

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

SUBCHAPTER 150-50.5 SAFETY INSPECTION STATIONS RULES AND REGULATIONS

Part 001 General Provisions

§ 150-50.5-001 Definitions
§ 150-50.5-005 Scope
§ 150-50.5-010 Special Requirements
§ 150-50.5-015 Administration and Enforcement

Part 100 Inspection Stations and Inspections

§ 150-50.5-101 Inspection Stations; Permits; Department Responsibilities
§ 150-50.5-105 Application for Inspection Station Permits
§ 150-50.5-110 Inspection Station Permits
§ 150-50.5-115 Issuance of Inspection Station Permits
§ 150-50.5-120 Inspector Certification; Department Responsibilities
§ 150-50.5-125 Application for Inspector Certification
§ 150-50.5-130 Issuance of Inspector Certificates
§ 150-50.5-135 Inspector Certificate Forms
§ 150-50.5-140 Inspection Stations;

Operating Procedures
§ 150-50.5-145 Safety Inspection Records
§ 150-50.5-150 Inspection Stations; Supervision by the Department
§ 150-50.5-155 Enforcement by the Department
§ 150-50.5-160 Operating Procedures for Inspectors

Part 200 General Procedures for Inspection

§ 150-50.5-201 Applicant for Inspection Certification
§ 150-50.5-205 Inspection Fees
§ 150-50.5-210 Failure to Qualify for Certification and Correction of Defects
§ 150-50.5-215 Replacement of Lost or Stolen Stickers
§ 150-50.5-220 Items of Equipment to Be Inspected
§ 150-50.5-225 Scope of Inspection

Exhibit A Periodic Motor Vehicle Inspection Manual

Subchapter Authority: 1 CMC § 2507; 9 CMC § 1204; 9 CMC § 3108.

Subchapter History: Amdts Adopted 23 Com. Reg. 18181 (July 20, 2001); Amdts Proposed 11 Com. Reg. 6281 (July 15, 1989); Adopted 9 Com. Reg. 5291 (Dec. 15, 1987); Proposed 9 Com. Reg. 5010 (Sept. 15, 1987).

Commission Comment: PL 1-8, tit. 1, ch. 10, codified as amended at 1 CMC §§ 2501-2507, creates the Department of Public Safety (DPS) within the Commonwealth government, composed of a police force. See 1 CMC § 2501; see also PL 14-25 § 3 (effective Aug. 20, 2004) (amending 1 CMC § 2501). 1 CMC § 2504(f) authorizes the Department to inspect motor vehicles and enforce motor vehicle registration laws. 1 CMC § 2507 directs the Department to adopt rules and regulations regarding activities over which it has jurisdiction.

Title 9 of the Commonwealth Code sets forth the vehicle code for the CNMI. 9 CMC § 1201 creates a Bureau of Motor Vehicles (BMV) within the Department of Public Safety. The BMV is authorized to administer the vehicle code and to develop rules and regulations necessary to carry out the administration of the laws vested in the Bureau for adoption by the Director of DPS. 9 CMC § 1204.

Division 3 of title 9, 9 CMC §§ 3101-3114, governs the inspection of vehicles. 9 CMC § 3107 authorizes the Chief of the Bureau of Motor Vehicles to license safety inspection stations to conduct vehicle safety inspections. 9 CMC § 3108 directs the Chief to adopt regulations necessary to establish, regulate, and administer duly licensed safety

inspection stations.

Part 001 - General Provisions

§ 150-50.5-001 Definitions

For purposes of the regulations in this subchapter, unless the context clearly indicates otherwise, the following definitions apply:

- (a) “Ambulance” means a motor vehicle designed and equipped to provide normal and emergency transportation for persons requiring medical care.
- (b) “Bus” means every motor vehicle designed for carrying more than ten passengers and used for the transportation of persons.
- (c) “Certified vehicle inspector” means a person who possesses a current valid, vehicle inspector certificate issued by the Department.
- (d) “Chief” means the Chief of Bureau of Motor Vehicles.
- (e) “Department” means the Department of Public Safety-Motor Vehicle Bureau.
- (f) “Gross vehicle weight rating (GVWR)” means the weight of the vehicle plus the weight of the maximum load it is designed to carry.
- (g) “Highway” means a way or place of whatever nature open to the use of the public for purposes of vehicular traffic, including ways or places that are privately owned or maintained.
- (h) “Moped” means a motor-driven vehicle both with or without pedals to permit propulsion by human power and with a motor which produces not more than 2.5 horse power and which is not capable of propelling the vehicle at a speed in excess of 30 mph on level ground.
- (i) “Motor vehicle” means every vehicle which is self propelled and every vehicle which is propelled by electric power but which does not operate upon rails.
- (j) “Official vehicle safety inspection” means the safety inspection of vehicle equipment and components as required by this subchapter.
- (k) “Official inspection station” means a person, partnership, or corporation that is authorized and issued a permit by the Department having jurisdiction at the station location to conduct official vehicle safety inspections.
- (l) “Passenger vehicle” means every motor vehicle, except motorcycle and motor scooter, designed for carrying ten passengers or less and used for the transportation of persons.
- (m) “Semitrailer” means every vehicle designed for carrying persons or property used in

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

conjunction with a motor vehicle and so constructed that some parts of its weight and that of its load rest upon, or is carried by another vehicle.

(n) “Trailer” means a vehicle designed for carrying persons or property on its own structure and for being drawn by motor vehicle and so constructed that no part of its weight rests upon any other vehicle.

(o) “Truck” means every motor vehicle designed, used, or maintained primarily for the transportation of property.

(p) “Truck-tractor” means a truck designed and used primarily for drawing other vehicles and not so constructed as to carry a load other than a part of the weight of the vehicle and load so drawn.

Modified, 1 CMC § 3806(d), (e), (f), (g).

History: Adopted 9 Com. Reg. 5291 (Dec. 15, 1987); Proposed 9 Com. Reg. 5010 (Sept. 15, 1987).

Commission Comment: In subsections (n) and (p), the Commission corrected the spelling of “constructed.”

§ 150-50.5-005 Scope

(a) The rules governing the periodic safety inspection of vehicles under this subchapter shall apply to all motor vehicles.

(b) The rules also apply to:

(1) The registered owner of any vehicle operated on a highway in the Commonwealth of the Northern Mariana Islands.

(2) Every person who operates or parks any vehicle on a highway in the Commonwealth of the Northern Mariana Islands.

(3) Every official inspection.

(4) Every person who conducts official vehicle safety inspections or is the proprietor of an official vehicle safety inspection station.

(c) The rules do not apply to:

(1) Any vehicle owned and operated by an agency of the federal government, provided that such vehicle, when operated on the public highway carries a certificate within the vehicle showing that the vehicle has been inspected and certified as safe under an equivalent periodic inspection program operated by the federal government.

(2) Military vehicles which are specially configured and have no equivalent counterpart available to the general public when owned and operated by an agency of the federal government.

Modified, 1 CMC § 3806(d), (g).

History: Adopted 9 Com. Reg. 5291 (Dec. 15, 1987); Proposed 9 Com. Reg. 5010 (Sept. 15, 1987).

Commission Comment: In subsection (b)(3), the Commission corrected the spelling of “official.” In subsection

(b)(4), the Commission deleted the repeated word “an.”

§ 150-50.5-010 Special Requirements

All motor vehicles shall be inspected and certified once every twelve months and the date of inspection shall correspond with the date for registration of a vehicle.

(a) When a police officer finds a vehicle to be in an unsafe condition or if any required part or equipment is not present, or is present but not in proper repair, an owner shall, subsequent to the issuance of a citation by the police officer, obtain a new certificate of inspection within five days or have the defect corrected.

(b) When a police officer has determined that the equipment of a vehicle involved in an accident has been damaged to an extent renders the vehicle unsafe, the vehicle shall be inspected and certified before it is operated again.

Modified, 1 CMC § 3806(e).

History: Adopted 9 Com. Reg. 5291 (Dec. 15, 1987); Proposed 9 Com. Reg. 5010 (Sept. 15, 1987).

