



State of California
DEPARTMENT OF CALIFORNIA HIGHWAY PATROL
P.O. Box 942898, Sacramento, CA 94298-0001



CHP 892
EQUIPMENT REQUIREMENTS FOR REMANUFACTURED AND SPECIALLY
CONSTRUCTED MOTOR VEHICLES (DUNE BUGGIES, KIT CARS, ETC.)

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Those sections of the California Vehicle Code (VC) relating to requirements for remanufactured and specially constructed motor vehicles are summarized herein. If more exact information is required, the legal language is contained in the VC which may be purchased at any office of the Department of Motor Vehicles (DMV). The VC is also available online at www.dmv.ca.gov. Additional regulations pertaining to lights and devices extracted from California Code of Regulations, Title 13 (13 CCR), are incorporated herein. The full text of 13 CCR, may be purchased from: Barclays Law Publishers, Attn: Client Services, P.O. Box 2006, San Francisco, CA 94126. 13 CCR is also available online at www.oal.ca.gov.

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SUMMARIZED VEHICLE CODE PROVISIONS

The numbers in parentheses following the paragraph title indicates the VC sections summarized.

DEFINITIONS

Darkness (280). "Darkness" is any time from one-half hour after sunset to one-half hour before sunrise and any other time when visibility is not sufficient to render clearly discernible any person or vehicle on the highway at a distance of 1,000 feet.

Highway (360). "Highway" is a way or place of whatever nature, publicly maintained and open to the use of the public for purposes of vehicular travel. Highway includes street.

Passenger Vehicle (465). A "passenger vehicle" is any motor vehicle, other than a motortruck, truck tractor, or a bus, as defined in Section 233, and used maintained for the transportation of persons. The term "passenger vehicle" shall include a housecar.

Remanufactured Vehicle (507.5) A "remanufactured vehicle" is a vehicle that has been constructed by a licensed remanufacturer and consists of any used or reconditioned integral parts, including, but not limited to, frame, engine, transmission, axles, brakes, or

suspension. Remanufactured vehicles may be sold under a distinctive trade name. An existing vehicle which is incidentally repaired, restored, or modified by replacing or adding parts or accessories is not a remanufactured vehicle.

Specially Constructed Vehicle (580). A "specially constructed vehicle" is a vehicle which is built for private use, not for resale, and is not constructed by a licensed manufacturer or remanufacturer. A specially constructed vehicle may be built from (1) a kit; (2) new or used, or a combination of new and used, parts; or (3) a vehicle reported for dismantling, as required by Sections 5500 or 11520 VC, which, when reconstructed, does not resemble the original make of the vehicle dismantled. A specially constructed vehicle is not a vehicle which has been repaired or restored to its original design by replacing parts.

Tow Dolly (617). A "tow dolly" is a vehicle towed by a motor vehicle and designed and used exclusively to transport another motor vehicle and upon which the front or rear wheels of the towed motor vehicle are mounted, while the other wheels of the towed motor vehicle remain in contact with the ground. "Tow dolly" does not include a portable or collapsible dolly used as specified in Section 4014 VC.

REGISTRATION

The VC requires all motor vehicles driven or towed upon the highway to be registered and properly equipped. Both remanufactured and specially constructed passenger vehicles must be appropriately equipped. The registration requirements for kit commercial vehicles are the same as for specially constructed vehicles. Basic requirements for registration to be presented to DMV are:

(a) A completed Application for Title or Registration (DMV REG 343).

(b) A vehicle verification done by the CHP. You must start your application process with DMV prior to contacting the CHP for a vehicle verification.

(c) A completed Statement of Construction (DMV REG 5036).

(d) Proof of ownership, such as invoices, receipts, manufacturers' certificates of origin, bills of sale, or junk receipts for the major component parts (engine, frame, transmission, and body).

NOTE: A motor vehicle bond is required when proof of ownership cannot be obtained for parts valued at \$5000 or more.

(e) Official brake and light adjustment certificates. When an official brake and light station that inspects specific vehicles such as motorcycles and large commercial vehicles is not located within a reasonable distance, DMV will accept a Statement of Facts (DMV REG 256) from a repair shop attesting that the brakes and lights are in proper working order. Brake and light certificates are not required for off-highway vehicles.

(f) A weight certificate for commercial vehicles weighing 10,000 pounds or less.

(g) An emission control inspection (smog check) by a Bureau of Automotive Repair (BAR) Referee Station as required by Section 27156 VC. To make an appointment at a BAR Referee Station, call 1-800-622-7733.

