

# Chapter 204-10 WAC

## EQUIPMENT STANDARDS

**WAC**

- 204-10-010 Promulgation.
- 204-10-012 Purpose.
- 204-10-014 Definitions.
- 204-10-021 Adoption of federal standards.
- 204-10-022 Body requirements.
- 204-10-024 Windows.
- 204-10-026 Eye protection.
- 204-10-028 Instrumentation and electrical system requirements.
- 204-10-030 Mirrors and backup alert devices.
- 204-10-032 Brakes.
- 204-10-034 Steering.
- 204-10-036 Suspension.
- 204-10-038 Exhaust system.
- 204-10-045 Hands-free wireless communications systems.
- 204-10-050 ReflectORIZED warning device.
- 204-10-060 Reflectors.
- 204-10-070 Air conditioning units.
- 204-10-080 Wheelchair conveyance.
- 204-10-090 Equipment prohibited.
- 204-10-120 Sirens.

**DISPOSITION OF SECTIONS FORMERLY CODIFIED IN THIS CHAPTER**

- 204-10-020 Lighting devices. [Statutory Authority: RCW 46.37-005, WSR 07-10-064, § 204-10-020, filed 4/30/07, effective 5/31/07. Statutory Authority: RCW 46.37.005 and 46.37.320. WSR 99-18-027, § 204-10-020, filed 8/24/99, effective 9/24/99; WSR 98-19-040, § 204-10-020, filed 9/11/98, effective 10/12/98; WSR 98-04-053, § 204-10-020, filed 1/30/98, effective 3/2/98. Statutory Authority: RCW 46.37.005. WSR 83-11-028 (Order 83-05-01), § 204-10-020, filed 5/13/83. Statutory Authority: RCW 46.37.005, 46.37.194, 46.37.280, 46.37.310, 46.37.320 and 46.37.380. WSR 81-18-008 (Order 81-08-02), § 204-10-020, filed 8/21/81.] Repealed by WSR 08-19-104, filed 9/17/08, effective 10/18/08. Statutory Authority: RCW 46.37.005 and 46.37.320.
- 204-10-035 Antique motor-driven cycles. [Statutory Authority: RCW 46.37.005 and 46.37.530. WSR 97-03-087, § 204-10-035, filed 1/16/97, effective 2/16/97.] Repealed by WSR 08-19-079, filed 9/16/08, effective 10/17/08. Statutory Authority: RCW 46.37.005 and 46.37.320.
- 204-10-040 Motorcycle helmets. [Statutory Authority: RCW 46.37-005 and 46.37.530. WSR 94-20-047, § 204-10-040, filed 9/29/94, effective 10/30/94. Statutory Authority: RCW 46.37.005. WSR 91-22-056 (Order 91-008), § 204-10-040, filed 11/1/91, effective 12/2/91. Statutory Authority: RCW 46.37.005, 46.37.194, 46.37.280, 46.37.310, 46.37.320 and 46.37.380. WSR 81-18-008 (Order 81-08-02), § 204-10-040, filed 8/21/81.] Repealed by WSR 03-23-007, filed 11/7/03, effective 12/8/03. Statutory Authority: RCW 46.37.005 and 2003 c 197.
- 204-10-055 Child restraint systems. [Statutory Authority: 1983 c 200 and 1983 c 215. WSR 83-21-080 (Order 83-10-01), § 204-10-055, filed 10/19/83.] Repealed by WSR 08-19-079, filed 9/16/08, effective 10/17/08. Statutory Authority: RCW 46.37.005 and 46.37.320.
- 204-10-100 Tire chains. [Statutory Authority: RCW 46.37.005, 46.37.194, 46.37.280, 46.37.310, 46.37.320 and 46.37-380. WSR 81-18-008 (Order 81-08-02), § 204-10-100, filed 8/21/81.] Repealed by WSR 98-04-053, filed 1/30/98, effective 3/2/98. Statutory Authority: RCW 46.37.005 and 46.37.320.
- 204-10-110 Traction devices. [Statutory Authority: RCW 46.37.005, 46.37.194, 46.37.280, 46.37.310, 46.37.320 and 46.37.380. WSR 81-18-008 (Order 81-08-02), § 204-10-110, filed 8/21/81.] Repealed by WSR 98-04-053, filed 1/30/98, effective 3/2/98. Statutory Authority: RCW 46.37.005 and 46.37.320.

- 204-10-130 Trailer hitches. [Statutory Authority: RCW 46.37.005, 46.37.194, 46.37.280, 46.37.310, 46.37.320 and 46.37.380. WSR 81-18-008 (Order 81-08-02), § 204-10-130, filed 8/21/81.] Repealed by WSR 98-04-053, filed 1/30/98, effective 3/2/98. Statutory Authority: RCW 46.37.005 and 46.37.320.
- 204-10-140 Motorcycle goggles, glasses, and face shields. [Statutory Authority: RCW 46.37.005, 46.37.194, 46.37.280, 46.37.310, 46.37.320 and 46.37.380. WSR 81-18-008 (Order 81-08-02), § 204-10-140, filed 8/21/81.] Repealed by WSR 98-04-053, filed 1/30/98, effective 3/2/98. Statutory Authority: RCW 46.37.005 and 46.37.320.
- 204-10-150 Load fastening devices. [Statutory Authority: RCW 46.37.005, 46.37.194, 46.37.280, 46.37.310, 46.37.320 and 46.37.380. WSR 81-18-008 (Order 81-08-02), § 204-10-150, filed 8/21/81.] Repealed by WSR 98-04-053, filed 1/30/98, effective 3/2/98. Statutory Authority: RCW 46.37.005 and 46.37.320.