§ 150-50.5-015 Administration and Enforcement

(a) The Department of Public Safety-Motor Vehicle Bureau shall have the power to administer and enforce the rules and regulations in this subchapter.

(b) The Department shall be responsible for:

(1) The issuance of permits and the furnishing of instructions and all forms to official inspection stations within the Commonwealth of the Northern Mariana Islands.

(2) The supervision and inspection of official inspection station(s).

(3) The supervision or revocation and surrender of permits issued to a station whenever the Department determines through inspection or investigation that the station is not properly conducting vehicle inspections in accordance with the rules and regulations in this subchapter.

Modified, 1 CMC § 3806(d), (g).

History: Adopted 9 Com. Reg. 5291 (Dec. 15, 1987); Proposed 9 Com. Reg. 5010 (Sept. 15, 1987).

Commission Comment: In subsection (b)(1), the Commission corrected the spelling of “the.”

Part 100 - Inspection Stations and Inspections

§ 150-50.5-101 Inspection Stations; Permits; Department Responsibilities

The Department shall be responsible for:

(a) The issuance of permits officially designating each vehicle inspection station that meets the minimum standards required by this part to conduct official vehicle inspections in accordance with these rules and regulations.

- (b) Inspecting the station facilities and equipment of each applicant for an official vehicle inspection station permit to insure that the minimum standards and requirements of the rules and regulations in this subchapter are met.
- (c) Ascertaining that each applicant for an official vehicle inspection station permit meets the minimum requirements of these rules and regulations for having a certified vehicle inspector in its employ.
- (d) Recording the results of all inspections of station facilities and equipment of each applicant for an official vehicle inspection station permit.
- (e) Maintaining a file of all records for each applicant for an official vehicle inspection station permit for a period of one year from the date of application.
- (f) Providing official application forms, approved by the Director, for an official vehicle inspection station permit.
- (g) Developing and issuing each additional forms and instructions as may be necessary to administer the issuance of official vehicle inspection station permits.

Modified, 1 CMC § 3806(d).

History: Adopted 9 Com. Reg. 5291 (Dec. 15, 1987); Proposed 9 Com. Reg. 5010 (Sept. 15, 1987).

§ 150-50.5-105 Application for Inspection Station Permits

Each applicant for certification as an official vehicle inspection station shall comply with the following procedures.

- (a) Application for the permit shall be made on an official form approved by the Director and signed by the applicant under the penalty of perjury.
- (b) The applicant for the permit must provide the following information on the approved form:
 - (1) The registered business name of the station.
 - (2) The exact address and location of the applicant's place of business where the vehicle inspections will actually be conducted.
 - (3) The name of owner, manager, or supervisor who will be responsible and accountable for the vehicle inspections and the performance of the vehicle inspectors.
 - (4) The application form shall contain a statement that the applicant agrees to equip and maintain, at the applicant's own expenses, all vehicle safety inspection facilities in accordance with the minimum standards set by this subchapter.
 - (5) Type of business; e.g. service station, auto repair or vehicle safety inspection.
- (c) Each application for certification as an official vehicle safety inspection station shall be signed by proper authority representing the applicant as follows:

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

- (1) Single proprietorship - signed by the owner and notarized.
 - (2) Partnerships - signed by all partners and notarized.
 - (3) Corporation - signed by a person authorized to sign the application on behalf of the corporation. Written evidence of this authority shall be attached with the corporate seal affixed to the application form.
- (d) Requirements: Each applicant for a vehicle inspection station permit shall provide the following:
- (1) Record of conviction obtained from the Commonwealth Trial Court and from any jurisdiction in which applicant has lived within 5 years prior to date of application.
 - (2) Proof of prior training and experience in the area.
 - (3) A non-refundable application fee of \$100.00 payable to the Commonwealth Treasury.
- (e) Each applicant must meet the requirements specified in § 150-50.5-115 of this subchapter.
- (f) No person or entity may be issued an official vehicle inspection station permit if:
- (1) Applicant has been convicted of any crime exclusive of minor traffic infractions.
 - (2) Fails to meet the requirements as provided for in the rules and regulations in this subchapter.
 - (3) Fails to provide complete and truthful information in the application.

Modified, 1 CMC § 3806(c), (d), (f), (g).

History: Adopted 9 Com. Reg. 5291 (Dec. 15, 1987); Proposed 9 Com. Reg. 5010 (Sept. 15, 1987).

Commission Comment: In subsection (b)(5), the Commission corrected the spelling of “inspection.”

The “Commonwealth Judicial Reorganization Act,” PL 6-25 (effective May 2, 1989), renamed the Commonwealth Trial Court and directed that references to the Commonwealth Trial Court in the Commonwealth Code be interpreted to refer to the new Commonwealth Superior Court. See 1 CMC § 3201 and the commission comment thereto.

§ 150-50.5-110 Inspection Station Permits

The official vehicle inspection station permit shall be on a form approved by the Director.

- (a) The following information shall appear on the face of the permit.
 - (1) The registered name of the person, partnership, or corporation owning and operating the official vehicle inspection station.
 - (2) The “doing business as” (DBA) name of the official vehicle inspection station.
 - (3) The address and location of the official vehicle inspection station.
 - (4) A permit control number.
 - (5) The date the permit issued.
 - (6) The signature of the Department agent authorized to issue official vehicle inspection station permits, with his title and the name of the agent typed under the signature.
- (b) The permit shall be posted in a conspicuous place at the location where the inspections

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

are conducted, and shall be visible to all vehicle owners who present their vehicles for inspection.

(c) The permit shall not be assigned, transferred, or used for any location other than the location listed on the face of the permit as the place where the inspection will be conducted.

(d) The permit shall be valid for a period of 1 year from the date of issuance. A renewal application must be filed with the Department no sooner than 45 days nor later than 30 days prior to expiration of the permit.

(e) Upon issuance of permit by the Director, applicant shall obtain a business license for operation of a safety inspection station from the Department of Commerce and Labor.

Modified, 1 CMC § 3806(g).

History: Adopted 9 Com. Reg. 5291 (Dec. 15, 1987); Proposed 9 Com. Reg. 5010 (Sept. 15, 1987).

Commission Comment: In subsection (b), the Commission corrected the spelling of “conspicuous.” The Commission inserted a comma after the word “transfer” in subsection (c) pursuant to 1 CMC § 3806(g).

With respect to the reference to the “Department of Commerce and Labor” in subsection (e), see Executive Order 94-3 (effective August 23, 1994) reorganizing the Commonwealth government executive branch, changing agency names and official titles, and effecting numerous other revisions; see also Executive Order 03-01 (effective May 9, 2003), the “Department of Labor and Immigration Reorganization Plan of 2003,” returning the immigration functions of the executive branch to the Office of the Attorney General and renaming the Department of Labor.

§ 150-50.5-115 Issuance of Inspection Station Permits

The Department may issue official vehicle inspection station permits only to those applicant stations which have been certified by the Department as meeting the following standards:

(a) Hours of Operation. Each official vehicle inspection station shall have a certified vehicle inspector scheduled to be available to conduct vehicle inspections for a total of eight hours during the span of time from 8:00 a.m. to 7:00 p.m. daily, except Sundays and holidays.

(b) Personnel Requirements. There shall be on the premises during the hours of operation the following personnel:

- (1) One supervisor, manager, or owner of the business and
- (2) A certified vehicle inspector.

