

ECLA**EUROPEAN CLASSIFICATION****B60S****SERVICING, CLEANING, REPAIRING, SUPPORTING, LIFTING, OR MANOEUVRING OF VEHICLES, NOT OTHERWISE PROVIDED FOR****Note**

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

B60S1/00

Cleaning of vehicles (by apparatus not integral with vehicle [B60S3/00](#); cleaning in general B08B; de-icing of aircraft B64D; heating arrangements specially adapted for transparent or reflecting areas [H05B3/84](#)) [N9511]

- B60S1/02 . Cleaning windscreens, windows or optical devices [N: (wind deflectors specially adapted for preventing soiling of windows or windscreens [B60J1/20A](#))]
- B60S1/02B . . [N: including defroster or demisting means]
- B60S1/02B2 . . . [N: using electrical means]
- B60S1/04 . . Wipers or the like, e.g. scrapers
- B60S1/04B . . . [N: completely or partially concealed in a cavity]
- B60S1/04B2 [N: the cavity being equipped with a movable cover]
- B60S1/04D . . . [N: Means for influencing the aerodynamic quality of wipers, e.g. clip-on wind deflectors ([B60S1/32](#) takes precedence)]
- B60S1/04F . . . [N: the windcreens, windows or optical devices being movable with respect to fixed wipers]
- B60S1/04H . . . [N: Modular wiper assembly] [N0307]
- B60S1/04H2 [N: including other vehicle fittings] [N0307]
- B60S1/04H4 [N: the support structure being integrally molded] [N0307]
- B60S1/04H6 [N: having a separate transverse element] [N0307]
- B60S1/04H6B [N: characterised by the attachment of the wiper shaft holders to the transverse element] [N0307]
- B60S1/04H6D [N: characterised by the attachment of the wiper motor holder to the transverse element] [N0307]
- B60S1/04K . . . [N: Attachment of the wiper assembly to the vehicle] [N0307]
- B60S1/04K2 [N: Attachement of a wiper modular assembly to the vehicle] [N0307]
- B60S1/04K4 [N: Attachement of separate wiper shaft holders to the vehicle ([B60S1/04H6B](#) takes precedence)] [N0307]
- B60S1/04K6 [N: Attachement of separate wiper motor assembly to the vehicle] [N0307]
- B60S1/04K8 [N: characterised by the attachment means] [N0307]
- B60S1/04K8B [N: comprising vibration or noise absorbing means] [N0307]
- B60S1/04K8D [N: non-screw fixation, (e.g. snap-in, bayonet-type..)] [N0307]
- B60S1/04K8F [N: having a pre-attachment device (i.e. to hold elements in position during mounting)] [N0307]
- B60S1/04M . . . [N: Position of the wipers relative to the vehicle] [N0307]
- B60S1/04M2 [N: Device for lifting the wipers off the screen in its parking position or at extremes of wipe] [N0307]
- B60S1/04M4 [N: Arrangement wherein the windscreen frame cooperates with the wipers]

