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**Rules of**  
**Department of Public Safety**  
**Division 50—Missouri State Highway Patrol**  
**Chapter 2—Motor Vehicle Inspection Division**

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**Title 11—DEPARTMENT OF  
PUBLIC SAFETY  
Division 50—Missouri State  
Highway Patrol  
Chapter 2—Motor Vehicle Inspection  
Division**

**11 CSR 50-2.010 Definitions**

*PURPOSE:* This rule defines the meaning of words and terms used throughout the inspection rules.

(1) The following words and terms as used in these rules shall have the following meaning:

(A) Approval certificate is the white copy of the written document which is given to the vehicle owner and which shows that the vehicle meets the inspection requirements;

(B) Commercial motor vehicle is a motor vehicle designed or regularly used for carrying freight and merchandise or more than eight (8) passengers;

(C) Decal is a gummed decalomania that is attached to a motorcycle or trailer when the vehicle meets the inspection requirements;

(D) Inspector/mechanic is any automotive mechanic issued a permit by the superintendent of the Missouri State Highway Patrol to conduct inspections;

(E) Motorcycle is a motor vehicle operated on two (2) wheels;

(F) Motor tricycle is a motor vehicle operated on three (3) wheels, including a motorcycle while operated with any conveyance requiring the use of a third wheel;

(G) Motor vehicle is any self-propelled vehicle not operated exclusively upon tracks, except farm tractors;

(H) Rejection notice is the yellow copy of the written document which is given to the vehicle owner and which shows that the vehicle does not meet the inspection requirements;

(I) Revocation is the rescinding of an inspection permit for a period of not less than one (1) year;

(J) School bus is any motor vehicle used solely to transport students to and from school or to transport students to or from any place for educational purposes.

1. A Type "A" school bus is a van conversion or bus constructed utilizing a cutaway front-section vehicle with a left side driver's door. The entrance door is behind the front wheels. This definition includes two (2) classifications: Type A1, with a Gross Vehicle Weight Rating (GVWR) less than or equal to ten thousand pounds (10,000 lbs.); and Type A2, with a GVWR of greater than ten thousand pounds (10,000 lbs.).

2. A Type "B" school bus is constructed utilizing a stripped chassis. The entrance door is behind the front wheels. This definition includes two (2) classifications: Type B1, with a GVWR less than or equal to ten thousand pounds (10,000 lbs.); and Type B2, with a GVWR greater than ten thousand pounds (10,000 lbs.).

3. A Type "C" school bus is constructed utilizing a chassis with a hood and fender assembly. The entrance door is behind the front wheels.

4. A Type "D" school bus is constructed utilizing a stripped chassis. The entrance door is ahead of the front wheels;

(K) Sticker is a gummed label or decalomania that is attached to the windshield of a motor vehicle when the vehicle meets the inspection requirements;

(L) Suspension is the temporary removal of an inspection permit for a period of less than one (1) year, but not less than thirty (30) days;

(M) Trailer is any vehicle without motor power designed for carrying property or passengers on its own structure and for being drawn by self-propelled vehicles, except those running exclusively on tracks, including a semitrailer or vehicle of the trailer type designed and used in conjunction with a self-propelled vehicle that a considerable part of its own weight rests upon and is carried by the towing vehicle;

(N) Truck-tractor is any self-propelled motor vehicle designed and used primarily for drawing other vehicles and not constructed to carry a load other than a part of the weight of the vehicle and load being drawn; and

(O) Vehicle owner is any person, firm, corporation or association who holds the legal title of a vehicle or in the event a vehicle is the subject of an agreement for the conditional sale or lease of it with the right of purchase of upon performance of the conditions stated in the agreement and with an immediate right of possession vested in the conditional vendee or lessee, or in the event a mortgagor of a vehicle is entitled to possession, then the conditional vendee or lessee or mortgagor shall be deemed the owner. The term owner also shall include any person renting or leasing a vehicle and having exclusive use of the vehicle for a period longer than thirty (30) days, the holder of a lessee title or the agent or personal representative of an owner as defined in this rule.

*AUTHORITY:* section 307.360, RSMo 2000.\* *Original rule filed Nov. 4, 1968, effective Nov. 14, 1968. Amended: Filed March 3, 1969, effective March 13, 1969. Amended:*

*Filed March 9, 1970, effective March 19, 1970. Amended: Filed Nov. 9, 1971, effective Nov. 19, 1971. Amended: Filed May 21, 1974, effective May 31, 1974. Amended: Filed Jan. 12, 1982, effective April 11, 1982. Amended: Filed June 2, 1993, effective Nov. 8, 1993. Emergency rescission and rule filed March 12, 1997, effective April 15, 1997, expired Sept. 30, 1997. Rescinded and re-adopted: Filed March 12, 1997, effective Sept. 30, 1997. Amended: Filed Sept. 15, 2003, effective March 30, 2004.*

*\*Original authority: 307.360, RSMo 1967, amended 1971, 1973, 1979, 1999.*

*State v. Cushman, 451 SW2d 17 (1970). While an executive officer may not be delegated the power to make and promulgate rules of a strictly and exclusively legislative nature, the general assembly, having established a sufficiently definite policy, may authorize an administrative officer to make rules or orders relating to the administration or enforcement of the law. In other words, administrative power, as distinguished from legislative power, constitutionally may be delegated by the general assembly. . . section 304.720 (transferred in 1969 to 307.360) directs the superintendent of the state highway patrol to "establish standards and procedures to be followed in the making of inspections required by" the motor vehicle safety inspection laws.*

**11 CSR 50-2.020 Minimum Inspection Station Requirements**

*PURPOSE:* This rule lists the minimum requirements for all official vehicle inspection stations. These requirements are necessary to insure that stations have the proper premises, equipment and personnel to perform inspections in a uniform manner and in accordance with the inspection rules.

(1) Premises.

(A) Each inspection station must have an inspection area within an enclosed building of sufficient length, width and height to accommodate the type of vehicle being inspected. Class A and D stations are required to accommodate a commercial vehicle. Class B stations must accommodate a full-size domestic made passenger vehicle. Class C stations are required to have sufficient length and width to inspect full-size motorcycles.

1. In addition to an inside area, an outside inspection area may be approved for the inspection of commercial vehicles at Class B stations, if it is of sufficient length and width



of the vehicle or combination of vehicles being inspected.

2. The area shall be substantially level and constructed of hard material, such as asphalt or concrete. It shall be a part of and adjacent to the official vehicle inspection station.

(B) The station must be in compliance with applicable city, county and state regulations relating to zoning, merchant licensing, fictitious name and retail sales tax number.

(C) The inside inspection area shall be sufficiently lighted, adequately heated and properly ventilated.

(D) The floor must be substantially level and constructed of a hard material. Dirt, gravel and bituminous surface or sagging wood floors will not be accepted. The floor must be kept clean, free from excessive dirt, grease and loose material.

(E) If the station has only one (1) inspection area, no major mechanical repair work shall be permitted in the inspection area during normal business hours.

(F) Public inspection stations shall be located on an all-weather road and be readily accessible to the motoring public without entering the station premises by the opening of gates or other similar barriers.

(G) Operational changes, except the addition or deletion of inspector/mechanics, unless the deletion of an inspector/mechanic results in no inspector/mechanic for the station, affecting the current station application must be submitted to the Missouri State Highway Patrol immediately.

#### (2) Equipment.

(A) All inspection stations, except Class C, must have the following equipment which must be arranged and located at or near the inside inspection area:

1. Brake performance. Some method of testing the service brake performance will be required. The use of a decelerometer, brake testing machine, dynamometer or drive and stop test will be recognized;

2. Brake lining gauge. A gauge will be required to determine the remaining thickness in fractions of an inch of both bonded and riveted linings;

3. Brake pad gauge. Some type of gauging device to accurately measure the remaining thickness of the brake pad in fractions of an inch while the pad is within the caliper assembly;

4. Ball joint gauge. A ball joint gauge to accurately measure any looseness in the load-carrying ball joint. The gauge must be adapted to measure vertical (up and down) and horizontal (side-to-side) movement;

5. Lift or jack. A lift or jack, capable of hoisting a vehicle properly to check ball joints, suspension linkage and wheel play. If a lift is used, it must be the type which allows the front wheels to be suspended by lifting under the outer extremity of a motor vehicle's lower control arm, cross member or frame;

6. Scraper. A scraper to remove old stickers;

7. Measuring device. Yardstick or steel tape preferred;

8. Punch. An open face paper punch with a round die to validate inspection stickers and decals;

9. A tire tread depth gauge which is graduated into one-thirty-second inch (1/32") increments must be part of the equipment at inspection stations that inspect school buses;

10. A one-eighth inch (1/8") drawstring over thirty inches (30") in length with a one-half inch (1/2") hex nut attached to one (1) end to check handrails is required if the station will be inspecting school buses; and

11. A device which is capable of measuring or comparing the light transmission of all tinted windows.

(B) Class C inspection stations must have the following equipment:

1. Measuring device; and
2. Punch.

#### (3) Personnel.

(A) Minimum of one (1) inspector/mechanic, except for a short period of time due to illness or annual vacation.

(B) Each inspection station will designate, on the station application, a person in charge of inspections who is responsible for the daily operation of the station insuring that complete and proper inspections are being performed. The employee to be in charge of inspections will be present at the inspection station during the station's hours of inspection, except for short periods of time, such as illness or annual vacation.

*AUTHORITY: section 307.360, RSMo 2000.\* Original rule filed Nov. 4, 1968, effective Nov. 14, 1968. Amended: Filed March 9, 1970, effective March 19, 1970. Amended: Filed Nov. 9, 1971, effective Nov. 19, 1971. Amended: Filed May 21, 1974, effective May 31, 1974. Amended: Filed Dec. 1, 1975, effective Dec. 11, 1975. Amended: Filed Sept. 1, 1977, effective Dec. 11, 1977. Amended: Filed Aug. 16, 1979, effective Nov. 11, 1979. Amended: Filed July 14, 1982, effective Oct. 11, 1982. Amended: Filed Sept. 16, 1985, effective Jan. 1, 1986. Amended: Filed Aug. 30, 1989, effective Nov. 26, 1989. Amended: Filed April 2, 1992, effective Sept. 6, 1992. Amended: Filed June 2, 1993, effective Nov. 8, 1993. Emergency rescission filed Jan. 28,*

*1997, effective Feb. 7, 1997, expired Aug. 1, 1997. Emergency rule filed Jan. 17, 1997, effective Feb. 3, 1997, expired Aug. 1, 1997. Rescinded and readopted: Filed Jan. 17, 1997, effective July 30, 1997. Emergency amendment filed Aug. 15, 2001, effective Aug. 28, 2001, expired Feb. 28, 2002. Amended: Filed Aug. 15, 2001, effective Feb. 28, 2002. Amended: Filed Sept. 15, 2003, effective March 30, 2004.*

*\*Original authority: 307.360, RSMo 1967, amended 1971, 1973, 1979, 1999.*

#### 11 CSR 50-2.030 Inspection Station Classification

*PURPOSE: This rule provides different classifications of public inspection stations and lists the type vehicle each class of station is authorized and equipped to inspect.*

(1) Public inspection stations shall be classified as follows:

- (A) Class A stations—all vehicles;
- (B) Class B stations—motor vehicles;
- (C) Class C stations—motorcycles only; and
- (D) Class D stations—commercial vehicles.

*AUTHORITY: section 307.360, RSMo 1994.\* Original rule filed Nov. 4, 1968, effective Nov. 14, 1968. Amended: Filed March 9, 1970, effective March 19, 1970. Amended: Filed Nov. 9, 1971, effective Nov. 19, 1971. Amended: Filed May 21, 1974, effective May 31, 1974. Amended: Filed Sept. 1, 1977, effective Dec. 11, 1977. Amended: Filed June 2, 1993, effective Nov. 8, 1993. Emergency rescission and rule filed March 12, 1997, effective April 15, 1997, expired Sept. 30, 1997. Rescinded and readopted: Filed March 12, 1997, effective Sept. 30, 1997.*

*\*Original authority: 307.360, RSMo 1967, amended 1971, 1973, 1979.*

#### 11 CSR 50-2.040 Private Inspection Stations

*PURPOSE: This rule lists the vehicles that private inspection stations may inspect and other responsibilities that apply only to private stations.*

(1) A private official vehicle inspection station permit will be issued to any association, person, partnership, corporation, subsidiary corporation or governmental entity, provided its facilities, equipment and personnel meet the requirements prescribed for a public inspection station.



(A) A private inspection station shall inspect only vehicles registered or to be registered, titled or to be titled in the name of the person or organization described on the application for a permit or which are maintained under a written maintenance agreement of one (1)-year duration.

(B) Before any vehicles which are maintained under a written maintenance agreement can be inspected, a copy of the maintenance agreement must accompany the application for a private station permit or be on file at the Motor Vehicle Inspection Division, Jefferson City, Missouri.

(C) All inspection rules, standards and procedures shall apply to private inspection stations.

*AUTHORITY: section 307.360, RSMo 1994.\* Original rule filed Nov. 4, 1968, effective Nov. 14, 1968. Amended: Filed March 9, 1970, effective March 19, 1970. Amended: Filed Nov. 9, 1971, effective Nov. 19, 1971. Amended: Filed May 21, 1974, effective May 31, 1974.*

*\*Original authority: 307.360, RSMo 1967, amended 1971, 1973, 1979.*

*Op. Atty. Gen. No. 253, Hockaday (6-18-68). The superintendent of the Missouri State Highway Patrol may issue private official inspection station permits to automobile dealers, municipalities and other governmental entities having one or more vehicles, trailers, or both, with a gross weight in excess of six thousand pounds.*

#### 11 CSR 50-2.050 Inspection Station Permits

*PURPOSE: This rule prescribes uniform procedures for the licensing of inspection stations. These procedures are necessary to insure that fees are collected according to law for each applicant and that sufficient stations are licensed to perform inspections.*

(1) Any person, firm, corporation, partnership or governmental entity requesting appointment as an official inspection station shall submit a completed inspection station application.

(2) The fee for a permit to operate a public or private inspection station is ten dollars (\$10) per year. No fee shall be charged for a permit issued to a governmental entity. A permit is valid for one (1) year from the date of issue. Each permit shall be renewed on or before the expiration date. A completed inspection station application shall be accompanied by a

check or money order made payable to the director of revenue and forwarded to the Missouri State Highway Patrol, Motor Vehicle Inspection, PO Box 568, Jefferson City, MO 65102-0568. Under no circumstances will cash be accepted for the permit fee.

(3) No permit issued to an inspection station may be transferred or used at any other location. Any change in ownership or location shall cancel the station permit. The Missouri State Highway Patrol must be notified immediately when a change of ownership or location occurs or when a station discontinues operation.

(4) When an inspection station permit has been suspended or revoked, or when a station discontinues operation, all inspection supplies must be released on demand to a motor vehicle inspector or a member of the Missouri State Highway Patrol. The failure to account for all inspection supplies will be sufficient cause not to reinstate a station permit.

(5) No motor vehicle inspection station license will be issued to a spouse, child(ren), son/daughter-in-law, employee or any person having an interest in the business for the privilege to conduct inspections at the same location or in close proximity to the location of a station whose license is under suspension or revocation, unless the applicant can provide reasonable assurance that the licensee under suspension or revocation will not be employed, manage, assist in the station operation or otherwise benefit financially from the operation of the business in any way.

*AUTHORITY: section 307.360, RSMo 2000.\* Original rule filed Nov. 4, 1968, effective Nov. 14, 1968. Amended: Filed March 9, 1970, effective March 19, 1970. Amended: Filed Nov. 9, 1971, effective Nov. 19, 1971. Amended: Filed May 21, 1974, effective May 31, 1974. Amended: Filed Dec. 1, 1975, effective Dec. 11, 1975. Amended: Filed Aug. 16, 1979, effective Nov. 11, 1979. Amended: Filed Nov. 13, 1992, effective May 6, 1993. Emergency rescission and rule filed March 12, 1997, effective April 15, 1997, expired Sept. 30, 1997. Rescinded and readopted: Filed March 12, 1997, effective Sept. 30, 1997. Amended: Filed Sept. 15, 2003, effective March 30, 2004.*

*\*Original authority: 307.360, RSMo 1967, amended 1971, 1973, 1979, 1999.*

*Op. Atty. Gen. No. 127, Hockaday (5-25-72). Section 307.365(5), RSMo (Supp. 1971), dealing with the refunding of moneys for vehicle safety inspection stickers of those inspec-*

*tion stations which discontinue operation or are suspended or revoked, is applicable only to those inspection stations which discontinued operation or were suspended or revoked after the effective date of section 307.365(5), RSMo (Supp. 1971), September 28, 1971.*

#### 11 CSR 50-2.060 Display of Permits, Signs and Poster

*PURPOSE: This rule requires inspection station operators and inspector/mechanics to display inspection permits, the official sign and poster. This is necessary to identify the station as an official vehicle inspection station and to identify inspector/mechanics.*

(1) The station permit must be framed under clean glass and displayed in a conspicuous location discernible to those presenting vehicles for inspection.

(2) The inspector/mechanic permit must be framed under clean glass and displayed in a conspicuous location discernible to those presenting vehicles for inspection.

(3) The sign designating the station as a public inspection station shall be displayed in a location visible to the traveling public. This is not required for private stations.

(4) The poster, MVI-6, must be framed under clean glass and displayed in a conspicuous location discernible to those presenting vehicles for inspection. This is not required for private stations.

*AUTHORITY: section 307.360, RSMo (1994).\* Original rule filed Nov. 4, 1968, effective Nov. 14, 1968. Amended: Filed March 9, 1970, effective March 19, 1970. Amended: Filed Nov. 9, 1971, effective Nov. 19, 1971. Amended: Filed May 21, 1974, effective May 31, 1974. Amended: Filed April 3, 1995, effective Sept. 30, 1995. Emergency rescission and rule March 12, 1997, effective April 15, 1997, expired Sept. 30, 1997. Rescinded and readopted: Filed March 12, 1997, effective Sept. 30, 1997.*

*\*Original authority 1967, amended 1971, 1973, 1979.*

#### 11 CSR 50-2.070 Hours of Operation

*PURPOSE: This rule lists the minimum hours of operation for inspection stations and the obligation of the station operator to inspect vehicles. This rule is necessary to insure that stations will be open and available for inspection purposes.*



(1) The normal business hours of every public inspection station shall be at least eight (8) continuous hours per day, five (5) days per week.

(2) Inspection station operators, inspector/mechanics, or both, are obligated to conduct inspections and reinspections of vehicles during normal business hours. A vehicle shall be inspected within a two (2)-hour period after being presented unless other vehicles are being inspected. A reinspection must begin within one (1) hour when a vehicle is presented during the twenty (20) consecutive-day period excluding Saturdays, Sundays and state holidays allowed by law for reinspections.

*AUTHORITY: section 307.360, RSMo (1994).\* Original rule filed Nov. 4, 1968, effective Nov. 14, 1968. Amended: Filed March 9, 1970, effective March 19, 1970. Amended: Filed Nov. 9, 1971, effective Nov. 19, 1971. Amended: Filed May 21, 1974, effective May 31, 1974. Amended: Filed Sept. 1, 1977, effective Dec. 11, 1977. Amended: Filed Aug. 15, 1983, effective Nov. 11, 1983.*

*\*Original authority 1967, amended 1971, 1973, 1979.*

### 11 CSR 50-2.080 Licensing of Inspector/Mechanics

*PURPOSE: This rule lists minimum requirements and licensing procedures for inspector/mechanics. These requirements and procedures are necessary to insure that inspections are performed by persons with sufficient training, experience and knowledge to perform the inspections uniformly and in accordance with the inspection rules.*

(1) Every person requesting appointment as an inspector/mechanic shall submit a completed inspector/mechanic application.

(2) An inspector/mechanic must have at least one (1) year's practical experience as an automotive mechanic or must have completed a course of vocational instruction in automotive mechanics from a generally recognized educational institution, either public or private. All inspector/mechanics must be at least seventeen (17) years of age and able to read the written instructions.

(3) An inspector/mechanic must be thoroughly familiar with the contents of the inspection manual and must have passed a written test indicating knowledge of its contents. An inspector/mechanic will also be required to demonstrate practical knowledge by inspecting a vehicle. A minimum grade of eighty

(80) is required to pass each written examination, practical examination or reexamination.

(4) An inspector/mechanic permit will be issued without charge. Permits are valid for a period of three (3) years from the date of issuance or until suspended or revoked by the superintendent of the Missouri State Highway Patrol. An inspector/mechanic whose permit has been suspended or revoked shall be required to pass a reexamination before the permit will be reinstated.

(5) An inspector/mechanic may be reexamined at any time, and if s/he fails the reexamination or refuses to be reexamined, the permit issued to him/her shall be suspended. If an inspector/mechanic fails a reexamination, s/he cannot again be tested until a period of thirty (30) days has elapsed.

(6) A permit may be renewed before the expiration date or sixty (60) days after expiration without a reexamination. An inspector/mechanic does not have authority to conduct any inspections during the sixty (60)-day grace period unless the permit has been properly renewed.

(7) Two (2) types of inspector/mechanic permits are available—a permit that restricts the inspector/mechanic to motorcycle and motor tricycle inspections only and a permit that authorizes an inspector/mechanic to safety inspect motor vehicles.

*AUTHORITY: section 307.360, RSMo 1994.\* Original rule filed Nov. 4, 1968, effective Nov. 14, 1968. Amended: Filed March 9, 1970, effective March 19, 1970. Amended: Filed Aug. 13, 1970, effective Aug. 23, 1970. Amended: Filed Nov. 9, 1971, effective Nov. 19, 1971. Amended: Filed Aug. 17, 1972, effective Aug. 27, 1972. Amended: Filed May 21, 1974, effective May 31, 1974. Amended: Filed Dec. 1, 1975, effective Dec. 11, 1975. Amended: Filed Sept. 1, 1977, effective Dec. 11, 1977. Amended: Filed Jan. 16, 1978, effective April 13, 1978. Amended: Filed April 2, 1992, effective Sept. 6, 1992. Amended: Filed June 2, 1993, effective Nov. 8, 1993. Emergency rescission and rule filed March 12, 1997, effective April 15, 1997, expired Sept. 30, 1997. Rescinded and re-adopted: Filed March 12, 1997, effective Sept. 30, 1997. Amended: Filed Feb. 1, 2000, effective July 30, 2000.*

*\*Original authority: 307.360, RSMo 1967, amended 1971, 1973, 1979, 1999.*

### 11 CSR 50-2.090 Inspection Station Operational Requirements

*PURPOSE: This rule lists the responsibilities of inspection station operators and inspector/mechanics. These procedures are necessary for compliance with the inspection law and to insure proper inspection of vehicles.*

(1) The inspection fee, including the issuance of the certificate of inspection, sticker or decal, may be charged for each inspection as established by state statute. Every inspection must be a complete inspection before a vehicle may be approved or rejected. Once an inspection has begun it shall not be terminated until a complete and proper inspection has been made. Every item of vehicular equipment that is required to be inspected shall be inspected according to prescribed procedures before an approval certificate, rejection notice or inspection sticker or decal is issued. A proper and complete inspection consists of a physical inspection of the vehicle and the immediate completion and issuance of all inspection certificates at the time the vehicle is inspected.

(2) All inspections must be conducted at the inspection station in the approved inside inspection area. Large commercial vehicles unable to fit within the approved inside inspection area may be inspected in an outside inspection area, during good weather only, if the station has an approved outside inspection area. Reinspection of a vehicle's lights, windshield wipers, seat belts, horn, glazing and mirrors may be conducted outside the inspection station on the driveway. Under no circumstances may an inspection be performed at any other location.

(3) The inspection of a vehicle shall be made only by an individual who has a valid inspector/mechanic permit, except a person without a valid permit may assist by operating the lights and signaling devices.

(4) No person without a valid inspector/mechanic permit shall issue an approval certificate, a rejection notice, an inspection sticker or decal.

(5) No owner, operator or employee of an inspection station shall furnish, loan, give or sell an approval certificate, inspection sticker or decal to any person except those entitled to receive it.

(6) All current manuals, bulletins or other rules issued by the superintendent of the Missouri State Highway Patrol must be read and



initialed by the station owner or operator and each inspector/mechanic, and must be available at all times for ready reference.

(7) When an inspector/mechanic or a person authorized to purchase inspection stickers or decals resigns or is dismissed, the station owner or operator must report these changes when contacted by a motor vehicle inspector or a member of the Missouri State Highway Patrol.

(8) If the highway patrol is asked to settle a difference of opinion between the vehicle owner and an inspection station owner or an inspector/mechanic concerning the inspection standards and procedures, the decisions of the highway patrol concerning inspection standards and procedures will be final.

(9) Up-to-date inspection records shall be available during normal business hours for examination by any motor vehicle inspector or member of the Missouri State Highway Patrol.

(10) Inspection stickers, decals, and MVI-2s (see 11 CSR 50-2.120) will be kept under lock to prevent them from being lost, damaged or stolen. If stickers, decals, or MVI-2s are lost, damaged or stolen, they shall be reported immediately to the Missouri State Highway Patrol.

(11) Inspection station operators are permitted to advertise as official inspection stations.

*AUTHORITY: section 307.360, RSMo 1994.\* Original rule filed Nov. 4, 1968, effective Nov. 14, 1968. Amended: Filed March 9, 1970, effective March 19, 1970. Amended: Filed Nov. 9, 1971, effective Nov. 19, 1971. Amended: Filed May 21, 1974, effective May 31, 1974. Amended: Filed Feb. 26, 1975, effective March 8, 1975. Amended: Filed Sept. 1, 1977, effective Dec. 11, 1977. Amended: Filed May 9, 1978, effective Aug. 11, 1978. Amended: Filed Sept. 12, 1984, effective Jan. 1, 1985. Amended: Filed April 2, 1992, effective Sept. 6, 1992. Emergency amendment filed Aug. 3, 1992, effective Aug. 28, 1992, expired Dec. 25, 1992. Emergency amendment filed Nov. 2, 1992, effective Dec. 26, 1992, expired April 24, 1993. Amended: Filed Aug. 3, 1992, effective Feb. 26, 1993. Amended: Filed June 2, 1993, effective Nov. 8, 1993. Emergency rescission and rule filed March 12, 1997, effective April 15, 1997, expired Sept. 30, 1997. Rescinded and readopted: Filed March 12, 1997, effective Sept. 30, 1997. Amended: Filed Feb. 1, 2000, effective July 30, 2000.*

*\*Original authority: 307.360, RSMo 1967, amended 1971, 1973, 1979, 1999.*

### 11 CSR 50-2.100 Requisition of Inspection Stickers and Decals

*PURPOSE: This rule establishes uniform procedures for inspection stations to requisition inspection stickers or decals. These procedures identify stations which submit requisitions and simplify collection of funds. This rule further requires station operators to keep a sufficient number of inspection stickers or decals on hand to meet their needs.*

(1) Inspection stickers will be used on the windshield of passenger and commercial motor vehicles. Inspection stickers will be sold only in complete books of twenty (20) stickers at a cost of thirty dollars (\$30) per book. These stickers are valid for any one (1) of the calendar years shown.

(2) Inspection decals will be used for motorcycle inspections and trailer verifications. Inspection decals will be sold only in complete books of twenty (20) decals at a cost of thirty dollars (\$30) per book. These decals are valid for any one (1) of the calendar years shown.

(3) All stations will keep a sufficient number of inspection stickers or decals on hand to meet their needs. Public inspection stations should purchase a minimum of five (5) books of inspection stickers or decals at a time.

(4) The MVI Requisition For Supplies (SHP-455) will be used when ordering both stickers or decals. Requisitions must be accompanied by a check or money order made payable to the director of revenue, in the correct amount for the number of books ordered. The requisition and check or money order must be mailed to the Missouri State Highway Patrol, Motor Vehicle Inspection Division, P.O. Box 568, Jefferson City, MO 65102. If a personal check is returned for any reason because of nonpayment, personal checks will no longer be accepted from that station. Stations that submit a check which is returned for nonpayment are subject to administrative action, including suspension and revocation, and criminal prosecution. Cash will not be accepted under any circumstances. Only the person(s) whose signature(s) appear on the station signature card on file at the Motor Vehicle Inspection Division, Jefferson City, will be authorized to order inspection stickers or decals.

(A) No fee will be charged for inspection stickers or decals issued to governmental entities.

(B) An inspection station owned by a governmental entity will not be required to order complete books of stickers or decals, but will order only the number needed for the calendar year.

