/027T](#), [B60G21/055B1](#) take precedence)] [N9605]
- B60G17/027 . . Mechanical springs regulated by fluid means ([B60G17/033](#) takes precedence) [C9409]
- B60G17/027C . . . [N: the mechanical spring being a coil spring] [N9409]
- B60G17/027D . . . [N: the mechanical spring being a leaf spring] [N9409]
- B60G17/027T . . . [N: the mechanical spring being a torsion spring ([B60G21/055B1](#) takes precedence)] [N9409]
- B60G17/033 . . characterised by regulating means acting on more than one spring
- B60G17/04 . . fluid spring characteristics
- B60G17/04E . . . [N: details, e.g. antifreeze for suspension fluid, pumps, retarding means per se]
- B60G17/04H . . . [N: regulated by varying the resiliency of hydropneumatic suspensions ([B60G17/048](#) takes precedence)] [N9605]
- B60G17/04H1 [N: by varying the air pressure of the accumulator] [N9605]
- B60G17/04H2 [N: by varying the number of accumulators connected to the hydraulic cylinder ([B60G17/04H1](#) takes precedence)] [N9605]
- B60G17/044 . . . Self-pumping fluid springs (pumps for liquids [F04](#))
- B60G17/048 . . . with the regulating means inside the fluid springs ([B60G17/044](#) takes precedence)
- B60G17/048P [N: the springs being pneumatic springs with a flexible wall, e.g. with levelling valves] [N9605]
- B60G17/052 . . . Pneumatic spring characteristics ([B60G17/048](#) takes precedence [N: ; valves per se [F16K](#)])
- B60G17/052A [N: the spring having a flexible wall] [N9605]
- B60G17/052V [N: Regulating distributors or valves for pneumatic springs] [N9605]
- B60G17/052V1 [N: Height adjusting or levelling valves] [N9605]
- B60G17/052V2 [N: Distributor units, e.g. for retractable wheels (vehicles with retractable wheels per se [B62D61/12](#))] [N9605]
- B60G17/052V3 [N: Pressure regulating or air filling valves] [N9605]
- B60G17/056 . . . Regulating distributors or valves [N: for hydropneumatic systems] ([B60G17/044](#) to [B60G17/048](#), [N: [B60G17/04H](#)] take precedence; [N: Fluid interconnection systems to control vehicle inclination [B60G21/06](#), [B60G21/10](#); valves per se [F16K](#)] [C9605]
- B60G17/056H [N: Height adjusting valves] [N9605]
- B60G17/06 . Characteristics of dampers [N: e.g. mechanical dampers] ([B60G17/015](#) takes precedence)
- B60G17/08 . . Characteristics of fluid dampers (adjusting fluid dampers in general [F16F9/44](#) to [F16F9/53](#))

B60G21/00	Interconnection systems for two or more resiliently-suspended wheels, e.g. for stabilising a vehicle body with respect to acceleration, deceleration or centrifugal forces (B60G17/033 takes precedence; [N: levelling or stabilising systems for tippers B60P1/04B]; steering deflectable wheels combined with means for inwardly inclining the vehicle body on bends B62D9/02) [C9607]
B60G21/00B	. [N: longitudinally]
B60G21/00C	. [N: transversally]
B60G21/00D	. [N: means for adjusting the wheel inclination]
B60G21/02	. permanently interconnected
B60G21/02B	. . [N: longitudinally]
B60G21/02C	. . [N: transversally]
B60G21/04	. . mechanically
B60G21/045	. . . between wheels on different axles on the same side of the vehicle, i.e. the left or the right side
B60G21/05	. . . between wheels on the same axle but on different sides of the vehicle, i.e. the left and right wheel suspensions being interconnected
B60G21/05C [N: Trailing arm twist beam axles] [N9409]
B60G21/05C1 [N: Mounting means therefor] [N9409]
B60G21/05C1C [N: adjustable] [N9409]
B60G21/055 Stabiliser bars
B60G21/055B [N: Mounting means therefor] [C9409]
B60G21/055B1 [N: adjustable]
B60G21/055B1A {7 dots} [N: including an actuator inducing vehicle roll] [N0102]
B60G21/055B1B {7 dots} [N: including a releasable coupling (B60G21/055B1A takes precedence)] [N0102]
B60G21/055B1C {7 dots} [N: including means varying the stiffness of the stabiliser (B60G21/055B1B takes precedence)] [N0102]
B60G21/06	. . fluid
B60G21/067	. . . between wheels on different axles on the same side of the vehicle, i.e. the left or the right side
B60G21/073	. . . between wheels on the same axle but on different sides of the vehicle, i.e. the left and right wheel suspensions being interconnected
B60G21/08	. . characterised by use of gyroscopes (gyroscopes for stabilising vehicle bodies without controlling suspension arrangements B62D37/06)
B60G21/10	. not permanently interconnected, e.g. operative only on acceleration, only on deceleration or only at off-straight position of steering
B60G21/10B	. . [N: longitudinally]
B60G21/10C	. . [N: transversally]
B60G99/00	Subject matter not provided for in other groups of this subclass [N1003]
B60G99/00B	. [N: Suspension details of the suspension of the vehicle body on the vehicle chassis]

N1003]

B60G99/00C

- [N: Other suspension arrangements with rubber springs] [N1003]

B60G99/00D

- [N: Other suspension arrangements with metallic springs] [N1003]

B60G99/00E

- [N: Other suspension arrangements with fluid springs] [N1003]