(c) Inspection Station Facilities. Each official vehicle inspection station shall conform to the following requirements:

(1) The inspection area must comply with the minimum dimension as follows:

- (i) Motorcycle and motor scooters - 8 feet by 10 feet.
 - (ii) Passenger cars, trucks trailers, buses under 10,000 pounds GVWB, and truck trailer - 12 feet by 25 feet.
 - (iii) Trucks, buses, and trailers 10,000 pounds GVWR or more 12 feet by 70 feet.
- (2) The inspection area shall also:

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

- (i) Have an overhead protection from weather elements.
 - (ii) Be designated and marked as such.
 - (iii) Be clean and orderly.
 - (iv) Have a hard surface, such as concrete, and be in sound condition. Wood or dirt floor shall not be acceptable.
 - (v) Have a surface limited to a 2.5 per cent slope 3 inches in 10 feet.
 - (vi) Have no hazardous condition that may cause injury to persons or damage to vehicle.
 - (3) The total interior floor area and the exterior ground space including parking areas which are used by the public shall be free of dirt, gravel, grease, oil, debris, or other noxious, hazardous, or repulsive foreign substances.
 - (4) Every official vehicle inspection station shall have a vehicle headlamp test area. This area shall be flat and level within the calibration limits of the headlamp aim testing equipment.
 - (5) All official vehicle inspection stations serving the public shall have the minimum of two parking spaces, and each parking space shall have the minimum dimensions of 7 feet.
- (d) Inspection Tools, Equipment, and Replacement Parts. Every official vehicle inspection station shall have the following tools, equipment replacement parts available and in good operating condition at the station location:
- (1) One headlamp testing device, such as a mechanical aimer, optical or photoelectric aiming device, or aiming screen.
 - (2) One driver over “slideslip” or alignment gauge.
 - (3) One vehicle hoist drive over pit that facilitates a complete view of the underside of the vehicle to be inspected.
 - (4) One floor jack with a 5,000 pounds lift capacity.
 - (5) One flashlight or work light capable of illuminating under vehicle or under hood inspections.
 - (6) A tire pressure gauge marked in pounds per square inch or metric equivalent.
 - (7) A tire tread depth gauge scored in 1/32 inch increments or 15 centimeters scored in increments of 1 millimeter.
 - (8) Service brake performance equipment.
 - (9) A standard assortment of tools common to a service station or repair shop for replacing and adjusting all vehicle lighting devices, for removing and replacing exhaust pipes and muffler, and for adjusting all types of brakes on the types of vehicles which the station is authorized to inspect.
 - (10) Replacement parts available for quick minor repairs shall include: windshield wiper arms and blades (assorted); insulated wire (assorted types and sizes); light bulbs (assorted sizes and styles).
 - (11) Additional tools and equipment for the inspection of vehicles over 10,000 pounds GVRW shall include approved caliper or “matching stick” for dual tires, a gauge block (1/2 inch) for dual tires; and an ammeter (0 to 25 amperes for two brake systems, 0 to 40 amperes for six brake systems) for electric brakes may also appear on trailer less than 10,000 pounds GVWR.
- (e) Rules and Inspection Manual. Each public official vehicle inspection station shall obtain and maintain a copy of this subchapter and a copy of the Periodic Vehicle Inspection Manual which is attached hereto in good legible condition for use exclusively at the station.

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

(f) Insurance Requirement. Each public official vehicle inspection station shall provide proof that there is in effect a liability insurance policy issued to the station owner or operator by an insurance company authorized to do business in the CNMI that the current liability insurance insures the owner or operator and any of his employees in the minimum amounts of \$10,000 for comprehensive public liability for one person, \$20,000 for one accident, and \$5,000 for comprehensive property damage.

Modified, 1 CMC § 3806(d), (e), (f), (g).

History: Adopted 9 Com. Reg. 5291 (Dec. 15, 1987); Proposed 9 Com. Reg. 5010 (Sept. 15, 1987).

Commission Comment: In subsections (d)(1), (d)(7), (d)(9) and (d)(11), the Commission corrected the spelling of “aiming,” “millimeter,” “exhaust,” “gauge” and “amperes,” respectively. The Commission inserted commas after the words “manager” in subsection (b)(1) and “equipment” in subsection (d) pursuant to 1 CMC § 3806(g).

§ 150-50.5-120 Inspector Certification; Department Responsibilities

The Department shall be responsible for:

- (a) The issuance of certificates authorizing those persons meeting the requirements established by this part to conduct vehicle inspections.
- (b) The administration of written and performance examination for all applicants.
- (c) Recording the results of all examinations.
- (d) Maintaining a record of examination results for a period of one year from the date applicant took the examination.
- (e) Maintaining a file for all formerly certified vehicle inspectors for a period of one year after decertification.
- (f) The development and issuance of such additional instructions and forms as may be necessary for administering the vehicle inspector application certification process. All such supplemental instructions and forms shall first be approved by the Director.

Modified, 1 CMC § 3806(d), (g).

History: Adopted 9 Com. Reg. 5291 (Dec. 15, 1987); Proposed 9 Com. Reg. 5010 (Sept. 15, 1987).

Commission Comment: In subsection (b), the Commission corrected the spelling of “administration.”

§ 150-50.5-125 Application for Inspector Certification

Application for vehicle inspector certification shall be made of a form furnished by the Department and approved by the Director. The application shall be accompanied by proof of payment of an application fee of \$100.00 payable to Commonwealth Treasury. The applicant shall provide and certify to the truth of the following information on approved form:

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

- (a) Type of application - original or renewal.
- (b) Applicant's last name, first name, and middle initials.
- (c) Applicant's home address.
- (d) Applicant's telephone number.
- (e) Applicant's date of birth and place of birth.
- (f) Applicant's type of CNMI's driver license and driver's license number.
- (g) Applicant's driving experience in years and by the type of vehicle.
- (h) Applicant's technical license or certificates.
- (i) Applicant's vocational and technical training schools, accomplished by a copy of certificates of successful completion.
- (j) Applicant's experience in vehicle safety inspection and/or automotive mechanics experience.
- (k) Applicant's formal education.
- (l) The date the application is filled.
- (m) Applicant's signature and declaration under penalty of perjury that all furnished information is true, and that upon certification as a vehicle inspector, the applicant will conduct vehicle safety inspections in accordance with the rules and regulations in this subchapter.
- (n) Record of conviction obtained from Commonwealth Trial Court and from any jurisdiction in which applicant has lived within 5 years prior to date of application.

Modified, 1 CMC § 3806(d).

History: Adopted 9 Com. Reg. 5291 (Dec. 15, 1987); Proposed 9 Com. Reg. 5010 (Sept. 15, 1987).

Commission Comment: The "Commonwealth Judicial Reorganization Act," PL 6-25 (effective May 2, 1989), renamed the Commonwealth Trial Court and directed that references to the Commonwealth Trial Court in the Commonwealth Code be interpreted to refer to the new Commonwealth Superior Court. See 1 CMC § 3201 and the commission comment thereto.

§ 150-50.5-130 Issuance of Inspector Certificates

The Department shall issue official vehicle safety inspector certificates only to those applicants who meet the following required minimum standards:

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

- (a) Each applicant shall be able to read and legibly hand print the English language.
- (b) Each applicant shall be at least eighteen years of age at the time of the application.
- (c) Each applicant shall be a high school graduate or possess an equivalent education level certification.
- (d) Applicant shall have a valid CNMI driver's license.
- (e) Each applicant shall have at least: one year of training in automotive mechanics, or a related technical field at a school conducting regularly scheduled classes and year of experience as an automotive mechanic.
- (f) Applicant must successfully complete an exam administered by the Department except that an applicant for renewal is not required to take an examination.
- (g) No applicant shall be issued an inspector certificate if he or she fails to meet the requirements of the rules or regulations in this subchapter and/or has previously been convicted of a crime exclusive of minor motor vehicle infractions.

Modified, 1 CMC § 3806(d), (e), (g).

History: Adopted 9 Com. Reg. 5291 (Dec. 15, 1987); Proposed 9 Com. Reg. 5010 (Sept. 15, 1987).

Commission Comment: In subsections (e) and (g), the Commission corrected the spelling of "automotive" and "previously," respectively.