**WAC 204-10-010 Promulgation.** By authority of RCW 46.37.005, 46.37.320, 46.37.400, and 46.37.530 (1)(b) the Washington state patrol hereby adopts the following rules setting forth standards for motor vehicle equipment for which approval is required in chapter 46.37 RCW.

[Statutory Authority: RCW 46.37.005 and 46.37.320. WSR 08-19-079, § 204-10-010, filed 9/16/08, effective 10/17/08. Statutory Authority: RCW 46.37.005, 46.37.194, 46.37.280, 46.37.310, 46.37.320 and 46.37.380. WSR 81-18-008 (Order 81-08-02), § 204-10-010, filed 8/21/81.]

**WAC 204-10-012 Purpose.** The purpose of this rule is to establish equipment requirements and provide limitations on the alteration of motor vehicle equipment in order to ensure that equipment used on motor vehicles complies with current safety standards.

[Statutory Authority: RCW 46.37.005 and 46.37.320. WSR 08-19-079, § 204-10-012, filed 9/16/08, effective 10/17/08.]

**WAC 204-10-014 Definitions.** (1) "Eye glasses" mean any spectacles, sunglasses, or goggles having two separately mounted lenses, but shall exclude contact lenses.

(2) "Goggles" means an optical device worn before the eyes, the predominant function of which is to protect the eyes without obstructing peripheral vision. They provide protection from the front and sides and may or may not form a complete seal with the face.

(3) "Face shield" means an eye protector attached to a helmet or headband(s) and which covers the wearer's eyes and face at least to a point approximately to the tip of the nose and whose predominant function is protection of the eyes.

(4) "FMVSS" means Federal Motor Vehicle Safety Standard, chapter 49 Code of Federal Regulations (C.F.R.) Part 571.

(5) "Headband" means that part of the device consisting of a supporting band or other structure that either encircles the head or protective helmet, or can be attached thereto.

(6) "Motor vehicle" means passenger vehicles, multipurpose passenger vehicles, motorcycles, trucks and buses

which are intended for use on public highways, excluding commercial vehicles as defined under RCW 46.04.140.

(7) "Recognized manufacturer" means a person, firm, copartnership, association, or corporation who is or has engaged in the business of manufacturing motor vehicles intended for use on the public highways and offered for sale in interstate commerce.

(8) "Reflectorized warning device" means any device defined in RCW 46.37.450 or any device composed of a reflective sheeting material which consists of spherical lens elements embedded with a transparent plastic having a smooth, flat outer surface. The sheeting shall be weather resistant and have a protected, low tac, precoated adhesive backing.

(9) "Reflex reflector" means a device that is used on vehicles to give an indication of presence to an approaching driver by reflecting light from the headlamps of the approaching vehicle.

(10) "SAE" means the Society of Automotive Engineers. Copies of the SAE Standards are available for review at the Washington State Patrol, 210 11th Avenue, Olympia, WA 98504, and may also be ordered from the Society of Automotive Engineers International, 400 Commonwealth Drive, Warrendale, PA 15086-7511.

(11) "Wheelchair conveyance" means any vehicle specially manufactured or designed for transportation of a physically or medically impaired person who is either wheelchair-bound or otherwise walking impaired. The vehicle may be a separate vehicle used in lieu of a wheelchair or a vehicle used for transporting the impaired person who is simultaneously occupying a wheelchair.

[Statutory Authority: RCW 46.37.005 and 46.37.320. WSR 09-22-078, § 204-10-014, filed 11/3/09, effective 12/4/09; WSR 08-19-079, § 204-10-014, filed 9/16/08, effective 10/17/08.]

**WAC 204-10-021 Adoption of federal standards.** The Washington state patrol adopts by reference Title 49 Code of Federal Regulations (C.F.R.) Part 571 Federal Motor Vehicle Safety Standards (FMVSS) for vehicle equipment standards. The patrol adopts the version of FMVSS in effect on the effective date of this section unless otherwise prescribed under state law. The FMVSS as outlined in Title 49 C.F.R. 571 are as follows:

1. 101 - Controls and displays.
2. 102 - Transmission shift lever sequence, starter interlock, and transmission brake effect.
3. 103 - Windshield defrosting and defogging systems.
4. 104 - Windshield wiping and washing system.
5. 105 - Hydraulic and electric brake systems.
6. 106 - Brake hoses.
7. 108 - Lamps, reflective devices, and associated equipment.
8. 109 - New pneumatic tires.
9. 110 - Tire selection and rims for motor vehicles with a GVWR of 4,536 kilograms (10,000 pounds) or less.
10. 111 - Rearview mirrors.
11. 113 - Hood latch system.
12. 114 - Theft protection.
13. 116 - Motor vehicle brake fluids.
14. 117 - Retreaded pneumatic tires.

15. 118 - Power-operated window, partition, and roof panel systems.

16. 119 - New pneumatic tires for vehicles other than passenger cars.

17. 120 - Tire selection and rims for motor vehicles with a GVWR of more than 4,536 kilograms (10,000 pounds).

18. 121 - Air brake systems.

19. 122 - Motorcycle brake systems.

20. 123 - Motorcycle controls and displays.

21. 124 - Accelerator control systems.

22. 125 - Warning devices.

23. 129 - New nonpneumatic radial tires for light vehicles.