					N0307]
B60S1/04M4B	.	.	.	.	[N: Arrangement of the side pillars] [N0307]
B60S1/04M4D	.	.	.	.	[N: Arrangement of the cow] [N0307]
B60S1/04M6	.	.	.	.	[N: Arrangement of wipers on openable windows] [N0307]
B60S1/04M8	.	.	.	.	[N: Devices for assisting the wiper positioning on the vehicle] [N0307]
B60S1/04M10	.	.	.	.	[N: Arrangement of the wipers on right or left-hand drive vehicles] [N0307]
B60S1/04P	.	.	.	.	[N: Cleaning of wiper blades] [N0307]
B60S1/04P2	.	.	.	.	[N: Arrangement for deicing or for removing debris from wiper blades (heated wiper blade B60S1/38B2)] [N0307]
B60S1/04P2B	.	.	.	.	[N: with a heating device for the wiper parking position] [N0307]
B60S1/04P4	.	.	.	.	[N: the cleaning device being separated from the vehicle (renovating blade rubbers L60S1/38P)] [N0307]
B60S1/04P6	.	.	.	.	[N: the cleaning device being integrated with the vehicle] [N0307]
B60S1/04R	.	.	.	.	[N: Wiper arrangement for crash protection or impact absorption] [N0307]
B60S1/04T	.	.	.	.	[N: Additional elements being fixed on wipers or parts of wipers not otherwise provided for, e.g. covers, antennae or lights] [N0307]
B60S1/04V	.	.	.	.	[N: Wipers actuated by wind force only] [N0307]
B60S1/04W	.	.	.	.	[N: Wiper units as items separate from vehicle, e.g. for emergency use or retro-fittable] [N0307]
B60S1/06	.	.	.	.	characterised by the drive (producing other than swinging movement B60S1/44)
B60S1/08	.	.	.	.	electrically driven [N: (conjoint control of windscreen wiper motor and liquid supply of windscreen washer B60S1/48B2 ; conjoint control of windscreen wiper motor and means for cleaning parts o parts other than windcreens or front windows B60S1/56 , B60S1/58 , B60S1/60B2)] [C9511]
B60S1/08B	.	.	.	.	[N: Intermittent control circuits]
B60S1/08B2	.	.	.	.	[N: using electronic control means, e.g. tubes, semiconductors (B60S1/08F , B60S1/08H take precedence)]
B60S1/08B2B	.	.	.	.	{7 dots} [N: combined with mechanical control means, e.g. thermal relays]
B60S1/08D	.	.	.	.	[N: using several drive motors; motor synchronisation circuits]
B60S1/08F	.	.	.	.	[N: including control systems responsive to external conditions, e.g. by detection of moisture, dirt or the like]
B60S1/08F2	.	.	.	.	[N: characterized by the arrangement or type of detection means]
B60S1/08F2B	.	.	.	.	{7 dots} [N: Capacitive rain sensor] [N0905]
B60S1/08F2B2	.	.	.	.	{8 dots} [N: Oscillator-resonator rain sensor] [N0905]
B60S1/08F2D	.	.	.	.	{7 dots} [N: Optical rain sensor] [N0905]
B60S1/08F2D2	.	.	.	.	{8 dots} [N: with a particular arrangement of the optical elements] [N0905]
B60S1/08F2D6	.	.	.	.	{8 dots} [N: including a hologram] [N0905]
B60S1/08F2D8	.	.	.	.	{8 dots} [N: including a camera] [N0905]
B60S1/08F2D8B	.	.	.	.	{9 dots} [N: Cleaning devices for cameras on vehicle] [N0905]
B60S1/08F2F	.	.	.	.	{7 dots} [N: Resistive rain sensor] [N0905]
B60S1/08F2H	.	.	.	.	{7 dots} [N: Ultrasonic rain sensor] [N0905]
B60S1/08F2L	.	.	.	.	{7 dots} [N: Other types of detection of rain, e.g. by measuring friction or rain drop impact] [N0905]

B60S1/08F2M	. . . . . {7 dots} [N: including additional sensors (vehicle speed sensors B60S1/08H)] [N0905]
B60S1/08F2M2	. . . . . {8 dots} [N: including a temperature sensor (heating devices for windshield B60H)] [N0905]
B60S1/08F2M4	. . . . . {8 dots} [N: including an ambient light sensor (control of vehicle lights B60Q)] [N0905]
B60S1/08F2P	. . . . . {7 dots} [N: characterized by the position of the sensor on the windshield] [N0905]
B60S1/08F2P2	. . . . . {8 dots} [N: at least part of the sensor being positioned between layers of the windshield] [N0905]
B60S1/08F2P4	. . . . . {8 dots} [N: characterized by the attachment means on the windshield] [N0905]
B60S1/08F2P6	. . . . . {8 dots} [N: the sensor being integrated in a rear-view mirror module] [N0905]
B60S1/08F2P8	. . . . . {8 dots} [N: characterized by the attachment of the elements in a unit] [N0905]
B60S1/08F2R	. . . . . {7 dots} [N: Testing and production of rain sensors] [N0905]
B60S1/08H	. . . . . [N: including control systems responsive to a vehicle driving condition, e.g. speed]
B60S1/10	. . . . . pneumatically driven
B60S1/10B	. . . . . [N: with means for stopping or setting the wipers at their limit of movement]
B60S1/12	. . . . . hydraulically driven
B60S1/12B	. . . . . [N: with means for stopping or setting the wipers at their limit of movement]
B60S1/14	. . . . . personally driven
B60S1/16	. . . . . Means for transmitting drive
B60S1/16B	. . . . . [N: with means for stopping or setting the wipers at their limit of movement]
B60S1/16D	. . . . . [N: characterised by the combination of a motor-reduction unit and a mechanism for converting rotary into oscillatory movement]
B60S1/18	. . . . . mechanically [N: (B60S1/16D takes precedence)]
B60S1/18B	. . . . . [N: with means for stopping or setting the wipers at their limit of movement]
B60S1/20	. . . . . by cable drives; by flexible shafts
B60S1/22	. . . . . by rotary cams
B60S1/24	. . . . . by rotary cranks
B60S1/24B	. . . . . {7 dots} [N: with particular rod arrangements between the motor driven axle and the wiper arm axle]
B60S1/26	. . . . . by toothed gearing
B60S1/28	. . . . . characterised by a plurality of wipers (B60S1/06 takes precedence)
B60S1/30	. . . . . arranged both outside and inside
B60S1/32	. . . . . characterised by constructional features of wiper blade arms [N: or blades]
B60S1/34	. . . . . Wiper arms; Mountings therefor [N: (wiper arms provided with liquid spreading means B60S1/52B ; with gas spreading means B60S1/54B)] [C9511]
B60S1/34B	. . . . . [N: with means for obtaining particular wiping patterns (by varying the effective length of the angularly oscillating arm B60S1/36B)]

