

**CPC****COOPERATIVE PATENT 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](#).

**B60S 1/00**

**Cleaning of vehicles** (by apparatus not integral with vehicle [B60S 3/00](#); cleaning in general [B08B](#); de-icing of aircraft [B64D](#); heating arrangements specially adapted for transparent or reflecting areas [H05B 3/84](#))

- B60S 1/02 . . Cleaning windscreens, windows or optical devices {(wind deflectors specially adapted for preventing soiling of windows or windscreens [B60J 1/2002](#))}
- B60S 1/023 . . . {including defroster or demisting means}
- B60S 1/026 . . . {using electrical means}
- B60S 1/04 . . Wipers or the like, e.g. scrapers
- B60S 1/0402 . . . {completely or partially concealed in a cavity}
- B60S 1/0405 . . . {the cavity being equipped with a movable cover}
- B60S 1/0408 . . . {Means for influencing the aerodynamic quality of wipers, e.g. clip-on wind deflectors ([B60S 1/32](#) takes precedence)}
- B60S 1/0411 . . . {the windscreens, windows or optical devices being movable with respect to fixed wipers}
- B60S 1/0413 . . . {Modular wiper assembly}
- B60S 1/0416 . . . {including other vehicle fittings}
- B60S 1/0419 . . . {the support structure being integrally molded}
- B60S 1/0422 . . . {having a separate transverse element}
- B60S 1/0425 . . . . {characterised by the attachment of the wiper shaft holders to the transverse element}
- B60S 1/0427 . . . . {characterised by the attachment of the wiper motor holder to the transverse element}
- B60S 1/043 . . . {Attachment of the wiper assembly to the vehicle}
- B60S 1/0433 . . . {Attachement of a wiper modular assembly to the vehicle}
- B60S 1/0436 . . . {Attachement of separate wiper shaft holders to the vehicle ([B60S 1/0425](#) takes precedence)}
- B60S 1/0438 . . . {Attachement of separate wiper motor assembly to the vehicle}
- B60S 1/0441 . . . {characterised by the attachment means}
- B60S 1/0444 . . . . {comprising vibration or noise absorbing means}
- B60S 1/0447 . . . . {non-screw fixation, (e.g. snap-in, bayonet-type..)}
- B60S 1/045 . . . . {having a pre-attachment device (i.e. to hold elements in position during mounting)}
- B60S 1/0452 . . . {Position of the wipers relative to the vehicle}