(5) Inspection stations may exchange unused expired inspection stickers and decals for the same number of current issue. A request to exchange stickers must be accompanied by a Return Of Expired Stickers/Decals Form (SHP-466) properly completed with the numbers of the stickers/decals being returned and recorded in the appropriate locations. The stickers or decals must be submitted for exchange no later than April 30 of the calendar year following their expiration. Stickers may be traded for decals and vice versa. A station may be sent portions rather than full books. Exchange stickers and decals will be shipped separately from other orders. Do not deduct the price of stickers and decals submitted for exchange.

*AUTHORITY: section 307.360, RSMo 1994.\* Original rule filed Nov. 4, 1968, effective Nov. 14, 1968. Amended: Filed Oct. 28, 1969, effective Nov. 7, 1969. Amended: Filed Dec. 5, 1969, effective Dec. 15, 1969. Amended: Filed March 9, 1970, effective March 19, 1970. Amended: Filed Jan. 27, 1971, effective Feb. 6, 1971. Amended: Filed Nov. 9, 1971, effective Nov. 19, 1971. Amended: Filed May 21, 1974, effective May 31, 1974. Amended: Filed Feb. 26, 1975, effective March 8, 1975. Amended: Filed March 3, 1980, effective June 12, 1980. Emergency amendment filed Aug. 3, 1992, effective Aug. 28, 1992, expired Dec. 25, 1992. Emergency amendment filed Nov. 2, 1992, effective Dec. 26, 1992, expired April 24, 1993. Amended: Filed Aug. 3, 1992, effective Feb. 26, 1993. Emergency rescission and rule filed May 15, 1997, effective June 16, 1997, expired Nov. 30, 1997. Rescinded and readopted: Filed May 15, 1997, effective Nov. 30, 1997. Amended: Filed Feb. 1, 2000, effective July 30, 2000.*

*\*Original authority: 307.360, RSMo 1967, amended 1971, 1973, 1979, 1999.*

### 11 CSR 50-2.110 Issuance of Inspection Stickers and Decals

*PURPOSE: This rule establishes uniform procedures for inspection station operators and inspector/mechanics to follow when issuing inspection stickers and decals. These pro-*





cedures are necessary to insure proper accountability and a record of each sticker and decal issued.

(1) An inspection sticker or decal shall be issued immediately following an inspection or reinspection if the vehicle meets the inspection requirements. The sticker or decal shall immediately be properly affixed to the vehicle by the inspector/mechanic who performed the inspection or reinspection.

(2) When an inspection sticker is issued, the inspector/mechanic shall validate the sticker by punching the month and the year that the inspection was performed and by legibly writing the information asked for on the reverse side of the inspection sticker. Previous inspection stickers affixed to the windshield shall be removed. The inspector/mechanic shall affix the current inspection sticker on the inside of the vehicle's windshield in the lower left-hand corner. On motor vehicles not equipped with a windshield, the inspector/mechanic shall issue a properly validated inspection decal and affix it to the vehicle's dash or steering column.

(3) When an inspection decal is issued for a motorcycle, it shall be affixed in an upright position on the left side of the steering fork sleeve at a visible location near the slider tube. The inspector/mechanic is not required to remove a previous-year issue inspection decal.

(4) Stations which do not punch the correct month and year issue inspection sticker or decal shall be required to remove the sticker or decal from the vehicle and affix a properly validated inspection sticker or decal to the owner's vehicle without charge.

(5) Stations will issue inspection stickers or decals from only one (1) book at a time, starting with their lowest numbered book.

(6) All covers from used books of both stickers and decals will be retained by the inspection station.

(7) Inspection stickers or decals issued to an inspection station can be used only by that station.

*AUTHORITY: section 307.360, RSMo 1994.\* Original rule filed Nov. 4, 1968, effective Nov. 14, 1968. Amended: Filed March 9, 1970, effective March 19, 1970. Amended: Filed Nov. 9, 1971, effective Nov. 19, 1971. Amended: Filed May 21, 1974, effective May*

*31, 1974. Amended: Filed Feb. 26, 1975, effective March 8, 1975. Amended: Filed Sept. 1, 1977, effective Dec. 11, 1977. Amended: Filed April 2, 1992, effective Sept. 6, 1992. Amended: Filed Oct. 3, 1994, effective April 30, 1995. Emergency rescission and rule filed May 15, 1997, effective June 16, 1997, expired Nov. 30, 1997. Rescinded and readopted: Filed May 15, 1997, effective Nov. 30, 1997.*

*\*Original authority: 307.360, RSMo 1967, amended 1971, 1973, 1979.*

### 11 CSR 50-2.120 MVI-2 Form

*PURPOSE: This rule provides uniform procedures for the proper use of the MVI-2 form. These procedures are necessary to insure that correct and complete information is recorded on the form. The completed form is needed to evaluate inspections conducted at each station and provides a record of inspections performed. The form is also used as a receipt for vehicle owners.*

(1) The MVI-2 form will be used as an approval certificate, rejection notice and station record. It shall be completed and signed by the inspector/mechanic who inspected the vehicle. This form will be issued to an inspection station by number without charge and can be used only by the station to which issued. A station owner shall be accountable for each set. This form shall be used in every instance when a vehicle is presented for inspection, and no part of the form shall be filled out until the vehicle has been presented for inspection. All applicable blanks or spaces on the form shall be completely and accurately filled out in a legible manner. The inspector/mechanic shall obtain the identification number from the vehicle and accurately record the number on the MVI-2 form in the space allotted. If a vehicle does not have an identification number, the inspector/mechanic shall write the word "None" on the form in the space provided. A station will issue approval certificates or rejection notices from one (1) book of MVI-2s at a time, twenty (20) sets to a book, using their lowest numbered book.

(2) Approval of Vehicle.

(A) If each item of equipment required to be inspected meets the inspection requirements, an inspection sticker or decal will be issued and the inspector/mechanic shall record the number on the MVI-2 form in the space provided.

(B) The first sheet of the MVI-2 form (white copy) shall be given to the vehicle

owner or operator as an approval certificate. An approval certificate will not be issued, under any circumstances, without the issuance of an inspection sticker or decal.

(C) No inspection sticker number or decal number shall be recorded on the MVI-2 form until the time a complete and proper inspection has been made and the vehicle described meets the minimum inspection standards established by rule; nor shall any signature of an inspector/mechanic be recorded until the vehicle has been completely and properly inspected.

(3) Rejection of Vehicle.

(A) If an item of equipment or any of its components does not meet the minimum inspection standards, the vehicle shall be rejected and the item or component shall be written under "Defective Part" in the space provided. In addition, the proper code for the defective item shall be determined from the code chart printed on the inside cover of the MVI-2 form and the code letter shall be recorded in the space provided. If an item is rejected for which a specific tolerance or measurement is listed, the measurement shall be recorded on the MVI-2 form.

(B) If a load-carrying ball joint is rejected because of movement in excess of prescribed tolerances, the measured movement shall be recorded. It should also be shown whether the measurement of the rejected ball joint is vertical or horizontal movement.

(C) The vehicle owner must be informed that s/he may repair the defective parts him/herself or have them repaired at any place of his/her choice and s/he shall have the right to remove the vehicle to a place for needed repairs. The inspector/mechanic shall sign the MVI-2 form in the space provided.

(D) Before any repairs are made by the inspection station, the vehicle owner shall be provided with a written estimate of the total cost of the repairs and the vehicle owner must authorize the station to make the repairs by signing the repair authorization in the space provided on the MVI-2 form.

(E) If the vehicle is removed from the inspection station for needed repairs, the second sheet of the MVI-2 form (yellow copy) shall be given to the vehicle owner as a rejection notice. The first sheet (white copy) and the third sheet (pink copy) will be filed with the station's yellow copies which are filed by consecutive control number.

(F) When a vehicle is returned for reinspection after repairs are made, the owner should present his/her rejection notice (yellow copy). The white and pink copies of the MVI-2 form having control numbers that correspond with the owner's rejection notice will



be obtained from the station's files. A reinspection will consist of only those items of equipment or components that were originally rejected. If the vehicle is approved, an inspection sticker or decal will be issued. The inspector/mechanic who made the reinspection shall sign the approval certificate and record his/her inspector/mechanic number and the number of the inspection sticker or decal in the spaces provided. The approval certificate (white copy) then shall be given to the vehicle owner. The yellow copy will be filed by control number.

(G) If the rejected vehicle is returned for a reinspection within twenty (20) consecutive days, excluding Saturdays, Sundays and state holidays, no additional inspection fee can be charged for one (1) reinspection.

(4) Inspection Station Record.

(A) The third sheet of the MVI-2 form (pink copy) will be filed by consecutive issue of sticker or decal number.

(B) Twenty (20) pink copies, which are filed by consecutive issue of sticker or decal number, shall be filed between the front and back cover of the used sticker or decal book which contained corresponding sticker or decal numbers. These pink copies and used covers will be kept by the inspection station for twenty-four (24) months from the date the inspection sticker or decal number was issued, at which time they may be destroyed.

(C) Inspection records (yellow and pink copies) shall be given to any member of the Missouri State Highway Patrol or motor vehicle inspector.

(D) All MVI-2 forms which are voided will be marked Void. All voided sets will be filed with the station's yellow copies that are filed by consecutive control number.

(5) If a vehicle owner loses an approval certificate, the vehicle owner may obtain, within sixty (60) calendar days, a replacement approval certificate at no charge from the inspection station which made the original inspection. Information for a replacement approval certificate will be obtained from the inspection station's records. The words "Replacement Certificate" will be written across the front. The first sheet (original) will be given to the vehicle owner. The second copy (yellow) will be filed by consecutive control number. The third copy (pink) will be filed by sticker or decal number.

*AUTHORITY: section 307.360, RSMo 2000.\* Original rule filed Nov. 4, 1968, effective Nov. 14, 1968. Amended: Filed Oct. 28, 1969, effective Nov. 7, 1969. Amended: Filed March 9, 1970, effective March 19, 1970.*

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*\*Original authority: 307.360, RSMo 1967, amended 1971, 1973, 1979, 1999.*

**11 CSR 50-2.130 Violation of Laws or Rules Penalty**

*PURPOSE: This rule advises inspection station operators and inspector/mechanics that compliance with the inspection law and the official inspection rules is required. A failure to comply subjects the inspection station operator or inspector/mechanic to a warning, suspension or revocation of inspection permits and arrest. A permit holder is entitled to a hearing before a suspension or revocation of any inspection permit.*

(1) All inspection station operators and inspector/mechanics shall comply with the motor vehicle inspection law and the motor vehicle inspection rules. All inspections shall be conducted in accordance with the motor vehicle inspection rules. Failure to comply with the motor vehicle inspection law or the motor vehicle inspection rules will subject the inspection station operator and inspector/mechanic to a warning, suspension or revocation of inspection permits and arrest.

(2) Before any inspection station permit or inspector/mechanic permit is suspended or revoked by the superintendent of the Missouri State Highway Patrol, the holder will be given the opportunity to have an administrative hearing as provided by law.

*AUTHORITY: section 307.360, RSMo 1994.\* Original rule filed Nov. 4, 1968, effective Nov. 14, 1968. Amended: Filed March 9, 1970, effective March 19, 1970. Amended: Filed Nov. 9, 1971, effective Nov. 19, 1971. Amended: Filed May 21, 1974, effective May 31, 1974.*

*\*Original authority 1967, amended 1971, 1973, 1979.*

**11 CSR 50-2.140 Sale of Vehicles for Junk, Salvage or Rebuilding**

*PURPOSE: This rule prescribes the form which shall be used when a vehicle is sold for junk, salvage or for rebuilding and not inspected under the motor vehicle inspection regulations. This is a requirement of section 307.380, RSMo.*

(1) When a vehicle is sold for junk, salvage or for rebuilding, the purchaser must give to the seller an affidavit signed before a notary public stating that the vehicle is being purchased for that purpose. A copy of the affidavit will be given to the buyer. The affidavit shall be written in the prescribed manner and shall contain the following information:



JUNK, SALVAGE OR REBUILDING AFFIDAVIT

SHP-498A 2/92

I understand that the (Year) (Make) (Model) (Vehicle Identification No.) (Mileage)

which I am buying from (Name of Seller)

has not been inspected and is in an unsafe mechanical condition. The vehicle is being purchased for junk, salvage or rebuilding. I understand that the vehicle cannot be operated in its present condition; therefore, I agree that the vehicle will either be towed or hauled from the place of purchase. I further understand that the vehicle cannot be registered and operated upon a public highway until I have the vehicle inspected. If any defects are discovered in the vehicle's brakes, lights, turn signals, steering mechanism, horn, mirrors, windshield wipers, tires, wheels, exhaust system, glass or fuel tank, during the inspection, they must be repaired at my own expense.

I certify that I have read the above statement, or that the above statement has been read to me, and that I fully understand the conditions under which the vehicle is being purchased.

(Purchaser's Signature)

(Address)

NOTE: The sale of this vehicle in its present condition without an approval certificate and its operation upon the streets and highways of Missouri from the place of purchase, is a violation of section 307.380, RSMo, and may subject the seller to penalties pursuant to sections 307.380 and 307.390, RSMo, 1986.

FOR NOTARY PUBLIC USE ONLY

Subscribed and sworn to before me this day of 19

Notary Public

County of, State of Missouri.

My commission expires

(A COPY OF THIS AFFIDAVIT MUST BE GIVEN TO THE SELLER)



*AUTHORITY: section 307.360, RSMo 1994.\* Original rule filed March 9, 1970, effective March 19, 1970. Amended: Filed Nov. 9, 1971, effective Nov. 19, 1971. Amended: Filed May 21, 1974, effective May 31, 1974. Amended: Filed Aug. 16, 1979, effective Nov. 11, 1979. Amended: Filed July 14, 1982, effective Oct. 11, 1982. Amended: Filed April 2, 1992, effective Sept. 6, 1992. Emergency rescission and rule filed May 15, 1997, effective June 16, 1997, expired Nov. 30, 1997. Rescinded and readopted: Filed May 15, 1997, effective Nov. 30, 1997.*

*\*Original authority: 307.360, RSMo 1967, amended 1971, 1973, 1979.*

### 11 CSR 50-2.150 Brake Performance

*PURPOSE: This rule describes the procedures and standards for the inspection of brake performance. The inspection of brakes is a requirement of section 307.365, RSMo.*

(1) A brake performance test shall be performed by an inspector/mechanic on all single unit motor vehicles equipped with mechanical, hydraulic or power assisted hydraulic service brakes. The brake performance test may be conducted by using any one (1) of the following procedures: a decelerometer test, a drive and stop test, a brake testing machine or a dynamometer test. The selected test shall be conducted on the inspection station premises.

(A) Decelerometer Test. Mount and level decelerometer on vehicle. At a speed of five to twenty miles per hour (5–20 mph) apply service brake firmly. Observe decelerometer reading.

1. Reject vehicle if:

A. The vehicle is unable to develop deceleration equal to or greater than that listed for its classification as prescribed in Table I.

(B) Drive and Stop Test. The inspector/mechanic shall operate the vehicle at a speed of five to twenty (5–20) mph and apply the service brakes firmly.

1. Reject vehicle if:

A. The vehicle's brakes fail to function or if the vehicle pulls significantly to either side.

(C) Brake Testing Machine. Drive vehicle onto brake testing machine. Apply brakes firmly at a speed from four to eight (4–8) mph without wheel lock-up. If a computerized brake testing machine is utilized, a copy of the results will be provided to the vehicle owner.

1. Reject vehicle if:

A. The vehicle is not capable of developing evaluated braking force equal to or greater than that shown for its classification as prescribed in Table I. At least three (3) tests should be made before a vehicle is rejected;

B. Any wheel fails to indicate braking action;

C. The reading on any one (1) wheel is less than seventy-five percent (75%) of the reading on the other wheel on the same axle; or

D. The braking force of both wheels on one (1) axle is more than seventy-five percent (75%) of the total force of all the wheels.

(D) Dynamometer Test. Test in accordance with the manufacturer's instructions.

**Table I**

Classification of Vehicles	Braking Force as a Percentage of Gross Vehicle or Combination	Deceleration in Feet Per Second
Passenger vehicles with a seating capacity of 10 people or less including driver, not having a manufacturer's Gross Vehicle Weight Rating	52.8%	17
Single unit vehicles with a manufacturer's Gross Vehicle Weight Rating of 10,000 pounds or less	43.5%	14
Single unit vehicles with a manufacturer's gross weight rating of more than 10,000 pounds	43.5%	14

*AUTHORITY: section 307.360, RSMo 2000.\* Original rule filed Nov. 4, 1968, effective Nov. 14, 1968. Amended: Filed Dec. 5, 1969, effective Dec. 15, 1969. Amended: Filed March 9, 1970, effective March 19, 1970. Amended: Filed Nov. 9, 1971, effective Nov. 19, 1971. Amended: Filed May 21, 1974, effective May 31, 1974. Amended: Filed Dec. 1, 1975, effective Dec. 11, 1975. Amended: Filed Aug. 16, 1979, effective Nov. 11, 1979. Amended: Filed March 15, 1999, effective Sept. 30, 1999. Emergency amendment filed Feb. 1, 2000, effective July 1, 2000, expired Dec. 27, 2000. Amended: Filed Feb. 1, 2000, effective July 30, 2000. Amended: Filed Nov. 1, 2001, effective April 30, 2002.*

*\*Original authority: 307.360, RSMo 1967, amended 1971, 1973, 1979, 1999.*

### 11 CSR 50-2.160 Brake Components

*PURPOSE: This rule describes the procedures and standards for the inspection of brake components. The inspection of brakes is a requirement of section 307.365, RSMo.*

(1) Hydraulic System.

(A) Pedal Reserve. With the vehicle stopped, apply moderate foot force on the brake pedal for at least one (1) minute and observe if the pedal moves slowly toward toe board.

1. Reject vehicle if:

A. Brake pedal moves slowly toward the toe board, indicating fluid leakage, while pedal pressure is maintained for one (1) minute;

B. Less than one-fifth (1/5) of the total available pedal travel remains;

C. Less than two-fifths (2/5) of total available pedal travel remains on a school bus; or

D. The brake warning device or light comes on when the brake pedal is depressed. Do not inspect the anti-lock braking system warning device or light.

(B) Power Reserve. Determine if system is operating by first stopping engine, then depress brake pedal several times to destroy all vacuum in system. Depress pedal with a moderate foot force. While maintaining this force on the pedal, start engine; and observe if pedal falls slightly when engine starts. Hydroboost system must have accumulator pressure for two (2) complete brake applications and should have return pressure against foot. If vehicle is equipped with electrohydraulic booster brake system, stop engine, turn ignition to the "on" position, depress brake pedal and observe if electric pump, buzzer and pump indicator lights operate. Inspect school buses manufactured after March 1, 1987, for audible or visible brake warning signals, or both.

1. Reject vehicle if:

A. Service brake pedal does not fall slightly as engine is started while pressure is maintained on pedal;

B. There is audible leakage in the vacuum system;

C. Hydroboost brake system does not have two (2) brake applications available;

D. Electric pump, buzzer and pump indicator lights fail to function on vehicles equipped with electrohydraulic booster brake system; or

E. School bus manufactured after March 1, 1987, is not equipped with proper audible or visible brake warning signals, or both, or signals fail to function.



(C) Master Cylinder. Inspect master cylinder for proper fluid, fluid level, fluid leakage and play in push rod. Power master-type systems should have the brake pedal depressed ten to forty (10–40) times or until the pedal is firm, with the ignition off, before inspecting fluid level. Master cylinder reservoirs with distinctly marked minimum levels should be inspected with the cap on. Observe the fluid level to ensure it complies with the manufacturer’s suggested minimum level. The cap will then be removed to inspect the gasket for fluid contamination, swelling, cracking, misshape or tears.

1. Reject vehicle if:

A. Master cylinder contains fluid other than brake fluid, if master cylinder leaks, if fluid level is more than three-fourths inch (3/4") below top of reservoir;

B. Vehicle with disc brakes and dual hydraulic systems show the brake fluid level measuring more than one-half inch (1/2") below the top of the reservoir on master cylinders that have no manufacturer’s minimum markings;

C. Master cylinder brake fluid level is below the manufacturer’s minimum fluid level as marked on the reservoir;

D. There is no play in the push rod with brake pedal not depressed; or

E. Master cylinder gasket is torn or misshaped.

(2) Drums, Discs and Internal Brake Components. At least one (1) front or one (1) rear wheel and drum must be removed on each passenger vehicle, one-half (1/2) ton and three-quarter (3/4) ton pickup trucks, or similar type vehicles not equipped with dual rear wheels. Only the wheel must be removed on vehicles equipped with disc brakes. Identification marks shall be made on the wheel and lug before removal so the wheel can be remounted in the same position to insure wheel balance. On drum brake systems, a new cotter pin must always be used when remounting a wheel and drum. The removal of a wheel and/or drum is not required if the brake performance test has been administered using an approved computerized brake testing machine. When an approved computerized brake testing machine is used, and no wheel is removed, the inspector shall mark through the space on the MVI-2 form provided for “Brake Inspected” with the letters “CBTM.” When removal of a wheel is required, a wheel appearing to leak brake fluid or grease, shall be the wheel removed to inspect for contamination. Wheels on four (4)-wheel drive vehicles equipped exclusively with drum-type brakes are not required to be removed.

(A) Inspect drums, discs, calipers, linings, pads, wheel cylinders, hoses, lines and other internal brake components.

1. Reject vehicle if:

A. There are substantial cracks on the friction surface extending to open edge of drum or to the edge of a disc;

B. A brake drum or disc has external cracks;

C. Friction surface of disc brake pads, rotor, brake linings or brake drum is contaminated with oil, grease or brake fluid;

D. A brake lining is worn into the friction surface of the brake drum where the brake drum cannot be removed after loosening the adjusting screw (backing off of the self-adjusting mechanism);

E. Thinnest point of bonded lining is less than one-thirty-second inch (1/32");

F. Rivets are loose or missing or if lining or pad is not firmly attached to shoe;

G. Riveted lining is worn to less than one-thirty-second inch (1/32") above any rivet head at thinnest point;

H. Wire is visible on the friction surface of wire-backed linings;

I. Lining is broken or cracked, does not include heat cracks;

J. A primary or secondary shoe and lining is improperly installed;

K. Bonded pads are worn at any one (1) point to less than one-thirty-second inch (1/32");

L. Riveted pads are worn at any one (1) point to less than five-thirty-seconds inch (5/32"). If unable to determine if pads are riveted or bonded, pads will be considered to be bonded pads;

M. A wheel cylinder or caliper leaks a sufficient amount of hydraulic brake fluid to cause droplets. Do not mistake assembly fluid for hydraulic fluid;

N. Hoses or tubing leak or are cracked, chafed, flattened, restricted, bubbled or insecurely fastened;

O. Mechanical parts are missing, broken or badly worn;

P. There is excessive friction in brake pedal, linkage or other components;

Q. Pedal levers are improperly positioned or misaligned; or

R. Brake components are misaligned, binding, obstructed or will not function properly.

*AUTHORITY: section 307.360, RSMo 2000. \* Original rule filed Nov. 4, 1968, effective Nov. 14, 1968. Amended: Filed Dec. 5, 1969, effective Dec. 15, 1969. Amended: Filed March 9, 1970, effective March 19, 1970. Amended: Filed Nov. 9, 1971, effective Nov. 19, 1971. Amended: Filed May 21, 1974,*

*effective May 31, 1974. Amended: Filed Dec. 1, 1975, effective Dec. 11, 1975. Amended: Filed Sept. 1, 1977, effective Dec. 11, 1977. Amended: Filed Jan. 16, 1978, effective April 13, 1978. Amended: Filed March 3, 1980, effective June 12, 1980. Amended: Filed Jan. 12, 1982, effective April 11, 1982. Amended: Filed Aug. 26, 1985, effective Nov. 28, 1985. Amended: Filed Aug. 14, 1987, effective Nov. 12, 1987. Amended: Filed April 2, 1992, effective Sept. 6, 1992. Amended: Filed June 2, 1993, effective Nov. 8, 1993. Amended: Filed Oct. 3, 1994, effective April 30, 1995. Emergency rescission and rule filed May 15, 1997, effective June 16, 1997, expired Nov. 30, 1997. Rescinded and readopted: Filed May 15, 1997, effective Nov. 30, 1997. Amended: Filed March 15, 1999, effective Sept. 30, 1999. Emergency amendment filed Feb. 1, 2000, effective July 1, 2000, expired Dec. 27, 2000. Amended: Filed Feb. 1, 2000, effective July 30, 2000. Amended: Filed Sept. 15, 2003, effective March 30, 2004.*

*\*Original authority: 307.360, RSMo 1967, amended 1971, 1973, 1979, 1999.*

**11 CSR 50-2.170 Air and Vacuum Brake Systems**

*PURPOSE: This rule describes the procedures and standards for the inspection of air and vacuum brake systems. The inspection of brakes is a requirement of section 307.365, RSMo.*

(1) Vehicles With a Vacuum Brake System.

(A) On vehicles equipped with a vacuum brake system, the engine should be allowed to run for one (1) minute to build vacuum. Inspect system for collapsed, broken, badly chafed and improperly supported hoses, tubes and loose or broken hose clamps. Depress brake pedal with moderate foot force. While maintaining this force on the pedal, start engine and observe if pedal falls slightly when engine starts. Build full vacuum, then shut off engine and make as many full brake applications as possible. On vehicles with low vacuum indicators, build full vacuum. Shut off engine and reduce vacuum by making a series of moderate brake applications. A flashing or buzzing signal should function when vacuum reaches eight inches (8") mercury.

1. Reject vehicle if:

A. Hoses or tubes are collapsed, leaking, broken, badly chafed, improperly supported or loose because of broken clamps;

B. Service brake pedal does not fall slightly as engine is started while pressure is maintained on pedal;

C. Vacuum reserve is insufficient to make one (1) full application after engine shutoff;

D. Indicator fails to function when system is reduced to eight inches (8") mercury.

(2) Vehicles With an Air Brake System.

(A) The following will apply to all motor vehicles equipped by the manufacturer with an air brake system. Open all drain cocks in system until pressure gauge reads zero (0). Close drain cocks and run engine at fast idle. Record time to raise air pressure from fifty to ninety pounds per square inch (50–90 psi) on gauge. Observe gauge pressure at which light or buzzer on low pressure indicator goes out or off. Continue running engine and observe gauge pressure when governor cuts out. With engine idling, make a series of brake applications and observe gauge pressure when governor cuts in. With fully charged system, stop engine and record pressure drop in psi per minute with brakes fully applied. With fully charged system, stop engine and record pressure drop in psi per minute with brakes released. Make a series of brake applications until low pressure warning signal operates. Stop engine and make one (1) full brake application. With fully charged system, stop engine and make one (1) full brake application. Measure drop in reservoir pressure. Inspect all air hoses and connections. Inspect lines for contact with frame, axles or exhaust system. Inspect for leaks that may be heard from valves, diaphragms and piston cups. Inspect air safety valve. Inspect condition of compressor drive belts.

1. Reject vehicle if:

A. Time required to build pressure from fifty to ninety (50–90) psi at fast idle is more than five (5) minutes;

B. Low pressure warning fails to function when pressure is lowered to between fifty to seventy (50–70) psi;

C. Governor cut-out pressure is higher than one hundred twenty-five (125) psi;

D. Governor cut-in pressure is lower than eighty (80) psi;

E. Leakage in psi per minute exceeds three (3) psi for single vehicles and four (4) psi for combination of two (2) vehicles with brakes applied;

F. Leakage in psi per minute exceeds two (2) psi for single vehicles and three (3) psi for combination of two (2) vehicles with brakes released;

G. Air reserve is not sufficient to permit one (1) full brake application after engine is stopped;

H. Reservoir pressure is lowered more than twenty percent (20%) of first reading;

I. Leaks, breaks, crimps or cracks in the air hoses, tubes or connections are present;

J. Lines are being rubbed by moving parts or are touching the exhaust system;

K. Leaks in valves, diaphragms or piston cups can be heard;

L. Air safety valve does not operate;

or

M. Compressor drive belts are badly worn or loose.

(3) Air Brakes Adjustment.