Vehicles Exempt Under Permit (4002). When moved or operated under a permit issued by the DMV, registration is not required of:

(a) A vehicle not previously registered while being moved or operated from a dealer's, distributor's, or manufacturer's place of business to a place where essential parts of the vehicle are to be altered or supplied.

(b) A vehicle while being moved from a place of storage to another place of storage.

(c) A vehicle while being moved to or from a garage or repair shop for the purpose of repairs or alteration.

(d) A vehicle while being moved or operated for the purpose of dismantling or wrecking the same and permanently removing it from the highways.

(e) A vehicle, while being moved from one place to another for the purpose of inspection by the department, assignment of a vehicle identification number, inspection of pollution control devices, or weighing the vehicle.

(f) A vehicle, the construction of which has not been completed, until such time as the construction thereof is completed and final weights and costs can be determined for registration purposes.

Registration Card (4454, 4462). The registration card or facsimile thereof shall be kept with the vehicle for which issued and shall be presented for examination upon demand of any peace officer.

License Plate (5200, 5201, 5204). The license plates shall be rigidly mounted on the front and rear of the vehicle in a position to be clearly legible. Plates shall be approximately perpendicular to the roadway with the rear plate between 12 inches and 60 inches above the roadway. Validating tabs are to be attached to the rear plate. No covering is permitted on the plate.

GENERAL REQUIREMENTS

Vehicle Not Equipped or Unsafe (24002). It is unlawful to operate any vehicle or combination of vehicles which is in an unsafe condition, which is not equipped as required by the VC, or which is not safely loaded.

Vehicle With Unlawful Lamps (24003). No vehicle shall be equipped with any lamp or illuminating device not required or permitted in the VC nor shall any lamp or illuminating device be mounted inside a vehicle unless specifically permitted.

All lamps must be rigidly mounted on the exterior of the vehicle and none shall be mounted behind any portion of the vehicle or load or equipment on the vehicle which interferes with the distribution of light or decreases its intensity (13 CCR, Section 685).

There is no prohibition against using interior lamps such as door, brake and instrument lamps, and map, dash, and dome lamps designed and used for the purpose of illuminating the interior of the vehicle.

Installation of Unlawful Equipment (24005). It is unlawful for any person to sell or install any glass, lighting equipment, signal devices, brakes, vacuum or pressure hose, muffler, exhaust, or any kind of equipment whatsoever for use in any vehicle, that is not in conformity with the VC or regulations made thereunder.

Modification of Vehicles (24008). It is unlawful to operate any passenger vehicle or commercial vehicle under 6,000 pounds, which has been modified from the original design so that any portion of such vehicle other than the wheels has less clearance from the surface of a level roadway than the clearance between the roadway and the lowermost portion of any rim of any wheel when in contact with such roadway.

Frame and Floor Height (24008.5). (a) No person shall operate any motor vehicle with a frame height or body floor height greater than specified in subdivisions (b) and (c).

(b) The maximum frame height is as follows:

Vehicle Type	Frame Height
(1) Passenger vehicles, except housecars	23 inches
(2) All other motor vehicles, including housecars, as follows:	
Up to 4,500 pounds GVWR	27 inches
4,501 to 7,500 pounds GVWR	30 inches
7,501 to 10,000 pounds GVWR	31 inches

(c) The lowest portion of the body floor shall not be more than five inches above the top of the frame.

(d) The following definitions govern the construction of this section:

(1) "Frame" means the main longitudinal structural members of the chassis of the vehicle or, for vehicles with unitized body construction, the lowest main longitudinal structural members of the body of the vehicle.

(2) "Frame height" means the vertical distance between the ground and the lowest point on the frame, measured when the vehicle is unladen on a level surface at the lowest point on the frame midway between the front axle and the second axle on the vehicle.

(3) "GVWR" means the manufacturer's gross vehicle weight rating, as defined in Section 390 VC, whether or not the vehicle is modified by use of parts not originally installed by the manufacturer.

Compliance With Federal Standards (24011). Whenever a Federal Motor Vehicle Safety Standard (FMVSS) is established under federal law, no dealer shall sell or offer for sale a vehicle to which the standard is applicable, and no person shall sell or offer for sale for use upon a vehicle an item of equipment to which the standard is applicable unless:

(a) The vehicle or equipment conforms to the applicable federal standard.

(b) The vehicle or equipment bears a certification that it complies with the applicable federal standards.