24. 131 - School bus pedestrian safety devices.

25. 135 - Light vehicle brake systems.

26. 138 - Tire pressure monitoring systems.

27. 139 - New pneumatic radial tires for light vehicles.

28. 201 - Occupant protection in interior impact.

29. 202 - Head restraints; mandatory applicability begins on September 1, 2008.

30. 203 - Impact protection for the driver from the steering control system.

31. 204 - Steering control rearward displacement.

32. 205 - Glazing materials.

33. 206 - Door locks and door retention components.

34. 207 - Seating systems.

35. 208 - Occupant crash protection.

36. 209 - Seat belt assemblies.

37. 210 - Seat belt assembly anchorages.

38. 212 - Windshield mounting.

39. 213 - Child restraint systems.

40. 214 - Side impact protection.

41. 216 - Roof crush resistance.

42. 217 - Bus emergency exits and window retention and release.

43. 218 - Motorcycle helmets.

44. 219 - Windshield zone intrusion.

45. 220 - School bus roll-over protection.

46. 221 - School bus body joint strength.

47. 222 - School bus passenger seating and crash protection.

48. 223 - Rear impact guards.

49. 224 - Rear impact protection.

50. 225 - Child restraint anchorage systems.

51. 301 - Fuel system integrity.

52. 302 - Flammability of interior materials.

53. 303 - Fuel system integrity of compressed natural gas vehicles.

54. 304 - Compressed natural gas fuel container integrity.

55. 305 - Electric-powered vehicles: Electrolyte spillage and electrical shock protection.

56. 401 - Internal trunk release.

57. 403 - Platform lift systems for motor vehicles.

58. 404 - Platform lift installations in motor vehicles.

59. 500 - Low speed vehicles.

Links to 49 C.F.R. 571 are available on the Washington state patrol web site at [www.wsp.wa.gov](http://www.wsp.wa.gov). Copies of the C.F.R. may also be ordered through the United States Gov-

ernment Printing Office, 732 N. Capitol Street N.W., Washington, D.C. 20401.

[Statutory Authority: RCW 46.37.005 and 46.37.320. WSR 12-17-115, § 204-10-021, filed 8/21/12, effective 9/21/12; WSR 08-19-079, § 204-10-021, filed 9/16/08, effective 10/17/08.]

**WAC 204-10-022 Body requirements.** (1) Defroster and defogging devices: Every enclosed motor vehicle must be equipped with a device capable of defogging and defrosting the windshield area. Vehicles or exact replicas of vehicles manufactured prior to January 1938 are exempt from this requirement.

(2) Door latches: Every enclosed motor vehicle equipped with side doors leading directly into a compartment that contains one or more seating accommodations must be equipped with door latches which firmly and automatically secure the door when pushed closed and which allow each door to be opened both from the inside and outside.

(3) Hoodlatches: A front opening hood must be equipped with a primary and a secondary latching system to hold the hood in a closed position.

Hoods are optional equipment on vehicles defined as street rod vehicles, custom vehicles and kit vehicles.

(4) Enclosed passenger compartment: A motor vehicle with an enclosed passenger compartment and powered by an internal combustion engine must be constructed to prevent the entry of exhaust fumes into the passenger compartment.

(5) Floor pan: A motor vehicle must be equipped with a floor pan under the entire passenger compartment capable of supporting the weight of the number of occupants that the vehicle is designed to carry.

(6) Bumpers: A motor vehicle must be equipped with a bumper on both the front and rear of the vehicle with the exception of motor vehicles where the original or predominant body configuration, provided by a recognized manufacturer, did not include such bumper or bumpers in the design of the vehicle. For the relevant model year, bumpers must accommodate recognized manufacturer impact absorption systems pursuant to applicable SAE Bumper Standards or equivalent standards.

Bumpers are optional equipment on vehicles defined as street rod vehicles, custom vehicles and kit vehicles.

Bumpers, unless specifically exempted above, must:

- (a) Be at least four and one-half inches in vertical height.
- (b) Be centered on the vehicle's centerline.
- (c) Extend no less than the width of the respective wheel track distances.

(d) Be attached to the vehicle in a manner equivalent to the original manufacturer's installation.

(e) Be horizontal load bearing and attach to the vehicle frame to effectively transfer energy when impacted.

(f) Be mounted at a maximum height based on the original gross vehicle weight rating (GVWR) of the vehicle, measured from a level surface to the highest point on the bottom of the bumper. For vehicles exempted from the bumper requirement for the reasons stated above, a maximum frame elevation measurement must be made to the bottom of the frame rail. Maximum heights are as follows:

	Front	Back
Passenger Vehicles	22 Inches	22 Inches
4,500 lbs. and under GVWR	24 Inches	26 Inches
4,501 lbs. to 7,500 lbs. GVWR	27 Inches	29 Inches
7,501 lbs. and over GVWR	28 Inches	30 Inches

A blocker beam or additional bumper may not be used to meet the above requirements.

(g) If an existing bumper from a recognized manufacturer is not used and a special bumper is fabricated, it must be certified as meeting the bumper standards set under 49 C.F.R. 581.

(7) Fenders: All wheels of a motor vehicle must be equipped with fenders designed to cover the entire tire tread width that comes in contact with the road surface. Coverage of the tire tread circumference must be from at least fifteen degrees in front and to at least seventy-five degrees to the rear of the vertical centerline at each wheel measured from the center of the wheel rotation. At no time can the tire come in contact with the body, fender, chassis, or suspension of the vehicle. Street rods and kit vehicles which are more than forty years old and are owned and operated primarily as a collector's item need not be equipped with fenders when the vehicle is used and driven during fair weather on well-maintained, hard-surfaced roads.