(A) On vehicles equipped with cam brakes, mark each brake chamber push rod at the face of the brake chamber with the brakes released. Apply the air brakes fully, minimum air pressure eighty-five (85) psi, and measure the distance the push rod travels from the face of the chamber to the mark previously made when the brakes were released. This measurement is the push-rod stroke and is illustrated in Figure 1:

(B) Reject vehicle if the push-rod travel exceeds the maximum stroke listed in the following table:

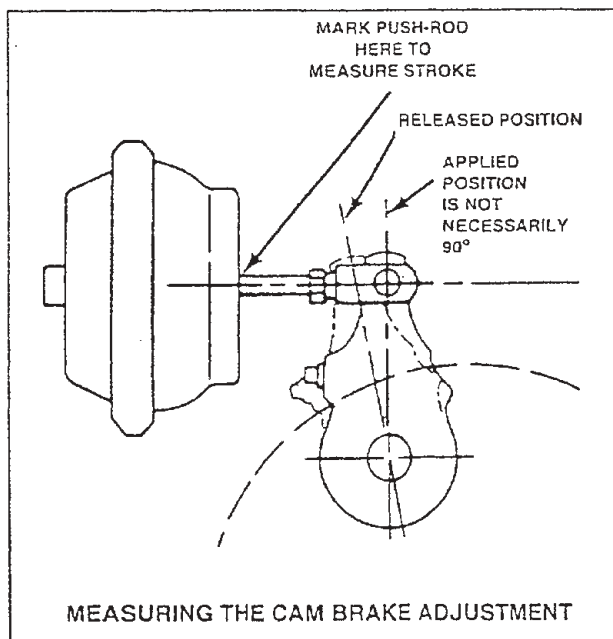


FIGURE 1



TABLE 1

\*\*\*\*\*

CLAMP TYPE BRAKE CHAMBER DATA

TYPE	OUTSIDE DIAMETER	BRAKE ADJUSTMENT LIMIT
6	4-1/2	1-1/4
9	5-1/4	1-3/8
12	5-11/16	1-3/8
16	6-3/8	1-3/4
20	6-25/32	1-3/4
24	7-7/32	1-3/4
30	8-3/32	2
36	9	2-1/4

\*\*\*\*\*

LONG STROKE CLAMP TYPE CHAMBER DATA

TYPE	OUTSIDE DIAMETER	BRAKE ADJUSTMENT LIMIT
16	6-3/8	2.0
20	6-25/32	2.0
24	7-7/32	2.0
24*	7-7/32	2.5
30	8-3/32	2.5

\*For 3" maximum stroke type 24 chambers

\*\*\*\*\*

TIE ROD STYLE PISTON BRAKE CHAMBER DATA

TYPE	OUTSIDE DIAMETER	BRAKE ADJUSTMENT LIMIT
30	6-1/2 (165mm)	2.5 (64mm)

\*\*\*\*\*

BOLT TYPE BRAKE CHAMBER DATA

TYPE	OUTSIDE DIAMETER	BRAKE ADJUSTMENT LIMIT
A	6-15/16	1-3/8
B	9-3/16	1-3/4
C	8-1/16	1-3/4
D	5-1/4	1-1/4
E	6-3/16	1-3/8
F	11	2-1/4
G	9-7/8	2

\*\*\*\*\*



ROTOCHAMBER DATA

TYPE	OUTSIDE DIAMETER	BRAKE ADJUSTMENT LIMIT
9	4-9/32	1-1/2
12	4-13/16	1-1/2
16	5-13/32	2
20	5-15/16	2
24	6-13/32	2
30	7-1/16	2-1/4
36	7-5/8	2-3/4
50	8-7/8	3

\*\*\*\*\*

DD-3 BRAKE CHAMBER DATA

TYPE	OUTSIDE DIAMETER	BRAKE ADJUSTMENT LIMIT
30	8-1/8	2-1/4

\*\*\*\*\*

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(4) Commercial Vehicles Emergency and Parking Brakes.

(A) Every vehicle equipped exclusively with an air brake system and every commercial motor vehicle equipped with a vacuum, air over hydraulic, hydroboost or electrohydraulic booster brake system shall be equipped with parking brakes adequate to hold the vehicle or combination on any grade upon which it is operated under any condition of loading, on a surface free from ice and snow. The parking brake shall be capable of being applied by the driver's muscular effort or by spring action. Their operation may be assisted by the service brakes or other source of power, provided that failure of the service brakes or other power assisting mechanisms will not prevent the parking brakes from being applied. The parking brake shall be so designed that when once applied it shall remain in the applied position despite exhaustion of any source of energy or leakage of any kind. Emergency system—apply the emergency operating control fully or release air pressure from the spring brake actuators using the manual control valve. Observe locking and holding feature of the actuating mechanism. Observe operating mechanisms for bottoming before brakes are fully applied. Observe if spring brakes apply when control valve is manually operated. Inspect for worn, missing or defective cotter pins, springs, rods, yokes, couplings or anchor pins and cables. Observe if mechanism releases brakes when release control is operated.

(B) Reject vehicle if:

1. Operating mechanisms fail to hold brakes in applied position without manual effort;
2. Operating mechanism bottoms before brakes are fully applied;
3. Spring brakes fail to apply when control valve is operated;
4. Mechanical parts are missing, broken or badly worn or pull cables are badly worn, stretched, frayed or not operating freely; or
5. Brakes do not fully release when release control is operated.

*AUTHORITY: section 307.360, RSMo 2000.\* Original rule filed Nov. 4, 1968, effective Nov. 14, 1968. Amended: Filed Dec. 5, 1969, effective Dec. 15, 1969. Amended: Filed March 9, 1970, effective March 19, 1970. Amended: Filed Nov. 9, 1971, effective Nov. 19, 1971. Amended: Filed May 21, 1974, effective May 31, 1974. Amended: Filed Dec. 1, 1975, effective Dec. 11, 1975. Amended: Filed March 3, 1980, effective June 12, 1980. Amended: Filed April 2, 1992, effective Sept. 6, 1992. Amended: Filed June 2, 1993, effective Nov. 8, 1993. Emergency*

*rescission and rule filed May 15, 1997, effective June 16, 1997, expired Nov. 30, 1997. Rescinded and readopted: Filed May 15, 1997, effective Nov. 30, 1997. Amended: Filed Nov. 1, 2001, effective April 30, 2002.*

*\*Original authority: 307.360, RSMo 1967, amended 1971, 1973, 1979, 1999.*

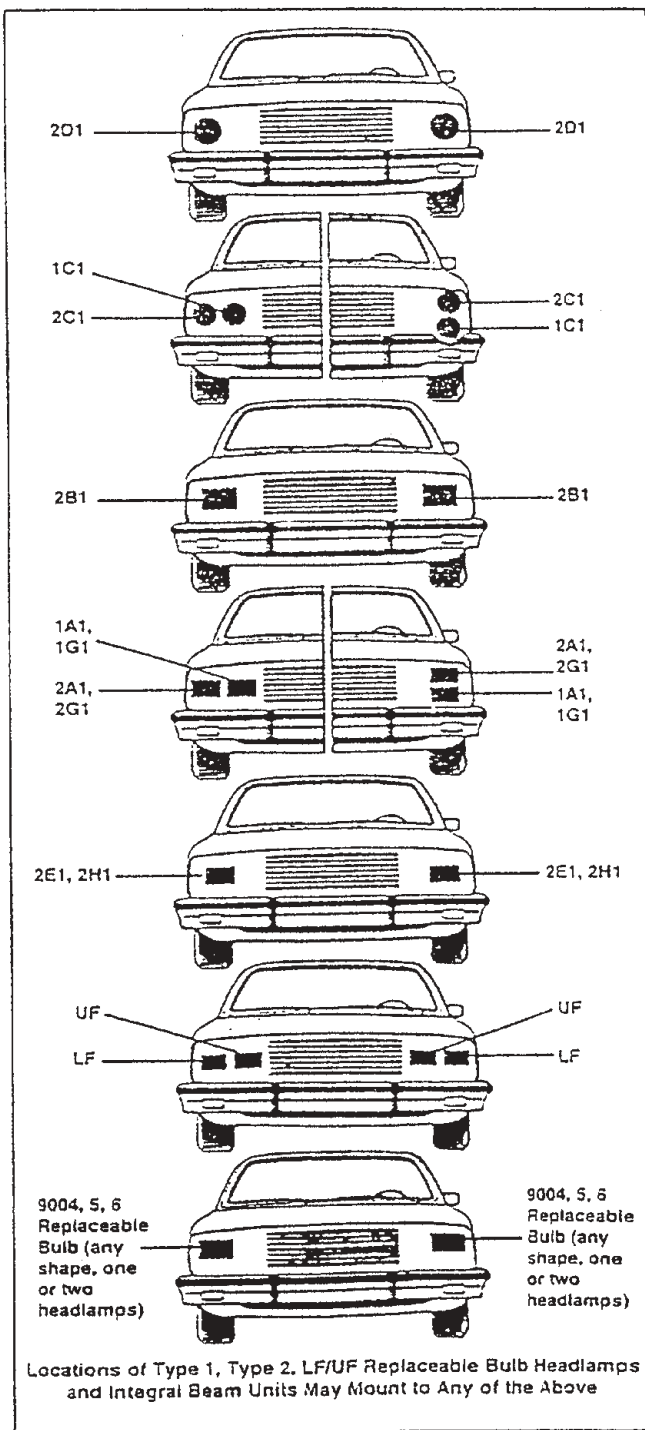
### 11 CSR 50-2.180 Lighting Equipment

*PURPOSE: This rule describes the procedures and standards for the inspection of lighting equipment. The inspection of lighting equipment is a requirement of section 307.365, RSMo.*

(1) Headlights. Every motor vehicle, other than a motorcycle, shall be equipped with one (1) of the following types of headlighting systems which shall exhibit light substantially white in color (see headlight chart).

(A) Approved Headlamp Systems.

1. 177-mm diameter, 2D1 both upper and lower beam.
2. 146-mm diameter, 1C1 upper beam, 2C1 lower beam.
3. 142 × 200-mm rectangular, 2B1 both upper and lower beam.
4. 100 × 165-mm rectangular, 1A1 and 1G1 upper beam, 2A1 and 2G1 lower beam and 2E1 and 2H1 both upper and lower beam.
5. 92 × 150-mm rectangular, UF upper beam, LF lower beam.
6. Replacement bulb headlamp.
  - A. 9004, 9007 replacement bulb, both upper and lower beam.
  - B. 9005 and 9006 together, upper and lower beam.
  - C. 9005 and 9006 in separate headlamps, upper and lower beam, respectively.
7. Headlights shall be mounted one (1) or two (2) on each side, depending upon application, at the same level.



reflector may be in combination with the tail-light and must be mounted on the rear, one (1) on each side, at a height not to exceed sixty inches (60") nor less than fifteen inches (15") above the surface upon which the vehicle stands.

(5) Inspect Vehicles for Proper Lighting Equipment. Do not inspect side marker lights, parking lights, four (4)-way flashers, backup lights, interior lights, license plate light or clearance lights.

- (6) Reject vehicle if:
- (A) Not equipped with the required lights or reflector;
  - (B) A light or reflector is obstructed;
  - (C) A required light fails to function properly;
  - (D) A light, reflector or electrical switch is not securely mounted;
  - (E) A light or reflector shows color contrary to law;
  - (F) Wiring or electrical connectors are defective;
  - (G) A lens is missing, incorrectly installed, repaired with tape or broken to the extent that moisture or contamination could enter the reflective area or light socket;
  - (H) High beam indicator does not function properly;
  - (I) Physical damage is present that would obviously cause a headlight beam to be either above or below horizontal or to the left or right of vertical; or
  - (J) A taillight or reflector is not mounted in the prescribed area.

*AUTHORITY: section 307.360, RSMo 1994. \* Original rule filed Nov. 4, 1968, effective Nov. 14, 1968. Amended: Filed Jan. 24, 1969, effective Feb. 3, 1969. Amended: Filed March 9, 1970, effective March 19, 1970. Amended: Filed Jan. 27, 1971, effective Feb. 6, 1971. Amended: Filed Nov. 9, 1971, effective Nov. 19, 1971. Amended: Filed May 21, 1974, effective May 31, 1974. Amended: Filed Dec. 1, 1975, effective Dec. 11, 1975. Amended: Filed July 1, 1976, effective Oct. 11, 1976. Amended: Filed Sept. 1, 1977, effective Dec. 11, 1977. Amended: Filed Aug. 26, 1985, effective Nov. 28, 1985. Amended: Filed April 2, 1992, effective Sept. 6, 1992. Amended: Filed June 2, 1993, effective Nov. 8, 1993. Amended: Filed Oct. 3, 1994, effective April 30, 1995. Emergency rescission and rule filed May 15, 1997, effective June 16, 1997, expired Nov. 30, 1997. Rescinded and readopted: Filed May 15, 1997, effective Nov. 30, 1997.*

*\*Original authority: 307.360, RSMo 1967, amended 1971, 1973, 1979.*

(2) Beam Indicator. Every motor vehicle equipped with multiple beam headlights shall be equipped with a beam indicator which shall be lighted only when the high beam is in use.

(3) Taillights. All motor vehicles, except motorcycles, shall be equipped with at least two (2) taillights, mounted on the rear of the

vehicle at the same level with at least one (1) on each side, not less than fifteen inches (15") or more than seventy-two inches (72") above the ground. These lights shall exhibit a plainly visible red light.

(4) Reflectors. Every 1966 and later model vehicle, except a motorcycle, must be equipped with two (2) red reflectors. A



### 11 CSR 50-2.190 Signalling Devices

*PURPOSE:* This rule describes the procedures and standards for the inspection of signalling devices. The inspection of signalling devices is a requirement of section 307.365, RSMo.

(1) Turn Signals. Turn signals installed by the manufacturer or their equivalent in number, size, and intensity shall be in operating condition. The front signal lights may be white or amber and may be in combination with the parking lights. The rear signal lights may be red or amber, except when in combination with a taillight the lens must be red.

(2) Stoplights. Stoplights installed by the manufacturer or their equivalent in number, size, and intensity shall be in operating condition. Stoplights may be red or amber, except when in combination with the taillight the stoplight must be red. Stoplights must operate when the service brake is applied.

(3) Every vehicle manufactured after January 1, 1954, must be equipped with mechanical or electrical turn signals and a stoplight if the distance from the center of the top of the steering post to the—

(A) Left outside limit of the body, cab or load exceeds twenty-four inches (24"); and

(B) Rear limit of the body or load exceeds fourteen feet (14'). The limit of fourteen feet (14') shall apply to both single and vehicle combinations.

(4) Inspect Vehicle for Proper Signalling Devices. The headlights must be on with the engine running, when inspecting the operation of the signalling devices and stoplights. Move turn signal lever up and down and observe function of turn signal lights.

(5) Reject vehicle if:

(A) Not equipped with the required signalling devices;

(B) A signalling device is obstructed;

(C) A required signalling device fails to function properly. Do not reject if turn signal fails to self-cancel or will function properly by manually holding the lever in the engaged position;

(D) A signalling device or electrical switch is not securely mounted;

(E) A light shows color contrary to law;

(F) Wiring or electrical connectors are defective; or

(G) A lens is missing, incorrectly installed, repaired with tape or broken to the extent that moisture or contamination could enter the reflective area or light socket.

*AUTHORITY:* section 307.360, RSMo 1994. \* Original rule filed Nov. 4, 1968, effective Nov. 14, 1968. Amended: Filed March 9, 1970, effective March 19, 1970. Amended: Filed Nov. 9, 1971, effective Nov. 19, 1971. Amended: Filed May 21, 1974, effective May 31, 1974. Amended: Filed Dec. 1, 1975, effective Dec. 11, 1975. Amended: Filed April 2, 1992, effective Sept. 6, 1992. Amended: Filed June 2, 1993, effective Nov. 8, 1993. Amended: Filed Oct. 3, 1994, effective April 30, 1995. Emergency rescission and rule filed May 15, 1997, effective June 16, 1997, expired Nov. 30, 1997. Rescinded and readopted: Filed May 15, 1997, effective Nov. 30, 1997.

\*Original authority: 307.360, RSMo 1967, amended 1971, 1973, 1979.

### 11 CSR 50-2.200 Steering Mechanisms

*PURPOSE:* This rule describes the procedures and standards for the inspection of steering mechanisms. The inspection of steering mechanisms is a requirement of section 307.365, RSMo.

(1) Steering Wheel Play.

(A) An inspection for steering wheel play will consist of checking steering sector for looseness and binding condition. If vehicle is equipped with power steering, the engine must be running and the fluid level and belt tension must be adequate before testing. Turn steering wheel through a full right and left turn. If equipped, inspect energy absorbing steering column.

(B) Inspect steering.

1. Reject vehicle if:

A. Steering gear binds or jams other than at wheel stops;

B. There is more than two inches (2") of free movement in steering wheels up to and including eighteen inches (18") in diameter or more than three inches (3") in steering wheels over eighteen inches (18") in diameter;

C. Power steering belt slips, is frayed, if serpentine power steering belt has sections missing, if fluid level is below manufacturer's minimum fluid level, if hoses or connections are leaking, if a power steering unit has been disconnected and has not been converted to manual steering or if any component part is missing, loose or leaking sufficient fluid to cause droplets;

D. Energy absorbing steering column is collapsed or partially collapsed;

E. Steering wheel and steering column are not properly secured; or

F. Steering gear box or steering rack assembly is not securely mounted.

(2) Front and Rear Wheel Play.

(A) An inspection for front and rear wheel play, which includes steering linkage, pitman arm, idler arm, stabilizer bar(s), connections, link(s), wheel bearings, tie rod ends and adjusting sleeves, can only be made by putting the ball joints under load. To load ball joints, the vehicle must be hoisted—

1. Under the frame if the spring or torsion bar is on the lower control arm (Figure 1, included herein);

2. Under lower control arm, close to ball joint, if spring or torsion bar is on upper control arm (Figure 2, included herein); and

3. From the underside of axle (Figure 3, included herein) if the vehicle is equipped with king pins or Twin I-Beams with ball joints (Figure 17, included herein).

(B) Inspect wheel bearings by grasping the tire—top and bottom—and rock it in and out. To verify that any looseness detected is in the wheel bearings, notice the movement between the brake drum or disc and the backing plate or splash shield.

(C) Inspect front wheels, king pin (spindle bolts) and idler arm for play. On vehicles with power steering, the engine must be running. Eliminate all wheel bearing movement by first applying the service brake. Grasp front and rear of tire and attempt to turn assembly right and left. Then grasp top and bottom of tire and attempt to rock it in and out. Observe movement at extreme front and rear—top and bottom—of tire (Figures 4 and 5, included herein).

(D) Inspect all steering linkage, pitman arm, stabilizer bar(s), connections, link(s), tie rods and adjusting sleeves for locked joints and looseness by working them up and down and back and forth by hand.

(E) Inspect condition of all upper and lower control arms, pivot shafts, pivot shaft mountings, radius arms, and all bushings.

1. Reject vehicle if:

A. Wheel bearing looseness allows relative movement between drum and backing plate (disc and splash shield) more than one-eighth inch (1/8") measured at the outer circumference of the tire for vehicles ten thousand pounds (10,000 lbs.) Gross Vehicle Weight Rating (GVWR) or less or one-quarter inch (1/4") for vehicles more than ten thousand pounds (10,000 lbs.) GVWR. A wheel bearing falls apart when a wheel is removed to inspect a brake or if the bearing is broken;

B. Front wheel movement is in excess of one-fourth inch (1/4") for wheels sixteen inches (16") or less, three-eighths inch (3/8")



for wheels over sixteen inches (16") to and including eighteen inches (18") and one-half inch (1/2") for wheels over eighteen inches (18") (see Figures 3, 4 and 5, included herein). (An idler arm or king pin must meet this criteria before being rejected.);

C. Excessive vertical (up and down) or lateral (side) movement is evident in any of the steering linkage sockets or if tapered studs are loose in their mounting holes. Any movable joints are locked. Any joints are not secured with cotter pins or other devices;

D. A control arm or radius arm is badly bent or broken, or if a pivot shaft or a pivot shaft mounting or any control arm, radius arm, pivot shaft bushing is badly worn or missing; or

E. Stabilizer bar(s), links, connections are badly worn, missing, loose or broken.

### (3) Springs and Shock Absorbers.

(A) A visual examination must be made of all springs, torsion bars, shock absorbers, bushings, shackles and "U" bolts with the vehicle on a hoist or jack.

(B) Reject vehicle if:

1. Springs or torsion bars are loose, broken or spring pieces or torsion bars are missing;

2. Spring shackles or "U" bolts are worn, missing, loose; or

3. A shock absorber is missing, disconnected, not securely attached, broken, or if rubber bushings or mounting bolts are worn-out or missing.

### (4) Ball Joints.

(A) An inspection for ball joint wear can only be made when the joints are unloaded, except those ball joints having a wear indicator. An inspection of a ball joint which has a wear indicator must be made while the ball joint is under load with the weight of the vehicle on its wheels. To unload ball joints, the vehicle must be hoisted:

1. Under lower control arm if spring or torsion bar is on lower control arm (Figure 6, included herein). The lower ball joint is the load-carrying ball joint and the upper ball joint is the nonload-carrying ball joint; and

2. Under frame if spring or torsion bar is on upper control arm (Figure 7, included herein). The upper ball joint is the load-carrying ball joint and the lower ball joint is the nonload-carrying ball joint.

(B) In checking the condition of an unloaded ball joint, a ball joint gauge need not be used if the inspector is absolutely certain that the ball joint movement does not exceed the prescribed tolerances. A vehicle will not be rejected unless the vertical (up and down) or

horizontal (side-to-side) movement in the load-carrying ball joint has been accurately measured by a ball joint gauge and the measurement exceeds the prescribed tolerances. A vehicle requiring a special tool or method to measure ball joint movement will not be rejected unless the ball joint is obviously dangerous. Inspector/mechanics will either contact the Motor Vehicle Inspection Division at the nearest troop headquarters or visit the division's website at [www.mshp.state.mo.us](http://www.mshp.state.mo.us) to obtain manufacturer's specifications on ball joints. If the ball joint movement exceeds the prescribed tolerances, the measured movement shall be listed with the defective part on the MVI-2 form (see 11 CSR 50-2.120).

(C) Unless a dial indicator or a gauge of the type which screws into a grease fitting is used, it is recommended that the most accurate method of determining vertical (up and down) movement of the ball joint using a gauge which has a roller and pointer, is to remove the dust cup from the spindle and place the pointer rollers of the ball joint gauge on top of the spindle nut (Figures 6 and 7, included herein). In the event that the rollers of a particular brand gauge are too large to rest on top of the spindle nut, the rollers should then be positioned against the bottom of the spindle nut. To measure horizontal (side) movement, place rollers of gauge against tire sidewall and work wheel in and out (Figures 8 and 9, included herein).

(D) Inspect ball joints with wear indicator, as shown in Figure 10, included herein. Wipe the grease fitting and boss free from dirt and grease. Observe if boss is flush or inside the cover surface.

(E) Inspect ball joints without wear indicator by hoisting and unloading the ball joint as indicated in either Figure 6 or Figure 7, included herein. Position a pry bar under the front tire and wheel and with pressure sufficient only to lift the weight of the wheel assembly, move the wheel up and down and observe movement (Figures 6 and 7, included herein). Under no circumstances should there be more upward lifting force exerted than necessary to determine the actual movement of the ball joint stud within the housing. Grasp the tire and wheel assembly at the eleven (11) and five (5) o'clock positions. Work the wheel in and out to detect any looseness. Move hands to the one (1) and seven (7) o'clock positions and repeat (Figures 8 and 9, included herein).

(F) Inspect ball joints on front-wheel drive vehicles as illustrated in Figures 11, 12 and 16, included herein. Inspect vehicles equipped with MacPherson Strut Suspension

System as illustrated in Figure 13, included herein.

(G) Inspect ball joints on Twin I-Beam axles using the following procedure. Eliminate all wheel bearing play by applying the service brake. Raise the vehicle by hoisting under the I-Beam axle beneath the spring as shown in Figure 17, included herein. Grasp the lower edge of the tire and move the wheel in and out. While the wheel is being moved, observe the lower spindle arm and the lower part of the axle jaw. Grasp the upper edge of the tire and move the wheel in and out. While the wheel is being moved, observe the upper spindle arm and the lower part of the axle jaw. Movement of .031" (thirty-one thousandths inch) or greater between the lower or upper portion of the I-Beam and ball joint indicates that a measurement should be made at the circumference of the wheel adjacent to the ball joint that exhibits movement.

(H) Reject vehicle if:

1. The grease fitting boss on the wear indicator type ball joint is flush or inside the cover surface;

2. MacPherson Strut Suspension System has severely worn or missing thrust bearing or mounting bushings. If piston rod is bent or unit is not securely mounted to vehicle;

3. There is free play in any direction in a nonload-carrying ball joint. If vertical (up and down) movement in a load-carrying ball joint exceeds prescribed tolerances;

4. Horizontal (side) movement at tire sidewalls is in excess of prescribed tolerances;

5. Twin I-Beam axle has movement greater than .031" (thirty-one thousandths inch) when measured at the outer circumference of the wheel; or

6. Any joints are not secured with cotter pins or other devices, or if ball stud is loose in the mounting hole.

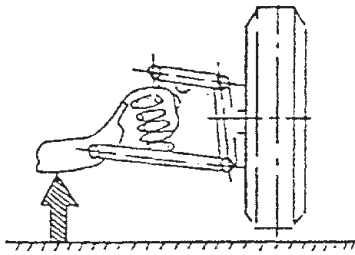


FIGURE 1

INSPECTION FOR WHEEL BEARING ADJUSTMENT, WHEEL PLAY AND STEERING LINKAGE WITH SPRING ON LOWER CONTROL ARM

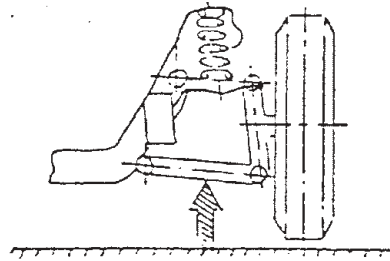


FIGURE 2

INSPECTION FOR WHEEL BEARING ADJUSTMENT, WHEEL PLAY AND STEERING LINKAGE WITH SPRING ON UPPER CONTROL ARM

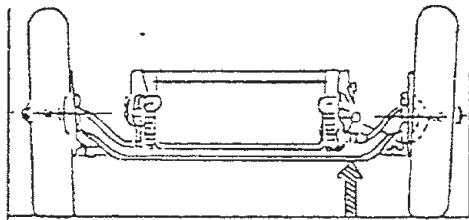


FIGURE 3

INSPECTION FOR WHEEL BEARING ADJUSTMENT, WHEEL/KING PIN (SPINDLE BOLT), AND LINKAGE PLAY WITH FRONT AXLE. (Raise until wheel clears one side at a time.)

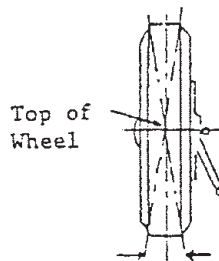


FIG. 4

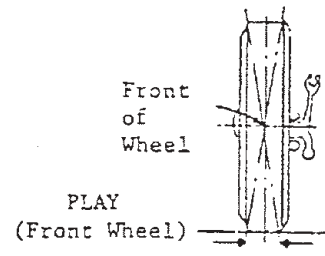


FIG. 5

WHEEL PLAY

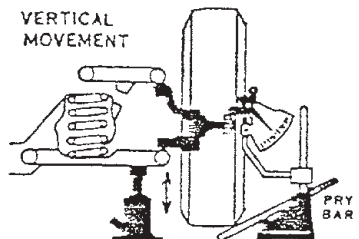


FIGURE 6

INSPECTION FOR BALL JOINT WEAR WITH SPRING ON LOWER CONTROL ARM.

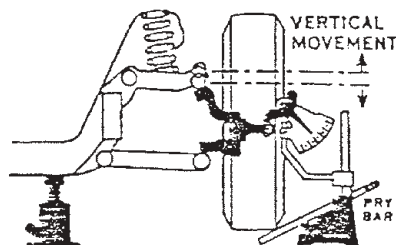


FIGURE 7

INSPECTION FOR BALL JOINT WEAR WITH SPRING ON UPPER CONTROL ARM.