Maintenance of Lamps and Devices (24252). All lighting equipment of a required type installed on a vehicle shall be maintained in good working order. Two or more lamp or reflector functions may be combined provided each required function meets the specifications. No turn signal lamp may be combined with a stoplamp unless the stoplamp is extinguished when the turn signal is flashing. Devices installed on a vehicle shall be mounted on a rigid part of the vehicle and shall be maintained with proper aim both when the vehicle is stationary and when it is in motion. No lighting device shall be mounted behind any portion of the vehicle, load, or vehicle equipment which interferes with the distribution of light or decreases its intensity unless an additional device is installed to comply with the requirements. (13 CCR, Section 685)

Mounting (24254). The mounted height of lamps or reflectors shall be measured from the center of the lamp or reflector to the level surface upon which the vehicle stands when it is without a load.

All taillamps, stoplamps, and turn signal lamps shall be mounted so that the main portion of the light beam is essentially parallel to the roadway and to the rear wheels of the vehicle. Front and rear reflex reflectors shall be rigidly mounted with the lens perpendicular to the roadway and parallel to the rear axle of the vehicle. Side reflex reflectors shall be mounted with the lens

perpendicular to the roadway and parallel to the rear wheels (13 CCR, Section 686).

Maximum Number of Lamps (24405). Of the following types of lamps which show to the front of a vehicle, not more than two of one kind nor more than a total of four of all kinds shall be lighted simultaneously:

- a. Headlamps
- b. Auxiliary driving lamps
- c. Auxiliary passing lamps
- d. Fog lamps
- e. Spotlamps

Each pair of a dual unit headlamp shall be considered as one lamp.

Example: A dual unit headlamp consists of one 5-3/4-inch or 4 x 6-1/2-inch type 1, and one 5-3/4-inch or 4 x 6-1/2-inch type 2 sealed beam unit.

Color of Lamps and Reflectors (25950). Unless otherwise provided, lamps and reflectors visible from the front shall be white or yellow except rear sidemarker lamps required by Section 25100 VC may show red to the front. Lamps and reflectors visible from the rear shall be red except that stoplamps on vehicles manufactured before January 1, 1979, and turn signal lamps, and front sidemarker lamps required by Section 25100 VC may show yellow to the rear. Taillamps, stoplamps, and turn signal lamps that are visible to the rear may be white when unlighted on vehicles manufactured before January 1, 1974. Any taillamp, stoplamp, back-up lamp, or turn signal lamp may have an unlighted lens color that is darker than the lighted color, and any such lamps that are in addition to the minimum required number may be white or yellow when unlighted.

REQUIRED LIGHTING EQUIPMENT

Headlamps (24400, 24410). At least two lighted, white multiple-beam headlamps are required on the front of the vehicle during darkness and inclement weather. Headlamp systems shall contain the same number and type of headlamps for which the system was designed. The use of only two lamps of a system designed and intended to include four lamps is not permitted.

Example : One 7-inch diameter round single headlamp (type 2) or one pair of dual 5-3/4-inch diameter round headlamps (one type 1 and one type 2) is required to be mounted on each side.

The lamps must be above or in front of the front axle at a height between 22 inches and 54 inches above the roadway. All headlamps, including original equipment lamps with contoured lenses, must have the letters DOT on the lens (13 CCR, Section 621). No grill, cover or any other obstruction shall be placed in front of a headlamp lens except headlamp concealment devices meeting FMVSS 112 (13 CCR, Section 692).

Beam Indicator (24408). The beam indicator shall be lighted when the headlamps are on high beam. The lamp must be designed and located to be readily visible without glare to the driver. Any such lamp on the exterior is limited to two candlepower and shall not show to the front or sides of the vehicle.

Taillamps (24600). One or more lighted red taillamps are required on the rear during darkness on every motor vehicle which is not in combination with any other vehicle and on every vehicle at the end of a combination. Such vehicles first registered

after January 1, 1958, are required to have at least two taillamps, one at each side on the rear, both at the same level. Taillamps must be visible from a distance of 500 feet to the rear. Taillamps on vehicles manufactured after January 1, 1969, shall be mounted between 15 inches and 72 inches above the roadway and must be plainly visible from a distance of 1,000 feet to the rear.

License Plate Lamp (24601). Either the taillamp or a separate lamp is required to illuminate the entire surface of the rear license plate with a white light during darkness and make it legible from a distance of 50 feet. The lamp may be mounted above, below or alongside the plate and must be controlled by the same switch that controls the taillamp.