(8) Frame: A motor vehicle must be equipped with a frame. If an existing frame from a recognized manufacturer is not used and a special frame is fabricated, it must be constructed of wall box or continuous section tubing, wall channel, or unitized construction capable of supporting the vehicle, its load, and the torque produced by the power source under all conditions of operation. The structural strength of the frame must be certified by the builder as meeting the applicable standards set under 49 C.F.R. 571 Parts 201, 214, 216, and 220 through 224, and the SAE Standards. Such certification must be made by either:

(a) Certification provided on the vehicle in the form of a label which has been affixed in accordance with FMVSS outlining the portions of the FMVSS which have been met; or

(b) A notarized letter from the builder of the frame outlining the portions of the Federal Motor Vehicle Safety Standards (FMVSS) which have been met; or

(c) If the vehicle is a kit vehicle, as outlined in RCW 46.12.440, documentation from the manufacturer of the vehicle frame that informs the owner that the frame has not been certified as meeting the applicable federal motor vehicle safety standard set under 49 C.F.R. 571 Parts 201, 214, 216, and 220 through 224, and the applicable SAE Standards.

[Statutory Authority: RCW 46.37.005 and 46.37.320. WSR 12-03-085, § 204-10-022, filed 1/13/12, effective 2/13/12. Statutory Authority: RCW 46.37.005 and 46.37.240. WSR 09-18-071, § 204-10-022, filed 8/31/09, effective 10/1/09. Statutory Authority: RCW 46.37.005 and 46.37.320. WSR 08-19-079, § 204-10-022, filed 9/16/08, effective 10/17/08.]

**WAC 204-10-024 Windows.** (1) The windshield must be framed and in such a position that it affords continuous

horizontal frontal protection to the driver and front seat occupants. The minimum vertical height of the unobstructed windshield glass must be six inches, or as originally equipped by a recognized manufacturer.

(2) The vehicle must be provided with a windshield and side windows or openings which allow the driver a minimum outward horizontal vision capability, ninety degrees each side of a vertical plane passing through the fore and aft centerline of the vehicle. This range of vision:

(a) May be interrupted by window framing not exceeding four inches in width at each side location.

(b) Must have no obstruction forward of the windshield which extends more than two inches upward into the horizontally forward projected vision area of the windshield except windshield wiper components and hood ornaments identical to those originally installed by a recognized manufacturer. For the purposes of this section, the projected vision area of the windshield shall be defined as that area above a line from the top of the steering wheel to the top of the front fenders or hood, whichever is higher.

(3) If a windshield is not required under 49 C.F.R. 571, the operator must wear eye protection as outlined in chapter 46.37 RCW and WAC 204-10-026.

[Statutory Authority: RCW 46.37.005 and 46.37.320. WSR 09-22-078, § 204-10-024, filed 11/3/09, effective 12/4/09; WSR 08-19-079, § 204-10-024, filed 9/16/08, effective 10/17/08.]

**WAC 204-10-026 Eye protection.** If a vehicle does not have a windshield, and the driver is required to wear eye protection, chapter 46.37 RCW, the eye protection device (EPD) must:

(1) Be one of the following: Goggles, face shield, or eye glasses.

(a) Eye glasses must:

(i) Have a convex frontal surface on each lens, or be an ophthalmic corrective lens.

(ii) Have a minimum area of three square inches or 19.356 square centimeters for each lens. The horizontal diameter (or side-to-side measurement) must be no less than two inches or 50 millimeters. The vertical diameter (or top-to-bottom measurement) must be no less than one and one-half inches or 38 millimeters. A diameter must pass through a point on the lens that is intended to be directly in front of the pupil of the eye when the wearer is looking straight ahead.

(b) Optical correction of a person's vision, where required or desired, may be provided either:

(i) By an EPD that provides the proper optical correction; or

(ii) By personal corrective lenses worn under an EPD that does not disturb the adjustment of those lenses.

(2) Not have any sharp edges or projections that could cause harm or discomfort to the wearer.

(3) Be made of durable quality.

Example: Material characteristics must not undergo appreciable alterations under the influence of aging or of the circumstances of use to which the device is normally subjected (exposure to sun, rain, cold, dust, vibrations, contact of the skin, effects of sweat, or of products applied to the hair or skin).

(4) Have a headband capable of holding the EPD securely under normal operating conditions. It must be capable of easy adjustment and replacement.

(5) Not use material(s) commonly known to cause skin irritation or disease for those parts of the device which come into contact with the skin.

(6) Where plastic materials are used, use noncombustible or slow burning materials.

(7) Not use cellulose nitrate, or materials having flammability characteristics approximately those of cellulose nitrate.

(8) Be tested on a standard human head form in a position simulating its position in actual use.

Example: Helmet-mounted face shields must be tested while attached to an appropriate medium-size helmet supplied by the manufacturer of the face shield, which must be mounted on a standard head form.

The test must:

(a) Use a steel projectile three-eighths inches in diameter, weighing 1.56 ounces approximately two and one-half inches long with a conical point of ninety degrees included angle, the point having a spherical radius no greater than .020 inches and a hardness of 60(10) on the Rockwell "C" scale, which must be freely dropped from a height of fourteen feet above the EPD. The projectile may be guided, but not restricted in its vertical fall by dropping it through a tube extending to within approximately four inches of the impact area. The impact area must be on the forward optical surface and within one-inch diameter circle centered over the eye opening. The impact point shall be perpendicular to a plane tangent to the impact area.