B60S1/34B2	. . . . .	[N: the wiper blades being moved substantially parallel with themselves]
B60S1/34B4	. . . . .	[N: the wiper blades being rotated with respect to the wiper arms around an axis perpendicular to the wiped field (B60S1/34B2 takes precedence)]
B60S1/34B6	. . . . .	[N: the wiper arms consisting of two or more articulated elements]
B60S1/34D	. . . . .	[N: with means for varying wiper-blade pressure on windshield during operation]
B60S1/34F	. . . . .	[N: with means for holding the arm off the glass in an intermediate position between the working position and the fully folded back position]
B60S1/34H	. . . . .	[N: with means for supplying cleaning fluid to windscreen cleaners, e.g. washers (arrangement of nozzles B60S1/52)]
B60S1/34J	. . . . .	[N: with means for additionally adjusting the wiper arm working position with respect to the surface to be wiped]
B60S1/34L	. . . . .	[N: with means for temporarily uncoupling the wiper arm from the drive]
B60S1/34M	. . . . .	[N: Means arranged in the wiper structure to lift the arm at extremes of wipe (means arranged on the vehicle body B60S1/04M2)] [N0605]
B60S1/34P	. . . . .	[N: Constructional aspects of the arm] [N0605]
B60S1/34P2	. . . . .	[N: Arm piece, link piece and mounting head formed as one element] [N0605]
B60S1/34P4	. . . . .	[N: Arm pieces] [N0605]
B60S1/34P6	. . . . .	[N: Link pieces] [N0605]
B60S1/34P6B	. . . . .	{7 dots} [N: Manufacturing details thereof] [N0605]
B60S1/34P8	. . . . .	[N: Mounting heads] [N0605]
B60S1/34P8B	. . . . .	{7 dots} [N: Manufacturing details thereof] [N0605]
B60S1/34P8D	. . . . .	{7 dots} [N: Flat-type mounting heads] [N0605]
B60S1/34P9	. . . . .	[N: Wiper shafts] [N0605]
B60S1/34P10	. . . . .	[N: Joints between elements] [N0605]
B60S1/34P10B	. . . . .	{7 dots} [N: the elements being an arm piece and a link piece] [N0605]
B60S1/34P10D	. . . . .	{7 dots} [N: the elements being a link piece and a mounting head] [N0605]
B60S1/34P10D2	. . . . .	{8 dots} [N: the joint being a snap fit pivot joint] [N0605]
B60S1/34P10D4	. . . . .	{8 dots} [N: the joint being at end of mounting head furthest away from blade] [N0605]
B60S1/34P10D6	. . . . .	{8 dots} [N: Locks or stays for holding arms in fully folded back position] [N0605]
B60S1/34P10F	. . . . .	{7 dots} [N: the element being a mounting head and a shaft] [N0605]
B60S1/34P10F2	. . . . .	{8 dots} [N: with means to adjust the orientation of the head relative to shaft] [N0605]
B60S1/34R	. . . . .	[N: Means to press blade onto screen] [N0605]
B60S1/34R2	. . . . .	[N: with coil springs] [N0605]
B60S1/34R2B	. . . . .	{7 dots} [N: Mountings therefor] [N0605]
B60S1/34R2D	. . . . .	{7 dots} [N: with adjustment means to adjust wiping pressure (during wiping B60S1/34D)] [N0605]
B60S1/34R2F	. . . . .	{7 dots} [N: with adjustment means to keep wiping pressure