Stoplamps (24603, 24605). Every motor vehicle which is not in combination with any other vehicle and every vehicle at the end of a combination shall have one or more red or yellow stoplamps mounted on the rear of the vehicle. Vehicles first registered after January 1, 1958, shall be equipped with two stoplamps, one at each side and both at the same level. Stoplamps on vehicles manufactured on or after January 1, 1979, shall emit a red light only and shall be mounted between 15 inches and 72 inches above the roadway. Stoplamps must be actuated upon application of the service (foot) brake and may also be actuated upon sudden release of the accelerator while the vehicle is in motion. Whenever any motor vehicle is towing another motor vehicle, stoplamps are not required on the towed vehicle but only if a stoplamp on each side of the towing vehicle is plainly visible to the rear of the towed vehicle. (Stoplamps on vehicles equipped with a manual transmission may be manually activated by a mechanical device when the vehicle is downshifted if the device is automatically rendered inoperative while the vehicle is accelerating).

Backup Lamps (24606). Each motor vehicle manufactured after January 1, 1969, is required to have at least one white backup lamp, either separate or in combination with another lamp. Any vehicle may be equipped with backup lamps. The lamps shall be mounted to illuminate the roadway to the rear of the vehicle for a distance not to exceed 75 feet. The lamps shall not be lighted except when the vehicle is about to be or is backing or except in conjunction with a lighting system which activates the lights for a temporary period after the ignition system is turned off. Any motor vehicle may be equipped with a lamp emitting white light on each side near or on the rear of the vehicle which is designed to provide supplemental illumination in an area to the side and rear not lighted by the backup lamps. These lamps shall be lighted only with the backup lamps.

Reflectors on Rear (24607). Red reflectors, either separate or in combination with a required lamp, shall be mounted on the rear of the vehicle. Every vehicle must have at least one and vehicles first registered after January 1, 1965, must have at least two. When two reflectors are required, one shall be mounted at the left side and one at the right side at the same level. Required reflectors shall be mounted between 15 inches and 60 inches above the roadway. Additional reflectors meeting requirements established by the Department may be mounted at any height.

Turn Signal System (22110, 24605, 24951, 24952, 24953, 25108). A lamp-type turn signal system is required on motor vehicles first registered after January 1, 1958, and on trailers and semitrailers 80 or more inches wide first registered after January 1, 1969; any vehicle may be so equipped. A lamp-type turn signal system is required regardless of registration date or vehicle width when the hand and arm signal would not be visible both to the front and rear of the vehicle or vehicles. The lamps shall

project a flashing white or amber light visible to the front and red or amber flashing light visible to the rear. On vehicles manufactured after January 1, 1969, the turn signal lamps must be mounted not less than 15 inches above the ground.

The system shall consist of at least two single-faced or double-faced lamps mounted on or near the front and at least two single-faced lamps on the rear. The system shall also include a flashing visual indicator to the driver that the turn signal lamps are turned on. Two amber turn signal pilot indicators may be mounted on the exterior and shall project amber beams toward the driver. An audible indicator may be used in addition to the visual indicator. The front turn signal lamps should be mounted as far apart as practicable and may not be farther to the rear than the center of the steering wheel or outside rear view mirror, whichever is farthest to the rear. The rear vehicle in a combination of vehicles towed by a motor vehicle having a lamp-type signal system shall be equipped with at least two single-faced red or amber turn signal lamps on the rear. Whenever any motor vehicle is towing another motor vehicle, signal lamps are not required on the towed vehicle, provided a turn signal lamp on each side of the rear of the towing vehicle is plainly visible to the rear of the towed vehicle (13 CCR, Section 699).

PERMITTED LIGHTING EQUIPMENT

Auxiliary Driving Lamps (24402). Any motor vehicle may be equipped with one or two auxiliary driving lamps designed to supplement the upper beam of the headlamps and may not be lighted with the lower beam. Lamps shall be mounted on the front at a height of not less than 16 inches nor more than 42 inches above the roadway.

The lamps shall be connected to the upper beam headlamp circuit so that the beam-changing switch will turn the lamps off when the headlamps are switched to low beam. A separate switch shall be provided to disconnect driving lamps not in use (13 CCR, Section 690.5).

Auxiliary Passing Lamps (24402). Any motor vehicle may be equipped with one or two auxiliary passing lamps designed to supplement the lower beam of the headlamps. Lamps shall be mounted on the front at a height of not less than 24 inches nor more than 42 inches above the roadway.

The lamps may be connected to either or both of the upper or lower headlamp beam circuits. A separate switch shall be provided to disconnect passing lamps not in use (13 CCR, Section 693).

Fog Lamps (24403). Any motor vehicle may be equipped with one or two fog lamps which may be lighted with, but shall not be used in lieu of headlamps. Fog lamps shall be mounted at a height of not less than 12 inches nor more than 30 inches above the roadway.