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|-------------|-------|--|
| B60S 1/0455 | ....  | {Device for lifting the wipers off the screen in its parking position or at extremes of wipe}  |
| B60S 1/0458 | ....  | {Arrangement wherein the windscreen frame cooperates with the wipers}  |
| B60S 1/0461 | ..... | {Arrangement of the side pillars}  |
| B60S 1/0463 | ..... | {Arrangement of the cow}   |
| B60S 1/0466 | ....  | {Arrangement of wipers on openable windows}  |
| B60S 1/0469 | ....  | {Devices for assisting the wiper positioning on the vehicle}   |
| B60S 1/0472 | ....  | {Arrangement of the wipers on right or left-hand drive vehicles}   |
| B60S 1/0475 | ...   | {Cleaning of wiper blades}   |
| B60S 1/0477 | ....  | {Arrangement for deicing or for removing debris from wiper blades ( <a href="#">heated wiper blade B60S 1/3805</a> )}  |
| B60S 1/048  | ..... | {with a heating device for the wiper parking position}   |
| B60S 1/0483 | ....  | {the cleaning device being separated from the vehicle ( <a href="#">renovating blade rubbers B60S 2001/3846</a> )}   |
| B60S 1/0486 | ....  | {the cleaning device being integrated with the vehicle}  |
| B60S 1/0488 | ...   | {Wiper arrangement for crash protection or impact absorption}  |
| B60S 1/0491 | ...   | {Additional elements being fixed on wipers or parts of wipers not otherwise provided for, e.g. covers, antennae or lights}   |
| B60S 1/0494 | ...   | {Wipers actuated by wind force only}   |
| B60S 1/0497 | ...   | {Wiper units as items separate from vehicle, e.g. for emergency use or retro-fittable}   |
| B60S 1/06   | ...   | characterised by the drive ( <a href="#">producing other than swinging movement B60S 1/44</a> )  |
| B60S 1/08   | ....  | electrically driven {(conjoint control of windscreen wiper motor and liquid supply of windscreen washer <a href="#">B60S 1/482</a> ; conjoint control of windscreen wiper motor and means for cleaning parts o parts other than windscreens or front windows <a href="#">B60S 1/56</a> , <a href="#">B60S 1/58</a> , <a href="#">B60S 1/606</a> )} |
| B60S 1/0803 | ..... | {Intermittent control circuits}  |
| B60S 1/0807 | ..... | {using electronic control means, e.g. tubes, semiconductors ( <a href="#">B60S 1/0818</a> , <a href="#">B60S 1/0896</a> take precedence)}  |
| B60S 1/0811 | ..... | {combined with mechanical control means, e.g. thermal relays}  |
| B60S 1/0814 | ....  | {using several drive motors; motor synchronisation circuits}   |
| B60S 1/0818 | ....  | {including control systems responsive to external conditions, e.g. by detection of moisture, dirt or the like}   |
| B60S 1/0822 | ..... | { characterized by the arrangement or type of detection means}   |
| B60S 1/0825 | ..... | { Capacitive rain sensor}  |
| B60S 1/0829 | ..... | { Oscillator-resonator rain sensor}  |
| B60S 1/0833 | ..... | { Optical rain sensor}   |
| B60S 1/0837 | ..... | { with a particular arrangement of the optical elements}   |
| B60S 1/084  | ..... | { including a hologram}  |
| B60S 1/0844 | ..... | { including a camera}  |
| B60S 1/0848 | ..... | { Cleaning devices for cameras on vehicle}   |
| B60S 1/0851 | ..... | { Resistive rain sensor}   |

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| B60S 1/0855 | ..... | { Ultrasonic rain sensor}  |
| B60S 1/0859 | ..... | { Other types of detection of rain, e.g. by measuring friction or rain drop impact}  |
| B60S 1/0862 | ..... | { including additional sensors (vehicle speed sensors <a href="#">B60S 1/0896</a> )}   |
| B60S 1/0866 | ..... | { including a temperature sensor (heating devices for windshield <a href="#">B60H</a> )}   |
| B60S 1/087  | ..... | { including an ambient light sensor (control of vehicle lights <a href="#">B60Q</a> )}   |
| B60S 1/0874 | ..... | { characterized by the position of the sensor on the windshield}   |
| B60S 1/0877 | ..... | { at least part of the sensor being positioned between layers of the windshield}   |
| B60S 1/0881 | ..... | { characterized by the attachment means on the windshield}   |
| B60S 1/0885 | ..... | { the sensor being integrated in a rear-view mirror module}  |
| B60S 1/0888 | ..... | { characterized by the attachment of the elements in a unit}   |
| B60S 1/0892 | ..... | { Testing and production of rain sensors}  |
| B60S 1/0896 | ..... | {including control systems responsive to a vehicle driving condition, e.g. speed}  |
| B60S 1/10   | ....  | pneumatically driven   |
| B60S 1/105  | ..... | {with means for stopping or setting the wipers at their limit of movement}   |
| B60S 1/12   | ....  | hydraulically driven   |
| B60S 1/125  | ..... | {with means for stopping or setting the wipers at their limit of movement}   |
| B60S 1/14   | ....  | personally driven  |
| B60S 1/16   | ....  | Means for transmitting drive   |
| B60S 1/163  | ..... | {with means for stopping or setting the wipers at their limit of movement}   |
| B60S 1/166  | ..... | {characterised by the combination of a motor-reduction unit and a mechanism for converting rotary into oscillatory movement}   |
| B60S 1/18   | ..... | mechanically {( <a href="#">B60S 1/166</a> takes precedence)}  |
| B60S 1/185  | ..... | {with means for stopping or setting the wipers at their limit of movement}   |
| B60S 1/20   | ..... | by cable drives; by flexible shafts  |
| B60S 1/22   | ..... | by rotary cams   |
| B60S 1/24   | ..... | by rotary cranks   |
| B60S 1/245  | ..... | {with particular rod arrangements between the motor driven axle and the wiper arm axle}  |
| B60S 1/26   | ..... | by toothed gearing   |
| B60S 1/28   | ...   | characterised by a plurality of wipers ( <a href="#">B60S 1/06</a> takes precedence)   |
| B60S 1/30   | ....  | arranged both outside and inside   |
| B60S 1/32   | ...   | characterised by constructional features of wiper blade arms {or blades}   |
| B60S 1/34   | ....  | Wiper arms; Mountings therefor {(wiper arms provided with liquid spreading means <a href="#">B60S 1/522</a> ; with gas spreading means <a href="#">B60S 1/544</a> )} |
| B60S 1/3402 | ..... | {with means for obtaining particular wiping patterns (by varying the effective length of the angularly oscillating arm <a href="#">B60S 1/365</a> )}                 |