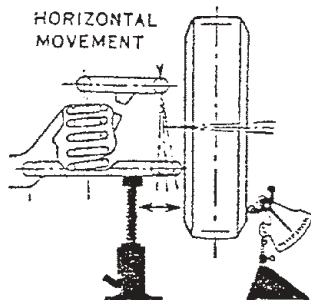


FIGURE 8

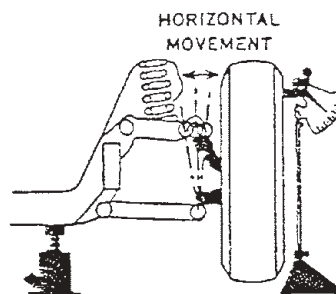


FIGURE 9

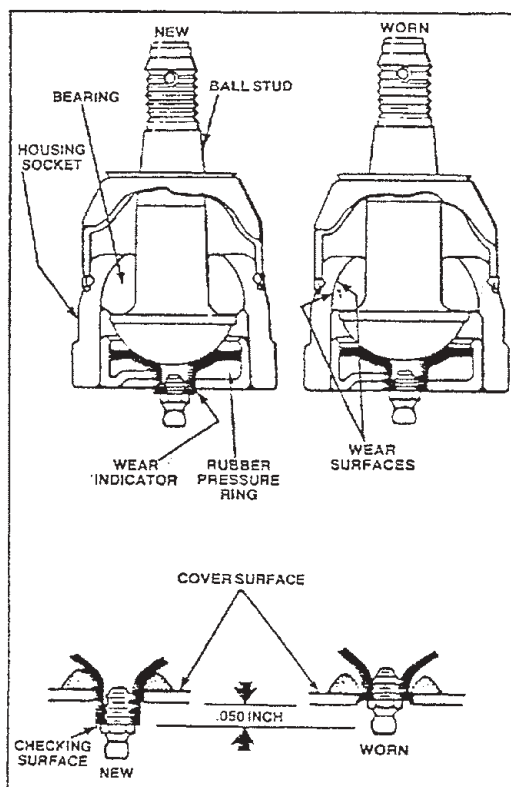


FIGURE 10

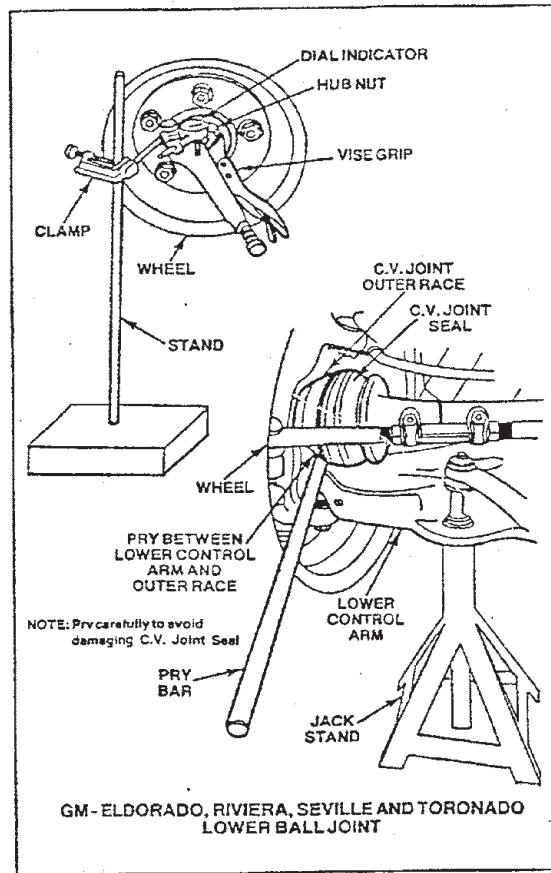


FIGURE 11

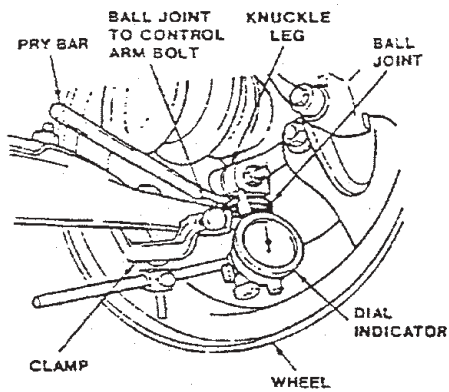


FIGURE 12  
CHRYSLER - OMNI AND HORIZON LOWER BALL JOINT.

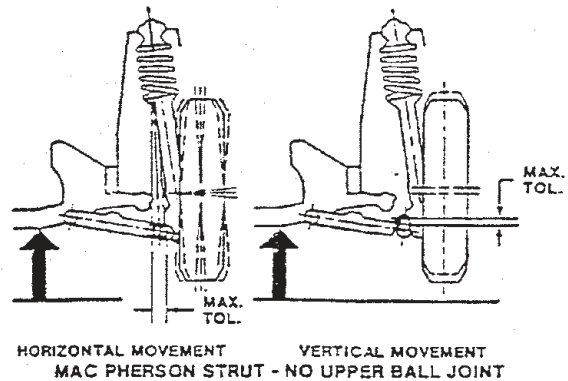


FIGURE 13  
ATTACH DIAL INDICATOR TO CONTROL ARM TO MEASURE MOVEMENT ACCURATELY BETWEEN BALL JOINT AND ITS SOCKET.

Ford Motor Company  
 Fairmont & Zephyr (1978-1983)  
 Mustang & Capri (1979-Present)  
 Lincoln & Mark (1980-Present)  
 Continental (1982-1987)  
 Granada (1981-1982)  
 LTD & Marquis (1983-Present)

**Procedure:** These models have a new wear-indicating single lower ball joint system. Support the vehicle in normal driving position, with both ball joints loaded. Inspect using same procedure as ball joints with wear indicators.

**Reject Vehicle:** If checking surface is inside the ball joint cover.

FIGURE 14

### GM Transverse Engine Front Wheel Drive Vehicles

**Equipment:** Floor jack or hoist, and jack stand.

**Procedure:**

- Support the vehicle positioning lift or jack under cradle.
- Grasp wheel at top and bottom and shake top of wheel in an "in and out" motion. Observe for any movement of the steering knuckle relative to the control arm. This visual observation is necessary to avoid confusion with other conditions such as loose wheel bearings.

**Reject Vehicle:** If ball joint shows any movement.

**NOTE:** Ball joint is internally spring loaded.

FIGURE 15

### Chrysler Front Wheel Drive Vehicles (Lower Only) Concorde, Intrepid, and Vision

**Procedure:** Raise front wheels using a frame contact hoist, until front suspension is in full rebound and tires are not in contact with the ground. Grasp tire at the top and bottom, and apply an in and out force on the wheel and tire. While applying force, look for any movement between the lower ball joint and lower control arm.

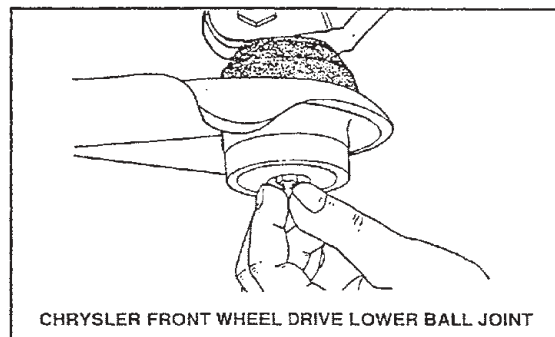
**Reject Vehicle:** If any movement is evident.

### Chrysler Front Wheel Drive Vehicles (Lower Only), All Others

**Procedure:**

- With the weight of the vehicle resting on the road wheels, grasp the grease fitting as shown below and attempt to move fitting. No mechanical assistance or added force is necessary.

**Reject Vehicle:** If grease fitting shows any movement.



### Chrysler Front Wheel Drive Vehicles (Lower Only), Stratus and Cirrus

**Procedure:** Raise the vehicle on jack stand or center on a frame contact hoist. Install a dial indicator so it is contacting the top surface of the steering knuckle near the lower ball joint stud castle nut. Grab the wheel and tire assembly and push it up and down firmly. Record the amount of up and down movement.

**Reject Vehicle:** If the movement exceeds .059 inches (1.5 mm).

### Chrysler - Upper Ball Joint

**Procedure:**

- Position jack under the lower control arm and raise wheel clear of floor.
- Lower jack to allow tire to lightly contact floor (most of vehicle weight relieved from the tire). It is important that the tire have contact with the floor.
- Grasp the top of the tire and apply force, in and outward. While this force is being applied, an observer checks for any movement at the ball joints between the upper control arm and the knuckle.

**Reject Vehicle:** If any lateral movement is evident.

FIGURE 16



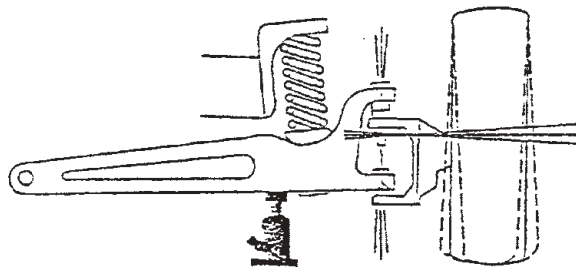


FIGURE 17

TWIN I-BEAM FRONT AXLE  
EQUIPPED WITH BALL JOINTS



*AUTHORITY: section 307.360, RSMo 2000.\* Original rule filed Nov. 4, 1968, effective Nov. 14, 1968. Amended: Filed March 27, 1969, effective April 6, 1969. Amended: Filed March 9, 1970, effective March 19, 1970. Amended: Filed Sept. 24, 1970, effective Oct. 4, 1970. Amended: Filed Nov. 9, 1971, effective Nov. 19, 1971. Amended: Filed Aug. 17, 1972, effective Aug. 27, 1972. Amended: Filed May 21, 1974, effective May 31, 1974. Amended: Filed Feb. 26, 1975, effective March 8, 1975. Amended: Filed Dec. 1, 1975, effective Dec. 11, 1975. Amended: Filed June 14, 1976, effective Sept. 15, 1976. Amended: Filed Sept. 1, 1977, effective Dec. 11, 1977. Amended: Filed Jan. 16, 1978, effective April 13, 1978. Amended: Filed March 3, 1980, effective June 12, 1980. Amended: Filed Jan. 12, 1982, effective April 11, 1982. Amended: Filed July 14, 1982, effective Oct. 11, 1982. Amended: Filed Aug. 15, 1983, effective Nov. 11, 1983. Amended: Filed Aug. 26, 1985, effective Nov. 28, 1985. Amended: Filed Aug. 14, 1987, effective Nov. 12, 1987. Amended: Filed July 27, 1988, effective Oct. 27, 1988. Amended: Filed Feb. 16, 1990, effective May 11, 1990. Amended: Filed April 2, 1992, effective Sept. 6, 1992. Amended: Filed June 2, 1993, effective Nov. 8, 1993. Amended: Filed Oct. 3, 1994, effective April 30, 1995. Emergency rescission and rule filed March 2, 1998, effective April 1, 1998, expired Sept. 27, 1998. Rescinded and readopted: Filed March 2, 1997, effective Aug. 30, 1998. Amended: Filed March 15, 1999, effective Sept. 30, 1999. Amended: Filed Sept. 15, 2000, effective March 30, 2001. Amended: Filed Sept. 15, 2003, effective March 30, 2004.*

*\*Original authority: 307.360, RSMo 1967, amended 1971, 1973, 1979, 1999.*

### 11 CSR 50-2.210 Horn

*PURPOSE: This rule describes the procedures and standards for the inspection of the horn. The inspection of the horn is a requirement of section 307.365, RSMo.*

(1) Every motor vehicle shall be equipped with a horn directed forward, or whistle in good working order, capable of emitting a sound adequate in quantity and volume to give warning of the approach of the vehicle to other users of the highway and to pedestrians.

(2) Reject vehicle if:

- (A) Vehicle is not equipped with a horn;
- (B) Horn is not audible under normal conditions;

(C) Horn button or switch is not firmly mounted providing a good ground. If horn is actuated by grounding two (2) naked wires or a similar method; or

(D) Horn button or switch is not readily accessible from driver's position.

*AUTHORITY: section 307.360, RSMo 1994.\* Original rule filed Nov. 4, 1968, effective Nov. 14, 1968. Amended: Filed March 9, 1970, effective March 19, 1970. Amended: Filed Nov. 9, 1971, effective Nov. 19, 1971. Amended: Filed May 21, 1974, effective May 31, 1974. Amended: Filed April 2, 1992, effective Sept. 6, 1992. Emergency rescission and rule filed Aug. 1, 1997, effective Sept. 2, 1997, expired Feb. 28, 1998. Rescinded and readopted: Filed Aug. 1, 1997, effective Jan. 30, 1998.*

*\*Original authority: 307.360, RSMo 1967, amended 1971, 1973, 1979.*

### 11 CSR 50-2.220 Mirrors

*PURPOSE: This rule describes the procedures and standards for the inspection of mirrors. The inspection of mirrors is a requirement of section 307.365, RSMo.*

(1) All motor vehicles which are so constructed or loaded that the operator cannot see the road behind by looking back or around the side of the vehicle shall be equipped with either an inside or outside mirror, or both, that will reveal the road behind.

(2) All motor vehicles which were equipped by the manufacturer with an inside mirror and all 1968 and later model vehicles manufactured with both an inside and a driver's side outside mirror, shall be equipped in like manner. Do not inspect passenger side outside mirrors.

(3) Reject vehicle if:

- (A) Forward vision is unsafely obstructed by mirror assembly;
- (B) Mirror does not provide a clear view of highway to rear because of cracks, discoloration or improper mounting;
- (C) Mirror is broken or has sharp edges exposed;
- (D) Mirror is very difficult to adjust or will not maintain a set adjustment; or
- (E) There is no required mirror.

*AUTHORITY: section 307.360, RSMo 1994.\* Original rule filed Nov. 4, 1968, effective Nov. 14, 1968. Amended: Filed March 9, 1970, effective March 19, 1970. Amended: Filed Nov. 9, 1971, effective Nov. 19, 1971.*

*Amended: Filed May 21, 1974, effective May 31, 1974. Amended: Filed Aug. 14, 1987, effective Nov. 12, 1987. Amended: Filed April 2, 1992, effective Sept. 6, 1992. Emergency rescission and rule filed Aug. 1, 1997, effective Sept. 2, 1997, expired Feb. 28, 1998. Rescinded and readopted: Filed Aug. 1, 1997, effective Jan. 30, 1998.*

*\*Original authority: 307.360, RSMo 1967, amended 1971, 1973, 1979.*

### 11 CSR 50-2.230 Windshield Wipers

*PURPOSE: This rule describes the procedures and standards for the inspection of windshield wipers. The inspection of windshield wipers is a requirement of section 307.365, RSMo.*

(1) If equipped by the manufacturer, all windshield wipers shall be installed and in operating condition.

(2) Inspect for satisfactory operation, damaged or torn rubber blades and for proper contact of blades with windshield. Raise wiper arm slightly away from windshield and release.

(3) Reject vehicle if:

- (A) Windshield wipers fail to function;
- (B) Rubber wiping element is damaged or torn;
- (C) Part of blades or arms are missing or are severely damaged; or
- (D) The blades fail to contact the windshield firmly.

*AUTHORITY: section 307.360, RSMo 1994.\* Original rule filed Nov. 4, 1968, effective Nov. 14, 1968. Amended: Filed March 9, 1970, effective March 19, 1970. Amended: Filed Nov. 9, 1971, effective Nov. 19, 1971. Amended: Filed May 21, 1974, effective May 31, 1974. Amended: Filed Oct. 3, 1994, effective April 30, 1995. Emergency rescission and rule filed Aug. 1, 1997, effective Sept. 2, 1997, expired Feb. 28, 1998. Rescinded and readopted: Filed Aug. 1, 1997, effective Jan. 30, 1998.*

*\*Original authority: 307.360, RSMo 1967, amended 1971, 1973, 1979.*

### 11 CSR 50-2.240 Tires

*PURPOSE: This rule describes the procedures and standards for the inspection of tires. The inspection of tires is a requirement of section 307.365, RSMo.*



(1) Inspect all tires except the spare tire for tread wear, knots, cuts, separations, mismatching of tire types and for tire markings such as "reject" or "for non-highway use."

(2) Reject vehicle if:

(A) A tire manufactured with a tread design is worn to the point where there is no tread configuration across the middle half of the tire tread, or if there is no tread configuration across either the outer or inner half of the tire tread at three (3) equally spaced locations around the circumference of the tire other than at the tread wear indicators;

(B) There is a localized worn spot that exposes the cord;

(C) Tire has any cut or separation that exposes the cord when the tire is inflated or if the tire has any knots;

(D) A vehicle has a radial and a nonradial tire on the same axle;

(E) A tire is marked reject, rejected, not for highway use, farm use only, for nonhighway use, for race track use only, or marked with similar terms, or if determined beyond a reasonable doubt that these markings have been removed. This does not include tires labeled with the word blemish; or

(F) The tire size of any dual is mismatched by more than one-half inch (1/2") in height.

*AUTHORITY: section 307.360, RSMo 2000.\* Original rule filed Nov. 4, 1968, effective Nov. 14, 1968. Amended: Filed March 9, 1970, effective March 19, 1970. Amended: Filed Jan. 27, 1971, effective Feb. 6, 1971. Amended: Filed Nov. 9, 1971, effective Nov. 19, 1971. Amended: Filed May 21, 1974, effective May 31, 1974. Amended: Filed Dec. 8, 1975, effective Dec. 18, 1975. Amended: Filed July 14, 1982, effective Oct. 11, 1982. Amended: Filed Aug. 14, 1987, effective Nov. 12, 1987. Amended: Filed Aug. 30, 1989, effective Nov. 26, 1989. Amended: Filed April 2, 1992, effective Sept. 6, 1992. Amended: Filed Oct. 3, 1994, effective April 30, 1995. Emergency rescission and rule filed Aug. 1, 1997, effective Sept. 2, 1997, expired Feb. 28, 1998. Rescinded and readopted: Filed Aug. 1, 1997, effective Jan. 30, 1998. Amended: Filed Nov. 1, 2001, effective April 30, 2002.*

*\*Original authority: 307.360, RSMo 1967, amended 1971, 1973, 1979, 1999.*

**11 CSR 50-2.250 Wheels**

*PURPOSE: This rule describes the procedures and standards for the inspection of wheels. The inspection of wheels is a requirement of section 307.365, RSMo.*

(1) Inspect all wheels except the spare tire wheel for damage and the condition of any visible wheel bolts, nuts or lugs, or mismatching of hub assembly. Hub caps need not be removed to inspect wheel bolts, nuts or lugs except on the wheel which is removed for brake inspection.

(2) Reject vehicle if:

(A) There are loose, missing or damaged wheel studs, bolts, nuts or lugs;

(B) Rims and lock rings on the wheel of a commercial vehicle are mismatched;

(C) Rims or lock rings are bent, sprung, cracked or otherwise damaged;

(D) Stud holes are out-of-round;

(E) There are cracks between the hand holes or stud holes of a disc wheel;

(F) A casting is cracked or there is evidence of wear in the clamping area of a cast wheel; or

(G) A wheel and hub assembly are mismatched or if the lug holes and lug bolts are mismatched, which prohibits the tightening and proper seating of the lug nuts, or the hub flange fails to make full contact with the wheel pad.

*AUTHORITY: section 307.360, RSMo 1994.\* Original rule filed Nov. 4, 1968, effective Nov. 14, 1968. Amended: Filed March 9, 1970, effective March 19, 1970. Amended: Filed Nov. 9, 1971, effective Nov. 19, 1971. Amended: Filed May 21, 1974, effective May 31, 1974. Amended: Filed April 2, 1992, effective Sept. 6, 1992. Emergency rescission and rule filed Aug. 1, 1997, effective Sept. 2, 1997, expired Feb. 28, 1998. Rescinded and readopted: Filed Aug. 1, 1997, effective Jan. 30, 1998.*

*\*Original authority: 307.360, RSMo 1967, amended 1971, 1973, 1979.*

**11 CSR 50-2.260 Exhaust System**

*PURPOSE: This rule describes the procedures and standards for the inspection of the exhaust system. The inspection of the exhaust system is a requirement of section 307.365, RSMo.*

(1) All motor vehicles shall be equipped with a properly attached exhaust pipe, muffler and tail pipe.

(2) All items must be inspected with the motor running. Holes in the system made by the manufacturer for drainage are not cause for rejection. Do not block or place anything over the end of the tailpipe to check for leaks.

(3) Reject vehicle if:

(A) A manifold, manifold gasket, flange gasket or a connection or any other component is loose or leaking;

(B) Muffler, exhaust pipe, tailpipe or resonator has holes, leaking patches or seams. Only patches made with an arc or acetylene weld will be permitted;

(C) Tailpipe end is pinched or broken off from rear support bracket;

(D) Any part of the system is supported by wire, or if any component is not securely attached by supporting hardware, such as bolts, brackets, clamps or hangers;

(E) Tailpipe is located so that a person may be burned on entering or leaving passenger compartment;

(F) Any part of system passes through passenger compartment;

(G) Tailpipe fails to discharge exhaust away from under passenger compartment of commercial motor vehicles;

(H) Tailpipe fails to discharge exhaust from the rear or sides of the passenger and luggage compartment on passenger vehicles;

(I) Vehicle has no muffler;

(J) Tailpipe fails to discharge exhaust away from the sides or rear of a camper which is mounted on a motor vehicle and which is equipped with permanent cooking, heating and sleeping facilities; or

(K) A commercial vehicle has a tailpipe extending beneath the cargo area that leaks or is improperly supported.

*AUTHORITY: section 307.360, RSMo 1994.\* Original rule filed Nov. 4, 1968, effective Nov. 14, 1968. Amended: Filed March 27, 1969, effective April 6, 1969. Amended: Filed March 9, 1970, effective March 19, 1970. Amended: Filed Nov. 9, 1971, effective Nov. 19, 1971. Amended: Filed Aug. 17, 1972, effective Aug. 27, 1972. Amended: Filed May 21, 1974, effective May 31, 1974. Amended: Filed April 2, 1992, effective Sept. 6, 1992. Emergency rescission and rule filed Aug. 1, 1997, effective Sept. 2, 1997, expired Feb. 28, 1998. Rescinded and readopted: Filed Aug. 1, 1997, effective Jan. 30, 1998.*

*\*Original authority: 307.360, RSMo 1967, amended 1971, 1973, 1979.*

**11 CSR 50-2.270 Glazing (Glass)**

*PURPOSE: This rule describes the procedures and standards for the inspection of glazing. The inspection of glazing is a requirement of section 307.365, RSMo.*

(1) All 1936 and later model motor vehicles which were originally equipped with glass



must have approved safety glass in all doors, windows and windshields.

(2) Automotive safety glass is marked with the manufacturer's trademark and the words American Standard or the letters AS followed by a number indicating the position in which the glass may be used. Safety glass bearing the following identification may be used in the designated locations: AS1 anywhere in a motor vehicle; AS2 anywhere except windshields; AS3 or AS4 anywhere on school buses except windshields and side windows to immediate right and left of driver location; AS3 and above is permitted at certain other specified locations, such as rear windows of trucks and convertibles.

(3) Types of Damage or Defect.

(A) Outright breakage: Glass that is severely cracked, shattered or broken to expose sharp edges.

(B) Distortion: A manufacturing defect or other defect that causes a distorted view.

(C) Star break: Vented breaks with cracks radiating from point of impact.

(D) Bull's-eye and half moon: Nonvented circular or half-circular chips not dislodged from glass.

(E) Stone nicks or chips: Small chips dislodged from the glass.

(4) Inspect glazing for proper markings, for material or conditions that obscure driver's vision such as stickers or tinting, and cracks, distortion or other damage. Also inspect operation of window at driver's left.

(5) Reject vehicle if:

(A) Required glazing is not present or improper glazing or nontransparent materials are used;

(B) Window at driver's left cannot be readily opened to permit arm signals. (Do not reject if the vehicle is equipped with properly operating turn signals and stoplight);

(C) After-market vision reducing material or other conditions that obscure the driver's vision is on the windshield;

(D) The windshield has one (1) or more cracks or distortion which would interfere with the driver's vision;

(E) The windshield has one (1) or more star breaks, bull's-eyes, half moons, stone nicks or stone chips which would interfere with the driver's vision or is more than two inches (2") in diameter; or

(F) Outright breakage or any break exposing sharp edges is present at any location.

*AUTHORITY: section 307.360, RSMo 2000.\* Original rule filed Nov. 4, 1968, effective*

*Nov. 14, 1968. Amended: Filed March 9, 1970, effective March 19, 1970. Amended: Filed Aug. 13, 1970, effective Aug. 23, 1970. Amended: Filed March 24, 1971, effective April 3, 1971. Amended: Filed Nov. 9, 1971, effective Nov. 19, 1971. Amended: Filed May 21, 1974, effective May 31, 1974. Amended: Filed Dec. 1, 1975, effective Dec. 11, 1975. Amended: Filed Dec. 8, 1975, effective Dec. 18, 1975. Amended: Filed Jan. 12, 1982, effective April 11, 1982. Amended: Filed Aug. 26, 1985, effective Nov. 28, 1985. Emergency amendment filed Aug. 29, 1985, effective Sept. 27, 1985, expired Jan. 25, 1986. Amended: Filed Oct. 8, 1987, effective Jan. 14, 1988. Amended: Filed Aug. 18, 1989, effective Nov. 26, 1989. Amended: Filed April 2, 1992, effective Sept. 6, 1992. Amended: Filed June 2, 1993, effective Nov. 8, 1993. Amended: Filed Oct. 3, 1994, effective April 30, 1995. Emergency rescission and rule filed Aug. 1, 1997, effective Sept. 2, 1997, expired Feb. 28, 1998. Rescinded and readopted: Filed Aug. 1, 1997, effective Jan. 30, 1998. Amended: Filed July 14, 1998, effective Jan. 30, 1999. Amended: Filed Sept. 15, 2000, effective March 30, 2001. Emergency amendment filed Aug. 15, 2001, effective Aug. 28, 2001, expired Feb. 28, 2002. Amended: Filed Aug. 15, 2001, effective Feb. 28, 2002. Amended: Filed Sept. 15, 2003, effective March 30, 2004.*

*\*Original authority: 307.360, RSMo 1967, amended 1971, 1973, 1979, 1999.*

### 11 CSR 50-2.280 Air Pollution Control Devices

*PURPOSE: This rule describes the procedures and standards for the inspection of air pollution control devices. The inspection of air pollution control devices is a requirement of section 307.365, RSMo.*

(1) The inspection of air pollution control devices installed by the manufacturer will apply to 1968 and later model vehicles. This does not apply to diesel fuel vehicles or to vehicles operating exclusively on propane fuel or compressed gas. Vehicles converted with option to operate on compressed natural gas or propane are permitted to remove or modify the thermostatic air cleaner if the modifications performed meet United States Environmental Protection Agency Mobile Source Enforcement Memorandum Number 1A.

(A) Effective July 1, 1992, all light-duty vehicles which are passenger vehicles with a Gross Vehicle Weight Rating (GVWR) below six thousand pounds (6,000 lbs.) and commercial vehicles with a GVWR below eight

thousand five hundred pounds (8,500 lbs.), which receive a replacement engine, in regard to all emissions related parts, engine design parameters and engine calibrations, must comply with the certified configuration of the same or newer model year as the vehicle chassis.

(B) Effective July 1, 1992, diesel powered vehicles may receive a replacement gasoline engine if the resulting engine-chassis configuration is equivalent to a certified configuration of the same model year or newer as the chassis and that chassis has been certified with a gasoline engine.

(C) Effective July 1, 1992, heavy-duty vehicles which are passenger vehicles with a GVWR in excess of six thousand pounds (6,000 lbs.) and commercial vehicles with a GVWR in excess of eight thousand five hundred pounds (8,500 lbs.) may receive a replacement heavy-duty engine if the resulting vehicle is identical to a certified configuration of the same model year or newer. Under no circumstances may a heavy-duty engine ever be installed in a light-duty vehicle.

(D) All 1968 and later model vehicles which received a replacement engine before July 1, 1992, must be equipped with all the air pollution control devices installed by the manufacturer on that particular engine.

(E) Reject vehicle if a:

1. Replacement engine is not equivalent to the certified configuration of the engine-chassis; or

2. Heavy-duty engine is used in a light-duty chassis.

(2) Crankcase Ventilation.

(A) The ventilation system of the crankcase is commonly known as the positive crankcase ventilation (PCV) system. The engine should be warm and running at idle during inspection of the vent system.

(B) Inspect plumbing connections for tightness and proper routing. Disconnect PCV valve from engine. Shake briskly and listen for a rattling sound. Place finger or thumb over end of valve and feel for vacuum suction.

(C) Reject vehicle if:

1. Plumbing is loose, broken, leaking or improperly routed;

2. No vacuum suction is present or valve does not rattle when shaken; or

3. Any part of the system is missing or disconnected.

(3) Air Injection System.