		constant (varying wiping pressure B60S1/34D)] [N0605]
B60S1/34R4	. . . . .	[N: with blade or leaf springs] [N0605]
B60S1/34R6	. . . . .	[N: with elastomeric or rubber springs] [N0605]
B60S1/34T	. . . . .	[N: Means to cover the wiper parts] [N0605]
B60S1/34T2	. . . . .	[N: for mounting head] [N0605]
B60S1/34T4	. . . . .	[N: integral with arm or link piece] [N0605]
B60S1/34V	. . . . .	[N: Means to allow blade to follow curvature of the screen (i.e. rotation along longitudinal axis of the arm)] [N0605]
B60S1/34X	. . . . .	[N: Means for mounting wiper arms onto the vehicle] [N0605]
B60S1/34X2	. . . . .	[N: Means for mounting the wiper bearing to the vehicle body] [N0605]
B60S1/34X4	. . . . .	[N: Means for mounting the wiper shaft in the wiper bearing] [N0605]
B60S1/34X6	. . . . .	[N: Means for mounting the drive mechanism to the wiper shaft] [N0605]
B60S1/34Z	. . . . .	[N: Additional means for guiding the blade other than the arm or blade joint] [N0605]
B60S1/36	. . . . .	Variable-length arms
B60S1/36B	. . . . .	[N: the effective length being automatically varied during angular oscillation of the arm]
B60S1/38	. . . . .	Wiper blades [N: (provided with liquid spreading means B60S1/52B2; provided with gas spreading means B60S1/54B2)] [C9511]
B60S1/38A	. . . . .	[N: characterised by a blade support harness consisting of several articulated elements (B60S1/38B, B60S1/38D take precedence)]
B60S1/38B	. . . . .	[N: heated wiper blades]
B60S1/38B2	. . . . .	[N: electrically]
B60S1/38D	. . . . .	[N: Means, or measures taken, for influencing the aerodynamic quality of the wiper blades] [C1105]
B60S1/38D2	. . . . .	[N: Spoiler integral with the squeegee] [N1105]
B60S1/38D4	. . . . .	[N: Spoilers mounted on the squeegee or on the vertebra] [N1105]
B60S1/38R	. . . . .	[N: Flat-type wiper blade, i.e. without harness] [N0905]
B60S1/38R2	. . . . .	[N: Connectors therefor; Connection to wiper arm; Attached to blade] [N0905]
B60S1/38R2B	. . . . .	{7 dots} [N: Mounting of connector to blade assembly] [N0905]
B60S1/38R2B2	. . . . .	{8 dots} [N: Snap-fit, e.g. elastic connection] [N0905]
B60S1/38R2B4	. . . . .	{8 dots} [N: by welding, gluing or the like] [N0905]
B60S1/38R2B6	. . . . .	{8 dots} [N: Gripping the blade] [N0905]
B60S1/38R2B8	. . . . .	{8 dots} [N: with protrusions cooperating with holes] [N0905]
B60S1/38R2D	. . . . .	{7 dots} [N: made in two halves] [N0905]
B60S1/38R2F	. . . . .	{7 dots} [N: Transport of liquid there through] [N0905]
B60S1/38R2H	. . . . .	{7 dots} [N: Connectors having a spoiler] [N0905]
B60S1/38R2J	. . . . .	{7 dots} [N: Connectors having an integral pivot pin for connection with the wiper arm] [N0905]
B60S1/38R2J2	. . . . .	{8 dots} [N: pin formed on the interior of side walls] [N0905]
B60S1/38R2J4	. . . . .	{8 dots} [N: pin formed on the exterior of side walls] [N0905]
B60S1/38R2L	. . . . .	{7 dots} [N: the connector being suitable for receiving different types of adapter] [N0905]