§ 150-50.5-135 Inspector Certificate Forms

- (a) The official vehicle inspector certificate shall be of a design approved by the Director, and indicate the following information on the face of the certificate:
 - (1) The name of the person to whom the certificate is issued.
 - (2) The date the certificate is issued.
 - (3) The expiration date of the certification.
 - (4) The signature of the Department agent authorized to issue the certificate.
 - (5) The number of the certificate.
- (b) The following information shall be listed on the reverse side of the official vehicle inspector certificate.
 - (1) The types of vehicle the inspector is certified to inspect.
 - (2) The name and location of the official vehicle inspection station where the inspector will conduct the inspections.
- (c) The official certificate designating a person as a vehicle inspector shall be displayed in a conspicuous place in the area where inspections are conducted.

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

(d) A vehicle safety inspector certificate shall expire four years from the date of issuance, unless revoked or suspended by the Department.

(e) Application for renewal of certification shall be made by the vehicle safety inspector not more than sixty days nor less than thirty days prior to the expiration of the certificate.

Modified, 1 CMC § 3806(e), (g).

History: Adopted 9 Com. Reg. 5291 (Dec. 15, 1987); Proposed 9 Com. Reg. 5010 (Sept. 15, 1987).

Commission Comment: In subsection (a), the Commission corrected the spelling of “certificate.”

§ 150-50.5-140 Inspection Stations; Operating Procedures

Official vehicle inspection stations shall be operated in accordance with the rules and regulations in this subchapter which include the Periodic Vehicle Inspection Manual attached hereto, and such instruction as may be issued by the Department which are not inconsistent with these rules and regulations.

(a) Official public vehicle safety inspections shall be operated with reasonable regard for the convenience of the public.

(b) Official vehicle safety inspections shall be conducted only at official vehicle safety stations which have been issued a permit by the Department.

(c) Official vehicle safety inspections shall be conducted only by vehicle safety inspectors who have been issued a certificate by the Department.

(d) The Department shall upon request furnish copies of all instructions and required forms, including a copy of the rules in this subchapter including the Period Vehicle Inspection Manual to the official vehicle inspection station. The Department may require persons receiving such copies, to pay the cost of the items.

(e) The Department may require every official public vehicle inspection station to post a sign with a minimum area of 144 square inches, clearly legible from a public area, containing the word, “Official Vehicle Safety Station,” together with the identifying numbers and letters assigned to that station.

Modified, 1 CMC § 3806(d), (g).

History: Adopted 9 Com. Reg. 5291 (Dec. 15, 1987); Proposed 9 Com. Reg. 5010 (Sept. 15, 1987).

Commission Comment: In subsection (e), the Commission moved the comma after “station” inside of the closing quotation mark.

§ 150-50.5-145 Safety Inspection Records

(a) A vehicle safety inspection checklist/certificate form, as designated and approved by the

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

Director, shall be completed by the vehicle safety inspector, for each vehicle inspected.

(b) The official vehicle inspection station operator shall insure the copies of the completed safety inspection checklist/certificate are distributed as follows:

- (1) One copy shall be sent to the Department.
- (2) One copy shall be retained by the certified safety inspection station for a period of at least one year.
- (3) One copy shall be given to the vehicle owner for use as needed for vehicle registration purposes.
- (4) One copy shall be given to the vehicle owner to be retained in the vehicle at all times.

History: Adopted 9 Com. Reg. 5291 (Dec. 15, 1987); Proposed 9 Com. Reg. 5010 (Sept. 15, 1987).

Commission Comment: The original paragraphs were not designated. The Commission designated subsections (a) and (b).

§ 150-50.5-150 Inspection Stations; Supervision by the Department

The Department shall exercise supervisory control over all official vehicle inspection stations under its jurisdiction. This supervisory function shall include, but not be limited to, the following activities:

- (a) The issuance of instructions and any forms as may be required for:
 - (1) The preparation and maintenance of records concerning official vehicle safety inspections.
 - (2) The preparation and submission of reports by official vehicle inspection station operators.
 - (3) The use and condition of station facilities and equipment used in the safety inspection of vehicles.
- (b) Monitoring and inspecting official vehicle inspection stations to:
 - (1) Evaluate the procedures used in the safety inspection of vehicles.
 - (2) Evaluate the condition of vehicle inspection facilities and equipment used in vehicle safety inspections.
 - (3) Evaluate the condition and accuracy of test equipment used in vehicle safety inspections.
- (c) The analysis of official vehicle inspection reports to evaluate the performance of vehicle safety inspections.
- (d) The preparation and maintenance of appropriate records for each official vehicle inspection station.
- (e) The Department shall prepare and submit a report to the Director at the end of each quarter covering periodic vehicle safety inspection activities with its jurisdiction. This report shall contain, but is not limited to the following:
 - (1) The number of vehicle inspection station applications processed.
 - (2) The number of vehicle inspector certificates suspended.
 - (3) The number of official inspection station permits revoked.

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

- (4) The number of official inspection stations voluntarily withdrawing from the program.
- (5) The number of vehicle inspector applications processed.
- (6) The number of vehicle inspector certificates revoked.
- (7) The number of certified vehicle inspectors active in the jurisdiction.
- (8) The number of vehicle inspector certificates renewed.
- (9) The number of official vehicle inspection stations monitored.
- (10) A brief narrative describing any problems, innovations and recommendations.

History: Adopted 9 Com. Reg. 5291 (Dec. 15, 1987); Proposed 9 Com. Reg. 5010 (Sept. 15, 1987).

§ 150-50.5-155 Enforcement by the Department

- (a) Any violation of the rules and regulations in this subchapter or failure to comply with these rules and regulations may result in suspension or revocation of a permit or a certificate.
- (b) The Department shall post at its main office a list of the names of inspection stations for which permits have been suspended or revoked and the names of inspectors whose certificates have been suspended or revoked.

Modified, 1 CMC § 3806(d), (g).

History: Adopted 9 Com. Reg. 5291 (Dec. 15, 1987); Proposed 9 Com. Reg. 5010 (Sept. 15, 1987).

Commission Comment: The original paragraphs were not designated. The Commission designated subsections (a) and (b). In subsection (a), the Commission deleted the repeated word “and.”

§ 150-50.5-160 Operating Procedures for Inspectors

Certified vehicle inspectors shall conduct all official vehicle safety inspections, in accordance with the regulations in this subchapter including the Periodic Vehicle Inspection Manual, and such instructions as may be issued by the Department that are not inconsistent with these regulations.

- (a) No person shall act as a certified vehicle inspector or issue any official safety inspection certificate unless that person possesses a current, valid vehicle inspector’s certificate to conduct vehicle inspections issued by the Department.
- (b) Certified vehicle inspectors shall be the only persons authorized to conduct safety vehicle inspection.
- (c) Every certified vehicle inspector shall conduct vehicle safety inspections in accordance with the procedures and criteria prescribed in the Periodic Vehicle Inspection Manual.

Modified, 1 CMC § 3806(d), (g).

History: Adopted 9 Com. Reg. 5291 (Dec. 15, 1987); Proposed 9 Com. Reg. 5010 (Sept. 15, 1987).

Commission Comment: In subsections (a) and (c), the Commission corrected the spelling of “Department” and

“certified,” respectively.

Part 200 - General Procedures for Inspection

§ 150-50.5-201 Applicant for Inspection Certification

- (a) Any vehicle owner or operator shall be allowed to make an appointment with any public vehicle inspection station for inspection of a vehicle.
- (b) Any vehicle owner or operator shall be free to select any official public vehicle inspection station and shall not be obligated to have any repair work performed at the station where the inspection is made.
- (c) Upon successful completion of inspection, the vehicle owner or operator shall proceed to the Bureau of Motor Vehicle to obtain a vehicle inspection sticker and other documents.

History: Adopted 9 Com. Reg. 5291 (Dec. 15, 1987); Proposed 9 Com. Reg. 5010 (Sept. 15, 1987).