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| B60S 1/3404 | ..... | {the wiper blades being moved substantially parallel with themselves}  |
| B60S 1/3406 | ..... | {the wiper blades being rotated with respect to the wiper arms around an axis perpendicular to the wiped field ( <a href="#">B60S 1/3404 takes precedence</a> )} |
| B60S 1/3409 | ..... | {the wiper arms consisting of two or more articulated elements}  |
| B60S 1/3411 | ..... | {with means for varying wiper-blade pressure on windshield during operation}   |
| B60S 1/3413 | ..... | {with means for holding the arm off the glass in an intermediate position between the working position and the fully folded back position}                       |
| B60S 1/3415 | ..... | {with means for supplying cleaning fluid to windscreen cleaners, e.g. washers ( <a href="#">arrangement of nozzles B60S 1/52</a> )}                              |
| B60S 1/3418 | ..... | {with means for additionally adjusting the wiper arm working position with respect to the surface to be wiped}   |
| B60S 1/342  | ..... | {with means for temporarily uncoupling the wiper arm from the drive}   |
| B60S 1/3422 | ..... | { Means arranged in the wiper structure to lift the arm at extremes of wipe ( <a href="#">means arranged on the vehicle body B60S 1/0455</a> )}                  |
| B60S 1/3425 | ..... | { Constructional aspects of the arm}   |
| B60S 1/3427 | ..... | { Arm piece, link piece and mounting head formed as one element}   |
| B60S 1/3429 | ..... | { Arm pieces}  |
| B60S 1/3431 | ..... | { Link pieces}   |
| B60S 1/3434 | ..... | { Manufacturing details thereof}   |
| B60S 1/3436 | ..... | { Mounting heads}  |
| B60S 1/3438 | ..... | { Manufacturing details thereof}   |
| B60S 1/344  | ..... | { Flat-type mounting heads}  |
| B60S 1/3443 | ..... | { Wiper shafts}  |
| B60S 1/3445 | ..... | { Joints between elements}   |
| B60S 1/3447 | ..... | { the elements being an arm piece and a link piece}  |
| B60S 1/345  | ..... | { the elements being a link piece and a mounting head}   |
| B60S 1/3452 | ..... | { the joint being a snap fit pivot joint}  |
| B60S 1/3454 | ..... | { the joint being at end of mounting head furthest away from blade}  |
| B60S 1/3456 | ..... | { Locks or stays for holding arms in fully folded back position}   |
| B60S 1/3459 | ..... | { the element being a mounting head and a shaft}   |
| B60S 1/3461 | ..... | { with means to adjust the orientation of the head relative to shaft}  |
| B60S 1/3463 | ..... | { Means to press blade onto screen}  |
| B60S 1/3465 | ..... | { with coil springs}   |
| B60S 1/3468 | ..... | { Mountings therefor}  |
| B60S 1/347  | ..... | { with adjustment means to adjust wiping pressure ( <a href="#">during wiping B60S 1/3411</a> )}   |
| B60S 1/3472 | ..... | { with adjustment means to keep wiping pressure constant ( <a href="#">varying wiping pressure B60S 1/3411</a> )}  |
| B60S 1/3475 | ..... | { with blade or leaf springs}  |