(b) Not allow penetration of the projectile through the EPD. Cracking or piercing of the EPD is permissible provided that the projectile does not pass through or remain lodged in the EPD lens, but is repulsed by the EPD, and that no particles of the EPD shall break loose from any eyeward surface of the EPD.

(c) Be performed at room temperature (sixty-five degrees to eighty-five degrees F) under normal humidity conditions.

(d) If plastic materials are used, expose the EPD to a test to determine the flame-propagation rate. The specimen must be ignited by holding one end of the specimen horizontally at the top of a luminous three quarter-inch Bunsen burner flame in a draft-free room. The rate of propagation of burning, after removing the flame from the specimen, determined by a stop watch, shall be one inch or less per twenty-four seconds. A faster rate of propagation shall be cause for rejection.

(9) Have lenses that comply with the following requirements:

(a) Lenses must be made of material suitable for ophthalmic use, and must be free from striae, waves, bubbles, or any other defects which may impair their optical quality.

(b) The prismatic effect of a noncorrective lens must not exceed 1/8 diopter at any point with the specified minimum field of vision. In the case of eye glasses, each noncorrective lens must comply with the limitation of prismatic effect.

(c) In any meridian, the refractive power of a noncorrective lens must not exceed plus or minus 1/8 diopter and the

difference between the refractive powers in any two meridians must not exceed 1/8 diopter.

(d) The definition afforded by a noncorrective lens must be such that a line pattern with lines separated not more than twenty-four seconds of angle must be clearly distinguishable when viewed through the lens.

(e) The compliance of a lens with the prismatic effects, refractive power, and definition requirements of (a), (b), and (c) of this subsection must be determined in accordance with those test methods described in Sections 6.3.4.1.1, 6.3.4.1.2, and 6.3.4.1.3 of the American National Standards Institute Standard Z87.1-1968, September 18, 1968, "Eye and Face Protection" and explained in Section 10.1 of the National Bureau of Standards Circular 533, May 20, 1953, "Method for Determining the Resolving Power of Photographic Lenses." In order to maintain consistency in the results of tests conducted by various organizations, the following test requirements must be met:

(i) An 8-power telescope with focusing arrangement to accommodate the refractive effects of both positive (converging) and negative (diverging) lenses placed between the telescope and test chart shall be used. The illuminated target and test chart shall be a central dot and a concentric circle one-inch in diameter plus one of the high contrast ("black and white") NBS Resolution Test Charts, dated 1952, and printed on "Lens Resolution Chart to Accompany NBS Circular 533." The chart shall be perpendicularly aligned thirty-five feet from the objective lens of the telescope when the telescope is properly focused with no test, sample, or other lens between the objective lens and the chart. The center dot and the periphery of the concentric circle one-inch in diameter shall be used when testing for prismatic effect. The test pattern marked "20" shall be used when testing for refractive power and when testing for definition. Standard lenses of plus or minus 1/8 diopter shall be used when testing for refractive power.

(ii) Other standard methods of test or examination that are equivalent or superior, as regards to accuracy, quality, and consistency of results to (e)(i) of this subsection specified in National Bureau of Standards methods, may be used to determine compliance only when such methods are approved by the state official to whom such approving authority has been assigned, or delegated, through due process of applicable state law.

(10) Not obstruct a horizontal field of vision to at least one hundred five degrees to the right side of the plane that passes through the pupil of the right eye looking straight ahead, and at least one hundred five degrees to the left side of the plane that passes through the pupil of the left eye looking straight ahead, and are parallel to the midsagittal plane, except as provided in (a) of this subsection.

(a) The specified minimum horizontal field of vision must be unobstructed except that the horizontal field provided by the spectacles or sunglasses may be obstructed by the frame in a sector no greater than seven and one-half degrees in horizontal angular width and located between fifty degrees and eighty degrees of the pertinent sagittal plane passing through the eye pupil when looking straight ahead.

(b) When ascertaining the horizontal field of vision afforded by eyeglasses, the pupil of the eye must be assumed to be located 17 mm behind the point on the rear surface of

the lens where the horizontal and vertical diameters intersect. When ascertaining the horizontal field of vision of EPDs other than eye glasses, the assumed location of the pupil of the eye relative to the structures of the EPD shall be that location which is most likely to occur when the EPD is attached and worn in accordance with its manufacturer's instructions.

(c) No portion of the minimum horizontal field of vision shall be obstructed by a temple piece, headband, helmet, helmet attaching device, or any other supporting or attaching device.

(11) Be clear (transmitting not less than eighty-five percent of incident visible radiation) or may be tinted provided that the tint does not impair the wearer's ability to discern color. If the EPD is tinted it must not be used at any time from a half hour after sunset to a half hour before sunrise and at any other time when due to insufficient light or unfavorable atmosphere conditions, persons and vehicles on the highway are not clearly discernible at a distance of five hundred feet ahead. The luminous transmittance must be determined by one of the following means:

(a) Photometrically by an observer having normal color vision, as determined by recognized color vision chart tests such as those employing pseudoisochromatic plates.

(b) With a physical photometer consisting of a thermopile (or other radiometer) and luminosity solution having a special transmittance curve which coincides closely with the luminous efficiency curve of the average eye.