(A) The air injection system provides air to the exhaust manifold or catalytic converter.



The system may or may not be equipped with an external air pump.

(B) With engine stopped, inspect tension of air pump drive belt. Inspect hose connections at air pump, antibackfire valve, check valves and air distribution manifolds.

(C) Reject vehicle if:

1. Belt slips or is frayed, if serpentine air pump belt has sections missing, if connections are loose, broken or leaking; or
2. Any part of the injection system is missing or disconnected.

(4) Engine Modification Type.

(A) An engine modification control system may be most easily identified as one without an air pump.

(B) With engine stopped, inspect ignition wiring and vacuum hose connections.

(C) Reject vehicle if:

1. Wires or connections are loose, broken or leaking; or
2. Any part of system is missing.

(5) Thermostatic Air Cleaner.

(A) The thermostatic air cleaner provides heated air to the carburetor during cold-engine operation.

(B) Inspect exhaust manifold shroud, pre-heat tube, vacuum diaphragm air cleaner and vacuum hoses.

(C) Reject vehicle if:

1. Connections are broken or disconnected; or
2. Any part of system is missing.

(6) Spark Control System.

(A) The spark control system controls the advance and retard of the ignition spark.

(B) Inspect distributor, vacuum control valve, electrical control switch, wiring and vacuum hoses.

(C) Reject vehicle if:

1. Wiring or vacuum lines are broken, leaking or improperly routed; or
2. Any part of the system is missing or bypassed.

(7) Exhaust Gas Recirculation.

(A) The exhaust gas recirculation system supplies metered exhaust gas to the intake manifold.

(B) Inspect exhaust gas recirculation valve, temperature control valve and vacuum lines for proper routing.

(C) Reject vehicle if:

1. Components are broken, leaking or improperly routed; or
2. Any part of system is missing.

(8) Oxygen Sensor System.

(A) The oxygen sensor system measures the quantity of oxygen present in the exhaust system and supplies a signal to the carburetor or fuel injection system.

(B) Inspect oxygen sensor, located in exhaust manifold, temperature sensor, crankshaft sensor, microprocessor and wiring for proper routing.

(C) Reject vehicle if any:

1. Component is leaking, bypassed, modified or disconnected; or
2. Part of the system is missing.

(9) Evaporative Emission System.

(A) The evaporative emission system restricts the release of fuel vapors by storing and metering the fuel vapors into the fuel intake system.

(B) Inspect the fuel tank vent line, overflow limiting valve, charcoal canister and purge line for proper mounting, leaks and proper routing.

(C) Reject vehicle if:

1. Components are leaking, improperly routed or mounted; or
2. Any part of the system is missing or disconnected.

(10) Catalytic Converters.

(A) All 1981 and later model vehicles which were equipped by the manufacturer with a catalytic converter(s) must be equipped with the original equipment manufacturer converter(s) or United States Federal Environmental Protection Agency-approved replacement converters. These devices are located in the exhaust system, usually in front of the muffler.

(B) Inspect catalytic converter.

(C) Reject vehicle if:

1. Catalytic converter is bypassed or modified, is not securely attached, has leakage or is patched by other than an arc or acetylene weld; or
2. A 1981 or later model vehicle is not equipped with a catalytic converter, as equipped by the manufacturer and as specified on the emission label.

*AUTHORITY: section 307.360, RSMo 1994. \* Original rule filed Nov. 4, 1968, effective Nov. 14, 1968. Amended: Filed March 9, 1970, effective March 19, 1970. Amended: Filed Nov. 9, 1971, effective Nov. 19, 1971. Amended: Filed May 21, 1974, effective May 31, 1974. Amended: Filed Dec. 1, 1975, effective Dec. 11, 1975. Amended: Filed Sept. 12, 1980, effective Dec. 11, 1980. Amended: Filed Sept. 16, 1985, effective Jan. 1, 1985. Amended: Filed April 2, 1992, effective Sept. 6, 1992. Amended: Filed June 2, 1993, effective Nov. 8, 1993. Emergency rescission and*

*rule filed Aug. 1, 1997, effective Sept. 2, 1997, expired Feb. 28, 1998. Rescinded and readopted: Filed Aug. 1, 1997, effective Jan. 30, 1998.*

*\*Original authority: 307.360, RSMo 1967, amended 1971, 1973, 1979.*

*Op. Atty. Gen. No. 331, Shell (11-15-71). The state of Missouri has the authority to inspect for "air pollution control devices" which may be installed on motor vehicles as a requirement to comply with applicable emission regulations, but whether such regulations and inspections would accomplish the purpose of "enforcing compliance with applicable emission standards" which are federal standards and whether the preemption provision of 42 U.S.C.A., section 1857f-6a has been complied with, are questions that only the appropriate federal officials can answer.*

#### 11 CSR 50-2.290 Fuel System

*PURPOSE: This rule describes the procedures and standards for the inspection of a vehicle's fuel tank. The inspection of vehicle fuel tanks is a requirement of section 307.365, RSMo.*

(1) Inspect the fuel tank(s), fuel lines and connections, filler tube and filler tube cap on gasoline or diesel fueled vehicles.

(2) Reject vehicle if:

- (A) There is fuel leakage at any location;
- (B) Fuel tank is not securely attached; or
- (C) Filler tube cap is missing or does not fit.

(3) Inspect Compressed Fuel Systems. Inspect for the decal issued by the Division of Weights and Measures, Department of Agriculture on liquefied petroleum gas (LPG) systems.

(4) Reject compressed fuel systems if:

- (A) There is fuel leakage at any location;
- (B) Fuel tank is not securely attached; or
- (C) There is no Missouri Department of Agriculture decal on LPG systems.

*AUTHORITY: section 307.360, RSMo 1994. \* Original rule filed Nov. 9, 1971, effective Nov. 19, 1971. Amended: Filed May 21, 1974, effective May 31, 1974. Amended: Filed April 2, 1992, effective Sept. 26, 1992. Amended: Filed Oct. 3, 1994, effective April 30, 1995. Emergency rescission and rule filed Aug. 1, 1997, effective Sept. 2, 1997, expired Feb. 28, 1998. Rescinded and readopted: Filed Aug. 1, 1997, effective Jan. 30, 1998.*



*Emergency amendment filed Feb. 1, 2000, effective July 1, 2000, expired Dec. 27, 2000. Amended: Filed Feb. 1, 2000, effective July 30, 2000.*

*\*Original authority: 307.360, RSMo 1967, amended 1971, 1973, 1979, 1999.*

### 11 CSR 50-2.300 Mud Flaps

*PURPOSE: This rule describes the procedures and standards for the inspection of mud flaps. The inspection of mud flaps is a requirement of section 307.365, RSMo.*

(1) Trucks without rear fenders, which are intended to be registered for over twenty-four thousand pounds (24,000 lbs.) must be equipped with mud flaps for the rear wheels. Mud flaps must be wide enough to cover the full tread width of the tires. Mud flaps must be installed so that they extend from the underside of the vehicle body in a vertical plane behind the wheels to within eight inches (8") of the ground, they must be sufficiently rigid to provide adequate protection when the vehicle is in motion.

(2) Fenders installed by the manufacturer on all pickup trucks and other small trucks will be recognized. Curved fender wells, such as those on gasoline delivery trucks, van-type trucks and any other truck with a fender design that provides reasonable protection to the rear of the vehicle, will be exempt.

(3) Reject vehicle if:

- (A) Not equipped with required mud flaps;
- (B) Flap is not wide enough to cover the full tread width of the tire(s); or
- (C) Flap is not in a vertical plane extending to within eight inches (8") of the ground.

*AUTHORITY: section 307.360, RSMo 1994. \* Original rule filed Nov. 4, 1968, effective Nov. 14, 1968. Amended: Filed March 9, 1970, effective March 19, 1970. Amended: Filed Aug. 13, 1970, effective Aug. 23, 1970. Amended: Filed Nov. 9, 1971, effective Nov. 19, 1971. Amended: Filed May 21, 1974, effective May 31, 1974. Amended: Filed April 2, 1992, effective Sept. 6, 1992. Amended: Filed June 2, 1993, effective Nov. 8, 1993. Emergency rescission and rule filed Oct. 1, 1997, effective Nov. 2, 1997, expired April 30, 1998. Rescinded and readopted: Filed Oct. 1, 1997, effective March 30, 1998.*

*\*Original authority 1967, amended 1971, 1973, 1979.*

### 11 CSR 50-2.310 Seat Belts

*PURPOSE: This rule describes the procedures and standards for the inspection of seat belts. The inspection of seat belts is a requirement of section 307.365, RSMo.*

(1) Every four (4)-wheel passenger car, other than buses, manufactured after June 30, 1964, and designated as a 1965 or later model shall be equipped with at least two (2) sets of seat belts for the front seat of the vehicle. Pickup trucks manufactured on or after July 1, 1971, shall be equipped with at least two (2) sets of seat belts in the forward-most seating area of those vehicles. The inspector/mechanic must latch both sets of seat belts.

(2) A seat belt is any strap, webbing or similar device including all necessary buckles, fasteners, motors, tracks and all hardware designed for installing that seat belt in a motor vehicle by the manufacturer or its equivalent. Seat belts are classified as:

(A) Type 1 seat belt assembly is a lap belt for pelvic restraint;

(B) Type 2 seat belt assembly is a combination of pelvic and upper-torso restraint; and

(C) Type 2a shoulder belt is an upper-torso restraint for use in conjunction with a lap belt as a type 2 seat belt assembly. Some type 2a shoulder belts are motorized.

(3) Inspect Seat Belts. Do not reject vehicles that are equipped by the manufacturer with passive restraints consisting of only a shoulder belt without a lap belt.

(4) Reject vehicle if:

(A) Not equipped, if required, with two (2) sets of seat belts in front seat equivalent to those installed by the manufacturer;

(B) Front seat is covered so as to prohibit the use of required belts;

(C) A belt, buckle, bracket or motor is inoperative which prohibits designed function; or

(D) Belt webbing is frayed, split or torn.

*AUTHORITY: section 307.360, RSMo 1994. \* Original rule filed Nov. 4, 1968, effective Nov. 14, 1968. Amended: Filed March 9, 1970, effective March 19, 1970. Amended: Filed Nov. 9, 1971, effective Nov. 19, 1971. Amended: Filed May 21, 1974, effective May 31, 1974. Amended: Filed Aug. 26, 1985, effective Nov. 28, 1985. Amended: Filed April 2, 1992, effective Sept. 6, 1992. Amended: Filed June 2, 1993, effective Nov. 8, 1993. Emergency rescission and rule Oct. 1, 1997, effective Nov. 2, 1997, expired April 30, 1998. Rescinded and readopted: Filed*

*Oct. 1, 1997, effective March 30, 1998. Amended: Filed July 14, 1998, effective Jan. 30, 1999.*

*\*Original authority 1967, amended 1971, 1973, 1979.*

### 11 CSR 50-2.311 Bumpers

*PURPOSE: This rule formulates procedures for the inspection of motor vehicle bumpers as required by section 307.172(2), RSMo.*

(1) Definitions.

(A) Bumper—A device of at least four and one-half inches (4 1/2") in vertical height constructed of metal, wood or other durable material capable of absorbing shock and mounted on the front or rear of a motor vehicle. Each bumper must be made of a strength equal to a stock bumper.

(B) Drop bumper—A bumper as described in subsection (1)(A) which may be mounted not more than three inches (3") below the original manufacturer's mounting with heavy metal by bolting or welding to the motor vehicle frame.

(C) Nonstock bumper—A device as defined in subsection (1)(A) and designed by other than a motor vehicle manufacturer.

(D) Stock bumper—A device as defined in subsection (1)(A) designed by a motor vehicle manufacturer or an equivalent replacement.

(2) The bumper shall be horizontally mounted on the vehicle centerline by bolting or welding to the vehicle frame as originally installed by the motor vehicle manufacturer. The bumper must extend in width to the originally manufactured tread width for the motor vehicle.

(3) Measurement. Measurements shall be taken with the motor vehicle in an unloaded condition on a level surface with the tires inflated to the manufacturer's specifications. Measurements shall be taken from the surface on which the vehicle stands to the highest point of the bottom of the bumper (excluding any bumper attachments). If the vehicle is equipped with a nonstock-type bumper the measurement shall be taken from a point not more than five inches (5") below the centerline of the bumper mounting bracket. The bottom of the nonstock-type bumper, however, shall not be higher than the measurements contained in section (4).

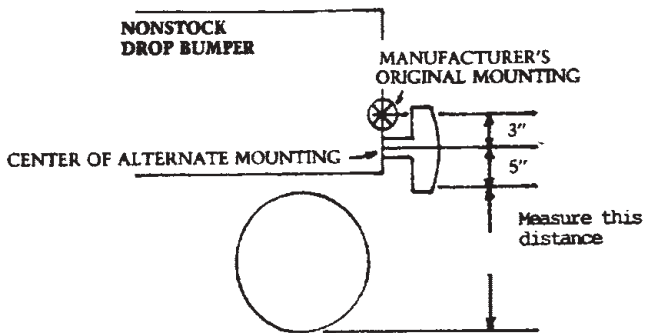
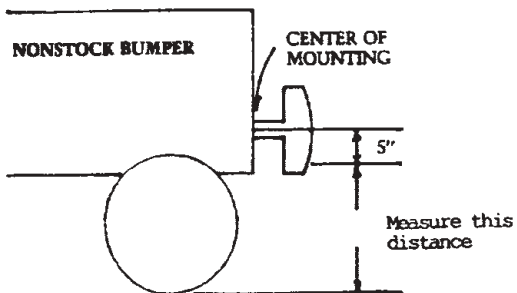
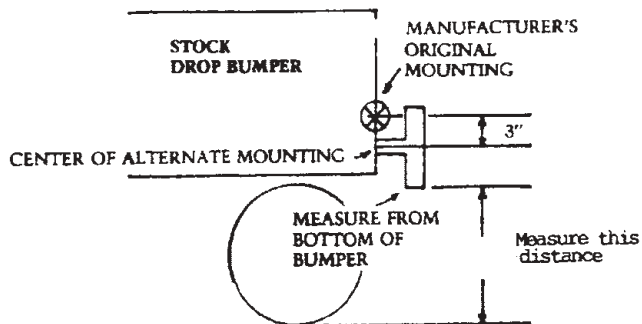
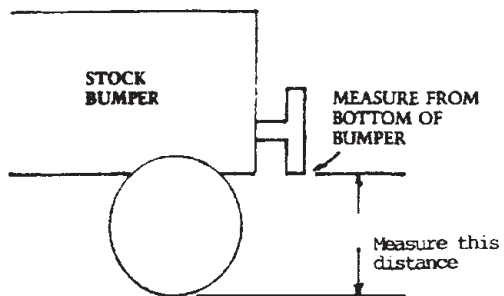
(4) Inspection Procedure. Inspect motor vehicle bumpers for proper bumper height, mounting, construction and presence of bumpers. (Pickup trucks and other commer-



cial vehicles not equipped by the manufacturer with a rear bumper as standard equipment are not required to be equipped with a rear bumper.) Vehicle design will determine how a vehicle is classified. Passenger cars and station wagons which are designed and manufactured solely as passenger vehicles will be classified as motor vehicles, except commercial motor vehicles, and must comply with the twenty-two inch (22") maximum bumper height. Motor vehicles designed as multi-purpose or utility vehicles, including Broncos, Blazers, Suburbans, Jeeps, vans, mini-vans, pickups and mini-pickups, will be considered as commercial motor vehicles. The Gross Vehicle Weight Rating (GVWR) of these vehicles will determine the maximum bumper height as specified in the statute. The following chart depicts various bumper configurations and correct locations to measure:



**MAXIMUM BUMPER HEIGHTS**  
(NOT TO SCALE)







The following bumper heights apply to motor vehicles with a GVWR up through nine thousand pounds (9000 lbs.):

	Maximum Front Bumper Height	Maximum Rear Bumper Height
Motor vehicles except commercial motor vehicles	22 inches	22 inches
Commercial motor vehicles (GVWR)		
4500 lbs. and under	24 inches	26 inches
4501 lbs.-7500 lbs	27 inches	29 inches
7501 lbs.-9000 lbs	28 inches	30 inches

A motor vehicle will not be rejected for improper height if the motor vehicle was originally equipped by the manufacturer with a bumper that exceeds the stated heights or if the motor vehicle was originally equipped by the manufacturer with a bumper that fails to comply with subsection (1)(A).

(A) Reject vehicle if:

1. The bumper height exceeds the limit stated for the weight category of the motor vehicle;
2. Bumper is not constructed of metal, wood or other durable material and of equal strength to a stock bumper;
3. Bumper is improperly mounted; or
4. Motor vehicle is not equipped with required bumper(s).

*AUTHORITY: section 307.172.2, RSMo 1994. \* Emergency rule filed July 23, 1986, effective Aug. 13, 1986, expired Dec. 11, 1986. Original rule filed July 23, 1986, effective Oct. 27, 1986. Amended: Filed Aug. 28, 1987, effective Nov. 23, 1987. Amended: Filed Feb. 3, 1988, effective May 12, 1988. Amended: Filed May 9, 1989, effective Aug. 11, 1989.*

*\*Original authority: 307.172.2, RSMo 1973, amended 1986, 1987.*

**11 CSR 50-2.320 School Bus Inspection**

*PURPOSE: This rule describes the procedures and standards for the inspection of school buses. The inspection of school buses is a requirement of section 307.375, RSMo.*

(1) The standards and procedures prescribed for the inspection of a motor vehicle as set out in the rules of the Motor Vehicle Inspection Division, shall apply to Types A-D school buses. In addition, the items listed in this rule will be inspected on all school buses.

(2) Lighting Equipment and Signalling Devices.

(A) Clearance and Side Marker Lamps. School buses shall be equipped with clearance and side marker lamps, except school buses less than eighty inches (80") in width.

1. Two (2) amber clearance lamps on the front and two (2) red clearance lamps on the rear. Clearance lamps shall be mounted one (1) at each side and as far as practical to indicate the width and height of the vehicle. Clearance lamps may be connected to headlamp switch.

2. One (1) amber side marker lamp located on each side at or near the front and one (1) red side marker lamp located on each side at or near the rear. Side marker lamps may be in combination with the clearance lamps.

(B) Identification Lamps. School buses shall be equipped with identification lamps, except school buses less than eighty inches (80") in width. Three (3) red lamps shall be mounted in the center rear body and three (3) amber lamps in center front of body. Lamps shall be mounted on the roof and centered in a cluster. Lamps may be connected to headlamp switch.

(C) Intermediate Side Marker Lamps. School buses manufactured after July 1972, and over thirty feet (30') in length shall be equipped with an intermediate side marker lamp. One (1) amber side marker lamp located on each side between the front and rear marker lamps. Lamps may be connected to the headlamp switch.

(D) Stop/Taillights. Types A2, B, C and D school buses shall be equipped with two (2) red stoplights seven inches (7") in diameter (prior to December 1988, six inches (6") in diameter), or if a shape other than round, a minimum of thirty-eight (38) square inches of illuminated area and two (2) red stop/taillights four inches (4") in diameter, or if a shape other than round, a minimum of twelve (12) square inches of illuminated area. The four-inch (4") stop/taillights shall operate in combination with the seven-inch (7") stoplights on school buses manufactured after December 31, 1988, when the service brake is applied. All stop/taillights must operate if so equipped. Type A1 buses with bodies supplied by chassis manufacturer may have manufacturer's standard stop and tail lamps.

(E) Turn Signals. Type B, C and D school buses manufactured prior to January 1, 1993, shall be equipped with turn signals as originally equipped by the manufacturer. Type B, C and D school buses manufactured after January 1, 1993, shall be equipped with front and rear flashing turn signals amber in color at least seven inches (7") in diameter or if a shape other than round, a minimum of thirty-eight (38) square inches of illuminated area is

required. Type A conversion vehicles must be equipped with front and rear turn signal lamps providing twenty-one (21) square inches of illuminated area in the manufacturer's standard color. If a school bus is equipped with side mounted turn signals, each must operate as intended.

(F) Front and Rear Red Warning Flashers. School buses shall be equipped with two (2) seal-beam alternately flashing red lights and two (2) seal-beam alternately flashing amber lights on the front and rear of the vehicle. This eight (8)-lamp system shall be controlled by a manually operated switch. Under no circumstances are these lamps to be connected with the braking system. Lamps must flash at a rate of sixty to one hundred twenty (60-120) cycles per minute. The "on" cycle shall be long enough to permit the filament to come up to full brightness. The lens of each alternately flashing signalling lamp shall be at least five inches (5") in diameter. The area extending outward approximately three inches (3") from each lens shall be painted black.

(G) Stop Signal Arm. School buses shall have a red octagon signal arm, eighteen inches by eighteen inches (18" x 18"), installed on the left outside of the body with the word STOP plainly displayed. The signal arm may contain a white border with lettering and background of a reflective material meeting United States Department of Transportation standards. The stop signal arm shall contain either one (1) alternately flashing red lamp at the top and one (1) at the bottom visible to the front and rear or light emitting diodes (LEDS) that flash and spell out the word STOP.

(H) Reflectors. School buses shall be equipped with two (2) red reflectors on the rear as far apart as possible. One (1) red reflector on each side as far to the rear as possible and one (1) amber reflector on each side as far forward as possible. School buses over thirty feet (30') in length shall have one (1) additional amber reflector on each side midway between the front and rear side reflector.

(I) Strobe Light. A school bus may be equipped with no more than one (1) white strobe light that has been approved by the Missouri Department of Public Safety for use on school buses. When a strobe light is mounted on a Type C or D school bus, it shall be mounted on the rear of the rooftop between six and ten feet (6'-10') from the rear end of the bus. On Type A or B school buses, the strobe light shall be mounted as near the midpoint of the roof as practicable, so that its illumination is visible to a motorist approaching the bus from any direction. If the bus is equipped with an emergency roof



hatch, the strobe light shall be mounted behind the rearmost roof hatch.

(J) Observe Function of Lights and Signalling Devices.

1. Reject vehicle if:

A. Not equipped with required lights, reflectors and signalling devices;

B. Any lighting device or reflector is obstructed;

C. Any required light, reflector or signalling device fails to function properly;

D. Any light, reflector or signalling device is not securely mounted;

E. Any light, reflector or signalling device shows a color contrary to these regulations;

F. A lens or reflector is badly broken or if any part is missing or is incorrectly installed; or

G. The strobe light is not mounted as prescribed, is not of the approved type, or white in color.

(3) Lettering and Signs.

(A) School buses shall have on the front and rear or on signs attached to them the words SCHOOL BUS plainly visible in black letters at least eight inches (8") in height. School buses shall have displayed on the rear in plain and distinct black letters the following: STATE LAW: STOP WHILE BUS IS LOADING AND UNLOADING. The letters in the words STATE LAW: STOP shall be at least five inches (5") and the letters in the other words at least three inches (3") in height. District-owned school buses shall display on each side the name and number of the school district in black letters at least three inches (3") in height. Buses manufactured prior to October 1, 1981, may display the school district name and number with national school bus yellow lettering. Privately-owned school buses shall display on each side, in a conspicuous location, the name and address of the owner in black letters at least two inches (2") in height with a stroke of not less than one-quarter of an inch (1/4") wide. Signs or stickers on the rear of the bus not relating to school bus flashing signal lamps, railroad stop procedures or other similar safety messages are prohibited.

(B) A special purpose pictorial sign identifying a school bus for younger pupils, and/or a lettered sign identifying the route, and/or name or school destination in colors other than national school bus yellow and black may be used. When a pictorial or lettered sign is used it shall be mounted below the right front window behind the service door. The sign does not have to be exactly below the right front window as long as it is in the general area. Signs placed below the second

or third window would be acceptable. The sign shall not exceed four hundred thirteen (413) square inches and be attached in a manner that does not pose a safety hazard to pupils. No special purpose pictorial sign or lettered sign may be placed in any school bus window.

(C) Signs that relate to the proper procedure for closing the emergency door may be placed on the emergency door.

(D) Inspect bus for lettering.

(E) Reject vehicle if:

1. Vehicle does not display the proper lettering;

2. Sign is improperly located, incorrect size or poses a safety hazard; or

3. Signs or stickers are non-safety related.

(4) Mirrors.

(A) Interior Mirrors. School buses shall be equipped with an interior rearview mirror. Types B, C and D school buses manufactured after March 1, 1987, shall have an interior mirror at least six inches by thirty inches (6" × 30"). It must be metal backed and framed, with rounded corners and protected edges. Type A school buses manufactured after March 1, 1987, shall be equipped with an interior mirror at least six inches by sixteen inches (6" × 16").

(B) Outside Mirror. Parabolic-type mirrors may be substituted for a double mirror.

1. School buses manufactured before October 1, 1981, shall be equipped with the following mirror configuration as a minimum:



	LH Flat Rearview	LH Convex Rearview	LH Convex Crossview	RH Flat Rearview	RH Convex Crossview	RH Convex Rearview
Type A	X		X*	X		
Type B	X		X*	X		
Type C	X		X*	X		
Type D	X		X*	X		

\*May be mounted on right side.

Flat rearview mirror shall be at least fifty (50) square inches, firmly supported and adjustable.

Convex mirror shall be at least seven and one-half inches (7 1/2") in diameter.

2. School buses manufactured after October 1, 1981, shall be equipped with the following mirror configuration as a minimum:

	LH Flat Rearview	LH Convex Rearview	LH Convex Crossview	RH Flat Rearview	RH Convex Crossview	RH Convex Rearview
Type A	X		X*	X	X**	
Type B	X		X*	X	X**	
Type C	X		X*	X	X**	
Type D	X		X*	X	X**	

\*Convex mirror shall be at least seven and one-half inches (7 1/2") in diameter.

Flat rearview mirror shall be at least fifty (50) square inches, firmly supported and adjustable.

\*\*May be either a single or double mirror, to enable driver to see the right front and side of bus. Each mirror shall be a minimum of thirty-five (35) square inches.

3. School buses manufactured after March 1, 1987, shall be equipped with the following:

	LH Flat Rearview	LH Convex Rearview	LH Convex Crossview	RH Flat Rearview	RH Convex Crossview	RH Convex Rearview
Type A	X	X	X*	X	X**	X
Type B	X	X	X*	X	X**	X
Type C	X	X	X*	X	X**	X
Type D	X	X		X	X**	X

\*Convex mirror shall be at least seven and one-half inches (7 1/2") in diameter.

\*\*May be either a single or double mirror to enable driver to see the right front and side of bus. Each mirror shall be a minimum of thirty-five (35) square inches. Elliptical or hemispherical mirrors may be substituted on a two-for-one basis if indirect visibility requirements are met. Flat rearview mirror shall be at least fifty (50) square inches, firmly supported and adjustable.



(C) Rear Vision Mirror. All school buses manufactured after July 1, 1993, shall be equipped with a mirror system capable of providing a view along the left and right sides of the bus which shall provide the driver with a view of the rear tires at ground level, a minimum distance of two hundred feet (200') to the rear of the bus and at least twelve feet (12') perpendicular to the side of the bus at a distance of thirty-two feet (32') back from the front bumper.

(D) Crossview Mirror System. All school buses manufactured after July 1, 1993, shall be equipped with a crossview mirror system which shall provide the driver with indirect vision of an area at ground level from the front bumper forward and the entire width of the bus to a point where the driver can see by direct vision. The crossview system shall also provide the driver with indirect vision of the area at ground level around the left and right front corners of the bus, to include the tires and service entrance on all types of buses to a point where it overlaps with the rear vision mirror system.

(E) Inspect Mirrors.

(F) Reject vehicle if:

1. Not equipped with required mirrors;
2. A mirror is not mounted on stable support or is improperly mounted; or
3. A mirror is cracked, pitted or clouded to the extent that vision is obscured.

(5) Exhaust System.

(A) School buses shall be equipped with a properly attached exhaust system. The exhaust system shall include the manifold, manifold gasket, flange gasket, exhaust pipe, muffler, supporting hardware and tailpipe. The exhaust system shall be properly insulated from the fuel tank and tank connections by a securely attached metal shield at any point where it is twelve inches (12") or less from the tank or tank connections, except for diesel-powered buses.

(B) The tailpipe shall be constructed of a corrosion-resistant tubing material at least equal in strength and durability to sixteen (16)-gauge steel tubing. The tailpipe shall be of sufficient length to exit at the rear of the bus or at the left side no more than eighteen inches (18") forward of the rear wheel house opening, and shall be flush with or may extend not more than two inches (2") beyond the perimeter of the body or bumper.

(C) Type A and B buses may be equipped with the manufacturer's standard tailpipe.