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| B60S 1/3477    | ..... | { with elastomeric or rubber springs}  |
| B60S 1/3479    | ..... | { Means to cover the wiper parts}  |
| B60S 1/3481    | ..... | { for mounting head}   |
| B60S 1/3484    | ..... | { integral with arm or link piece}   |
| B60S 1/3486    | ..... | { Means to allow blade to follow curvature of the screen (i.e. rotation along longitudinal axis of the arm)}   |
| B60S 1/3488    | ..... | { Means for mounting wiper arms onto the vehicle}  |
| B60S 1/349     | ..... | { Means for mounting the wiper bearing to the vehicle body}  |
| B60S 1/3493    | ..... | { Means for mounting the wiper shaft in the wiper bearing}   |
| B60S 1/3495    | ..... | { Means for mounting the drive mechanism to the wiper shaft}   |
| B60S 1/3497    | ..... | { Additional means for guiding the blade other than the arm or blade joint}  |
| B60S 1/36      | ..... | Variable-length arms   |
| B60S 1/365     | ..... | {the effective length being automatically varied during angular oscillation of the arm}  |
| B60S 1/38      | ....  | Wiper blades {(provided with liquid spreading means <a href="#">B60S 1/524</a> ; provided with gas spreading means <a href="#">B60S 1/546</a> )}                   |
| B60S 1/3801    | ..... | {characterised by a blade support harness consisting of several articulated elements ( <a href="#">B60S 1/3803</a> , <a href="#">B60S 1/3806</a> take precedence)} |
| B60S 1/3803    | ..... | {heated wiper blades}  |
| B60S 1/3805    | ..... | {electrically}   |
| B60S 1/3806    | ..... | { Means, or measures taken, for influencing the aerodynamic quality of the wiper blades}   |
| B60S 1/3808    | ..... | { Spoiler integral with the squeegee}  |
| B60S 1/381     | ..... | { Spoilers mounted on the squeegee or on the vertebra}   |
| B60S 2001/3812 | ..... | {Means of supporting or holding the squeegee or blade rubber }   |
| B60S 2001/3813 | ..... | {characterised by a support harness consisting of several articulated elements }   |
| B60S 2001/3815 | ..... | {characterised by the joint between elements }   |
| B60S 2001/3817 | ..... | {characterised by a backing strip to aid mounting of squeegee in support }   |
| B60S 2001/3818 | ..... | {the backing strip being a channel-like element, e.g. not continuous }   |
| B60S 2001/382  | ..... | {the backing strip being an essentially planar reinforcing strip, e.g. vertebra }  |
| B60S 2001/3822 | ..... | {characterised by additional means to prevent longitudinal sliding of squeegee in support, e.g. clips }  |
| B60S 2001/3824 | ..... | {the blade or squeegee pivoting about an axis parallel to blade longitudinal axis }  |
| B60S 2001/3825 | ..... | {the squeegee mounted directly to or in wiper blade arm }  |
| B60S 2001/3827 | ..... | {characterised by the squeegee or blade rubber or wiping element }   |
| B60S 2001/3829 | ..... | {characterised by the material of the squeegee or coating thereof }  |
| B60S 2001/3831 | ..... | {cleaning by scrubbing or abrasive action }  |

