

B60 VEHICLES IN GENERAL**B60G VEHICLE SUSPENSION ARRANGEMENTS** (air-cushion vehicles B60V; connections between vehicle bodies and vehicle frames B62D 24/00) [5]

Attention is drawn to the Note following the title of class B60.

RIGID SUSPENSION	1/00	Characterised by arrangement, location, or kind of: springs; vibration-dampers; or combined springs and dampers.....	11/00; 13/00; 15/00
RESILIENT SUSPENSION		Characterised by adjustment	17/00
General structures			
for single wheels; single sets of			
tandem wheels; pivoted			
suspension arms and			
accessories therefor.....	3/00; 5/00; 7/00		
for rigid axle or axle housing			
for two or more wheels	9/00		
		SUSPENSIONS WITH MEANS FOR SENSING GROUND UNEVENNESS.....	23/00
		INTERCONNECTED SYSTEMS FOR RESILIENTLY-SUSPENDED WHEELS.....	21/00
		OTHER SUSPENSION ARRANGEMENTS	25/00

1/00	Suspensions with rigid connection between axle and frame	5/047	. . at least one arm being resilient, e.g. a leafspring (B60G 5/053 takes precedence) [5]
1/02	. with continuous axle	5/053	. . a leafspring being used as equilibration unit between two axle-supporting units [5]
1/04	. with divided axle	5/06	. . the arms turning on a common pivot
3/00	Resilient suspensions for a single wheel (pivoted suspension arms <u>per se</u> , attachment thereof to sprung part of the vehicle, buffer means for limiting movement of arms B60G 7/00; characterised by arrangement, location, or type of springs B60G 11/00)	7/00	Pivoted suspension arms; Accessories thereof (means for maintaining substantially-constant wheel camber during suspension movement B60G 3/26)
3/01	. the wheel being mounted for sliding movement, e.g. in or on a vertical guide (camber maintaining means B60G 3/26) [5]	7/02	. Attaching arms to sprung part of vehicle
3/02	. with a single pivoted arm	7/04	. Buffer means for limiting movement of arms
3/04	. . the arm being essentially transverse to the longitudinal axis of the vehicle	9/00	Resilient suspensions for a rigid axle or axle housing for two or more wheels
3/06	. . . the arm being rigid	9/02	. the axle or housing being pivotally mounted on the vehicle
3/08	. . . the arm forming the axle housing	9/04	. the axle or housing not being pivotally mounted on the vehicle
3/10	. . . the arm itself being resilient, e.g. leaf spring	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 <u>per se</u> F16F)
3/12	. . the arm being essentially parallel to the longitudinal axis of the vehicle		In this group, the following terms or expressions are used with the meanings indicated:
3/14	. . . the arm being rigid		– “torsion bar” includes torsion tube or the like;
3/16	. . . the arm itself being resilient, e.g. leaf spring		– “rubber” includes synthetic substitutes of a similar nature.
3/18	. with two or more pivoted arms, e.g. parallelogram		
3/20	. . all arms being rigid	11/02	. having leaf springs only
3/22	. . . a rigid arm forming the axle housing	11/04	. . arranged substantially parallel to the longitudinal axis of the vehicle
3/24	. . . a rigid arm being formed by the live axle	11/06	. . arranged obliquely to the longitudinal axis of the vehicle
3/26	. . . Means for maintaining substantially-constant wheel camber during suspension movement	11/08	. . arranged substantially transverse to the longitudinal axis of the vehicle
3/28	. . at least one of the arms itself being resilient, e.g. leaf spring	11/10	. . characterised by means specially adapted for attaching the spring to axle or sprung part of the vehicle
5/00	Resilient suspensions for a set of tandem wheels or axles having interrelated movements	11/107	. . . Sliding or rolling mountings [5]
5/01	. the set being characterised by having more than two successive axles [5]		
5/02	. mounted on a single pivoted arm		
5/03	. . the arm itself being resilient, e.g. a leafspring (B60G 5/053 takes precedence) [5]		
5/04	. with two or more pivoted arms, the movements of which are resiliently interrelated		

- 11/113 . . . Mountings on the axle (B60G 11/107 takes precedence) [5]
- 11/12 . . . Links, pins, or bushes
- 11/14 . . . having helical, spiral, or coil springs only
- 11/15 . . . Coil springs resisting deflection by winding up [5]
- 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
- 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
- 11/23 . . . of the torsional-energy-absorption type [5]
- 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 15/12 takes precedence)
- 11/27 . . . wherein the fluid is a gas [5]
- 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
- 11/32 . . . having springs of different kinds
- 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
- 11/48 . . . 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)
- 13/02 . . . 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
- 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) [5]
- 15/02 . . . having mechanical spring
- 15/04 . . . and mechanical damper
- 15/06 . . . and fluid damper
- 15/07 . . . the damper being connected to the stub axle and the spring being arranged around the damper [5]
- 15/08 . . . having fluid spring
- 15/10 . . . and mechanical damper
- 15/12 . . . and fluid damper
- 15/14 . . . the damper being connected to the stub axle and the spring being arranged around the damper [5]
- 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** [5]
- 17/005 . . . Suspension locking arrangements [5]
- 17/015 . . . the regulating means comprising electric or electronic elements (B60G 17/005 takes precedence) [5,8]
- 17/016 . . . characterised by their responsiveness, when the vehicle is travelling, to specific motion, a specific condition, or driver input [8]
- 17/0165 . . . to an external condition, e.g. rough road surface, side wind [8]
- 17/017 . . . characterised by their use when the vehicle is stationary, e.g. during loading, engine start-up or switch-off [8]
- 17/018 . . . characterised by the use of a specific signal treatment or control method [8]
- 17/0185 . . . for failure detection [8]
- 17/019 . . . characterised by the type of sensor or the arrangement thereof [8]
- 17/0195 . . . characterised by the regulation being combined with other vehicle control systems [8]
- 17/02 . . . Spring characteristics (B60G 17/005 B60G 17/015 take precedence) [5]
- 17/027 . . . Mechanical springs regulated by fluid means (B60G 17/033 takes precedence) [5]
- 17/033 . . . characterised by regulating means acting on more than one spring [5]
- 17/04 . . . Fluid-spring characteristics
- 17/044 . . . Self-pumping fluid springs (pumps for liquids F04) [5]
- 17/048 . . . with the regulating means inside the fluid springs (B60G 17/044 takes precedence) [5]
- 17/052 . . . Pneumatic spring characteristics (B60G 17/048 takes precedence) [5]
- 17/056 . . . Regulating distributors or valves (B60G 17/044 B60G 17/048 take precedence) [5]
- 17/06 . . . Characteristics of dampers (B60G 17/015 takes precedence) [5]
- 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; steering deflectable wheels combined with means for inwardly inclining the vehicle body on bends B62D 9/02) [5]
- 21/02 . permanently interconnected
 - 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 [5]
 - 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 [5]
 - 21/055 Stabiliser bars [5]
 - 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 [5]
 - 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 [5]
 - 21/08 . characterised by use of gyroscopes (gyroscopes for stabilising vehicle bodies without controlling suspension arrangements B62D 37/06) [4,5]
 - 21/10 . not permanently interconnected, e.g. operative only on acceleration, only on deceleration, or only at off-straight position of steering
 - 23/00 Wheel suspensions with automatic means for sensing unevenness ahead of wheels or for moving wheels up or down in accordance therewith**
 - 25/00 Other suspension arrangements**