Spotlamps (24404). Any motor vehicle may be equipped with one or two white spotlamps which may not be used in lieu of headlamps. The lamp source shall not exceed 32 candlepower or 30 watts nor project any glaring light into the eyes of an approaching driver.

Off-highway Headlamps (24411). Notwithstanding any other provision of law, a vehicle may be equipped with not more than four lamps for use as headlamps while the vehicle is operated or driven off the highway. Such lamps shall be mounted at a height

of not less than 16 inches nor more than 80 inches at any place between the front of the vehicle and a line lying on a point 12 inches to the rear of the seat occupied by the driver, shall be wired independently of all other lighting circuits, and, whenever the vehicle is operated or driven upon a highway, shall be covered or hooded and turned off.

Fog Taillamps (24602). Any vehicle may be equipped with no more than two red fog taillamps mounted on the rear which may be lighted, in addition to the required taillamps, only when atmospheric conditions, such as fog, rain, snow, smoke, or dust, reduce the daytime or nighttime visibility of other vehicles to less than 500 feet. If two lamps are installed one shall be mounted on the left and one on the right, on the same level, as close as practical to the sides. Mounting shall be between 15 inches and 60 inches from the roadway and the edge of the lens shall be no closer than four inches from the edge of any stoplamp lens. Lamps must be wired to operate only when headlamps are on and shall have a switch which allows the fog taillamps to be turned off independently of the headlamps. A nonflashing amber pilot light shall be lighted when lamps are turned on which is readily visible to the driver.

Supplemental Stoplamps and Signal Lamps (24603, 24953). Any vehicle may be equipped with not less than two supplemental signal lamps actuated simultaneously with the required stoplamps or turn signal lamps. The lamps must be mounted on the exterior of the vehicle and to the rear of the driver's seat.

Supplemental stop lamps must be mounted either near the side of the vehicle or on or near the vertical centerline of the vehicle. Supplemental turn signal lamps must be mounted near either or both sides of the vehicle facing the rear (13 CCR, Section 698).

A single center mounted supplemental stop lamp is permitted to be mounted inside the rear window. The lamp must be constructed and mounted so reflected light is not visible to the driver.

Reflectors on Front and Sides (24608, 24609). Any vehicle may be equipped with white or amber reflectors on the front; one amber reflector on each side at the front, and one red reflector on each side at the rear. Required reflectors shall be mounted between 15 inches and 60 inches above the roadway. Additional reflectors may be mounted at any height. Area reflectorizing material may be used in lieu of the permitted reflectors provided photometric requirements are met.

Parking Lamps (24800, 24801). Parking lamps are those lamps permitted by Section 25106 VC or any lamps mounted on the front of a vehicle designed to be displayed primarily when the vehicle is parked. The lamps shall not be lighted when the vehicle is being driven except when being used as turn signal lamps or when the headlamps are also lighted.

Lamps on Sides (25102). Any motor vehicle may be equipped with lamps visible from the side but not from the front or rear, provided they are set into depressions or recesses and do not protrude from the body of the vehicle. The light source shall not exceed two candlepower and shall emit diffused light of any color except red.

Courtesy Lamps (25105). Any motor vehicle may be equipped with green or white running board or door-mounted courtesy lamps. Nonglare bulbs shall not exceed six candlepower and shall not be visible to the front or rear. Any motor vehicle may be

equipped with inside door-mounted red lamps, not exceeding six candlepower, or reflectorizing devices or material visible to the rear when the doors are open.

Side, Cowl, or Fender Lamps (25106). Any motor vehicle may be equipped with lighted white or amber cowl or fender lamps on the front (used as parking lamps). Any vehicle may be equipped with not more than one amber side lamp on each side near the front nor more than one red side lamp on each side near the rear. The light source of each such lamp shall not exceed four candlepower. Sidemarker or combination clearance and sidemarker lamps may be installed on the sides of vehicles at any location, but any lamp installed within 24 inches of the rear of the vehicle shall be red, and any lamp installed at any other location shall be amber.

Cornering Lamps on Fenders (25107). Any motor vehicle may be equipped with not more than two white or amber cornering lamps designed to reveal objects only in the direction of turn while the vehicle is turning or while the turn signal lamps are operating. The lamps shall be designed so that no glaring light is projected into the eyes of an approaching driver. Lamps shall be mounted between 12 inches and 30 inches above the roadway.