B60S1/38R3	. . . . .	[N: without connector, e.g. connection to wiper arm via squeegee or vertebra] [N0905]
B60S1/38R4	. . . . .	[N: with a reinforcing vertebra] [N0905]
B60S1/38R4B	. . . . .	{7 dots} [N: rectangular section] [N0905]
B60S1/38R4B2	. . . . .	{8 dots} [N: embedded in the squeegee] [N0905]
B60S1/38R4B4	. . . . .	{8 dots} [N: placed in side grooves in the squeegee] [N0905]
B60S1/38R4B6	. . . . .	{8 dots} [N: in additional element, e.g. spoiler] [N0905]
B60S1/38R4D	. . . . .	{7 dots} [N: C-shape section] [N0905]
B60S1/38R4F	. . . . .	{7 dots} [N: Wire-shaped section] [N0905]
B60S1/38R8	. . . . .	[N: End caps] [N0905]
B60S1/38R8B	. . . . .	{7 dots} [N: Mounting of end caps] [N0905]
B60S1/38R8B2	. . . . .	{8 dots} [N: cooperating with holes in the vertebra] [N0905]
B60S1/38R8B4	. . . . .	{8 dots} [N: with locking device] [N0905]
B60S1/38R8B6	. . . . .	{8 dots} [N: cooperating with holes in the squeegee] [N0905]
B60S1/38R8D	. . . . .	{7 dots} [N: having a particular shape] [N0905]
B60S1/38R8F	. . . . .	{7 dots} [N: with openings at the longitudinal extremities] [N0905]
B60S1/40	. . . . .	Connections between blades and arms
B60S1/40B	. . . . .	[N: Multi-purpose connections for two or more kinds of arm ends] [C1105]
		[N: Notes Multi-aspect classification is applied for technical subjects relating to the arms and covered by subgroups B60S1/40D to B60S1/40J [N1105]]
B60S1/40D	. . . . .	[N: for arms provided with a hook-shaped end] [N1105]
B60S1/40D2	. . . . .	[N: comprising a detachable intermediate element mounted on the hook-shaped end] [N1105]
B60S1/40D2D	. . . . .	{7 dots} [N: the element being provided with retention means co-operating with the hook-shaped end of the arm] [N1105]
B60S1/40D2D2	. . . . .	{8 dots} [N: the retention means being protrusions or holes] [N1105]
B60S1/40F	. . . . .	[N: for arms provided with a channel-shaped end] [N1105]
B60S1/40F1	. . . . .	[N: the channel-shaped end comprising a pivot pin mounted between the side walls] [N1105]
B60S1/40F2	. . . . .	[N: comprising a detachable intermediate element mounted on the channel-shaped end] [N1105]
B60S1/40F2B	. . . . .	{7 dots} [N: the element being provided with retention means co-operating with the channel-shaped end of the arm] [N1105]
B60S1/40F5	. . . . .	[N: the channel-shaped end being provided with protrusions on, or holes in, the side walls to create a pivot] [N1105]
B60S1/40H	. . . . .	[N: for arms provided with a side pin] [N1105]
B60S1/40H2	. . . . .	[N: with means provided on the arm for locking the side pin] [C1105]
B60S1/40H6	. . . . .	[N: with means provided on the blade for locking the side pin] [N1105]
B60S1/40H8	. . . . .	[N: characterised by the connecting part of, or an intermediate element mounted on, the wiper blade (means for locking the side pin B60S1/40H6)] [N1105]
B60S1/40J	. . . . .	[N: for arms provided with a flat end] [N1105]