(D) On Type C and D buses, no exhaust shall exit beneath a fuel fill.

(E) The exhaust system on vehicles equipped with a power lift unit may be routed to the left of the right frame rail for the installation of a power lift unit on the right side of the bus.

(F) Reject vehicle if:

1. A manifold, manifold gasket, flange gasket or a connection of any other component is loose or leaking;

2. Holes are present in the exhaust pipe, muffler, tailpipe or if there are leaking patches or seams (Patches made with an arc or acetylene weld are accepted.);

3. The tailpipe end is pinched or broken off from rear support bracket;

4. Any part of the system is supported by wire or if any component is not securely attached by supporting hardware, such as bolts, brackets, clamps or hangers;

5. The vehicle has no exhaust pipe, muffler or tailpipe;

6. Any part of the system passes through the occupant compartment;

7. The tailpipe fails to discharge exhaust from the rear or left side of vehicle or if it exits beneath a fuel fill on Type C and D buses;

8. The tailpipe of a school bus is not a sixteen (16)-gauge steel or equivalent; or

9. The tailpipe is not flush with or extends more than two inches (2") beyond the perimeter of the body or bumper.

(6) Heating and Defrosting System.

(A) Inspect the heating and defrosting systems for proper operation.

(B) Reject vehicle if:

1. Any part of the heating or defrosting systems fail to function properly or have leakage.

(7) Bumper.

(A) Rear Bumper. Types A2, B, C and D school buses shall be equipped with a rear bumper of pressed steel at least three-sixteenths inch (3/16") thick and eight inches (8") wide (nine and one-half inches (9 1/2") if manufactured after January 1, 1997). The bumper shall wrap around the back corners of the school bus and extend forward at least twelve inches (12"). The bumper shall extend at least one inch (1") beyond the rearmost part of the body surface and shall be properly attached to prevent the hitching of rides. Type A1 school buses may be equipped with the manufacturer's standard rear bumper.

(B) Front Bumper. School buses shall be equipped with a front bumper, which may include an energy absorbing bumper. All school buses manufactured after March 1, 1987, shall be equipped with a front bumper made of pressed steel at least three-sixteenths inch (3/16") thick and not less than eight inches (8") wide, unless using an energy absorbing bumper. Type A buses may be equipped with the manufacturer's standard front bumper.

(C) Inspect the bumpers.

(D) Reject vehicle if:

1. Not equipped with proper bumpers;

2. A bumper is loosely attached; or if a broken or torn portion is protruding, creating a hazard; or if the improper attachment permits the hitching of rides; or

3. The bus is equipped with a trailer hitch or similar device which will permit hitching of rides.

(8) Service Door.

(A) The service door shall be of the split-type, the sedan type or the jack-knife type. The split-type door includes any sectioned door which divides and opens inward or outward. If one (1) section of a split-type door opens inward and the other opens outward, the front section shall open outward. Flexible material must be applied to the vertical closing edges on split-type or folding-type entrance doors, except on Type A buses. On all buses, the service door shall be designed to be operated by the driver, and so designed to prevent accidental opening. When the hand lever is used, no parts shall come together so as to shear or crush fingers.

(B) Reject vehicle if the:

1. Door and opening device do not function properly; or

2. Flexible material on the vertical closing edges of the service door is excessively loose, torn or missing.

(9) Emergency Door(s), Exits and Buzzer.

(A) All school buses shall be equipped with an emergency door or exit located in the rear and may be equipped with additional emergency doors and exits. The emergency door shall be designed to be opened from inside and outside. The device used to open the door from the outside shall be designed to prevent hitching to, but one which permits opening when necessary. The rear emergency door latch shall be equipped with an interior handle that lifts upward to release and all emergency doors and exits shall be equipped with a suitable electric switch connected with a buzzer audible in the driver compartment. The switch shall be installed in a manner that any movement of the slide bar or release mechanism will immediately sound the buzzer. All emergency doors and exits shall be identified by the words EMERGENCY DOOR or EMERGENCY EXIT both inside and outside the bus in letters two inches (2") high. The words EMERGENCY DOOR shall be placed at the top of or directly above the emergency door, or on the door in the metal panel above the top glass both inside and outside the bus. The words EMERGENCY EXIT shall be placed at the top of or directly above or at the bottom of the emergency window exits both inside and outside the bus. The designation for roof exits shall be located on the inside surface of the exit, or within



twelve inches (12") of the roof exit opening. A metal guard shall be placed over the door control on the inside of a rear door. The passageway to the emergency door shall be at least twelve inches (12") wide on all school buses. A lock may be placed on an emergency door or exit. However, the engine starting and operating system must not function if any emergency door or exit is locked from either inside or outside of the bus.

(B) Inspect all emergency door(s) and exits for operation by opening and closing and for proper lettering.

(C) Reject vehicle if:

1. Doors or exits bind or catch when opening;
2. Passageway to the emergency door is blocked or restricted in any way to less than twelve inches (12") in width;
3. Any emergency door or exit release mechanism fails to work properly, from the inside and outside of the bus;
4. Slide bar on Types B, C and D buses has less than one inch (1") stroke length;
5. Emergency door buzzer fails to sound or is not audible in the driver's compartment when the slide bar is moved;
6. Any emergency or roof exit buzzer fails to sound or is not audible in the driver's compartment when the release mechanism is activated;
7. Words EMERGENCY DOOR or EMERGENCY EXIT are not properly displayed; or
8. Bus engine will start with emergency door(s) or exits locked.

(10) Seat Belts.

(A) All school buses shall be equipped with a seat belt for the driver. Seat belt retractors shall be provided on school buses manufactured after January 1, 1973. School buses manufactured after March 1, 1987, equipped with a Type 2 lap belt/shoulder harness seat belt shall be equipped with an emergency locking retractor for the continuous belt system.

(B) Reject vehicle if not equipped with:

1. Operative seat belt; or
2. Proper retractor.

(11) Emergency Equipment.

(A) All school buses must be equipped with a dry chemical or Halon 1211 type fire extinguisher and a first-aid kit. After July 1, 1977, the fire extinguisher must have an Underwriters' Laboratories, Inc. rating of not less than 10-B:C or higher classification. School buses manufactured after March 1, 1987, shall be equipped with a fire extinguisher approved by Underwriters' Laboratories, Inc., with a total rating of 2 A 10-B:C or greater. Both must be mounted in the driver's compartment.

(B) Three (3) red electric lanterns and two (2) red flags or three (3) red emergency reflectors and two (2) red flags or three (3) bidirectional emergency reflective triangles.

(C) Reject vehicle if not equipped with:

1. A proper fire extinguisher which is easily removable and properly charged;
2. A proper first-aid kit; or
3. The proper emergency warning devices.

(12) Seats.

(A) Seats on school buses shall face forward. Buses equipped to accommodate wheelchairs may have longitudinal seating if equipped with restraining devices. School buses manufactured after March 1, 1987, which are equipped to accommodate wheelchairs must have forward facing seats and wheelchair positions. They shall be fastened securely to the school bus body. Jump seats or portable seats are not permitted.

(B) Inspect the seats.

(C) Reject vehicle if:

1. The seat is not fastened securely to the floor;
2. The seat cushions are not properly attached to the seat frame;
3. Any seat has an exposed spring, sharp edge, protruding object or other hazardous condition; or
4. Seats do not face forward.

(13) Step Treads, Aisle Mats or Runners.

(A) Types B, C and D School Buses Only.

1. The surface of step treads shall be of nonskid material. The aisle mats or runners shall be of an aisle-type fire-resistant rubber or equivalent, nonskid, wear-resistant and ribbed. The mats or runners shall be permanently bonded to the floor.

2. Inspect the general condition of step treads at the service door entrance and the general condition of the aisle mats or runners.

3. Reject vehicle if the:

A. Treads on the steps are not of nonskid material or if the surface material is loose; or

B. Mats or runners are loose, torn or curled.

(B) Type A School Buses Only.

1. Type A school buses need only be equipped with the manufacturer's original equipment as far as step treads, aisle mats or runners are concerned.

2. Reject vehicle if:

A. Not as originally equipped.

(14) Hand Hold Grips and Handrails.

(A) Inspect the hand grips.

(B) Inspect the handrails for proper clearance by drawing a one-half inch (1/2") hex nut with a one-eighth inch (1/8") drawstring

between the mounting points of the handrail and bus body.

(C) Reject vehicle if:

1. The hand hold grips are missing, damaged or not securely mounted; or

2. If the one-half inch (1/2") hex nut attached to one (1) end of a one-eighth inch (1/8") drawstring catches on the handrail and lodges between the handrail mounted bracket and the sheet metal body of the bus or the drawstring catches during the handrail test.

(15) Color.

(A) The school bus body shall be painted a uniform national school bus yellow, except the roof which may be white and the flat top surface of the hood which may be non-reflective black. The body exterior paint trim, bumper and lettering shall be black.

1. Reject vehicle if:

A. Any part of the bus body or lettering is the wrong color.

(B) The chassis grille shall be national school bus yellow, black, white or chrome. Reflective material meeting Federal Highway Administration standards may be installed on the front or rear bumper, or both rear of bus body, school bus lettering, sides of bus and stop arm.

1. Reject vehicle if:

A. Any portion of vehicle or reflective material is of the wrong color.

(16) Fuel Systems.

(A) Inspect the fuel tank(s), fuel lines and connections, filler tube and filler tube cap on gasoline or diesel fueled vehicles.

(B) Reject vehicle if:

1. Fuel tank(s) is not securely attached;

2. Filler tube cap is missing or does not fit; or

3. There is fuel leakage at any location.

(C) Inspect compressed fuel systems or the liquefied petroleum gas (LPG) system.

(D) Reject vehicle if:

1. Fuel tank(s) is not securely attached to the outside of the frame rail by a system other than welding. If saddle clamps are used, on buses after December 31, 1989, either at the time of assembly or replacement, each tank must be attached with a minimum of two (2) clamps which are a minimum of three-eighths inch by two inch (3/8" × 2") steel;

2. The safety relief venting system is absent, damaged or designed so that escaping gas is directed other than upwards within forty-five degrees (45°) of the vertical (outside the bus body);

3. The safety relief venting system does not have a functional pressure sensitive closing device (cap);

4. The fuel tank(s) or any part of the fuel system is the lowest point of the vehicle;



5. There are leaks at any location; or  
6. There is no Missouri Department of Agriculture decal on LPG systems.

## (17) Steering.

(A) Inspect for power steering.  
(B) Reject any school bus manufactured after March 1, 1987, which is not equipped with power steering.

## (18) Tires.

(A) Inspect all school bus tires except the spare tire for knots, exposed cord, tread depth and proper size or type.

(B) Inspect Type A2, B, C, or D school bus for dual rear tires.

(C) Inspect all school buses for regrooved, recapped or retreaded tires on front wheels.

(D) Inspect all school bus tires for same size and type on a given axle.

(E) Reject any school bus if:

1. Any tire has knots or exposed cord;
2. The tread depth is less than four-thirty-seconds inch (4/32") for the front tires or less than two-thirty-seconds inch (2/32") of the rear tires when measured in any two (2) adjacent major grooves at three (3) locations equally spaced around the outside of the tire;
3. A Type A2, B, C or D school bus is not equipped with dual rear tires;
4. Regrooved, recapped or retreaded tires are used on the front wheels; or
5. The tires on a given axle are of a different size or type.

## (19) Glazing.

(A) Inspect the glazing.  
(B) Reject any school bus that has outright breakage of glass at any location.

## (20) Crossing Arm.

(A) After August 1, 1998, every school bus operated to transport students in the public school system, which has a gross vehicle weight rating (GVWR) of more than ten thousand (10,000) pounds, the engine mounted entirely in front of the windshield and the entrance door behind the front wheels shall be equipped with a crossing control arm. The arm shall be constructed of noncorrosive and nonferrous material, mounted on the right side of the front bumper of the bus, extending a minimum sixty-six inches (66") when extended and activated by the same controls which activate the mechanical and electrical signalling devices.

(B) Inspect the crossing arm.

(C) Reject the vehicle if:

1. Bus is not equipped as required;
2. Arm is not constructed of a noncorrosive or nonferrous material;
3. Arm is not mounted in the proper location;

4. Arm does not extend as close to perpendicular to the bumper as possible when opened;

5. Arm has sharp edges or projections that could cause hazard or injury to students;

6. Arm does not extend a minimum of sixty-six inches (66") when fully extended;

7. Arm does not operate properly when the stop signal arm and overhead warning flashers are activated; or

8. The manual bypass switch allows for more than one override of the system's functions.

## (21) Side Windows.

(A) All full side windows must be capable of opening at least nine inches (9").

(B) Inspect all full side windows to ensure ability to open.

(C) Reject any school bus if any side window is not capable of opening.

(22) Out-of-Service Criteria. The following items will result in buses being put out-of-service until needed repairs are made. These criteria will be used only by Missouri State Highway Patrol personnel and are not applicable at official inspection stations:

(A) If there is a major exhaust leak in the exhaust system which dumps exhaust in front of the rear axle;

(B) If there are major steering or suspension defects;

(C) If there are major brake defects;

(D) If the stop signal arm is inoperative;

(E) If the front or rear tires have knots or exposed cord or the tread depth is less than four-thirty-seconds inch (4/32") on the front tires or less than two-thirty-seconds inch (2/32") on the rear tires when measured in any two (2) major grooves at three (3) locations spaced approximately equally around the outside of the tire;

(F) If any emergency door is inoperable from either the inside or outside or any other emergency exit fails to open;

(G) If the red overhead warning flashers are inoperative;

(H) If the one-half inch (1/2") hex nut attached to one (1) end of a one-eighth inch (1/8") drawstring catches on the handrail and lodges between the handrail mounting bracket and the sheet metal body of the bus or the drawstring catches during the handrail drawstring test;

(I) If not equipped with crossing arm as required or if the crossing arm does not operate when the stop signal arm and overhead warning flashers are activated; or

(J) If fuel is leaking from any part of the fuel system.

*AUTHORITY: sections 307.360.2, RSMo 2000 and 307.375, RSMo Supp. 2003. \* Original rule filed Nov. 4, 1968, effective Nov. 14, 1968. Amended: Filed July 29, 1969, effective Aug. 8, 1969. Amended: Filed March 9, 1970, effective March 19, 1970. Amended: Filed Nov. 9, 1971, effective Nov. 19, 1971. Amended: Filed Aug. 17, 1972, effective Aug. 27, 1972. Amended: Filed May 21, 1974, effective May 31, 1974. Amended: Filed Feb. 26, 1975, effective March 8, 1975. Amended: Filed Dec. 1, 1975, effective Dec. 11, 1975. Amended: Filed July 1, 1976, effective Oct. 11, 1976. Amended: Filed Sept. 14, 1978, effective Dec. 11, 1978. Amended: Filed Sept. 12, 1980, effective Dec. 11, 1980. Amended: Filed Jan. 12, 1982, effective April 11, 1982. Amended: Filed Aug. 14, 1987, effective Nov. 12, 1987. Amended: Filed July 27, 1988, effective Oct. 27, 1988. Amended: Filed Jan. 1, 1989, effective April 27, 1989. Amended: Filed Aug. 30, 1989, effective Nov. 26, 1989. Amended: Filed April 2, 1992, effective Sept. 6, 1992. Amended: Filed June 2, 1993, effective Nov. 8, 1993. Amended: Filed Oct. 3, 1994, effective April 30, 1995. Emergency rescission filed Jan. 28, 1997, effective Feb. 7, 1997, expired Aug. 1, 1997. Emergency rule filed Jan. 17, 1997, effective Feb. 3, 1997, expired Aug. 1, 1997. Rescinded and readopted: Filed Jan. 17, 1997, effective July 30, 1997. Emergency amendment filed July 14, 1998, effective Aug. 1, 1998, expired Feb. 25, 1999. Amended: Filed July 14, 1998, effective Jan. 30, 1999. Amended: Filed March 15, 1999, effective Sept. 30, 1999. Amended: Filed Feb. 1, 2000, effective July 30, 2000. Amended: Filed Sept. 15, 2000, effective March 30, 2001. Emergency amendment filed Nov. 1, 2001, effective Feb. 1, 2002, expired May 31, 2002. Amended: Filed Nov. 1, 2001, effective April 30, 2002. Amended: Filed Sept. 15, 2003, effective March 30, 2004.*

*\*Original authority: 307.360, RSMo 1967, amended 1971, 1973, 1979, 1999; and 307.375, RSMo 1967, amended 1971, 1975, 1976, 1997, 1999, 2001.*

**11 CSR 50-2.321 Special Education Buses**

*PURPOSE: This rule establishes inspection standards for the inspection of power lifts, ramps, aisles, restraint systems, special service entrance doors and identification on special education school buses.*

(1) Power Lift.



(A) Power lift shall be located on the right side of the bus body within the perimeter of bus body and in no way attached to the outside of the bus.

(B) Lift must be equipped with controls to allow operation of the lift from either the inside or outside of the bus. Buses manufactured after October 1, 1981, must be equipped with a mechanism to allow for manual manipulation in the event of a power failure or a single component mechanical failure.

(C) Lift platform shall be fitted with full-width shields and restraining device(s) on the outer (curb) edge.

(D) School buses manufactured after March 1, 1987, equipped to accommodate individuals with special transportation needs must have a lift opening and platform sufficient to accommodate a thirty-inch (30") wheelchair.

(E) Inspect the power lift for proper location, attachment and operation.

(F) Reject vehicle if:

1. Lift is not in proper location or attached properly;
2. Not equipped with a mechanism that allows for at least one (1) manual operation;
3. Shields or restraining devices are not fitted on lift; or
4. Lift opening and platform are not of sufficient width.

(2) Ramps. Type A school buses may be equipped with a ramp in place of the power lift. Ramps shall be of sufficient strength and be equipped with handles and a protective flange on each longitudinal side.

(A) Reject vehicle if:

1. Ramp is not equipped with handles and protective flange.

(3) Aisles. On buses manufactured after October 1, 1981, the aisle leading to the emergency door from the wheelchair area shall be at least thirty inches (30") wide to permit passage of a maximum size wheelchair.

(A) Reject vehicle if:

1. Aisles are not of sufficient width.

(4) Restraint Systems.

(A) School buses manufactured after March 1, 1987, designed to transport individuals with special transportation needs shall contain wheelchair securement devices attached to the floor or walls, or both, to allow securement of wheelchairs in a forward facing position. These devices must require human intervention to unlatch or disengage and contain tightening clamps on front and rear assemblies.

(B) School buses designed to accommodate individuals with special transportation needs shall contain a system of positive occupant restraint that secures the occupant.

(C) Reject vehicle if:

1. Proper restraining devices are not installed.

(5) Special Service Entrance Doors.

(A) Doors on 1981 and later models shall be equipped with a device that will actuate an audible or flashing signal located in the driver's compartment when doors are not securely closed and ignition is on.

(B) A switch shall be installed so that the lifting mechanism will not operate when the lift platform doors are closed.

(C) Reject vehicle if not equipped with:

1. Warning signal; or
2. The proper switch.

(6) Identification.

(A) Buses with power lifts used for transporting children with physical disabilities may display the universal handicap symbols below the window line. The emblem shall meet United States Department of Transportation standards.

(B) Reject vehicle if:

1. Symbols are improperly displayed; or
2. Symbols are incorrect size.

*AUTHORITY: sections 307.360.2, RSMo 2000 and 307.375, RSMo Supp. 2001. \* Original rule filed Aug. 18, 1987, effective Nov. 12, 1987. Amended: Filed Aug. 30, 1989, effective Nov. 26, 1989. Amended: Filed June 2, 1993, effective Nov. 8, 1993. Emergency rescission and rule filed Oct. 1, 1997, effective Nov. 2, 1997, expired April 30, 1998. Rescinded and readopted: Filed Oct. 1, 1997, effective March 30, 1998. Amended: Filed July 14, 1998, effective Jan. 30, 1999. Amended: Filed Nov. 1, 2001, effective April 30, 2002.*

*\*Original authority: 307.360.2., RSMo 1967, amended 1971, 1973, 1979, 1999 and 307.375, RSMo 1967, amended 1971, 1975, 1976, 1997, 1999, 2001.*

**11 CSR 50-2.330 Motorcycle Inspection**

*PURPOSE: This rule lists the specific inspection standards and procedures for the inspection of motorcycles and motor tricycles. These standards are necessary because of difference in vehicle design and different tolerances involved.*

(1) This section of the inspection manual contains procedures which shall be followed

when inspecting motorcycles and motor tricycles.

(A) Brakes.

1. Brake efficiency shall be determined by operating the vehicle on the inspection station's premises. This test may be conducted either by the inspector/mechanic or by the vehicle owner with the inspector/mechanic observing. Brakes must be installed and in operating condition on each wheel if originally equipped by the manufacturer.

2. Apply each brake control separately while vehicle is in motion, apply moderate force to brakes for one (1) minute; inspect wheel and master cylinder for leakage if equipped with hydraulic brakes; inspect master cylinder for fluid level if equipped with hydraulic brakes; inspect brake hoses or tubing for broken, flattened or restricted sections and improper support; inspect brake rods or cables for wear and proper adjustment.

3. Reject vehicle if:

- A. Any brake fails to indicate braking action;
- B. Not equipped with required brakes;
- C. Brake pedal height cannot be maintained for one (1) minute, leakage is indicated;
- D. Less than one-third (1/3) of the pedal reserve remains;
- E. Pedal fails to return to the fully released position after application;
- F. Wheel or master cylinder leaks;
- G. Fluid level in the master cylinder is below the level recommended by the manufacturer;
- H. Brake hose is broken or restricted and if hose is not supported to prevent damage by rubbing with the frame or other components;
- I. Brake cable is badly frayed or if rod, clevises and couplings are badly worn;
- J. Any pins, springs or other mechanical parts are missing, defective or badly worn; or
- K. Brake rods or cables are not adjusted properly.

(B) Lighting Equipment.

1. Headlights. Every vehicle shall be equipped with at least one (1) and not more than two (2) headlights. A headlight shall exhibit light substantially white in color. A motorcycle equipped with a sidecar or other attachment shall be equipped with a light on the outside limit of the attachment capable of displaying a white light to the front.

2. Taillights and reflectors. Every vehicle shall be equipped with at least one (1) red taillight and at least one (1) red reflector. Any vehicle with two (2) rear wheels shall be equipped with at least two (2) red taillights



and two (2) red reflectors. A reflector may be part of the taillight or it may be separate. The taillight shall be mounted at a height of not more than seventy-two inches (72") nor less than fifteen inches (15") above the ground. The reflector shall be mounted at a height not greater than sixty inches (60") nor less than fifteen inches (15") above the ground.

3. Signalling devices. If the vehicle is equipped with turn signals and a stoplight, all must operate.

4. Inspect lighting equipment, reflectors and signalling devices.

5. Reject vehicle if:

A. Not equipped with required headlight, taillights or reflectors;

B. A headlight has reflector deterioration;

C. A lens is badly broken, missing, incorrectly installed or repaired with tape;

D. Any light fails to function properly;

E. Any light or reflector is not securely mounted or shows a color contrary to law;

F. Beam indicator or dimmer switch, if so equipped, fails to operate properly; or

G. A taillight or reflector is not mounted in the prescribed area.

(C) Steering Mechanisms.

1. Inspect to determine the condition of the frame, fork, steering head bearing, handlebars and front and rear wheel tracking. Check wheel bearings by elevating and rotating each wheel. Inspect condition of grease retainers. If equipped by the manufacturer, actuate front and rear shock absorbers.

2. Reject vehicle if:

A. Frame or fork is bent, broken or wheels are out of line where it affects the steering and control;

B. Loose, defective or worn components in steering head bearing;

C. Handlebars are loose, bent, broken or damaged where it affects proper steering;

D. Any portion of the handlebars extend over fifteen inches (15") in height above the normal riding position unless originally equipped by the motorcycle manufacturer;

E. Wheel bearings have excessive horizontal movement or, when rotated, unusual noise exists;

F. Grease retainer is defective; or

G. A shock absorber is disconnected, broken, bent or missing.

(D) Tires and Wheels.

1. Inspect tires for tread wear, cord exposure, knots, cuts, tread separation and condition of wheel and rims.

2. Reject vehicle if:

A. Any tire is worn at any one (1) point where there is no tread design across half of the tire tread;

B. Tire has an exposed cord, bulge or knot;

C. A tire is marked reject, rejected, not for highway use, farm use only, for non-highway use, for race track use only or marked with similar terms, or if determined beyond a reasonable doubt that these markings have been removed. This does not include tires labeled with the word blemish;

D. A wheel has any loose, missing or defective bolts, nuts, lugs or spokes;

E. A wheel is damaged or defective;

or  
F. Any wheel wobbles more than three-sixteenths inch (3/16").

(E) Horn.

1. Every vehicle shall be equipped with a horn, in good working order and capable of emitting a sound adequate in quantity and volume to give warning of the approach of the vehicle to other users of the highway.

2. Determine if horn is securely fastened, audible and if electrical connections are properly grounded.

3. Reject vehicle if:

A. Vehicle is not equipped with a horn;

B. Horn is not audible under normal conditions;

C. Horn is not firmly mounted; or

D. Horn is actuated by grounding two (2) naked wires or a similar method. Defective wiring or electrical connections.

(F) Muffler and Exhaust System.

1. The motor shall be fitted with a properly attached muffler.

2. Inspect condition of muffler and exhaust pipe. If the vehicle is equipped with a dual exhaust system, both must be examined.

3. Inspect supporting hardware, attachments and brackets. Exhaust system must be securely attached at the cylinder head, manifold and to the frame at or near the place where the exhaust pipe attaches to the muffler.

4. Reject vehicle if:

A. Not equipped with a muffler;

B. Muffler or exhaust pipe has holes, loose joints or leaking seams. Only patches made with an arc or acetylene weld will be permitted;

C. Exhaust system components are not securely fastened;

D. Tailpipe is not securely fastened to the muffler; or

E. A modified high rise tailpipe is positioned so it could easily burn the operator.

(G) Glazing (Glass).

1. If equipped with a windshield, it must provide a clear vision of the road ahead.

2. Reject vehicle:

A. If the windshield is cracked, scarred or defaced to the extent that it does not provide a clear vision.

(H) Fuel System.

1. Inspect the fuel tank(s), fuel lines and connections and filler cap.

2. Reject vehicle if:

A. There is fuel leakage at any location;

B. Fuel tank is not securely attached;

or  
C. Filler cap is missing or does not fit.

(I) Air Pollution Control Devices.

1. Inspect all 1995 and later models for air pollution devices installed by the manufacturer.

2. Reject any vehicle if:

A. Any part of the system(s) is missing, modified, disconnected, broken, bypassed or rendered inoperative in any way;

B. A replacement catalytic converter is not one approved by the United State Environmental Protection Agency; or

C. A replacement engine is not equivalent to the certified configuration of the engine-chassis.

*AUTHORITY: section 307.360, RSMo 1994. \* Original rule filed Nov. 4, 1968, effective Nov. 14, 1968. Amended: Filed March 9, 1970, effective March 19, 1970. Amended: Filed Aug. 13, 1970, effective Aug. 23, 1970. Amended: Filed Nov. 9, 1971, effective Nov. 19, 1971. Amended: Filed May 21, 1974, effective May 31, 1974. Amended: Filed Feb. 26, 1975, effective March 8, 1975. Amended: Filed July 1, 1976, effective Oct. 11, 1976. Amended: Filed July 14, 1982, effective Oct. 11, 1982. Amended: Filed April 2, 1992, effective Sept. 6, 1992. Amended: Filed June 2, 1993, effective Nov. 8, 1993. Amended: Filed Oct. 3, 1994, effective April 30, 1995. Emergency rescission and rule filed Oct. 1, 1997, effective Nov. 2, 1997, expired April 30, 1998. Rescinded and readopted: Filed Oct. 1, 1997, effective March 30, 1998. Amended: Filed Sept. 15, 2000, effective March 30, 2001.*

*\*Original authority: 307.360, RSMo 1967, amended 1971, 1973, 1979, 1999.*

#### 11 CSR 50-2.340 Off-Highway Use Vehicles (ATV-OHV)

*PURPOSE: This rule provides inspection standards for vehicles which are classified as*





either all-terrain vehicles or off-highway use vehicles with four or more wheels. These standards and procedures are necessary because these vehicles present special problems during inspection.

(1) Vehicles which are designed and primarily intended by the manufacturer for off-highway use are commonly referred to as all-terrain vehicles (ATV) or off-highway vehicles (OHV). These vehicles, when operated as intended and for which designed, need not be inspected. If operated on a public highway, however, these vehicles must be inspected and registered as passenger vehicles or motor tricycles.