(c) By measuring the special transmittance and calculating the luminous transmittance through the use of published data on the spectral radiant energy of CIE Source A and the relative luminous efficiency of the average eye.

The standard source of radiant energy used in the measurement of luminous transmittance must be a projection type lamp No. T-8 (or other high-powered, gas-filled tungsten filament incandescent lamp) operated at the color temperature (2854K) corresponding to CIE Source A.

(12) Be identified and labeled as follows:

(a) The EPD shall be permanently marked in a manner not to interfere with the vision of the wearer.

(b) The manufacturer's or distributor's trade name and model name or number, which shall correspond with the name and number under which the device has been approved or certified.

(c) That the device meets the standard VESC-8. Where space is limited, V-8 may be used in lieu of VESC-8.

(d) The information required under subsection (l) of this section plus the corporate or business name and address of either the actual manufacturer or the marketer assuming the responsibilities of the manufacturer shall be imprinted on the container in which the EPD is packed and on any instruction sheet(s) pertaining to the EPD.

(e) If the EPD is tinted, the following statement shall appear in a prominent location on the container or label: **This tinted eye protective device is for daytime use only.**

[Statutory Authority: RCW 46.37.005 and 46.37.320. WSR 08-19-079, § 204-10-026, filed 9/16/08, effective 10/17/08.]

**WAC 204-10-028 Instrumentation and electrical system requirements.** (1) A motor vehicle must be equipped with an operating speedometer calibrated to indicate "miles per hour," and may also indicate "kilometers per hour."

(2) The headlamp circuit for a motor vehicle must be equipped with a driver-controlled high and low beam selector switch unless the vehicle is equipped with single beam headlamps.

(3) If a motor vehicle is manufactured after 1965, it must be equipped with a hazard warning switch causing all turn signal lamps to flash simultaneously.

(4) The headlamp switch for a motor vehicle must activate the headlamps, tail lamps, license plate lamp, and when required, marker lamps simultaneously.

(5) An indicator must be provided on a motor vehicle which indicates to the driver when the high beams of the headlamp system are energized. The indicator shall emit a light other than white plainly visible to the driver under normal driving conditions.

(6) A motor vehicle must be equipped with an operable horn capable of emitting sound audible under normal conditions from a distance of not less than two hundred feet. No horn or other warning device shall emit an unreasonably loud or harsh sound or whistle nor shall a bell or siren be used as a warning device. The device used to actuate the horn must be easily accessible to the driver when operating the vehicle.

(7) A motor vehicle, if equipped with an automatic transmission, must be equipped with a safety switch that prevents the starter motor from being actuated except when the gear selector is in the neutral or park position.

(8) If the front signal lamp(s) on a motor vehicle are not readily visible to the driver, there must be an illumination indicator to give the operator a clear, unmistakable indication that the turn signal system is on. The illumination indicator must consist of one or more bright lights flashing at the same frequency as the signal lamps, and it must emit a light other than white.

[Statutory Authority: RCW 46.37.005 and 46.37.320. WSR 08-19-079, § 204-10-028, filed 9/16/08, effective 10/17/08.]

#### **WAC 204-10-030 Mirrors and backup alert devices.**

A motor vehicle must be equipped with mirrors as outlined under 49 C.F.R. 571 and RCW 46.37.400. The mirror mountings must provide for mirror adjustment by tilting both horizontally and vertically. The following definitions must be used for additional backup alert devices or mirrors:

(1) Backup alert devices means any type of motion detection device, laser device, camera, or television device mounted on a truck with a cube-style, walk-in cargo box up to eighteen feet long, which will warn the driver of the detection of a person or object at a minimum of six feet to the rear of the vehicle and also encompass the width of the rear of the vehicle.

(2) Rear crossview mirrors mean any type of mirrors which, when mounted, will allow the driver of a truck with a cube-style, walk-in cargo box up to eighteen feet long, to view a minimum distance of six feet to the rear and encompass the width of the rear of the vehicle in order to be able to detect an object or person. These crossview mirrors must be installed in a manner that will satisfy the above requirements.

[Statutory Authority: RCW 46.37.005 and 46.37.320. WSR 08-19-079, § 204-10-030, filed 9/16/08, effective 10/17/08. Statutory Authority: RCW 46.37.005, 46.37.194, 46.37.280, 46.37.310, 46.37.320 and 46.37.380. WSR 81-18-008 (Order 81-08-02), § 204-10-030, filed 8/21/81.]

**WAC 204-10-032 Brakes.** (1) A motor vehicle must be equipped with brakes acting on all wheels. The service brakes, upon application, must be capable of stopping the vehicle within a twelve-foot lane, and:

(a) Developing an average tire to road braking or retardation force of not less than 52.8% of the gross vehicle weight;

(b) Decelerating the vehicle at a rate of not less than seven feet per second; or

(c) Stopping the vehicle within a distance of twenty-five feet from a speed of 20 mph.

Tests must be made on a level, dry, concrete or asphalt surface free from loose material.

(2) A motor vehicle must be equipped with a parking brake operating on at least two wheels on the same axle which, when applied, must be capable of holding the vehicle on any grade on which the vehicle is operated. Parking brakes must be separately actuated so that failure of any part of the service brake actuation system would not diminish the vehicle's parking brake holding capability.

[Statutory Authority: RCW 46.37.005 and 46.37.320. WSR 08-19-079, § 204-10-032, filed 9/16/08, effective 10/17/08.]