§ 150-50.5-205 Inspection Fees

The following fees shall apply:

- (a) A five dollar fee shall be charged for the safety inspection sticker payable to the Commonwealth Treasury.
- (b) Mopeds, motorcycles, three and four wheeled recreational vehicles and other two wheeled motor vehicles shall be charged \$2.50.
- (c) A five dollar fee shall be charged for pick-ups, sedans, jeeps, automobiles, and other motor vehicles not exceeding six passengers as stated by manufactures rating.
- (d) All owned and operated government vehicles shall be charged a fee of \$1.00.
- (e) A fee of \$30.00 shall be charged for trucks, buses, all other heavy equipment vehicles, and all other motor vehicles.
- (f) When an application for certification of vehicle safety inspection is made at the an official vehicle safety inspection station, a certified vehicle safety inspector may first collect the inspection fee and then shall conduct the inspection pursuant to the rules in this subchapter including the Periodic Vehicle Inspection Manual, using the checklist form designed by the Director.
- (g) A certified vehicle inspector may require an additional inspection fee as established herein for the reinspection of corrected defects when the vehicle is presented for certification more than ten days after failure of the applicant’s vehicle to qualify on the initial inspection.

Modified, 1 CMC § 3806(d), (e), (f), (g).

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

History: Adopted 9 Com. Reg. 5291 (Dec. 15, 1987); Proposed 9 Com. Reg. 5010 (Sept. 15, 1987).

Commission Comment: In subsection (b), the Commission corrected the spelling of “shall.” In subsection (f), the Commission deleted the word “and” after “including” to correct a manifest error. The Commission inserted a comma after the word “vehicles” in subsection (e) pursuant to 1 CMC § 3806(g).

§ 150-50.5-210 Failure to Qualify for Certification and Correction of Defects

(a) When a vehicle inspection pursuant to the rules in this subchapter including the Periodic Vehicle Safety Inspection Manual is found not to qualify, the certification of inspection and approval shall not be assigned by the certified inspector who performed the inspection.

(b) After the certificate of inspection and approval is signed, a safety inspection sticker shall be affixed by the Motor Vehicle Bureau personnel upon the left hand of the rear windshield of the vehicle. If the vehicle has a convertible top, the sticker shall be applied on the lower right hand corner of the front windshield.

(c) All expired safety inspection stickers on the vehicle shall be removed and destroyed.

Modified, 1 CMC § 3806(d).

History: Adopted 9 Com. Reg. 5291 (Dec. 15, 1987); Proposed 9 Com. Reg. 5010 (Sept. 15, 1987).

§ 150-50.5-215 Replacement of Lost or Stolen Stickers

(a) Safety inspection stickers which have been lost or stolen may be replaced without reinspection if the vehicle owner or operator can furnish proof of inspection and approval, and the loss is reported prior to the current inspection expiration date.

(b) Reinspection shall be required if there is no evidence or previous safety inspection or the safety inspection certificate date has expired.

(c) The Bureau of Motor Vehicle shall record safety inspection sticker replacements on the original inspection copy of the checklist certificate and report the additional information to the Department.

History: Adopted 9 Com. Reg. 5291 (Dec. 15, 1987); Proposed 9 Com. Reg. 5010 (Sept. 15, 1987).

§ 150-50.5-220 Items of Equipment to Be Inspected

The following items shall be inspected:

(a) Registration.

(b) Tires.

- (c) Wheels.
- (d) Brakes.
- (e) Steering alignment and suspension.
- (f) Lighting and electrical systems.
- (g) Vehicle glazing (windshield and windows).
- (h) Body and sheet metal.
- (i) Fuel intake system.
- (j) Exhaust system.
- (k) Speedometer - odometer.

Modified, 1 CMC § 3806(f), (g).

History: Adopted 9 Com. Reg. 5291 (Dec. 15, 1987); Proposed 9 Com. Reg. 5010 (Sept. 15, 1987).

Commission Comment: In subsection (a), the Commission inserted the final period.

§ 150-50.5-225 Scope of Inspection

The scope of inspection shall specifically include the following:

(a) Registration:

The vehicle license number and identification number shall be inspected for agreement with the corresponding numbers shown on the registration certificate. License plate shall be inspected for condition, legibility, proper location, and secure mounting.

(b) Tires:

Tires shall be inspected for wear, damage, proper size, type and tread configuration.

(c) Wheels:

Wheels shall be inspected for damage, missing part, excessive runout, and security or mounting.

(d) Brakes:

Service, parking and emergency brake system shall be inspected for performance; wear and condition of friction components and mechanical linkage; leakage of hoses, tubing, diaphragms, pistons, and reservoirs; and proper operation of power units and failure warning indicators.

(e) Steering Alignment and Suspension:

The steering alignment and suspension system shall be inspected for condition of power units, if so equipped; lash, free play, and travel; wheel bearing looseness, damage and wear; wheel

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

alignment; and function, condition, damage, and wear of all suspension units.

(f) Lighting and Electrical System:

Lamps and reflectors shall be inspected for function, location, color, brightness, and damage. Headlamps, auxiliary driving or fog lamps shall in addition, be tested for aim and operation of the high beam indicator. Horns shall be inspected for functions. Visible electrical wiring shall be inspected for condition, location, security of fastening and insulation.

(g) Vehicle Glazing (Windshield and Window Glass or Other Material):

Glass, plastic, or other material used in windshield and windows shall be inspected for type, damage, discoloration, obstruction, tinting, and operation of any window adjacent to the driver.

(h) Body Items and Sheet Metal:

(1) Exterior rearview mirrors and the interior rearview mirror shall be inspected for location, field view, condition, mounting, ease of adjustment, and sharp edges.

(2) Windshield wiper shall be inspected for proper operation, blade size and condition, and missing or damaged components.

(3) The windshield washer shall be inspected for operation and fluid distribution.

(4) Body parts shall be inspected for damage, approved modifications, or replacement parts. Bumpers shall be inspected for condition, mounting looseness, hazardous protrusions, and sharp edges. Fenders shall be inspected for condition, mounting looseness, size, hazardous protrusions, sharp edges, and non-approved modifications.

(5) Doors shall be inspected for operations and latching. Forward opening or trunk lids shall be inspected for proper operation and condition of the latch, secondary or safety catch, and latch release mechanism.

(6) The floor pan shall be inspected for condition damage and holes.

(7) Seats shall be inspected for proper operation of the adjustment mechanism and condition of anchor bolts. Seats belts and shoulder belts; inoperative buckles; loose, missing, or unfastened belt anchorages; and non-approved belts. Seat belt retractors shall be inspected for proper functioning. Audible signal and warning light shall be inspected for proper operation.

(i) Exhaust System:

Under vehicle exhaust system components shall be inspected for proper condition, damage, mounting, leakage of gases, and missing or exposed parts. The exhaust manifold and connected piping under the hood shall be inspected for condition, damage, looseness, and leakage.

(j) Fuel Intake System:

All intake and fuel system units, including filler tubes, filler caps, tubing, and hoses shall be inspected for proper location and connection, security, proper installation, leakage, and damage.

(k) Speedometer - Odometer:

The speedometer - odometer shall be inspected for proper operation while performing the brake inspection. Indicated vehicle mileage shall be recorded at the time of vehicle inspection.

Modified, 1 CMC § 3806(g).

History: Adopted 9 Com. Reg. 5291 (Dec. 15, 1987); Proposed 9 Com. Reg. 5010 (Sept. 15, 1987).

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

Commission Comment: In subsections (b), (f), (h)(1), (h)(5), and (h)(7), the Commission corrected the spelling of “configuration,” “auxiliary,” “mirror,” “forward” and “buckles,” respectively. The Commission inserted commas after the words “location” in subsection (a), “damage” in subsection (e), “plastic” in subsection (g), “adjustment” in (h)(1), “modifications” and “protrusions” in subsection (h)(4), “missing” in subsection (h)(7), and “tubing” in subsection (7) pursuant to 1 CMC § 3806(g).

**Appendix A
Periodic Motor Vehicle Inspection Procedure**

1. Steering

A. Power Steering Components:

1. With engine stopped, inspect power steering belts for proper condition and tension.
2. Inspect power steering system including gear, hoses, hose connections, cylinders, valves, pump and pump mounting for condition, rubbing leaks.
3. Inspect power steering reservoir fluid level at operating temperature.