(2) The inspection standards and procedures which are to be followed will be the same as those prescribed for identified items for all other motor vehicles, except a brake performance test will be required to check the service brakes of these vehicles instead of pulling a wheel to inspect the condition of a brake and 1967 and earlier models with less than fifty (50) cubic inch internal combustion engines do not require emissions components.

(3) The following items of vehicular equipment are optional, but if equipped with these items, the following will apply:

(A) Signalling Devices. If equipped with turn signals and a stop light, both must function properly and have properly installed lenses;

(B) Springs and Shock Absorbers. If equipped by the manufacturer with springs and shock absorbers, both shall be properly installed;

(C) Glazing. If glass is installed at any location, the established glazing standard shall apply; and

(D) Windshield Wipers. If equipped with a windshield, a properly operating windshield wiper must be installed on the driver's side and it must comply with the standards prescribed for all vehicles.

*AUTHORITY: section 307.360, RSMo 2000.\* Original rule filed Nov. 9, 1971, effective Nov. 19, 1971. Amended: Filed May 21, 1974, effective May 31, 1974. Amended: Filed July 1, 1976, effective Oct. 11, 1976. Amended: Filed Sept. 1, 1977, effective Dec. 11, 1977. Amended: Filed Aug. 26, 1985, effective Nov. 28, 1985. Amended: Filed April 2, 1992, effective Sept. 6, 1992. Emergency rescission and rule filed Oct. 1, 1997, effective Nov. 2, 1997, expired April 30, 1998. Rescinded and readopted: Filed Oct. 1, 1997, effective March 30, 1998. Amended:*

*Filed Sept. 15, 2003, effective March 30, 2004.*

*\*Original authority: 307.360, RSMo 1967, amended 1971, 1973, 1979, 1999.*

#### **11 CSR 50-2.350 Applicability of Motor Vehicle Emission Inspection** (Rescinded April 30, 2000)

*AUTHORITY: section 307.366, RSMo 1994. Original rule filed Aug. 4, 1983, effective Nov. 11, 1983. Emergency amendment filed Dec. 22, 1983, effective Jan. 6, 1984, expired May 5, 1984. Amended: Filed Jan. 13, 1984, effective April 12, 1984. Emergency amendment filed Jan. 23, 1984, effective Feb. 3, 1984, expired May 25, 1984. Amended: Filed Feb. 10, 1984, effective May 11, 1984. Amended: Filed Sept. 12, 1984, effective Jan. 1, 1985. Emergency amendment filed Aug. 3, 1992, effective Aug. 28, 1992, expired Dec. 25, 1992. Emergency amendment filed Nov. 2, 1992, effective Dec. 26, 1992, expired April 24, 1993. Amended: Filed Aug. 3, 1992, effective Feb. 26, 1993. Emergency rescission filed Nov. 1, 1999, effective Jan. 1, 2000, expired June 28, 2000. Rescinded: Filed Nov. 1, 1999, effective April 30, 2000.*

#### **11 CSR 50-2.360 Emission Fee** (Rescinded April 30, 2000)

*AUTHORITY: section 307.366, RSMo 1994. Original rule filed Aug. 4, 1983, effective Nov. 11, 1983. Emergency amendment filed Aug. 3, 1992, effective Aug. 28, 1992, expired Dec. 25, 1992. Emergency amendment filed Nov. 2, 1992, effective Dec. 26, 1992, expired April 24, 1993. Amended: Filed Aug. 3, 1992, effective Feb. 26, 1993. Emergency rescission filed Nov. 1, 1999, effective Jan. 1, 2000, expired June 28, 2000. Rescinded: Filed Nov. 1, 1999, effective April 30, 2000.*

#### **11 CSR 50-2.370 Inspection Station Licensing** (Rescinded April 30, 2000)

*AUTHORITY: section 307.366, RSMo 1994. Original rule filed Aug. 4, 1983, effective Nov. 11, 1983. Amended: Filed Sept. 12, 1984, effective Jan. 1, 1985. Amended: Filed April 2, 1987, effective June 25, 1987. Amended: Filed May 31, 1990, effective Dec. 31, 1990. Emergency rescission filed Nov. 1, 1999, effective Jan. 1, 2000, expired June 28, 2000. Rescinded: Filed Nov. 1, 1999, effective April 30, 2000.*

#### **11 CSR 50-2.380 Inspector/Mechanic Licensing**

(Rescinded April 30, 2000)

*AUTHORITY: section 307.366, RSMo 1994. Original rule filed Aug. 4, 1983, effective Nov. 11, 1983. Amended: Filed April 2, 1992, effective Sept. 6, 1992. Amended: Filed June 2, 1993, effective Nov. 8, 1993. Emergency rescission filed Nov. 1, 1999, effective Jan. 1, 2000, expired June 28, 2000. Rescinded: Filed Nov. 1, 1999, effective April 30, 2000.*

#### **11 CSR 50-2.390 Safety/Emission Stickers** (Rescinded April 30, 2000)

*AUTHORITY: section 307.366, RSMo 1994. Original rule filed Aug. 4, 1983, effective Nov. 11, 1983. Amended: Filed Aug. 14, 1987, effective Nov. 12, 1987. Emergency amendment filed Aug. 3, 1992, effective Aug. 28, 1992, expired Dec. 25, 1992. Emergency amendment filed Nov. 2, 1992, effective Dec. 26, 1992, expired April 24, 1993. Amended: Filed Aug. 3, 1992, effective Feb. 26, 1993. Amended: Filed Oct. 3, 1994, effective April 30, 1995. Emergency rescission filed Nov. 1, 1999, effective Jan. 1, 2000, expired June 28, 2000. Rescinded: Filed Nov. 1, 1999, effective April 30, 2000.*

#### **11 CSR 50-2.400 Emission Test Procedures**

*PURPOSE: This rule enacts the provisions of section 307.366, RSMo by describing the specifications of the inspection and maintenance program in order to reduce vehicle emissions in the St. Louis ozone nonattainment area.*

*PUBLISHER'S NOTE: The publication of the full text of the material that the adopting agency has adopted by reference in this rule would be unduly cumbersome or expensive. Therefore, the full text of that material will be made available to any interested person at both the Office of the Secretary of State and the office of the adopting agency, pursuant to section 536.031.4, RSMo. Such material will be provided at the cost established by state law.*

(1) Definitions.

(A) Definitions for key words used in this rule may be found in 11 CSR 50-2.010.

(B) Additional definitions specific to this rule are as follows:

1. Contractor—The state contracted company who shall implement and operate



the motor vehicle emissions inspection program;

2. Control chart—Statistical method of showing graphically, determining, forecasting, and maintaining performance conditions and parameters in the pursuit of appropriate quality control;

3. DNR—The Department of Natural Resources;

4. Gross vehicle weight rating (GVWR)—The value specified by the manufacturer as the maximum design loaded weight of a single vehicle;

5. Initial inspection—An inspection consisting of the test series that occurs the first time a vehicle is inspected in an inspection cycle. The required test fee is collected upon an initial inspection;

6. Light duty truck (LDT)—Any motor vehicle rated at eight thousand five hundred (8,500) pounds GVWR or less which has a vehicle curb weight of six thousand (6,000) pounds or less and which has a basic vehicle frontal area of forty-five (45) square feet or less, which is: designed primarily for purposes of transportation of property or is a derivation of such a vehicle; or designed primarily for transportation of persons and has a capacity of more than twelve (12) persons; or available with special features enabling off-street or off-highway operation and use;

7. Light duty vehicle (LDV)—A passenger car or passenger car derivative capable of seating twelve (12) passengers or less;

8. Qualifying repair—Any repair or adjustment performed on a vehicle's emission control system after failing an emissions inspection, that is appropriate to the test failure. Qualifying repairs shall include the repair or adjustment of emission control devices such that the requirements of parts (3)(H)1.B.(III)–(3)(H)1.B.(X) of this rule are satisfied;

9. Qualified repair technician—any person who—

A. Is professionally engaged in vehicle repair or employed by an ongoing business whose purpose is vehicle repair; and

B. Has valid certifications in National Institute for Automotive Service Excellence (ASE) Electrical Systems (A6) and Engine Performance (A8);

10. Steady state emission test—an engine exhaust emissions test in which the engine of a vehicle remains at a relatively uniform number of revolutions per minute; and

11. Unsafe condition—the mechanical and physical condition of a motor vehicle which an emissions inspector believes has the potential to cause harm to persons or proper-

ty during the course of an emissions inspection.

(2) Applicability.

(A) Except as provided in subsection (2)(B) of this rule, subject vehicles include all vehicles operated on public roadways in the geographical area contained in the county of Franklin which are:

1. Registered in the area with the state of Missouri Department of Revenue;

2. Leased, rented, or privately owned and are not registered in the geographical area but are primarily operated in the area;

3. Owned or leased by federal, state, or local government agencies, and are primarily operated in the geographical area, but are not required to be registered by the state of Missouri; or

4. Owned, leased, or operated by civilian and military personnel on federal installations located within the geographical area, regardless of where the vehicles are registered.

(B) The following vehicles are exempt from this rule:

1. Motor vehicles with a manufacturer's GVWR in excess of eight thousand five hundred (8,500) pounds;

2. Motorcycles and motor tricycles;

3. Model-year vehicles prior to 1971;

4. School buses;

5. Diesel-powered vehicles;

6. New motor vehicles not previously titled or registered, prior to the initial motor vehicle registration or the next succeeding registration which is required by law; and

7. Motor vehicles registered in the area covered by this section, but which are based and operated exclusively in an area of this state not subject to the provisions of this section if the owner of the vehicle presents to the director a sworn affidavit that the vehicle will be based and operated outside the covered area.

(3) General Requirements.

(A) Compliance with Emission Standards. Motor vehicles subject to this rule shall demonstrate compliance with emission standards in this rule. Such demonstration shall be made through the inspection procedures and be completed on the schedule specified in this rule. Completion of the scheduled demonstration is necessary for vehicle initial registration, registration renewal, or registration transfer. Failure to complete a scheduled vehicle emission inspection before registration shall be a violation of this rule.

(B) Vehicle Emission Inspection Interval. Vehicles subject to this rule shall have their vehicle emission inspected on an annual basis

except for those owners that elect to have their vehicle emission inspected on a biennial basis.

(C) Emission Inspection Period. An emission inspection performed on a subject vehicle is valid, for the purposes of obtaining registration or registration renewal, for a period of sixty (60) days.

(D) Fleets.

1. Fleet test facilities. Vehicle fleets of five hundred (500) vehicles or greater may be officially inspected outside of the centralized emission inspection stations designated for the general public, if the fleet test facilities are approved by the DNR. Vehicle fleets using such fleet testing facilities shall be subject to the same test requirements and quality control standards as nonfleet vehicles. Owners or operators of such vehicle fleets shall use the state contractor to conduct the emission inspection tests. Owners or operators may make repairs to fleet vehicles on-site. Fleet test facilities shall be subject to at least as stringent quality assurance evaluations as public inspection stations.

2. Vehicle fleets less than five hundred (500). Vehicle fleets of ten (10) vehicles or greater shall be given special consideration at public test facilities. The DNR shall require operators of emission inspection test facilities to accommodate fleets with special hours, scheduling appointments during hours not open to the public, and providing a voucher payment system.

(E) Emission Inspection Fee.

1. The vehicle owner or driver shall pay ten dollars and fifty cents (\$10.50) to the centralized emission inspection station.

2. This fee shall also include free re-inspections, provided the vehicle owner or driver complies with all reinspection requirements as required in subsection (3)(G) of this rule, and the reinspections are conducted within twenty (20) consecutive days of the initial inspection excluding Saturday, Sunday and holidays.

(F) Vehicle Inspection Process. The emission inspection shall consist of emission tests and functional tests, which shall be subject to the following requirements:

1. Annual inspection process.

A. If a subject vehicle is targeted for a voluntary or mandatory manufacturer's emission recall notice issued after July 1, 1995, the vehicle owner or operator shall present to the emission inspection station proof of compliance with the recall notice.

B. A vehicle shall not be inspected if all or part of the exhaust system is missing, leaking, or if the vehicle is in an unsafe condition. If a motor vehicle is refused for inspection then the inspector shall give the



motorist a form that identifies the reasons for inspection refusal. No fee shall be charged for this inspection.

C. The vehicle owner or driver shall have access to an area in the inspection station that permits observation of the entire official inspection procedure of the vehicle tested. This access may be limited, but it shall not prevent observation.

D. Vehicles shall be inspected in as-received condition. An official inspection, once initiated, shall be performed in its entirety regardless of immediate outcome, except in the case of an invalid test condition, or unsafe conditions.

E. The initial inspection shall be performed without repair or adjustment at the emission inspection station prior to commencement of any tests, except as provided for in the evaporative system pressure and purge tests. Emission inspections performed after the initial inspection in an inspection cycle shall be considered a reinspection and are subject to provisions of subsection (3)(G) of this rule.

F. If a subject vehicle passes all emission inspection requirements within a complete inspection cycle, the emission inspection station shall issue the vehicle owner or driver an emission inspection certificate of compliance certifying that the vehicle has passed the emission inspection, and place an emission inspection sticker on the windshield of the subject vehicle. The positioning of the sticker on the windshield of the vehicle shall take place on the premises of the emission inspection station.

G. If a subject vehicle fails any phase of the emission inspection requirements, the emission inspection station shall provide the vehicle owner or driver with an emission inspection test report indicating which part(s) of the emission inspection that the vehicle failed, a list of repair facilities employing at least one (1) qualified repair technician, a repair data sheet, and a copy of the customer complaint procedure.

H. If a subject vehicle fails any part of the emission inspection, the vehicle owner must have the vehicle repaired and complete a repair data sheet before submitting the vehicle for reinspection.

I. If the subject vehicle fails a reinspection, the vehicle owner can apply for a compliance waiver. If all waiver requirements as prescribed in subsection (3)(H) of this rule are met, a waiver shall be issued by the DNR approved inspector at the emission inspection station; and

2. Biennial inspection process.

A. All biennial emission inspections shall be performed in counties that have an

emission inspection program pursuant to sections 643.300–643.350, RSMo.

B. The vehicle owners who have chosen a biennial emission inspection shall take their vehicle to an emission inspection station in any county meeting the criteria set in 643.300–643.350, RSMo. The vehicle owner shall be subject to the inspection fee and inspection procedures pursuant to 10 CSR 10-5.380.

(G) Reinspection.

1. Reinspection procedure. All vehicles that require a reinspection are required to receive a visual emission control device inspection. Vehicles that fail any part of the initial inspection or a reinspection shall be reinspected after repairs, to determine if the repairs were effective for correcting failures on the previous inspection. To the extent that repairs done to correct a previous failure could lead to failure of another portion of the inspection, that portion shall also be retested. Evaporative system repairs performed as a result of a vehicle failing either the evaporative system purge or pressure test will be cause for a complete reinspection covering all the initial inspection requirements. The reinspection shall be performed without repair or adjustment at the emission inspection station prior to tests, except as provided for in the evaporative system pressure and purge tests.

2. Repair data sheet. For a reinspection, the vehicle owner or driver shall present the previous emission inspection test results report and the completed repair data sheet to the inspection station. Whether repairs were performed by the owner, a qualified repair technician, or someone other than a qualified repair technician, the repair data sheet must be completed and presented to the DNR approved inspector at the emission inspection station.

3. Reinspection fees. To qualify for free reinspections, the vehicle owner or driver shall present the emission inspection test report and the completed repair data sheet to the emission inspection station within twenty (20) consecutive days, excluding Saturday, Sunday and holidays of the initial emission. Reinspections after the twenty (20)-day period shall only be performed upon payment of the full emission inspection test fee to the emission inspection station.

(H) Issuance of a Waiver.

1. The DNR, assistant station manager, or station manager at the emission inspection station shall issue an emission inspection certificate of compliance, with an indicator to show that the vehicle has received a waiver to the vehicle owner or driver, and an emissions inspection sticker shall be affixed to the subject vehicle provided the following waiver

requirements are met:

A. The subject vehicle has failed the initial emission inspection, and has failed a reinspection(s) after all qualifying repairs have been completed. As prescribed in paragraph (3)(G)2. of this rule, a completed repair data sheet for the failed initial inspection and for all failed reinspections in the applicable inspection cycle must also be presented to the DNR approved inspector at the emission inspection station when applying for a waiver;

B. The amount spent on qualifying repairs shall—

(I) Exceed seventy-five dollars (\$75) for pre-1981 model year vehicles;

(II) Exceed two hundred dollars (\$200) for 1981 and later model year vehicles;

(III) Include parts costs and labor costs paid for qualifying emission repair services performed on the vehicle if paid by the vehicle owner and if the qualifying repairs were performed or supervised by a qualified repair technician as prescribed in part (3)(H)1.C.(IV) of this rule. For qualifying emission repair services performed by someone other than a qualified repair technician, parts costs, but not labor costs, shall be counted toward the minimum cost to qualify for a waiver;

(IV) Be appropriate to the test failure;

(V) Not include expenses which are incurred for the repair of emission control devices which have been found to be tampered with, rendered inoperative, or removed;

(VI) Not include costs for emissions repairs or adjustments covered by an automobile manufacturer's warranty, insurance policy, or contractual maintenance agreement. The emissions repair costs covered by warranty, insurance, or maintenance agreements shall be separated from other emissions repair costs and shall not be applied toward the waiver cost limitations. The operator of a vehicle within the statutory age and mileage coverage under subsection 207(b) of the federal Clean Air Act shall present a written denial of warranty coverage, with a complete explanation, from the manufacturer or authorized dealer in order for this provision to be waived;

(VII) Not include the fee for an emission inspection;

(VIII) Not include charges for obtaining a written estimate of needed repairs;

(IX) Not include charges for checking for the presence of emission control devices; and



(X) Not include costs for repairs performed on the vehicle before the initial inspection failure;

C. The vehicle owner or driver shall present the original of all repair receipts at the inspection station to demonstrate compliance with the qualifying dollar amount. The DNR, assistant station manager, or station manager issuing a waiver shall verify emission-related repairs by visually inspecting the vehicle and reviewing repair receipts. The receipts shall—

(I) Include the name, address, and phone number of the repair facility;

(II) Describe the repairs that were performed;

(III) State the labor costs (where applicable) and parts costs for each repair; and

(IV) Include the name (printed or typed) and signature of the qualified repair technician that performed or supervised the repair work (where applicable); and

D. The vehicle owner or driver shall present a completed, signed waiver affidavit provided by the contractor to DNR, assistant station manager, or station manager at the emission inspection station indicating the costs of repairs and stating that the repairs were made in an attempt to meet the appropriate emission standards. After the effective date of this rule, any revision to the contractor supplied forms will be presented to the regulated community for a forty-five (45)-day comment period.

2. The DNR, assistant station manager, or station manager shall issue an emission inspection certificate of compliance, with an indicator to show that the vehicle has received a waiver to the vehicle owner or driver and an emissions inspection sticker shall be affixed to the subject vehicle provided the vehicle owner or driver presents a completed, signed waiver affidavit to the DNR approved inspector indicating that the vehicle will be operated exclusively in an area outside of the inspection area for a period of at least the next twelve (12) months.

3. The DNR, assistant station manager, or station manager shall issue an emission inspection certificate of compliance with an indicator to show that the vehicle has received a waiver to the vehicle owner or driver and an emissions inspection sticker shall be affixed to the subject vehicle provided the vehicle owner or driver presents proof, acceptable to DNR, assistant station manager, or station manager, that the subject vehicle has successfully passed an emission inspection of another state within the previous twelve (12) months which has been

deemed equivalent to Missouri's emission inspection by the DNR.

(I) Vehicle Registration. After a subject vehicle has passed the emission inspection or received a waiver, the emission inspection certificate of compliance issued by the emission inspection station shall be submitted with registration documents by the vehicle owner or representative to the Missouri Department of Revenue at the time of vehicle registration.

(J) Violations and Penalties. Persons violating this rule shall be subject to penalties contained in section 307.366, RSMo.

(4) Emission Standards. Subject vehicles shall fail the steady-state (idle test) if they exceed the following measured emission values:

(A) Idle test standards for light duty vehicles and trucks less than eight thousand five hundred (8,500) pounds GVWR.

Model Year	CO%	HC (PPM)
1971–1974	7.0	700
1975–1979	6.0	600
1980	3.0	300
1981 and newer	1.2	220

(B) Maximum exhaust dilution will be measured as no less than six percent (6%) carbon monoxide (CO) plus carbon dioxide (CO<sub>2</sub>) by volume on vehicles subject to a steady-state test as described in July 1998, Title 40 CFR part 51, subchapter S, Appendix B, which is adopted by reference;

(C) Vehicles registered by the Department of Revenue as specially constructed vehicles shall be subject to emission standards applicable to the EPA certified engine configuration with which the vehicle is equipped.

(5) Test Procedures.

(A) Idle Test. Idle tests shall be performed on 1971 and newer model year subject vehicles in accordance with the procedures contained in July 1998, Title 40 CFR part 51, subpart S, Appendix B, paragraph (I), which is adopted by reference, except that the appropriate measured emission values shall be as specified in subsection (4)(A).

(B) Visual Emission Control Device Inspection. Visual emission control device inspections shall be performed on 1971 and newer model year subject vehicles. Vehicles that meet the emission standards, and successfully pass the evaporative system purge and pressure test, if applicable, shall be excluded from meeting the requirements of the visual emission control device inspection as part of an initial inspection only. The visual emission control device inspection procedure shall be as follows:

1. Vehicle emission control device inspections shall be performed through direct observation or through indirect observation using a mirror, video camera or other visual aid. Visual inspection shall include the positive crankcase ventilation valve on all 1971 model year vehicles, the exhaust gas recirculation valve on all 1972 and newer model year vehicles, and the catalyst and fuel inlet restrictor on all 1984 and newer model year vehicles;

2. Vehicles shall fail the visual inspections of emission control devices if such devices are part of the original certified configuration of the vehicle and are found to be missing, modified, disconnected, or improperly connected; and

3. Vehicles shall fail visual inspections of emission control devices if these devices are found to be incorrect for the certified vehicle configuration. Aftermarket parts, as well as original equipment manufacturer parts, may be considered correct if they are proper for the certified vehicle configuration. Where EPA aftermarket approval or a self-certification program exists for a particular class of subject parts, vehicles shall fail visual equipment inspections if the part is not from an original equipment manufacturer or from an approved or self-certified aftermarket manufacturer.

(C) Evaporative System Purge Test. The DNR will approve an Evaporative System Purge Test when a nonintrusive procedure becomes available and is approved by the EPA. All 1981 and newer model year subject vehicles will be tested and required to meet these standards when the procedure is approved.

(D) Evaporative System Pressure Test. Until such time as the DNR approves an Evaporative System Pressure Test that is more comprehensive, nonintrusive, and is approved by the EPA, the evaporative system pressure test procedure shall be as follows:

1. A gas cap test, done to the extent practical, shall be performed on all 1981 and newer model year subject vehicles;

2. The gas cap test sequence shall consist of the following steps:

A. The gas cap will be connected to the adapter of the test equipment;

B. The gas cap shall be pressurized with air to 30 ± 0.5 inches of water;

C. The gas cap leak rate shall be compared to an orifice with a flow rate of sixty (60) cubic centimeters per minute at thirty inches (30") of water;

3. Vehicles shall fail the gas cap test if the gas cap exceeds a flow rate of sixty (60) cubic centimeters per minute; and



4. A visual inspection of the evaporative emission system shall also be performed, where practical. Vehicles shall fail the visual inspection of the evaporative emission system if the canister is missing or obviously damaged, if the hoses are missing, damaged or obviously disconnected, or if the gas cap is missing.

(E) On-Board Diagnostic (OBD) Test Procedures.

1. All 1996 and later model year vehicles equipped with OBD systems shall have the OBD system information collected, recorded, and read. Reports shall be generated. The information shall be used to determine if any emission control system faults have been identified. Fault codes shall not be a condition for failure.

2. The DNR shall require vehicle failures tied to readings from the OBD system beginning no later than January 1, 2001. Vehicles shall fail the on-board diagnostic test if they fail to meet the requirements of 40 CFR 85.2207, at a minimum.

(6) Emission Test Equipment.

(A) Performance Features of Emission Test Equipment. Computerized test systems are required for performing any measurement on subject vehicles. The test equipment shall be certified to meet EPA requirements, including those contained in July 1998, Title 40 CFR part 51, subpart S, Appendix D, which is adopted by reference. Newly acquired systems shall be subjected to acceptance test procedures to ensure compliance with program specifications.

1. Emission test equipment shall be capable of testing all subject vehicles and will be updated as needed to accommodate new technology vehicles as well as changes to the program.

2. At a minimum, emission test equipment shall be—

A. Automated to the highest degree commercially available to minimize the potential for intentional fraud and/or human error;

B. Secure from tampering and/or abuse;

C. Based upon written specifications; and

D. Capable of simultaneously sampling dual exhaust vehicles.

(B) Functional Characteristics of Computerized Test Systems. The test system is composed of emission measurement devices and other motor vehicle test equipment controlled by a computer.

1. The test system shall automatically—

A. Make pass/fail decisions for all measurements;

B. Record test data to an electronic medium;

C. Conduct regular self-testing of recording accuracy;

D. Perform electrical calibration and system integrity checks before each test, as applicable; and

E. Initiate system lockouts for—

(I) Tampering with security aspects of the test system;

(II) Failing to conduct or pass periodic calibration or leak checks;

(III) Failing to conduct or pass the constant volume sampler flow rate check;

(IV) Failing to conduct or pass the pressure monitoring device check;

(V) Failing to conduct or pass the purge flow metering system check; and

(VI) A full data recording medium or one that does not pass a cyclical redundancy check.

2. Test systems shall include a data link to the DNR computer as specified in the contract between the DNR and the contractor(s).

3. The test system will ensure accurate data collection by limiting, cross-checking, and/or confirming manual data entry.

(C) Steady-State Test Equipment. Steady-state test equipment requirements for model years 1971–1980 shall be as specified in July 1998, Title 40 CFR part 51, subpart S, Appendix D, which is adopted by reference.

(7) Documentation.

(A) The contractor shall provide the owners or drivers of vehicles that pass the emission inspection or are issued a waiver an emission inspection certificate of compliance and emission inspection sticker. After the effective date of this rule, any revision to the contractor supplied forms will be presented to the regulated community for a forty-five (45)-day comment period.

1. The certificate of compliance shall contain—

A. A vehicle description, including license plate number, vehicle title number, vehicle identification number, vehicle make, vehicle model, vehicle model year, and odometer reading;

B. The date and time of inspection;

C. The applicable test standards;

D. The applicable test results, including exhaust quantities, a pass indicator for the evaporative system pressure test(s), a pass indicator for visual inspection of the evaporative system and a pass indicator for the visual emission control device inspection;

E. The results of the recall provisions check, if applicable, including the recall campaign number and the date the recall repairs were completed;

F. A certification that tests were performed in accordance with the regulations;

G. A waiver indicator, if applicable; and

H. The statement: “This inspection is mandated by your United States Congress.”

2. The emission inspection sticker shall—

A. Be affixed by the emission inspector to each vehicle which is subject to and passes the emission inspection, or has been issued a waiver on the inside of the vehicle’s front windshield in the lower left hand corner. An emission inspection sticker affixed to a vehicle that has been issued a waiver shall have a waiver indicator clearly visible on the sticker. Previous emission inspection stickers affixed to the windshield shall be removed. Destroyed, damaged, or lost stickers can only be replaced after a satisfactory explanation of the details of the incident has been furnished to the DNR. Stickers are valid for one (1) calendar year; and

B. Contain the statement: “This inspection is mandated by your United States Congress.”

(B) The contractor shall provide the vehicle owner or driver who fails an inspection with a computer-generated emission inspection test report. Also provided will be a repair facility list, a repair data sheet, and a copy of the consumer complaint procedure. The contractor shall not refer vehicle owners to a particular repair station(s) that may or may not be included on the repair facility list. After the effective date of this rule, any revision to the contractor supplied forms will be presented to the regulated community for a forty-five (45)-day comment period.