B60S1/40J2	. . . . . [N: the end being provided with protrusions or holes] [N1105]
B60S1/42	. . . . . resilient
B60S1/44	. . . the wiper blades having other than swinging movement, e.g. rotary [N: (the wiper blade support member, e.g. arm, having a swinging movement B60S1/32)]
B60S1/46	. . using liquid; Windscreen washers
B60S1/48	. . . Liquid supply therefor
B60S1/48B	. . . . [N: the operation of at least part of the liquid supply being controlled by electric means (electrical washing liquid warming-up means B60S1/48D2)]
B60S1/48B2	. . . . . [N: combined with the operation of windscreen wipers]
B60S1/48B2B	. . . . . [N: using a supply pump driven by the windscreen-wiper motor]
B60S1/48B2D	. . . . . [N: including control systems responsive to external conditions, e.g. by detection of moisture, dirt or the like]
B60S1/48B2F	. . . . . [N: including control systems responsive to a vehicle driving condition, e.g. speed]
B60S1/48D	. . . . [N: the liquid being heated (nozzles provided with heating means B60S1/52)]
B60S1/48D2	. . . . . [N: electrically]
B60S1/50	. . . . Arrangement of reservoir
B60S1/52	. . . . Arrangement of nozzles; [N: Liquid spreading means] (nozzles per se B05B)
B60S1/52B	. . . . . [N: moving liquid spreading means, e.g. arranged in wiper arms]
B60S1/52B2	. . . . . [N: arranged in wiper blades]
B60S1/52B3	. . . . . [N: according to vehicle movement characteristics, e.g. speed, or climatic conditions, e.g. wind]
B60S1/52B4	. . . . . [N: the spreading means being moved between a rest position and a working position (B60S1/52B3 takes precedence)]
B60S1/54	. . using gas, e.g. hot air
B60S1/54A	. . . [N: using wiping devices]
B60S1/54B	. . . [N: moving gas spreading means, e.g. arranged in wiper arms]
B60S1/54B2	. . . . [N: arranged in wiper blades]
B60S1/54B3	. . . . [N: according to vehicle movement characteristics, e.g. speed, or climatic conditions, e.g. wind]
B60S1/56	. . specially adapted for cleaning other parts or devices than front windows or windscreens [N: (rear-view mirror arrangements mounted on vehicle exterior including cleaning devices B60R1/06C)] [C9511]
B60S1/56B	. . . [N: for registration, licensing or like devices]
B60S1/56D	. . . [N: including wiping devices (B60S1/56B , B60S1/58B take precedence)]
B60S1/58	. . . for rear windows
B60S1/58B	. . . . [N: including wiping devices]
B60S1/58D	. . . . [N: including defroster or demisting means]
B60S1/60	. . . for signalling devices, e.g. reflectors
B60S1/60B	. . . . [N: the operation of at least a part of the cleaning means being controlled by electric means]
B60S1/60B2	. . . . . [N: combined with the operation of windscreen or front window cleaning means]
B60S1/62	. Other vehicle fittings for cleaning

- B60S1/64 . . for cleaning vehicle interiors, e.g. built-in vacuum cleaners
- B60S1/66 . . for cleaning vehicle exterior
- B60S1/68 . . . for freeing wheels or tyres from foreign matter, e.g. wheel scrapers
- B60S1/68B [N: for two-wheeled vehicles]

- B60S3/00** **Vehicle cleaning apparatus not integral with vehicles** (cleaning in general B08B; cleaning peculiar to waterborne vessels [B63B57/00](#), [B63B59/00](#); ground equipment for cleaning aircraft [B64F5/00](#); [N: multistage treatment applied to waste water from vehicle wash installations [C02F9/00](#)]) [C1102]

- B60S3/00B . [N: Vehicle drying apparatus]
- B60S3/00C . [N: Conveyers for vehicle cleaning apparatus]
- B60S3/00D . [N: specially adapted for railway vehicles ([B60S3/00I](#) takes precedence)]
- B60S3/00I . [N: for interiors of land vehicles]
- B60S3/04 . for exteriors of land vehicles [N: ([B60S3/00B](#), [B60S3/00C](#) take precedence; specially adapted for railway vehicles [B60S3/00D](#))] [C9511]
- B60S3/04A . . [N: specially adapted for two-wheeled vehicles]
- B60S3/04B . . [N: Wheel cleaning devices (integral with vehicle [B60S1/00](#))]
- B60S3/04C . . [N: Hand-held cleaning arrangements with liquid or gas distributing means ([B60S3/04D](#) takes precedence)]
- B60S3/04D . . [N: Other hand-held cleaning arrangements, e.g. with sponges, brushes, scrapers or the like (brushes per se [A46B](#))]
- B60S3/04D2 . . . [N: using liquid or gas distributing means ([B60S3/04D3](#) takes precedence)]
- B60S3/04D3 . . . [N: with rotary or vibratory bodies contacting the vehicle]
- B60S3/06 . . with rotary bodies contacting the vehicle [N: (hand-held [B60S3/04D3](#))] [C9511]
- B60S3/06B . . . [N: the axis of rotation being approximately vertical]
- B60S3/06C . . . [N: the axis of rotation being approximately horizontal]