Pilot Indicator Lamps (25108). Any motor vehicle may be equipped with not more than two amber turn signal pilot indicators mounted on the exterior. The light shall not exceed five candlepower unless provision is made to reduce the intensity during darkness. In that event, the lamp shall not exceed five candlepower during darkness nor 15 candlepower at any other time. The center of the beam shall be projected toward the driver. Other exterior pilot indicators of any color may be used for monitoring exterior lighting devices, provided that the area of each indicator is less than 0.20 square inches, the intensity does not exceed 0.10 candlepower, and the color red is not visible to the front.

Running Lamps (25109). Any motor vehicle may be equipped with two white or amber running lamps mounted on the front, one at each side, which shall be displayed only when the vehicle is operated during daylight or parked during darkness. The lamps must be connected to turn off automatically when the headlamps are lighted. A separate switch must be provided to disconnect the running lamps. The lamps shall be mounted between 15 inches and 42 inches above the roadway.

Deceleration Signal Lamp (25251.5). Any motor vehicle may be equipped with a system meeting the requirements established by the CHP in which a flashing amber lamp center mounted on the rear of the vehicle, not lower than 15 inches above the roadway, signals the rate of deceleration to the driver of a following vehicle.

Any motor vehicle may be equipped with two amber lamps on the rear of the vehicle which operate simultaneously with not more than four flashes within four seconds after the accelerator pedal is in the deceleration position and which are not lighted at any other time. The lamps shall be mounted at the same height, with one lamp located on each side of the vertical centerline of the vehicle, not higher than the bottom of the rear window, or if the vehicle has no rear window, not higher than 60 inches. The light output from each of the lamps shall not exceed 200 candlepower at any angle horizontal or above. The amber lamps may be used either separately or in combination with another lamp.

Any stoplamp or supplemental stoplamp required or permitted by Section 24603 VC may be equipped so as to flash not more than four times within the first four seconds after actuation by application of the brakes.

Area Reflectorizing Material (25500). Area reflectorizing material may be displayed on any vehicle, provided: The color red is not displayed on the front; designs do not tend to distort the length or width of the vehicle nor resemble official traffic control devices except that alternate striping resembling a barricade pattern may be used.

MICELLANEOUS EQUIPMENT

Battery (24253). The battery must be capable of keeping all taillamps lighted for a period of 15 minutes with the engine inoperative. The vehicle must also be equipped to recharge the battery. Required on motor vehicles manufactured after January 1, 1970.

Emergency Brake System (26301.5). Every passenger vehicle manufactured and first registered after January 1, 1973, except motorcycles, shall be equipped with an emergency brake system so constructed that rupture or leakage-type failure of any single pressure component of the service brake system, except structural failures of the brake master cylinder body or effectiveness indicator body, shall not result in complete loss of function of the vehicle's brakes when force on the brake pedal is continued.

Brakes (26311, 26450, 26453, 26454). Service brakes are required on all wheels except on vehicles manufactured prior to 1930. The brakes must be capable of stopping the vehicle on a level road within 25 feet at an initial speed of 20 miles per hour. The brakes must be adequate to control the movement of and to stop and hold the vehicle under all conditions of loading on any grade on which it is operated.

Parking Brakes (26450, 26451). Parking brakes must be separately applied so that failure of the service brake system would not leave the vehicle without brakes. They must be adequate to hold the vehicle stationary on any grade on which it is operated or capable of locking the braked wheels to the limit of traction. The "PARK" position on an automatic transmission does not meet this requirement.

Condition of Brakes (26453). All brakes shall be maintained in good working order and adjusted to operate as equally as practicable on opposite sides of the vehicle.

Windshield (26700, 26701, 26708, 26708.5, 26710, 26712). The windshield must be of safety glazing material and unobstructed by any object or material placed upon it except the rear view mirror. It is unlawful to apply any transparent material upon any window except windows to the rear of the driver and except a clear, colorless, and transparent material may be installed, affixed, or applied to the front side windows, located to the immediate left and right of the front seat if the following conditions are met:

(1) The material has a minimum visible light transmittance of 88 percent.

(2) The window glazing with the material applied meets all requirements of Federal Motor Vehicle Safety Standard (FMVSS) No. 205 (49 C.F.R. 571.205), including the specified minimum light transmittance of 70 percent and the abrasion resistance of AS-14 glazing, as specified in that federal standard.

(3) The material is designed and manufactured to enhance the ability of the existing window glass to block the sun's harmful ultraviolet A rays.

(4) The driver has in his or her possession, or within the vehicle, a certificate signed by the installing company certifying that the windows with the material installed meet the requirements of the VC and identifies the installing company and the material's manufacturer by full name and street address, or, if the material was installed by the vehicle owner, a certificate signed by the material's manufacturer certifying that the windows with the material installed according to manufacturer's instructions meets the requirements of the VC and identifies the material's manufacturer by full name and street address.