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| B60S 2001/3832 | ..... | {cleaning by rigid or semi-rigid scraping elements, e.g. for removing ice }                  |
| B60S 2001/3834 | ..... | {equipped with brush-like elements }   |
| B60S 2001/3836 | ..... | {characterised by cross-sectional shape }  |
| B60S 2001/3837 | ..... | {with more than one wiping edge or lip }   |
| B60S 2001/3839 | ..... | {with longitudinally split squeegee, with squeegee parts }                                   |
| B60S 2001/3841 | ..... | {Squeegee modifications to prevent longitudinally sliding of squeegee in support structure } |
| B60S 2001/3843 | ..... | {equipped with removable cover or protective elements }                                      |
| B60S 2001/3844 | ..... | {equipped with means to indicate wear or usage of blade }                                    |
| B60S 2001/3846 | ..... | {Devices for renewing or renovating blade wiping edges, e.g. cutters }                       |
| B60S 1/3848    | ..... | { Flat-type wiper blade, i.e. without harness}   |
| B60S 1/3849    | ..... | { Connectors therefor; Connection to wiper arm; Attached to blade}                           |
| B60S 1/3851    | ..... | { Mounting of connector to blade assembly}   |
| B60S 1/3853    | ..... | { Snap-fit, e.g. elastic connection}   |
| B60S 1/3855    | ..... | { by welding, gluing or the like}  |
| B60S 1/3856    | ..... | { Gripping the blade}  |
| B60S 1/3858    | ..... | { with protrusions cooperating with holes}   |
| B60S 1/386     | ..... | { made in two halves}  |
| B60S 1/3862    | ..... | { Transport of liquid there through}   |
| B60S 1/3863    | ..... | { Connectors having a spoiler}   |
| B60S 1/3865    | ..... | { Connectors having an integral pivot pin for connection with the wiper arm}                 |
| B60S 1/3867    | ..... | { pin formed on the interior of side walls}  |
| B60S 1/3868    | ..... | { pin formed on the exterior of side walls}  |
| B60S 1/387     | ..... | { the connector being suitable for receiving different types of adapter}                     |
| B60S 1/3872    | ..... | { without connector, e.g. connection to wiper arm via squeegee or vertebra}                  |
| B60S 1/3874    | ..... | { with a reinforcing vertebra}   |
| B60S 1/3875    | ..... | { rectangular section}   |
| B60S 1/3877    | ..... | { embedded in the squeegee}  |
| B60S 1/3879    | ..... | { placed in side grooves in the squeegee}  |
| B60S 1/3881    | ..... | { in additional element, e.g. spoiler}   |
| B60S 1/3882    | ..... | { C-shape section}   |
| B60S 1/3884    | ..... | { Wire-shaped section}   |
| B60S 1/3886    | ..... | { End caps}  |
| B60S 1/3887    | ..... | { Mounting of end caps}  |
| B60S 1/3889    | ..... | { cooperating with holes in the vertebra}  |
| B60S 1/3891    | ..... | { with locking device}   |
| B60S 1/3893    | ..... | { cooperating with holes in the squeegee}  |

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| B60S 1/3894    | ..... | { having a particular shape}                                   |
| B60S 1/3896    | ..... | { with openings at the longitudinal extremities}               |
| B60S 2001/3898 | ..... | {method for manufacturing wiper blades }                       |
| B60S 1/40      | ....  | Connections between blades and arms                            |
| B60S 1/4003    | ..... | { Multi-purpose connections for two or more kinds of arm ends} |

**NOTE**

Multi-aspect classification is applied for technical subjects relating to the arms and covered by subgroups [B60S 1/4006](#) to [B60S 1/4083](#)