**WAC 204-10-034 Steering.** A motor vehicle must be equipped with a continuous rim steering wheel meeting the requirements set forth under RCW 46.37.375, and this chapter. The steering must:

(1) Include a steering wheel which must:

(a) Have an outside diameter of not less than twelve inches.

(b) Not move less than two turns nor more than six turns.

(c) Remain unobstructed when turning from stop-to-stop.

(d) Have a box mount securely welded or bolted to the vehicle frame or other suitable location as originally installed by a recognized manufacturer.

(e) Have a distinct tendency for the vehicle to increase its turning radius when the steering wheel is released while the vehicle is in a sharp turn at a speed of between 5 and 15 mph.

Note: Stability tests must be performed on a dry, level concrete or asphalt road having no loose surface contaminant, and the vehicle's tires must be inflated to the recommended pressure in accordance with the tire load pursuant to 49 C.F.R. 571.109 (FMVSS 109). The vehicle must contain a front seat passenger or simulated equivalent one hundred fifty pounds weight secured to the seat in addition to the driver.

(2) Have steering capability for negotiating right and left turns of a thirty-two foot radius or less measured from the center of the turn circle to the outside front wheel track.

(3) Not have more free play or lash in the steering system than is allowed based on the table outlined in RCW 46.37.375. The test for free play or lash must be conducted as follows: With the engine on and the wheels in the straight ahead position, turn the steering wheel in one direction until there is a perceptible movement of a front wheel. If a point on the steering wheel rim moves more than the value shown in the table before perceptible return movement of the wheel under observation, there is excessive lash or free play in the steering system.

[Statutory Authority: RCW 46.37.005 and 46.37.320. WSR 08-19-079, § 204-10-034, filed 9/16/08, effective 10/17/08.]

**WAC 204-10-036 Suspension.** A motor vehicle must be capable of stable, controlled operation while traversing a slalom-type path passing alternately to the left and right of at least four cones or markers arranged in a straight line and spaced sixty feet apart at a minimum speed of 25 mph.

Body lifts are permitted provided that they are manufactured by an aftermarket manufacturer, designed for the make and model vehicle on which they are installed, and installed according to the manufacturer's recommendations. Body lifts may not use more than a three-inch spacer and may not raise the body more than four inches above the frame when all components are installed.

A motor vehicle must:

(1) Have a minimum ground clearance to allow the vehicle to be in motion on its four rims on a flat surface with no other parts of the vehicle touching that surface and a maximum ground clearance determined based on the table contained in WAC 204-10-022 (6)(f) bumpers.

(2) Have spring mounts and shackles properly aligned and of sufficient strength so as to support the gross weight of the vehicle and provide free travel in an up and down movement under all conditions of operation.

(3) Incorporate antisway devices to control lateral movement in rear coil spring suspension systems.

(4) Have a suspension system that allows movement between the unsprung axles and wheels and the chassis body.

(5) Be equipped with a damping device at each wheel location. The dampening device must stop vertical body motion within two cycles when any corner of the vehicle is depressed and released.

(6) Be capable of providing a minimum relative motion of plus and minus two inches.

(7) Not use heating or welding for coil springs, leaf springs, or torsion bars.

(8) Not be constructed or loaded so that the weight on the wheels of any axle is less than thirty percent of the gross weight of the vehicle.

(9) Not raise or lower the height of a motor vehicle while the motor vehicle is traveling more than 15 mph on a public roadway with a posted speed limit of 25 mph or less. Except when lawfully participating in a parade permitted by local jurisdiction.

(10) At no time have any portion of any tire of such motor vehicle leave the surface of the roadway.

(11) Not have any portion of the vehicle or component of the hydraulic system used to raise or lower the vehicle cause or emit sparks.

Nothing in this section shall prohibit a county or city from enacting stricter regulations for aftermarket vehicle hydraulics on a public roadway.

[Statutory Authority: RCW 46.37.005 and 46.37.320. WSR 08-19-079, § 204-10-036, filed 9/16/08, effective 10/17/08.]

**WAC 204-10-038 Exhaust system.** A motor vehicle must be equipped with a leakproof exhaust system that includes the exhaust manifold(s), headers, the piping leading from the flange of the exhaust manifold(s), the muffler(s), and the tail piping.

(8/21/12)

Exhaust systems on property-carrying vehicles must:

(1) Discharge the exhaust fumes to the rear of that part of the vehicle designed and normally used for carrying the driver and passengers.

(2) Discharge the exhaust fumes at a location to the rear of the vehicle body or direct the exhaust fumes outward from the side of the vehicle body at a location rearward of any operable side windows.

(3) Not have any part of the exhaust system pass through any area of the vehicle that is used as a passenger compartment, nor in close proximity to the fuel system without being properly shielded.

[Statutory Authority: RCW 46.37.005 and 46.37.320. WSR 08-19-079, § 204-10-038, filed 9/16/08, effective 10/17/08.]

**WAC 204-10-045 Hands-free wireless communications systems.** Hands-free cellular telephone devices may be used by motorists while driving motor vehicles as long as the use complies with RCW 46.61.667. Listening devices that include an earpiece must cover or be attached to only one ear.

[Statutory Authority: RCW 46.37.005 and 46.37.320. WSR 08-19-079, § 204-10-045, filed 9/16/08, effective 10/17/08. Statutory Authority: RCW 46.37.005 and 46.37.480. WSR 97-10-024, § 204-10-045, filed 4/29/97, effective 5/30/97.]