- B60S5/00** **Servicing, maintaining, repairing or refitting of vehicles** ([N: collecting or removing exhaust gases in workshops [B08B15/00C](#); straightening vehicle body parts [B21D1/12](#), [B21D1/14](#); vehicles adapted to carry a workshop for servicing or maintenance [B60P3/14](#); servicing rail locomotives [B61K](#)]; [N: registering or indicating the working of vehicles [G07C5/00](#); testing of vehicles [G01M17/00](#); arrangements for electrical testing [G01R31/00](#); devices for monitoring or checking brake systems [B60T17/22](#); filling or draining lubricant [F01M11/04](#); means for collecting, retaining, or draining-off lubricant [F16N31/00](#); draining of lubricant from gearing [F16H57/04D](#); assembly or repair of springs or dampers [F16F9/32D](#); tool, instrument or work supports or storage means used in association with vehicles [B25H5/00](#)] [C0411])

- B60S5/02 . Supplying fuel to vehicles; General disposition of plant in filling stations (apparatus for transferring measured quantities of petrol, oil, or the like from storage space to vehicles [B67D](#))

- B60S5/04 . Supplying air for tyre inflation (arrangement of tyre inflating devices on vehicles [B60C23/00](#); tyre pressure gauges [G01L17/00](#); [N: pumps actuated by muscle power [F04B33/00](#)])

- B60S5/04B . . [N: characterised by the inflation control means or the drive of the air pressure system]
- B60S5/04B2 . . . [N: using electrical or electronical means]
- B60S5/06 . Supplying batteries to, or removing batteries from, vehicles (circuit arrangements for charging batteries [H02J7/00](#)) [N9511]

- B60S9/00** **Ground-engaging vehicle fittings for supporting, lifting, or manoeuvring the vehicle, wholly or in part, e.g. built-in jacks** [N: props for vehicle draw bars [B60D1/66](#); anti-theft devices acting on vehicle jacking means [B60R25/00D](#)]; (lifting devices in general **B66F**, supports in general **F16M**) [C9511]

- B60S9/02 . for only lifting or supporting
- B60S9/04 . . mechanically
- B60S9/06 . . . of screw-and-nut type
- B60S9/08 the screw axis being substantially vertical
- B60S9/10 . . by fluid pressure
- B60S9/12 . . . of telescopic type

- B60S9/14 . for both lifting and manoeuvring
- B60S9/16 . . for operating only on one end of vehicle ([B60S9/205](#) takes precedence) [C9511]
- B60S9/18 . . . mechanically
- B60S9/20 . . . with fluid-pressure lift
- B60S9/205 . . Power driven manoeuvring fittings, e.g. reciprocally driven steppers or rotatably driven cams (vehicles with ground-engaging propulsion means, e.g. walking members, [B62D57/02](#)) [N9511]
- B60S9/21 . . . comprising a rotatably driven auxiliary wheel or endless track, e.g. driven by ground wheel (track vehicles with additional or alternative ground wheels [B62D55/02](#), [B62D55/04](#); auxiliary drives from a ground wheel [B60K25/08](#)) [N9511]
- B60S9/215 driven by an auxiliary motor [N9511]
- B60S9/22 . Means for attaching lifting, supporting, or manoeuvring devices to vehicles (for separate devices [B60S11/00](#))

- B60S11/00** **Vehicle modifications for receiving separate lifting, supporting, or manoeuvring devices**

- B60S13/00** **Vehicle-manoeuving devices separate from the vehicle** (vehicle lifting [N: e.g. liftable turntables] or pushing devices [B66F](#); [N: workshop equipment [B25H](#)])

- B60S13/02 . Turntables; Traversers (incorporated in vehicle-storing garages [E04H](#); [N: rotary display stands [A47F5/02](#)])