|                |       |   |
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| B60S 1/4006    | ..... | { for arms provided with a hook-shaped end}   |
| B60S 1/4009    | ..... | { comprising a detachable intermediate element mounted on the hook-shaped end}                              |
| B60S 2001/4012 | ..... | {the element being provided with bearing surfaces on its side walls }                                       |
| B60S 1/4016    | ..... | { the element being provided with retention means co-operating with the hook-shaped end of the arm}         |
| B60S 1/4019    | ..... | { the retention means being protrusions or holes}   |
| B60S 2001/4022 | ..... | {the element being provided with a locking element movable thereon }  |
| B60S 2001/4025 | ..... | {the element being able to receive pivot pins of different diameters }                                      |
| B60S 2001/4029 | ..... | {the element being able to receive arms of different widths }   |
| B60S 2001/4032 | ..... | {the element being able to receive arms with hooks of different radiuses }                                  |
| B60S 2001/4035 | ..... | {the connection being covered by a removable cover mounted on the blade }                                   |
| B60S 1/4038    | ..... | { for arms provided with a channel-shaped end}  |
| B60S 1/4041    | ..... | { the channel-shaped end comprising a pivot pin mounted between the side walls}                             |
| B60S 1/4045    | ..... | { comprising a detachable intermediate element mounted on the channel-shaped end}                           |
| B60S 1/4048    | ..... | { the element being provided with retention means co-operating with the channel-shaped end of the arm}      |
| B60S 2001/4051 | ..... | {the intermediate element engaging the side walls of the arm }  |
| B60S 2001/4054 | ..... | {the intermediate element engaging the back part of the arm }   |
| B60S 2001/4058 | ..... | {comprising a separate locking element, e.g. in addition to an intermediate element }                       |
| B60S 2001/4061 | ..... | {covered by a removable cover mounted on the blade }  |
| B60S 1/4064    | ..... | { the channel-shaped end being provided with protrusions on, or holes in, the side walls to create a pivot} |
| B60S 1/4067    | ..... | { for arms provided with a side pin}  |
| B60S 1/407     | ..... | { with means provided on the arm for locking the side pin}  |
| B60S 1/4074    | ..... | { with means provided on the blade for locking the side pin}  |



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| B60S 1/4077    | ..... | { characterised by the connecting part of, or an intermediate element mounted on, the wiper blade (means for locking the side pin <a href="#">B60S 1/4074</a> )}      |
| B60S 2001/408  | ..... | {the connecting part or the intermediate element being provided with holes for different diameters of pivoting pin }  |
| B60S 1/4083    | ..... | { for arms provided with a flat end}  |
| B60S 1/4087    | ..... | { the end being provided with protrusions or holes}   |
| B60S 2001/409  | ..... | {characterised by the arm or connecting part mounted on the arm presenting a shaped opening for bearing the pivot axis }  |
| B60S 2001/4093 | ..... | {characterised by the mounting of the pivot on the main yoke of the blade }   |
| B60S 2001/4096 | ..... | {Connections between arm and blade not using a cylindrical pivot axis on the blade }  |
| B60S 1/42      | ..... | resilient   |
| B60S 1/44      | ...   | the wiper blades having other than swinging movement, e.g. rotary {(the wiper blade support member, e.g. arm, having a swinging movement <a href="#">B60S 1/32</a> )} |
| B60S 1/46      | ..    | using liquid; Windscreen washers  |
| B60S 1/48      | ...   | Liquid supply therefor  |
| B60S 1/481     | ..... | {the operation of at least part of the liquid supply being controlled by electric means (electrical washing liquid warming-up means <a href="#">B60S 1/488</a> )}     |
| B60S 1/482     | ..... | {combined with the operation of windscreen wipers}  |
| B60S 1/483     | ..... | {using a supply pump driven by the windscreen-wiper motor}  |
| B60S 1/485     | ..... | {including control systems responsive to external conditions, e.g. by detection of moisture, dirt or the like}  |
| B60S 1/486     | ..... | {including control systems responsive to a vehicle driving condition, e.g. speed}   |
| B60S 1/487     | ....  | {the liquid being heated (nozzles provided with heating means <a href="#">B60S 1/52</a> )}  |
| B60S 1/488     | ..... | {electrically}  |
| B60S 1/50      | ....  | Arrangement of reservoir  |
| B60S 1/52      | ....  | Arrangement of nozzles; {Liquid spreading means} (nozzles per se <a href="#">B05B</a> )   |
| B60S 1/522     | ..... | {moving liquid spreading means, e.g. arranged in wiper arms}  |
| B60S 1/524     | ..... | {arranged in wiper blades}  |
| B60S 1/526     | ..... | {according to vehicle movement characteristics, e.g. speed, or climatic conditions, e.g. wind}  |
| B60S 1/528     | ..... | {the spreading means being moved between a rest position and a working position ( <a href="#">B60S 1/526</a> takes precedence)}                                       |
| B60S 1/54      | ..    | using gas, e.g. hot air   |
| B60S 1/542     | ...   | {using wiping devices}  |
| B60S 1/544     | ...   | {moving gas spreading means, e.g. arranged in wiper arms}   |
| B60S 1/546     | ....  | {arranged in wiper blades}  |
| B60S 1/548     | ....  | {according to vehicle movement characteristics, e.g. speed, or climatic conditions, e.g. wind}  |