(5) If the material tears or bubbles, or is otherwise worn to prohibit clear vision, it shall be removed or replaced.

Transparent material may be applied to the topmost portion of the windshield if:

(a) The bottom edge of the material is at least 29 inches above the driver's seat from a point five inches in front of the backrest with the seat in its rearmost and lowermost position

(b) The material is not red or amber.

(c) There is no opaque lettering and any other lettering does not affect primary colors or distort vision.

(d) The material does not reflect sunlight or headlight glare into the eyes of occupants of oncoming or following vehicles. Signs or stickers may be displayed in a 7-inch square in the lower corner of the windshield farthest from the driver and in a 5-inch square in the lower corner nearest the driver. It is unlawful to operate any motor vehicle upon the highway when windshield or rear window defects impair the driver's vision. A windshield defroster adequate to remove snow, ice, frost, or internal moisture is required on every passenger vehicle used for the transportation of persons for compensation.

Safety Glazing Material (26701). No person shall sell, offer for sale, or operate any motor vehicle, except a motorcycle, manufactured after January 1, 1936, unless it is equipped with safety glazing material wherever glazing materials are used in interior partitions, doors, window, windshields, auxiliary wind deflectors, or openings in the roof. Red, blue and amber glazing materials are prohibited. All safety glazing material installed in 1968 and later vehicles shall be visibly marked with the manufacturer's or installer's name, initial, or trademark, and "AS" designation. Glazing material in windshields must be marked AS1; material on the sides not to the rear of the driver must be AS1 or AS2; material to the rear of the driver may have any AS number 1 to 9, 12 or 13. AS4 and AS6 flexible plastic glazing material may be used in soft tops of convertibles and in readily removable windows to the immediate right and left of the driver. AS 10 and 11 are limited to armored cars only.

Replacements (26703). Safety glazing material must be used when replacing any glazing material used in interior partitions, doors, windows, windshields, or openings in the roof in any motor vehicle.

Windshield Wipers (26706, 26707). Every motor vehicle, equipped with a windshield shall be equipped with two self-operating windshield wipers. Single wipers are permitted on:

(a) New motor vehicles first registered before December 31, 1949; or

(b) Any motor vehicle providing the wiper meets the wiped area requirements in FMVSS.

Windshield wipers shall be maintained in good condition and must effectively clear the windshield under ordinary storm or load conditions.

Mirrors (26709). Two mirrors, one on the left side of the vehicle, must be located to reflect to the driver a view of the highway for at least 200 feet to the rear of the vehicle. If the vehicle is so constructed or loaded, with other than passengers, as to obstruct the driver's view to the rear, towing another vehicle which obscures the view, or if transparent material has been applied to the rear window, mirrors are required on both left and right sides.

Horn (27000). Every motor vehicle must have a horn which is audible from a distance of 200 feet but does not emit an unreasonably loud or harsh sound.

Muffler (27150, 27151, 27152). Every vehicle subject to registration shall have a muffler which prevents any excessive or unusual noise. It may not be equipped with a cutout, bypass, or similar device. The exhaust system shall not be modified to increase the noise above that emitted by the equipment originally installed. The exhaust shall not be directed to the side of the vehicle between 2 feet and 11 feet above the roadway. Every motor vehicle operated off the highways shall have a muffler which prevents the vehicle from exceeding the noise limits established in Section 38370 VC.

Gases and Fumes (27154). The passenger compartment and exhaust system shall be reasonably tight to prevent the penetration of gases and fumes from the engine or exhaust system into the vehicle.

Fuel Tank Cap (27155). The fuel tank filling spout must be closed by a cap or cover of noncombustible material.

Pollution Control Device (27156). Pollution control devices are required by the Health and Safety Code and shall not be disconnected, altered, or modified to reduce the effectiveness of the device. Existing law requires most 1976 and newer model year vehicles to pass a smog check prior to original registration, transfer of ownership, and every second annual renewal. Since specially constructed vehicles are homemade and do not have a manufacturer-assigned model year, they must be taken to a BAR Referee Station for the original inspection. Upon completion of the inspection, the referee will affix a tamper-resistant label to the vehicle and issue a certificate that establishes the model-year for future inspection purposes.

Per Section 4750.1 VC, the first 500 program applicants in each calendar year may choose whether the inspection is based on the model-year of the engine used in the vehicle or the vehicle model-year. If the engine or the vehicle does not sufficiently resemble one previously manufactured, the referee will assign 1960 as the model-year. After the first 500 vehicles have been registered in any calendar year, all others will be assigned the same model-year as the calendar year in which the application is submitted.