Reject:

1. Belts are badly frayed, cracked on the inner edge or loose; there is a depression of more than one-half inch of thumb pressure midway between the drive and the drive pulleys.
2. Hoses or hose connection have been rubbed by moving parts or are leaking, cylinders, valves or pump show evidence of leakage.
3. Fluid is below proper level.

B. Manual Steering Components:

1. Check steering box, pitman and idler arms for play and looseness.
2. Inspect steering column and shaft for looseness.

Reject:

1. Steering box not secure, pitman and idler arm bushings have excessive play.
2. Steering column and shaft not secure.

C. Lash or Free Play:

1. Vehicle must on a dry, flat, and substantially level surface. On vehicles with power steering, engine must be running.
2. With the wheels in straight ahead position, turn steering wheel until the turning motion is observed at the front wheel.
3. Slowly turn steering wheel in the opposite direction until front wheel movement is observed.
4. Measure the distance the steering wheel has traveled.

Reject:

Steering system free play exceeds values listed:

| Steering Wheel Diameter | Lash |
|-------------------------|--------|
| 16" or less | 2"* |
| 18" | 2 1/4" |
| 20" | 2 1/2" |

22"

2 3/4"

D. Travel:

1. Unlock steering lock with ignition key if vehicle is so equipped.
2. If vehicle has power steering, start and idle engine. Wheels should be on the ground.
3. If vehicle has manual steering, it may be desirable to raise front wheels off the ground.
4. Do not apply service brakes.
5. Turn steering wheel to limits of travel (left and right) and feel for binding or jamming conditions in the steering mechanism.

Reject:

Front wheels are incapable of being turned full right and full left without binding or interference.

E. Absorbing Steering Column

1. From inside passenger compartment, visually inspect for separation of sheer capsule from bracket. (Some models do not have sheer capsules, in which this procedure would not apply).

Note: Many 1967 and later model cars have been equipped with an energy absorbing steering column which was designed to collapse under impact.

Reject:

1. Sheer capsule is separated from the bracket and/or if wheel and column can be moved as a unit.

F. Wheel Bearings

1. Lift front end of vehicle to load ball joints. (If spring or torsion bar is on the lower arm, hoist at frame. If spring or torsion bar is on the upper arm, hoist at lower arm close to ball joint).
2. Check front wheels by grasping each front tire, top and bottom, and rocking it in and out.

Reject:

1. More than 1/8" movement measured at outer circumference of tire, (relative movement between drum and backing plate is excessive).

G. Steering Linkage Play:

1. Follow step F-1 above.
2. If vehicle is equipped with power steering, start and idle engine.
3. Apply service brakes to eliminate wheel bearing play.

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

4. Grasp each front tire, front and rear, and attempt to turn wheel and tire assembly left and right. Note any free movement at front and rear of tire.

Reject:

1. Free movement measured at the tire tread is found to be in excess of that shown below:

| Wheel Diameter | Free Play |
|----------------|-----------|
| 16" or less | 1/4" |
| 16.01 to 18" | 3/8" |
| 18.01" or more | 1/2" |

2. Alignment:

Visually inspect tires for uneven wear or tread. Require alignment should the condition of tire tread indicate such.

Various uneven or irregular tread wear conditions are considered abnormal and may be signs of incorrect tire balance or inflation, defective wheel alignment, or worn suspension components.

3. Suspension:

A. With the vehicle on a level surface, visually inspect the heights of the four corners of the vehicle.

B. Raise the vehicle and visually inspect the underside for condition of the front and rear suspension components listed below:

Frame, Leaf Springs, Coil Springs, Shackles, U-Bolts, Spring Clips, Stabilizer Bar, Control Arms, Radius Rods, Struts, Steering Arms, Tie Rods, Idler Arms, Rubber Bushings, Shock Absorber Mountings, Suspension Brackets, and Ball Joint Seals.

Reject:

Any of the above are loose, broken, missing, bent, or insecurely mounted.

C. Shock Absorbers:

1. With vehicle still hoisted, visually inspect for leakage. (Fluid on outside or lower tube or cylinder).

2. With vehicle on a level surface, push down on bumper on one end of vehicle and release. Note number cycles of free rocking motion allowed by shock absorbers.

3. Repeat procedure at opposite end of vehicle.

Reject:

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

1. Severe leakage (not slight dampness) occurs.
2. Vehicle continues bouncing after more than two cycles of free rocking motion.
3. Vertical motion cannot be induced.

D. Rear Wheel Tracking:

By observation compare tracking of rear wheels with tracking of front wheels when the vehicle is moving straight ahead.

Reject:

Rearwheels do not track parallel and the same lateral (side to side) distance from the front wheel tracks.

4. Tires

- A. Visually inspect for tire wear.
- B. Inspect for cuts, snags, cracks, bumps, bulges, knots in tread or sidewalls.
- C. Inspect for regrooved or recut tires.
- D. Inspect for mismatching of tires.
- E. Inspect for tire size.
- F. Visually inspect for restricted use markings, standard automotive size markings (DOT), highway type tread design, and metal studs in the tire tread.

Reject:

- A. Tire is worn so that less than 2/32" tread remains when measured in any two adjacent major grooves at three locations spaced approximately equally around outside of tire.
Tire is worn that the tread wear indicators contact the road in any two adjacent major grooves at three locations spaced equally around outside of tire.
- B. Tire has cuts, snags or cracks in excess of 1" in any direction, and deep enough to expose cords. Tire has bumps, bulges or knots indicating partial failure or separation of the tire structure.
- C. Tire has been recut or regrooved below original groove depth, except special tires which have undertread for this purpose and are marked as such.
- D. Tires of different sizes or types are mounted on the same axle. (Refer to General Instructions Nos. 2 & 3).
- E. The tire is mounted in an improper location for the size or type when mixed sizes and types are installed on the vehicle. (Refer to General Instructions No. 4).
Note: Difference in brand name or tread design are not cause for rejection.
- F. Any mounted tire has a load capacity less than that required by the GVW of the vehicle; is on a rim of improper width; and can touch or rub any part of the vehicle. (Refer to General Instructions No. 5).

General Instructions:

1. The safest condition exists when all tires:
 - a. Are of the same size.
 - b. Have the same tread pattern and approximately equal tread depth.

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

- c. Are not underinflated (Tire pressure should not be less than that specified for the load on the tire, nor more than the maximum specified for the tire).
2. Tires on each axle must be of the same type of construction; either all bias ply, all belted bias ply, or all radial ply.
3. Tires on each axle must have the same equivalent size designation.
4. When tires of different types or sizes are installed on a vehicle:
 - a. The largest sized tire must be installed on the rearmost axle.
 - b. Radial ply tires must be installed on the rearmost axle with any belted bias ply tires installed on the forward axle.
 - c. Belted bias ply tires must be installed on the rearmost axle with any bias ply tires installed on the forward axle.
5. The following types of tires must not be used for street applications:
 - a. Tires marked “for farm use only,” “off-highway use only,” “for racing use only,” and all other tires designed and marketed for other than highway use by the manufacturer.
 - b. Tires that are not marked with standard automotive size designation.
 - c. Tires that do not have a highway type tread design of ribs and grooves around the tire in the plane of rotation. Mud and snow tires designed for highway use are permitted, but the use of metal studs in these tires is prohibited.
6. The installation and inspection of spare tires is recommended but not required. Spare tires should meet the requirements of tires used on the wheels of the vehicle.
7. GVWR – Gross vehicle weight rating. The weight of the vehicle plus its load carrying capacity in pounds (or kilograms). This rating is specified by the manufacturer on all vehicles assembled since 1969.

5. Wheels and Rims:

- A. Visually inspect wheel bolts, nuts or lugs.
- B. Inspect for wheel damage (on wire wheels run screwdriver handle around spokes, clockwise and counter clockwise to check for broken or loose spokes).
- C. Inspect rims and rings (check for evidence of rim slippage). This is an indication of wear or loose nuts.