**WAC 204-10-050 Reflectorized warning device.** Reflectorized warning devices used by law enforcement must:

(1) Conform to those devices described in RCW 46.37.450 and requirements of the Washington state department of transportation standard specifications for road, bridge, and municipal construction, Section 9-28.6, "Enclosed lens reflective sheeting." These specifications are available through the Washington State Patrol, 210 11th Avenue, Olympia, Washington 98504, or the Washington State Department of Transportation, 310 Maple Park Avenue, Olympia, Washington 98504.

(2) Be placed on a vehicle whenever any such vehicle is disabled upon the traveled portion of any highway or shoulder thereof outside any municipality, at any time when lights are required by RCW 46.04.200, upon discovery of such disabled vehicle by law enforcement, a reflectorized device such as those defined in RCW 46.37.450 or this section.

[Statutory Authority: RCW 46.37.005 and 46.37.320. WSR 08-19-079, § 204-10-050, filed 9/16/08, effective 10/17/08. Statutory Authority: RCW 46.37.005, 46.37.194, 46.37.280, 46.37.310, 46.37.320 and 46.37.380. WSR 81-18-008 (Order 81-08-02), § 204-10-050, filed 8/21/81.]

**WAC 204-10-060 Reflectors.** (1) On motor vehicles, reflex reflectors must be securely mounted on a rigid part of the vehicle with the plane of the lens perpendicular to the roadway and parallel to the rear axle. Side reflex reflectors must be mounted with the lens face perpendicular to the roadway and parallel to the rear wheels.

(2) On bicycles and motorized foot scooters, the reflectors must be securely mounted and of a type conforming to 16 C.F.R. Part 1512.

[Statutory Authority: RCW 46.37.005 and 46.37.320. WSR 08-19-079, § 204-10-060, filed 9/16/08, effective 10/17/08. Statutory Authority: RCW 46.37.005, 46.37.194, 46.37.280, 46.37.310, 46.37.320 and 46.37.380. WSR 81-18-008 (Order 81-08-02), § 204-10-060, filed 8/21/81.]

**WAC 204-10-070 Air conditioning units.** (1) Society of Automotive Engineers (SAE) Standard J639 is adopted by reference as the standard for automotive air conditioning units.

(2) SAE Standard J51 is adopted by reference as the standard for automotive air conditioning hose.

[Statutory Authority: RCW 46.37.005 and 46.37.320. WSR 08-19-079, § 204-10-070, filed 9/16/08, effective 10/17/08; WSR 98-04-053, § 204-10-070, filed 1/30/98, effective 3/2/98. Statutory Authority: RCW 46.37.005, 46.37.194, 46.37.280, 46.37.310, 46.37.320 and 46.37.380. WSR 81-18-008 (Order 81-08-02), § 204-10-070, filed 8/21/81.]

**WAC 204-10-080 Wheelchair conveyance.** The wheelchair conveyance must be equipped with a propulsion device capable of propelling the vehicle at a minimum speed of 20 mph on level ground.

(1) Every wheelchair conveyance that is designed to travel on four wheels in contact with the ground must comply with the provisions of chapter 46.37 RCW as they pertain to motor vehicle equipment.

(2) Every wheelchair conveyance that is designed to travel on not more than three wheels in contact with the ground must comply with the equipment requirements for motorcycles, motor-driven cycles, and mopeds contained in chapters 46.37 and 46.61 RCW: Provided, That all wheelchair conveyances must be equipped with two rear view mirrors and turn signals as defined in RCW 46.37.400 and 46.37.200.

[Statutory Authority: RCW 46.37.005 and 46.37.320. WSR 08-19-079, § 204-10-080, filed 9/16/08, effective 10/17/08. Statutory Authority: RCW 46.37.440. WSR 82-16-049 (Order 82-07-03), § 204-10-080, filed 7/29/82. Statutory Authority: RCW 46.37.005, 46.37.194, 46.37.280, 46.37.310, 46.37.320 and 46.37.380. WSR 81-18-008 (Order 81-08-02), § 204-10-080, filed 8/21/81.]

**WAC 204-10-090 Equipment prohibited.** If aftermarket equipment is installed on a vehicle, it must not impair the effectiveness of equipment required by 49 Code of Federal Regulations (C.F.R.) Part 571, chapter 46.37 RCW or Title 204 WAC.

[Statutory Authority: RCW 46.37.005 and 46.37.320. WSR 08-19-079, § 204-10-090, filed 9/16/08, effective 10/17/08; WSR 98-04-053, § 204-10-090, filed 1/30/98, effective 3/2/98. Statutory Authority: RCW 46.37.005, 46.37.194, 46.37.280, 46.37.310, 46.37.320 and 46.37.380. WSR 81-18-008 (Order 81-08-02), § 204-10-090, filed 8/21/81.]

**WAC 204-10-120 Sirens.** Society of Automotive Engineers (SAE) Standard J1849 is adopted by reference as the standard for emergency vehicle sirens.

[Statutory Authority: RCW 46.37.005 and 46.37.320. WSR 08-19-079, § 204-10-120, filed 9/16/08, effective 10/17/08. Statutory Authority: RCW 46.37.005. WSR 93-11-018, § 204-10-120, filed 5/6/93, effective 6/6/93. Statutory Authority: RCW 46.37.005, 46.37.194, 46.37.280, 46.37.310, 46.37.320 and 46.37.380. WSR 81-18-008 (Order 81-08-02), § 204-10-120, filed 8/21/81.]