Tires (27461, 27465, 27500, 27501). No person shall use on a highway a pneumatic tire which does not conform to the regulations adopted by the California Highway Patrol or is so worn that less than one thirty-second (1/32) of an inch of tread depth remains in any two adjacent grooves at any location on the tire, except when temporarily installed on a disabled vehicle. Tread depth is not to be measured at tiebars, humps, or fillets.

Regrooved tires are prohibited except for specially designed commercial tires used on commercial vehicles.

Fenders (27600). Fenders, flaps, or other devices must be at least as wide as the tire tread and effectively minimize the spray or splash of mud or water to the rear. This section does not apply to vehicles having an unladen weight of less than 1,500 pounds registered prior to January 1, 1971.

Bumper (28071). Every passenger vehicle registered in this state shall be equipped with a front bumper and a rear bumper. "Bumper" means any device designed or intended to prevent the front or rear of the body of the vehicle from contacting any other motor vehicle. Section 34710 VC exempts "specially constructed vehicles" from this requirement.

Front Bumper (35408). A front bumper may not project more than two feet forward of the foremost part of either the fenders or cab structure or radiator, whichever extends farthest toward the front.

TOWED OPERATION

Distance Between Vehicles (21704). When towing another vehicle outside a business or residence district, a distance of at least 300 feet must be maintained to the rear of any vehicle subject to Section 22406 VC. The restriction does not prevent overtaking and passing nor does it apply on a highway with two or more lanes in the direction of travel.

Towed Vehicle Swerving (21711). Towed vehicles must follow in the path of the towing vehicle and may not whip or swerve from side to side.

Towed Vehicle Combinations (21715). No passenger vehicle regardless of weight, or any other motor vehicle under 4,000 pounds unladen shall tow more than one vehicle in combination, except that an auxiliary dolly or tow dolly may be used with the towed vehicle. No motor vehicle weighing under 4,000 pounds unladen shall tow any vehicle weighing 6,000 pounds or more gross.

Maximum Speed (22406). The maximum speed when towing another vehicle is 55 miles per hour.

Trailer Hitch, Coupling Device or Connection (29003). Every hitch or coupling device attaching the towed and towing vehicles shall be properly and securely mounted and structurally adequate for the weight drawn. The mounting of the trailer hitch on both the towed and towing vehicles shall include sufficient reinforcement or bracing to prevent distortion of the frame.

Safety Chain (29004). A safety chain or equivalent device shall be connected between the towed and the towing vehicles and shall be of sufficient strength to control the towed vehicle in the event of failure of the regular trailer hitch or coupling. The safety chain or device should have a breaking strength greater than the gross weight of the towed vehicle and should be attached to the frames or other substantial parts of both vehicles so that failure of the hitch or mounting points would not result in loss of control of the towed vehicle. The safety chain should have no more slack than necessary to permit proper turning. When a drawbar is used, the safety chain shall be connected to the towed and towing vehicles and to the drawbar to prevent the drawbar from dropping to the roadway if the drawbar fails. All safety connections and attachments also shall have a positive means of

ensuring that the safety connection or attachment does not become dislodged while in transit.

Drawbar Length (29005). When one vehicle is towing another, the drawbar or other connection shall not exceed 15 feet.

Coupling of Towed Vehicles (29006). No person shall operate a vehicle towing another motor vehicle upon a freeway unless the towing vehicle is coupled to the towed vehicle by a rigid structure attached securely to both vehicles by nonrigid means.

Requirements for Towing of Passenger Vehicles. When vehicles such as "dune buggies" are always towed when on a highway with one or more wheels in contact with the roadway, only the following equipment and registration requirements need be met:

(a) They must be registered as motor vehicles. (Section 4000 VC)

(b) An adequate towing device and safety connection must be provided. (Sections 29003, 29004, 29005, 29006 VC)

(c) Taillamps, stoplamps, license plate lamp, turn signals, and reflectors are required

(d) Stoplamps and turn signals are not required on the *towed motor vehicle* provided a stoplamp and a turn signal lamp on each side on the rear of the towing vehicle is plainly visible to the rear of the towed vehicle. (Section 24605 VC)

(e) Brakes are not required on the towed motor vehicle; however, the combination must be capable of stopping within 50 feet from an initial speed of 20 miles per hour, and the brake system must be adequate to control the movement of and to stop and hold the combination under all conditions of loading on any grade on which it is operated. (Section 26454 VC)