Reject:

1. Wheel bolts, nuts, studs, or lugs are loose, missing, severely worn, rusted or damaged so that they cannot be remounted, tightened or safely used.
2. Any part of wheel is bent, cracked, repaired by welding or brazing, damaged, or has elongated bolt holes which would effect* safe operation of the vehicle; spokes of wire wheels are loose, bent or broken.
3. Rims and rings are mismatched, bent, sprung, or otherwise damaged; lockrings or side rings are cracked, bent, or improperly installed on two and three piece wheels.
4. Any wheel nut, hub cap or wheel cover has winged projections.

6. Exhaust System:

A. Under Vehicle Inspection:

1. Visually inspect mufflers, resonator, tailpipes, exhaust pipes, catalytic

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

converters, and supporting hardware* while vehicle is on a hoist, jack and frame stands, or over a pit. Rusted, corroded and damaged parts should be given particular attention. The engine should be running during this inspection. (Holes in the muffler made by the manufacturer for moisture drainage are not cause for rejection.)

Reject:

1. Vehicle has no muffler; there are loose or leaking joints. There are holes in, or patches on, any component; elements of the system are not securely permanently fastened (check for missing or broken hangers); tailpipe end is pinched, rusted or broken off; there is a muffler cut-out or similar device that allows exhaust gases to be discharged before reaching the end of the tailpipe; any part of the system passes through passenger compartment or trunk; the tailpipe ends beneath any compartment used for carrying passengers, including the trunk, or ends forward of any window capable of being opened, vent or openings in the passenger compartment; and exposed exhaust system parts which might burn anyone.

Note: Station wagons with operable tailgate window and trucks with campers.

Tailpipes must exit the side, past the rear tire, and point down.

B. Under Hood Inspection:

1. Visually inspect the exhaust manifold and connected piping. With engine running listen for hissing or other sounds which indicate leakage.

Reject:

1. Any part of the system is damaged, loose, or leaking.

7. Intake and Fuel System:

- A. Visually examine all fuel system components, (filler cap, filler tube, filters, canisters, etc.) and all connections, fuel lines tubes and hoses for security of installation and leakage.

Reject:

- A. Any part of the fuel system that is not securely and permanently fastened.
- B. There is vapor or liquid fuel leakage at any point in the system.
- C. Fuel tank filler cap is missing or does not fit properly.
- D. Hoses, lines or tubes are cut, cracked or broken.

8. Service Brakes:

- A. Check brake fluid level in master cylinder. Also inspect for leaks on the inside or outside of wheel drum backing plates.
- B. Depress foot pedal to brake-applied position .Check emergency brakes actuating

mechanism.

Reject:

- A. Brake fluid leakage around brake mechanism parts.
- B. More than 1" of pedal travel in power brake systems and more than 1 ½" in other systems.
 - 1. Emergency brake mechanism does not lock in the fully applied position.
- C. Take vehicle out on road test. Accelerate to a speed of 4 to 8 mph. Keep hands lightly on steering wheel and apply brakes to stop vehicle in the shortest possible distance. At the same time, check speedometer and odometer for proper operation.

Reject:

- 1. There is significant pull to the right or left. Grinding or unusual noises when applying brakes.
- 2. Odometer fails to operate.
 - Note: At this time, state law does not require a functional speedometer, but you may want to advise your customer that he is leaving himself open to speeding violations if his speedometer is not working.
- 3. If brake troubles are suspected, accelerate vehicle to 20 mph and apply service brakes.

Reject:

Failure to stop vehicle at point of 30' or less and/or failure to stop in a straight line.

9. Parking Brakes:

- A. Automatic transmissions – engage parking brakes, place shifter in drive, keep left foot lightly on service brake pedal and press gas pedal about half throttle momentarily.
- Standard shift – Place shifter in highest driving gear, let clutch out slowly.

Reject:

Failure to hold vehicle in place on flat surface.

10. Headlamps:

- A. Visually inspect the headlamps for position condition (cracked, broken or missing), and secureness.
- B. Turn on the headlamps and check for brightness, direction, and type which may be contrary to law.
- C. Use approved type headlight aimer and candle power meter to check direction and brightness of headlamps.

Reject:

- A. Any headlamp cracked, broken or missing and not securely fastened.

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

B. Headlamps that do not measure 50% of new light brightness, lamps with excessive dirt or moisture inside or obvious discoloration. Lamp showing color contrary to law.

C. Reject the headlight system aim for any of the following conditions:

Horizontal aim of either high or low beam is more than 4" to the right of center.

Vertical aim of either high or low beam is more than 4" lower than center.

11. Stop Lamps:

Notes for inspectors:

a. Almost all vehicles manufactured since the early 1950s were equipped with at least two red stop lamps mounted on each side of the rear of the vehicle. Earlier models may have only one tail lamp mounted on the rear of the vehicle.

b. All vehicles manufactured after January 1, 1969, are equipped with at least two red stop lamps mounted on either side of the rear of the vehicle.

c. On some vehicles the ignition switch must be in the "On" position for the stop lamps to function.

A. With the headlamps or the parking lights on, depress the service brakes and observe the stop lamps.

Reject:

A. Any stop lamp illumination is not readily visible under all lighting conditions.

B. All stop lamps do not illuminate with equal intensity.

C. Excessive pedal pressure is required to illuminate the stop lamps.

D. There is white light visible due to cracked or broken lens.

12. Signal Lamps:

A. Notes for inspectors:

1. Almost all vehicles manufactured since the early 1950s were equipped with self-canceling turn signals.

2. All vehicles manufactured after January 1, 1969 are equipped with self-canceling turn signals and amber (yellow) colored front turn signal lamps.

3. Front turn signal lamps are either white or amber in color; rear turn signal lamps are either red or amber in color.

4. All vehicles equipped with turn signals have indicator lamp within the vehicle.

B. With the parking lamps and ignition switch "On:"

1. Check the operation of the turn signal lamps to the front and rear of the vehicle, both left and right sides. Also check the operation of the interior indicator light.

2. With the turn signal switch actuated in either direction, rotate the steering wheel one full turn and return to original position. Observe the self-cancellation.

Reject:

1. Any turn signal lamp illumination is not readily visible under all lighting conditions.

2. The turn signal flashing rate is less than 50 flashes or greater than 130 flashes per minute.

3. The interior indicator does not indicate turn signal operation.

4. The turn signal does not properly illuminate on the left or right when so switched.
5. The self-canceling device does not operate.

13. Tail Lamps:

A. Notes for inspectors:

1. Almost all vehicles manufactured since the early 1950s were equipped with two red tail lamps, one mounted on each side of the rear of the vehicle.
2. All vehicles manufactured after January 1, 1969 are equipped with at least two red tail lamps and reflectors mounted to the rear on either side of the vehicle.
3. Tail lamps are illuminated whenever the headlamps or parking light switch is activated.

B. Observe illumination of tail lamps.

C. Observe the rear reflectors.

Reject:

1. Any lamp or reflector not of an approved type.
2. Any bulb in lamp not functioning properly.
3. Any circuit that does not light the proper filament.
4. Any cracked, broken, or missing lens or reflectors.

14. Warning Lamps:

A. Notes for Inspectors:

1. All vehicles manufactures after January 1, 1969, are equipped with hazard warning lamps.
2. On some vehicles the hazard warning lamps will not flash when the service brake pedal is depressed.

B. With the parking lamps illuminated, actuate the hazard warning lamp switch. Observe the turn signal lamp and indicator. (Said lamps should function with the ignition switch in the "Off" position).

Reject:

1. Any turn signal lamp fails to flash.
2. Any turn signal lamp is not readily visible under all lighting conditions.
3. The flashing rate is less than 50 per minute or greater than 130 per minute.

15. Other Lamps:

A. Side Marker Lamps:

1. All vehicles manufactured after January 1, 1969 are equipped with side marker lamps and side marker reflectors.

B. Backup Lamps:

1. All vehicles manufactured after January 1, 1969 are equipped with one or more automatic backup lamps mounted on the rear of the vehicle.