- B60S 1/56 . . specially adapted for cleaning other parts or devices than front windows or windscreens [{\(rear-view mirror arrangements mounted on vehicle exterior including cleaning devices B60R 1/0602\)}](#)
- B60S 1/563 . . . {for registration, licensing or like devices}
- B60S 1/566 . . . {including wiping devices [\(B60S 1/563, B60S 1/583 take precedence\)](#)}
- B60S 1/58 . . . for rear windows
- B60S 1/583 . . . . {including wiping devices}
- B60S 1/586 . . . . {including defroster or demisting means}
- B60S 1/60 . . . for signalling devices, e.g. reflectors
- B60S 1/603 . . . . {the operation of at least a part of the cleaning means being controlled by electric means}
- B60S 1/606 . . . . . {combined with the operation of windscreen or front window cleaning means}
- B60S 1/62 . . Other vehicle fittings for cleaning
- B60S 1/64 . . for cleaning vehicle interiors, e.g. built-in vacuum cleaners
- B60S 1/66 . . for cleaning vehicle exterior
- B60S 1/68 . . . for freeing wheels or tyres from foreign matter, e.g. wheel scrapers
- B60S 1/685 . . . . {for two-wheeled vehicles}
  
- B60S 3/00** **Vehicle cleaning apparatus not integral with vehicles** [\(cleaning in general B08B; cleaning peculiar to waterborne vessels B63B 57/00, B63B 59/00; ground equipment for cleaning aircraft B64F 5/00; { multistage treatment applied to waste water from vehicle wash installations C02F 9/00}\)](#)
- B60S 3/002 . . {Vehicle drying apparatus}
- B60S 3/004 . . {Conveyers for vehicle cleaning apparatus}
- B60S 3/006 . . {specially adapted for railway vehicles [\(B60S 3/008 takes precedence\)](#)}
- B60S 3/008 . . {for interiors of land vehicles}
- B60S 3/04 . . for exteriors of land vehicles [{\(B60S 3/002, B60S 3/004 take precedence; specially adapted for railway vehicles B60S 3/006\)}](#)
- B60S 3/041 . . {specially adapted for two-wheeled vehicles}
- B60S 3/042 . . {Wheel cleaning devices [\(integral with vehicle B60S 1/00\)](#)}
- B60S 3/044 . . {Hand-held cleaning arrangements with liquid or gas distributing means [\(B60S 3/045 takes precedence\)](#)}
- B60S 3/045 . . {Other hand-held cleaning arrangements, e.g. with sponges, brushes, scrapers or the like [\(brushes per se A46B\)](#)}
- B60S 3/047 . . . {using liquid or gas distributing means [\(B60S 3/048 takes precedence\)](#)}
- B60S 3/048 . . . {with rotary or vibratory bodies contacting the vehicle}
- B60S 3/06 . . with rotary bodies contacting the vehicle [{\(hand-held B60S 3/048\)}](#)
- B60S 3/063 . . . {the axis of rotation being approximately vertical}
- B60S 3/066 . . . {the axis of rotation being approximately horizontal}