1. The emission inspection test report shall include:

A. A vehicle description, including license plate number, vehicle title number, vehicle identification number, vehicle make, vehicle model, vehicle model year, and odometer reading;

B. The date and time of test;

C. The name or identification number of the individual(s) performing the test and the location of the test station and lane number;

D. The type of tests performed, including emission tests, visual checks for the presence of emission control components, and functional evaporative system tests;

E. The applicable test standards;

F. The test results, including exhaust quantities, pass/fail results for the evaporative system pressure test(s), pass/fail results for the visual inspection of the evaporative system and which emission control devices



inspected were passed, failed, or not applicable;

G. To the extent possible, a description of the nature of the failure and the components responsible, recommended repair and adjustment procedures, and an estimated cost for those repairs;

H. A statement indicating the availability of warranty coverage as required in section 207 of the Clean Air Act;

I. The results of the recall provisions check, if applicable, including the recall campaign number and date the recall repairs were completed; and

J. A statement that the emission inspection test report is not valid for vehicle registration purposes.

2. The repair facilities list will list facilities employing at least one (1) qualified repair technician in the area which perform emission related repairs on vehicles and information on the results of emission repairs performed by these facilities. This information will include:

A. Statistics on the number of vehicles submitted for a reinspection after repairs by the repair facility;

B. The percentage of vehicles repaired by the repair facility that required more than one (1) reinspection before passing; and

C. The percentage of vehicles repaired by the repair facility that were granted waivers.

3. A repair data sheet must be completed prior to a reinspection. The repair data sheet shall include:

A. Repairs performed;

B. Cost of repairs;

C. Name of the repair technician; and

D. Name, address, and telephone number of the repair facility and the facility's state number.

4. The consumer complaint procedure will include the telephone number of the DNR's quality assurance facility. Any challenge regarding the performance or results of the test must be made in writing within ten (10) business days of the failure of the emission inspection.

(8) Quality Control.

(A) Quality Control Requirements for the Contractor(s).

1. Contractor conduct. The DNR shall appoint only entities under contractual agreement with the DNR to operate official emission inspection stations, which includes conducting emission inspections and issuing certificates of compliance. Conducting the business of the official emission inspection

station shall be performed in such a way that it satisfies the intent of the vehicle emission inspection program by effectively identifying vehicles that fail to meet acceptable emission standards. Failure to comply with the provisions of this subsection shall be considered sufficient cause for suspension of emission inspection privileges and authority to issue certificates of compliance. Misconduct of the contractor as established in this rule and in the contract shall be a violation of this rule and may result in dismissal as an emission inspection station operator. The contractor shall pay a monetary penalty to the DNR for a violation of this rule or of the contract by contractor personnel. Violations shall include, but are not limited to, actions which result in improper or fraudulent issuance of a certificate of compliance or a compliance waiver. The penalty shall be determined by a penalty schedule established in the contract.

2. Emission inspectors. All contractor personnel who perform emission inspections at each emission inspection station will be designated by the contractor as an emission inspector. The contractor shall be responsible for the conduct of emission inspectors. The contractor shall maintain for the DNR a registry of designated emission inspectors, that at a minimum includes the inspector's name, Social Security number, beginning date of inspection duties, ending date of inspection duties and description of inspection performance. Designation as an emission inspector may be suspended by a DNR quality assurance officer immediately at any time due to a violation of this rule or a provision of the contract. The contractor shall provide to the DNR an education and training plan, to be approved by the DNR, for designated emission inspectors.

3. Inspection records. All inspection records, calibration records, and control charts shall be accurately created, recorded, and maintained. The contractor, and all employees of the contractor, shall make available all records and information requested by the DNR and shall fully cooperate with DNR personnel, and other authorized state representatives or agents, who conduct audits and other quality assurance procedures. All contractors subject to this rule shall maintain emissions test records, including repair information from any emissions test as well as all test results. These records shall be kept for at least three (3) years after date of an initial emissions inspection. These records shall be made available immediately upon request for review by DNR personnel. These records shall also be made available to the DNR on a continual basis through the use of an auto-

mated communication system approved by the DNR.

(B) General Requirements. General requirements for quality control practices for all test equipment shall be as follows:

1. At a minimum, the practices described in this section, in the contract, and in July 1998, Title 40 CFR part 51, subpart S, Appendix A, which is adopted by reference, shall be followed;

2. Preventive maintenance on all inspection equipment shall be performed on a periodic basis, as provided by the contract between the DNR and the contractor(s) and consistent with EPA and the equipment manufacturer's requirements;

3. To assure quality control, computerized analyzers shall automatically record quality control check information, lockouts, attempted tampering and any circumstances which require a service representative to work on the equipment;

4. To assure test accuracy, equipment shall be maintained according to demonstrated good engineering procedures;

5. Computer control of quality assurance checks and quality control charts shall be used whenever possible; and

6. The emission inspection station shall transmit the emission inspection results to the DNR as prescribed in the contract between the DNR and the contractor(s).

(C) Requirements for Steady-State Emissions Testing Equipment. Calibration and maintenance procedures for steady-state emissions testing equipment shall be described in July 1998, Title 40 CFR part 51, subpart S, Appendix A, paragraph (I), which is adopted by reference.

*AUTHORITY: section 307.366, RSMo Supp. 1999.\* Original rule filed Aug. 4, 1983, effective Nov. 11, 1983. Amended: Filed Sept. 12, 1984, effective Jan. 1, 1985. Amended: Filed April 12, 1987, effective June 25, 1987. Rescinded: Filed May 31, 1990, effective Dec. 31, 1990. Emergency rule filed Jan. 3, 2000, effective April 1, 2000, expired Sept. 27, 2000. Readopted: Filed Jan. 3, 2000, effective June 30, 2000.*

*\*Original authority: 307.366, RSMo 1983, amended 1984, 1988, 1992, 1994, 1996, 1999.*

#### 11 CSR 50-2.401 General Specifications (Rescinded April 30, 2000)

*AUTHORITY: section 307.366, RSMo 1994. Original rule filed March 5, 1990, effective June 28, 1990. Emergency rescission filed Nov. 1, 1999, effective Jan. 1, 2000, expired*



June 28, 2000. Rescinded: Filed Nov. 1, 1999, effective April 30, 2000.

**11 CSR 50-2.402 MAS Software Functions**  
(Rescinded April 30, 2000)

*AUTHORITY: section 307.366, RSMo 1994. Original rule filed March 5, 1990, effective June 28, 1990. Emergency rescission filed Nov. 1, 1999, effective Jan. 1, 2000, expired June 28, 2000. Rescinded: Filed Nov. 1, 1999, effective April 30, 2000.*

**11 CSR 50-2.403 Missouri Analyzer System (MAS) Display and Program Requirements**  
(Rescinded April 30, 2000)

*AUTHORITY: section 307.366, RSMo 1994. Original rule filed March 5, 1990, effective June 28, 1990. Emergency rescission filed Nov. 1, 1999, effective Jan. 1, 2000, expired June 28, 2000. Rescinded: Filed Nov. 1, 1999, effective April 30, 2000.*

**11 CSR 50-2.404 Test Record Specifications**  
(Rescinded April 30, 2000)

*AUTHORITY: section 307.366, RSMo 1994. Original rule filed Feb. 16, 1990, effective June 28, 1990. Emergency rescission filed Nov. 1, 1999, effective Jan. 1, 2000, expired June 28, 2000. Rescinded: Filed Nov. 1, 1999, effective April 30, 2000.*

**11 CSR 50-2.405 Vehicle Inspection Certificate, Vehicle Inspection Report and Printer Function Specifications**  
(Rescinded April 30, 2000)

*AUTHORITY: section 307.366, RSMo 1994. Original rule filed March 5, 1990, effective June 28, 1990. Amended: Filed April 2, 1992, effective Sept. 26, 1992. Amended: Filed June 2, 1993, effective Nov. 8, 1993. Emergency rescission filed Nov. 1, 1999, effective Jan. 1, 2000, expired June 28, 2000. Rescinded: Filed Nov. 1, 1999, effective April 30, 2000.*

**11 CSR 50-2.406 Technical Specifications for the MAS**  
(Rescinded April 30, 2000)

*AUTHORITY: section 307.366, RSMo 1994. Original rule filed March 5, 1990, effective June 28, 1990. Emergency rescission filed*

*Nov. 1, 1999, effective Jan. 1, 2000, expired June 28, 2000. Rescinded: Filed Nov. 1, 1999, effective April 30, 2000.*

**11 CSR 50-2.407 Documentation, Logistics and Warranty Requirements**  
(Rescinded April 30, 2000)

*AUTHORITY: section 307.366, RSMo 1994. Original rule filed March 5, 1990, effective June 28, 1990. Emergency rescission filed Nov. 1, 1999, effective Jan. 1, 2000, expired June 28, 2000. Rescinded: Filed Nov. 1, 1999, effective April 30, 2000.*

**11 CSR 50-2.410 Vehicles Failing Reinspection**  
(Rescinded April 30, 2000)

*AUTHORITY: section 307.366, RSMo 1994. Original rule filed Aug. 4, 1983, effective Nov. 11, 1983. Amended: Filed May 31, 1990, effective Dec. 31, 1990. Amended: Filed April 2, 1992, effective Sept. 6, 1992. Emergency rescission filed Nov. 1, 1999, effective Jan. 1, 2000, expired June 28, 2000. Rescinded: Filed Nov. 1, 1999, effective April 30, 2000.*

**11 CSR 50-2.420 Procedures for Conducting Only Emission Tests**  
(Rescinded April 30, 2000)

*AUTHORITY: section 307.366, RSMo 1994. Emergency rule filed Dec. 27, 1983, effective Jan. 6, 1984, expired May 5, 1984. Original rule filed Jan. 13, 1984, effective April 12, 1984. Amended: Filed May 31, 1990, effective Dec. 31, 1990. Emergency amendment filed Aug. 3, 1992, effective Aug. 28, 1992, expired Dec. 25, 1992. Emergency amendment filed Nov. 2, 1992, effective Dec. 26, 1992, expired April 24, 1993. Amended: Filed Aug. 3, 1992, effective Feb. 26, 1993. Amended: Filed Oct. 3, 1994, effective April 30, 1995. Emergency rescission filed Nov. 1, 1999, effective Jan. 1, 2000, expired June 28, 2000. Rescinded: Filed Nov. 1, 1999, effective April 30, 2000.*

**11 CSR 50-2.430 Verification of Homemade Trailers**

*PURPOSE: This rule establishes regulations for the examination of homemade trailers as required by section 301.380, RSMo.*

(1) The requirements in 11 CSR 50-2.010–11 CSR 50-2.130 are applicable to vehicles which require trailer verification.

(2) The person seeking to title a trailer less than sixteen feet (16') which is alleged to have been made by someone who is not a manufacturer using readily distinguishable manufacturer identifying numbers or a certificate of origin shall secure a written statement from a motor vehicle inspection station that the trailer has been examined and that it is not one made by a regular manufacturer.

(3) Verification of trailers less than sixteen feet (16') shall be made by a licensed inspector/mechanic at a licensed inspection station. Trailer verifications shall be conducted at Class A, B or D inspection stations. The actual examination of the trailer shall be made on the inspection station premises.

(4) The statutory fee may be charged for the trailer verification.

(5) Examination Procedure.

(A) Examine trailer to determine length and if the trailer has been manufactured by a regular manufacturer or if the trailer is homemade. Do not examine further if length (tip of tongue to rearmost part) is sixteen feet (16') or longer, refer the owner to either the county sheriff or the Missouri State Highway Patrol. (Trailers must be complete except for minor parts which may be missing.)

(B) Examine very closely for the name of a trailer manufacturer and trailer identification number.

(6) Forms Procedure.

(A) List the trailer owner's name, street, city and county in the appropriate spaces on the MVI-2 form. If the trailer is determined to be homemade write the word "Homemade" in the space for make, cross through the space for year and vehicle identification number (VIN). Either write the words "Trailer Verification" in large letters across the form in the space for defective part or check the applicable box on the MVI-2 form and enter "NONE" in the space for the sticker/decals number.

(B) If the trailer is determined to be one made by a regular manufacturer, list the trailer make and VIN in the appropriate space on the MVI-2 form. Fill in the year of the trailer, if known. If a Department of Revenue special number has been previously issued for the trailer, list the number on the MVI-2 form in the space for Defective Part.



(C) If a trailer is examined and it appears to be a trailer made by a regular manufacturer, but the inspector/mechanic is unable to locate the trailer name, identification number, or both, or it is sixteen feet (16') or longer, contact the Missouri State Highway Patrol. In these cases, the inspector/mechanic shall record the vehicle identification number on the form as "unknown," except when the length is sixteen feet (16') or longer, the owner must be referred to the local sheriff or Missouri State Highway Patrol. If the make of the manufactured trailer cannot be determined, the inspector shall record the make as "umfg" or "unknown" on the inspection certificate.

*AUTHORITY: section 307.360, RSMo 2000.\* Emergency rule filed Aug. 15, 1984, effective Sept. 1, 1984, expired Dec. 30, 1984. Original rule filed Sept. 12, 1984, effective Jan. 1, 1985. Amended: Filed May 10, 1991, effective Sept. 30, 1991. Emergency amendment filed Aug. 3, 1992, effective Aug. 28, 1992, expired Dec. 25, 1992. Emergency amendment filed Nov. 2, 1992, effective Dec. 26, 1992, expired April 24, 1993. Amended: Filed Aug. 3, 1992, effective Feb. 26, 1993. Amended: Filed June 2, 1993, effective Nov. 8, 1993. Amended: Filed Oct. 3, 1994, effective April 30, 1995. Emergency rescission and rule filed Oct. 1, 1997, effective Nov. 2, 1997, expired April 30, 1998. Rescinded and readopted: Filed Oct. 1, 1997, effective March 30, 1998. Amended: Filed Feb. 1, 2000, effective July 30, 2000. Emergency amendment filed March 17, 2003, effective March 27, 2003, expired Sept. 22, 2003. Amended: Filed March 17, 2003, effective Aug. 30, 2003.*

*\*Original authority: 307.360, RSMo 1967, amended 1971, 1973, 1979, 1999.*

### 11 CSR 50-2.440 Vehicle Identification Number and Odometer Reading Verification

*PURPOSE: This rule establishes procedures to be followed in the verification of vehicle identification numbers and odometer readings as required by section 301.190(9), RSMo.*

(1) The requirements in 11 CSR 50-2.010–11 CSR 50-2.130 are applicable to vehicles which require vehicle identification number (VIN)/odometer reading verification.

(2) The inspection shall certify that the manufacturer's identification number for the vehicle has been inspected, that it is correctly dis-

played on the vehicle and shall certify the reading shown on the odometer at the time of inspection.

(3) Verification of VINs and odometer readings shall be made by a licensed inspector/mechanic at a licensed inspection station. Verification of all vehicles may be conducted at Class A, B or D inspection stations. However, Class C stations may verify motorcycles only. The actual verification of VINs and odometer readings shall be made on the inspection station premises.

(4) The statutory fee for a safety inspection of the specific motor vehicle may be charged for the VIN and odometer verification.

(5) Examination Procedure.

(A) Examine VIN and odometer reading as displayed on the motor vehicle.

(B) Reject vehicle if VINs and plate appear altered or tampered with in any manner (pay special attention to rivets and plate to determine that they are correct as installed by the manufacturer).

(6) Forms Procedure.

(A) List the motor vehicle owner's name, street, city and county in the appropriate spaces on the MVI-2 form. If the VIN and odometer reading are correctly displayed, either write the words "ID/OD Verification" in large letters across the form in the space for defective part or check the applicable box on the MVI-2 form and enter "NONE" in the space for the sticker/decals number.

(B) If the VIN appears to be incorrectly displayed in any manner, such as altered, forged, incorrectly attached or a substitute plate used, do not issue a verification, instead call the patrol headquarters located in your area for immediate assistance.

(7) If a safety inspection is requested, this procedure is not required.

*AUTHORITY: sections 301.190, 307.190 and 307.360, RSMo 2000.\* Original rule filed May 21, 1986, effective Aug. 25, 1986. Amended: Filed April 2, 1992, effective Sept. 6, 1992. Emergency amendment filed Aug. 3, 1992, effective Aug. 28, 1992, expired Dec. 25, 1992. Emergency amendment filed Nov. 2, 1992, effective Dec. 26, 1992, expired April 24, 1993. Amended: Filed Aug. 3, 1992, effective Feb. 26, 1993. Amended: Filed June 2, 1993, effective Nov. 8, 1993. Amended: Filed Oct. 3, 1994, effective April 30, 1995. Emergency rescission and rule filed Oct. 1, 1997, effective Nov. 2, 1997, expired April 30, 1998. Rescinded and readopted:*

*Filed Oct. 1, 1997, effective March 30, 1998. Amended: Filed Feb. 1, 2000, effective July 30, 2000. Emergency amendment filed March 17, 2003, effective March 27, 2003, expired Sept. 22, 2003. Amended: Filed March 17, 2003, effective Aug. 30, 2003.*

*\*Original authority: 301.190, RSMo 1939, amended 1947, 1965, 1981, 1983, 1984, 1985, 1986, 1986, 1987, 1988, 1989, 1990, 1992, 1997, 1999; 307.190, RSMo 1977, amended 1980, 1995; and 307.360, RSMo 1967, amended 1971, 1973, 1979.*

### 11 CSR 50-2.500 Definitions

*PURPOSE: This rule defines the words and terms used throughout the vehicle number inspection/salvage inspection regulations.*

(1) Words and terms used in 12 CSR 10-23.345 and the following words and terms as defined are applicable to these rules:

(A) CVIN—The confidential vehicle identification number;

(B) Essential part—Any nonmajor component part that is used to complete the repair or restoration of the vehicle to its original appearance or design;

(C) EVIN—The engine vehicle identification number;

(D) Federal Motor Vehicle Safety Standard Label (Federal Label)—A decal usually affixed to the left front door or door jamb certifying the vehicle meets federal safety and bumper standards. All 1987 and later model year vehicles will have a revised label which includes the phrase "Safety, Bumper, and Theft Prevention";

(E) High theft line vehicle parts identification—The full VIN on a label or inscribed onto all covered major parts except that manufacturers who were utilizing a derivative of the VIN of at least eight (8) characters to identify engines and transmissions as of October 24, 1984, may continue to use the VIN derivative for engines and transmissions. Covered new and replacement major parts to be numbered are engine, transmission, both front fenders, hood, all doors, both bumpers, both rear quarter panels, deck lid, tailgate or hatchback, sliding or cargo door(s), right and left side assembly on Multi-Purpose Vehicles (MPV), pickup box, and/or cargo box on Light Duty Trucks (LDT) of 1987 and newer high theft line vehicles. Covered manufactured replacement parts for covered lines must have the symbol "DOT" and the letter "R" within five (5) centimeters of the manufacturer's registered trademark, or some other unique identifier. All of these characters must be at least one (1) centimeter in height;





(F) ID/OD and VIN verifications—A verification of the vehicle identification number and odometer reading of motor vehicles previously titled in another state and/or a verification of the PVIN to correct typographical errors, upon a request from the Department of Revenue;

(G) Proof of ownership—This includes a manufacturer's statement of origin or certificate of title, a notarized bill of sale when accompanied by photocopies of the front and back of the title or a court order assigning ownership and a bill of sale for essential component parts.

1. Manufacturer's statement of origin is a certificate issued by the manufacturer of a vehicle or vehicle body part describing the vehicle or vehicle part and listing applicable numbers.

2. Certificate of title is the primary document issued by the Department of Revenue or other governmental agency denoting ownership of a vehicle.

3. Notarized bill of sale is a document conveying ownership from one party to another that has been witnessed by a notary.

4. Court order is a declaration issued by a court establishing ownership when ownership is questionable.

5. Bill of sale is a descriptive document containing the year, make, model and appropriate identification numbers conveying ownership from one (1) party to another;

(H) PVIN—The public vehicle identification number;

(I) Rebuilt salvage motor vehicle—A vehicle which has been issued a salvage certificate of title and repaired or restored to its original appearance and design by means of repaired sheet metal, replacement with new or used essential parts of the same vehicle make, model or description and/or by replacement of not more than one (1) major component part;

(J) Reconstructed motor vehicle—A vehicle that is altered from its original construction by the addition or substitution of two (2) or more new or used major component parts, excluding motor vehicles made from all new parts, and new multistage manufactured vehicles; and

(K) TVIN—The transmission vehicle identification number.

*AUTHORITY: section 301.190, RSMo 2000.\* Original rule filed May 10, 1991, effective Sept. 30, 1991. Emergency rescission and rule filed March 2, 1998, effective April 1, 1998, expired Sept. 27, 1998. Rescinded and readopted: Filed March 2, 1998, effective Aug. 30, 1998. Amended: Filed Nov. 1, 2002, effective April 30, 2003.*

*\*Original authority: 301.190, RSMo 1939, amended 1947, 1965, 1981, 1983, 1984, 1985, 1986, 1986, 1987, 1988, 1989, 1990, 1992, 1997, 1999.*

### 11 CSR 50-2.510 General Information

*PURPOSE: This rule outlines general information applicable to completion of vehicle identification verification.*

(1) Vehicle owners are allowed to submit their vehicles to any designated examination location within the state by appointment. Current locations may be obtained by contacting the local Missouri State Highway Patrol Troop Headquarters.

(2) Vehicles presented by out-of-state residents will not normally be examined unless the owner is in the process of becoming a Missouri citizen.

(3) All vehicles, except those requiring a title or Identification/Odometer (ID/OD) Verification, shall be brought to the troop headquarters, troop service centers or other location approved by the Missouri State Highway Patrol.

(4) Vehicles must be capable of being driven/positioned into and out of the examination area.

(5) Vehicles required to be towed or hauled to the examination site must be able to be unloaded and reloaded by the person presenting the vehicle.

(6) Vehicles may not be left at the examination site before or after the examination.

(7) The owner or his/her representative will not be allowed to remain in the examination area, but will remain at the site should any questions arise, or any additional body part(s) need to be removed to expedite the examination.

(8) Examination personnel may refuse to conduct an examination for the following reasons:

(A) The person presenting the vehicle does not have proof of ownership of the basic vehicle;

(B) The vehicle owner is unable to produce a copy of the title front and back and a descriptive notarized bill of sale for the major component part(s) or bill of sale for other essential part(s) used in rebuilding or restoring the vehicle;

(C) A validated Vehicle Examination Certificate is not presented;

(D) The Vehicle Examination Certificate is not completed properly;

(E) The vehicle has body damage or is not complete, excluding paint minor dings/dents or scratches;

(F) The motor, transmission or frame is extremely dirty or greasy so as to prevent reasonable access to the identification numbers;

(G) Body parts have not been removed which permit access to vehicle identification numbers or the person presenting the vehicle cannot remove additional body part(s);

(H) The owner is required to have a special license in accordance with section 301.218, RSMo and does not possess the required license; or

(I) The vehicle has been transported to the examination site and cannot be unloaded and/or driven/positioned in the examination area.

(9) Personnel will not complete or sign a Vehicle Examination Certificate if during the examination there is a question as to whether a part is stolen or if stolen parts are detected.

*AUTHORITY: section 301.190, RSMo 2000.\* Original rule filed May 10, 1991, effective Sept. 30, 1991. Amended: Filed Sept. 30, 1993, effective April 9, 1994. Emergency rescission and rule filed March 2, 1998, effective April 1, 1998, expired Sept. 27, 1998. Rescinded and readopted: Filed March 2, 1998, effective Aug. 30, 1998. Amended: Filed Nov. 1, 2002, effective April 30, 2003.*

*\*Original authority: 301.190, RSMo 1939, amended 1947, 1965, 1981, 1983, 1984, 1985, 1986, 1986, 1987, 1988, 1989, 1990, 1992, 1997, 1999.*

### 11 CSR 50-2.520 Procedures

*PURPOSE: This rule lists the requirements for completing vehicle identification number verifications on specific types of vehicles.*

(1) Rebuilt Vehicles.

(A) A person presenting a rebuilt or reconstructed vehicle for a vehicle identification number (VIN) verification will be required to present the following, when applicable:

1. The vehicle with the necessary parts removed for examination;

2. Proof of ownership for the basic vehicle;

3. Proof of ownership for engine, transmission, any essential parts or any major component parts used in the reconstruction or rebuilding process; and

4. The Vehicle Examination Certificate properly completed and signed.



(B) The director of revenue shall determine how the vehicle will be titled.

(2) Specially Constructed Vehicles.

(A) A person presenting a specially constructed vehicle for a VIN verification will be required to present the following, when applicable:

1. The vehicle with the necessary parts removed for examination;
2. Proof of ownership for the basic vehicle;
3. Proof of ownership for engine, transmission, any essential parts or any major component parts used in construction; and
4. The Vehicle Examination Certificate properly completed and signed.

(B) The director of revenue will determine how the vehicle will be titled.

(3) Kit Vehicles.

(A) A person presenting a kit vehicle for a VIN verification will be required to present the following, when applicable:

1. The vehicle with the necessary parts removed for examination;
2. The manufacturer's statement of origin for the premanufactured vehicle body;
3. Proof of ownership for engine, transmission, any essential parts or any major component parts used in construction; and
4. The Vehicle Examination Certificate properly completed and signed.

(B) The director of revenue will determine how the vehicle will be titled.

(4) Cab Change Vehicles.

(A) A person presenting a cab change vehicle for a VIN verification will be required to present the following, when applicable:

1. The vehicle with the necessary parts removed for examination;
2. Proof of ownership for the basic vehicle;
3. The original title assigned to the basic vehicle owner or a copy of the front and back of the title for the replacement cab with a notarized descriptive bill of sale;
4. The manufacturer's statement of origin for the newly manufactured cab;
5. Bill of sale for the other essential part(s); and
6. The Vehicle Examination Certificate properly completed, if the vehicle has a salvage title or the original appearance of the vehicle has changed.

(B) The director of revenue will determine how the vehicle will be titled.

(5) Non-United States of America (USA) Standard Vehicles.

(A) A person presenting a non-USA Standard motor vehicle for a VIN verification will be required to present the following, when applicable:

1. The vehicle with the necessary parts removed for examination;
2. Proof of ownership for the vehicle; and
3. The Vehicle Examination Certificate properly completed and signed.

(B) The director of revenue will determine how the vehicle will be titled.

(6) Motor Change Vehicles.

(A) A person presenting a motor change vehicle for a VIN verification will be required to present the following, when applicable:

1. The vehicle with the necessary parts removed for examination;
2. Proof of ownership for the basic vehicle;
3. Proof of ownership for the engine or an affidavit of motor change; and
4. The Vehicle Examination Certificate properly completed and signed.

(B) The director of revenue will determine how the vehicle will be titled.

(7) Vehicles Requiring Replacement of Public VIN Plate.

(A) A person presenting a vehicle requiring the replacement of the public VIN plate will be required to present the following, when applicable:

1. The vehicle with the necessary parts removed for examination;
2. Proof of ownership for the vehicle; and
3. An Application for a Replacement Vehicle Identification Number Plate form with the top portion completed and notarized.

(B) The director of revenue will determine how the vehicle will be titled.

(8) Abandoned/Towed/Out-of-State Towed Vehicles.

(A) A person presenting a vehicle for a VIN verification to a designated examination location will be required to present the following, when applicable:

1. The vehicle with necessary parts removed for examination;
2. Proof of ownership for the vehicle, which may vary depending on the circumstances surrounding the requested examination;
3. A completed Crime Inquiry and Inspection Report/Authorization to Tow, if a tow company;
4. The Vehicle Examination Certificate properly completed and signed.

(B) The director of revenue will determine how the vehicle will be titled.

(9) Abandoned Property Located on Privately Owned Real Estate.

(A) A person presenting abandoned property pursuant to section 301.193, RSMo, to a designated examination location, who has no proof of ownership will be required to present the following, when applicable:

1. The vehicle or watercraft with necessary parts removed for examination;
2. Vehicles require the Vehicle Examination Certificate, properly completed and signed;
3. Watercraft require the Watercraft AND/OR Outboard Motor Affidavit of Ownership and Inspection, properly completed and signed.

(B) The director of revenue will determine how the vehicle/watercraft/outboard motor will be titled.

*AUTHORITY: section 301.190, RSMo 2000. \* Original rule filed May 10, 1991, effective Sept. 30, 1991. Amended: Filed Sept. 30, 1993, effective April 9, 1994. Emergency rescission and rule filed March 2, 1998, effective April 1, 1998, expired Sept. 27, 1998. Rescinded and readopted: Filed March 2, 1998, effective Aug. 30, 1998. Amended: Filed Nov. 1, 2002, effective April 30, 2003.*

*\*Original authority: 301.190, RSMo 1939, amended 1947, 1965, 1981, 1983, 1984, 1985, 1986, 1986, 1987, 1988, 1989, 1990, 1992, 1997, 1999.*