- B60S 5/00** **Servicing, maintaining, repairing or refitting of vehicles** ({collecting or removing exhaust gases in workshops [B08B 15/002](#); straightening vehicle body parts [B21D 1/12](#), [B21D 1/14](#)}; vehicles adapted to carry a workshop for servicing or maintenance [B60P 3/14](#); servicing rail locomotives [B61K](#)); {**registering or indicating the working of vehicles** [G07C 5/00](#); **testing of vehicles** [G01M 17/00](#); **arrangements for electrical testing** [G01R 31/00](#); **devices for monitoring or checking brake systems** [B60T 17/22](#); **filling or draining lubricant** [F01M 11/04](#); **means for collecting, retaining, or draining-off lubricant** [F16N 31/00](#); **draining of lubricant from gearing** [F16H 57/0406](#); **assembly or repair of springs or dampers** [F16F 9/3271](#); **tool, instrument or work supports or storage means used in association with vehicles** [B25H 5/00](#)}
- B60S 5/02** . Supplying fuel to vehicles; General disposition of plant in filling stations (apparatus for transferrring measured quantities of petrol, oil, or the like from storage space to vehicles [B67D](#))
- B60S 5/04** . Supplying air for tyre inflation (arrangement of tyre inflating devices on vehicles [B60C 23/00](#); tyre pressure gauges [G01L 17/00](#); { pumps actuated by muscle power [F04B 33/00](#)})
- B60S 5/043** . . {characterised by the inflation control means or the drive of the air pressure system}
- B60S 5/046** . . . {using electrical or electronical means}
- B60S 5/06** . Supplying batteries to, or removing batteries from, vehicles (circuit arrangements for charging batteries [H02J 7/00](#))
- B60S 9/00** **Ground-engaging vehicle fittings for supporting, lifting, or manoeuvring the vehicle, wholly or in part, e.g. built-in jacks** { **props for vehicle draw bars** [B60D 1/66](#); **anti-theft devices acting on vehicle jacking means** [B60R 25/001](#)}; (lifting devices in general [B66F](#), supports in general [F16M](#))
- B60S 9/02** . for only lifting or supporting
- B60S 9/04** . . mechanically
- B60S 9/06** . . . of screw-and-nut type
- B60S 9/08** . . . . the screw axis being substantially vertical
- B60S 9/10** . . by fluid pressure
- B60S 9/12** . . . of telescopic type
- B60S 9/14** . for both lifting and manoeuvring
- B60S 9/16** . . for operating only on one end of vehicle ([B60S 9/205](#) takes precedence)
- B60S 9/18** . . . mechanically
- B60S 9/20** . . . with fluid-pressure lift
- B60S 9/205** . . Power driven manoeuvring fittings, e.g. reciprocally driven steppers or rotatably driven cams (vehicles with ground-engaging propulsion means, e.g. walking members, [B62D 57/02](#))
- B60S 9/21** . . . comprising a rotatably driven auxiliary wheel or endless track, e.g. driven by ground wheel (track vehicles with additional or alternative ground wheels [B62D 55/02](#), [B62D 55/04](#); auxiliary drives from a ground wheel [B60K 25/08](#))
- B60S 9/215** . . . . driven by an auxiliary motor
- B60S 9/22** . Means for attaching lifting, supporting, or manoeuvring devices to vehicles (for separate devices [B60S 11/00](#))

- B60S 11/00**      **Vehicle modifications for receiving separate lifting, supporting, or manoeuvring devices**
- B60S 13/00**      **Vehicle-manoeuving devices separate from the vehicle** (vehicle lifting {e.g. liftable turntables} or pushing devices [B66F](#); {workshop equipment [B25H](#)})
- B60S 13/02      .    Turntables; Traversers (incorporated in vehicle-storing garages [E04H](#); {rotary display stands [A47F 5/02](#)})