C. License Plate Lamps:

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

1. Required on the rear of all vehicles to illuminate the license plate with white light.

D. Auxiliary Lamps:

1. Actuated by a switch at the driver's position, the number of auxiliary lamps used should be limited to two and auxiliary lamps used on vehicles equipped with a four headlamp system should be so connected that they operate only when the low beam headlamps are activated.

Reject:

1. Either the lamp or the indicator fails to function properly.
2. Any lamp or reflector which does not meet the requirement.

16. Horn:

A. Test horn for operation and audibility.

Reject:

1. Horn or horn switch not securely fastened.
2. Horn not audible at 200 feet.
3. Switch not readily accessible to operator.
4. Switch missing or inoperative.
5. Operation of horn interferes with operation of any other circuit.

17. Other Electrical

A. Wiring:

1. Check visible wiring for proper insulation, condition and location.

Reject:

1. Wiring insulation is worn or rubbed bare.
2. Wiring shows any evidence of burning or short circuiting.
3. Wiring is improperly installed, or so located as to incur damage.

B. Neutral Safety Starting Switch: (Automatic Transmission Only)

1. Determine that starter operates with gear selector in "P" (Park) and "N" (Neutral) only.

Reject:

1. Starter operates with gear selector in any gear other than "P" (Park) or "N" (Neutral) only.
2. (Failure to start with the gear selector in Park or Neutral is not cause for rejection.)

18. Windshield

A. General Instructions:

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

1. Automotive safety glazing is marked with the manufacturer's trademark and the letters "AS" followed by a number from 1 through 11. Only AS1 (or AS10 – bullet resistant) may be used in windshields.
2. Vehicles manufactured before 1954 may be equipped with AS2 safety glass in the windshield or may be equipped with unmarked glass in all windows if it is the original equipment.
3. Glazing material installed after January 1, 1972, must be approved by the Territory of Guam.

B. Inspect windshield and all windows for cracks, chips, sharp edges and discoloration.

Reject:

1. There is any stone bruise or star chip greater than 13/16 inch diameter in the driver's side of the windshield.
2. There is any stone bruise or chip greater than 1 ½ inches in diameter in the passenger's side of the windshield or any other window in the vehicle.
3. There are cracks in the driver's side of the windshield of a total length greater than 5 inches.
4. There are cracks in the passenger's side of the windshield or any other window in the vehicle of a total length greater than 8 inches.
5. There are posters or stickers which interfere with vision.

C. Inspect for glazing:

Reject:

1. If the windshield is tinted with glazing other than factory or of the approved type.
2. Note: Windshields to be tinted must be that of clear glass. The "seal" for those companies which handles approved tint must be on each glass being tinted.

19. Other Windows:

- A. Inspect glass for proper type.
- B. Inspect operation of window at driver's left. Window must open readily even though the vehicle has approved turn signals. If equipped with power window turn ignition on to test operation.
- C. Inspect all glass for material or conditions that obscure driver's vision; including stickers, posters, decals, signs, tinting, curtains and venetian blinds.
- D. Inspect for cracks, chips, sharp edges and discoloration.

Reject:

1. Non-transparent materials such as plywood, etc., are used on sedans, jeeps, and station wagons to replace glass.
2. Window at driver's left cannot be readily opened to permit arm signals. (Absence of glass in any window except the windshield is not cause for rejection.)
3. Glazed surfaces contain any vision reducing material, except in shaded areas.

4. Non-approved tinting material.
5. There is any scratched, discolored or otherwise opaque area on the passenger's side of the windshield or any other window in the vehicle which exceeds the dimensions shown in Table 2.
6. There is a crack in the windshield or any window in the vehicle that allows one piece of glass to be moved with respect to the other.
7. The windshield or any window is broken (pieces missing) or has exposed sharp edges.

Note: Refer to "Additional Glazing Information"

20. Windshield Wipers:

1. Notes for Inspectors:
 - a. A cycle consists of blade movement from one extreme of the wiper pattern to the other and return.
 - b. The windshield must be free of insects, oil film or other foreign matter, and must be continuously wet when tested.
2. Visually inspect for satisfactory operation. Apply a small amount of water continuously to the wiped windshield surface during operation of the wipers. This may be accomplished by operation of the washer system, if installed. Count the number of cycles completed in one minute. If vacuum operated, engine must be idling and control full on.
3. Visually inspect for proper blade size, damage, wear, aging, etc., and damaged wiper arms.
4. Inspect for proper contact of blades with windshield. Raise arms 2" away from windshield and release. Arm should return to original position and wiper blade contact the windshield firmly.

Reject:

1. Vehicle has fewer wipers than originally installed.
2. Wipers on vehicles produced after January 1, 1968, do not operate at two or more speeds.
3. On vehicles produced after January 1, 1968:
 - a. The highest operating speed is less than 20 cycles per minute.
 - b. The low operating speed is less than 20 cycles per minute.
4. On vehicles produced before January 1, 1968, and equipped with electric, air, or vacuum powered wipers:
 - a. The operating speed is less than 20 cycles per minute.
5. Blades smear or severely streak windshield after 5 cycles.
6. Blades do not completely clear water from wiped area.
7. Blades are of improper size, edges are hard, cracked or damaged.
8. Parts of arms are missing or damaged to the extent that performance is impaired.
9. Arm fails to return to original position or blade to contact the windshield over the entire length of the blade.

20(A). Windshield Washer:

1. Notes for inspectors:

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

- a. Vehicles produced after January 1, 1968, and introduced into or sold in the U.S. must be equipped with windshield washer systems.
2. Inspects for proper operation of hand or foot control the location and amount of fluid delivered to the windshield surface. Windshield wipers should be in operation during the inspection.

Reject:

1. System fails to function.
2. System does not distribute fluid over the entire wiped area of the windshield within 5 wiper cycles.

21. Rearview Mirror:

A. Notes for inspectors:

1. All passenger vehicles manufactured after January 1, 1968, and introduced into or sold in the U.S. are equipped with adjustable, non-magnifying, left-hand exterior rear view mirror.
2. All passenger vehicles manufactured after January 1, 1968 and introduced into and sold in the U.S. are equipped with an adjustable, non-magnifying, exterior right-hand rearview mirror if the interior mirror does not meet the field of view requirements of Federal Motor Vehicle Safety Standard No. 111.

B. From the driver's position, visually inspect exterior rearview mirrors for proper location and field of view.

C. Visually inspect exterior rearview mirrors for stable mounting, ease of adjustment, and sharp edges or points.

Reject:

1. Any mirror is missing from a vehicle originally equipped with, or require to be equipped with one.
2. Mirror is obscured by a pillar or unwiped portion of the windshield.
3. Mirror does not give a reasonably unobstructed field of view of the area to the rear.
4. Mirror surface is cracked, discolored, pitted or clouded to the extent that any object within the required field of view cannot be clearly seen.
5. Mirror mounting is so loose that a set position cannot be maintained.
6. Mirror has sharp edges or points that could contributed to personal injury.
7. Mirror on the driver's side is mounted so that it cannot be adjusted from the driver's seated position.

21(A). Interior Rearview Mirror:

A. From the driver's position, visually inspect interior mirror for proper mounting, location, cracks, sharp edges, ease of adjustment, clear view to the rear.

Reject:

1. Mirror is missing.

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

2. Mirror is loosely mounted or will not maintained a set adjustment.
3. Mirror does not provide a clear view of highway beginning at point no greater than 200 feet to the rear.
4. Mirror does not give an unobstructed field of view.

22. Registration:

- A. Inspect registration certificate, license plates, vehicle description, and vehicle identification number (VIN). Compare to determine if there is proper agreement among them.
- B. Check the expiration date of the No Fault Insurance Card.
- C. Inspect license plates to see that they are securely mounted, clean, legible and clearly visible.

Reject:

1. The registration certificate is not available.
2. Vehicle description or identification number is not in agreement with registration certificate.
3. Numbers on license plates are not in agreement with numbers on registration certificate.
4. No Fault Insurance Card is not available or expired or not under the registered owner.
5. License plates are missing.
6. License plates are loosely mounted or improperly located.
7. Plates are obscured so that the numbers cannot be identified.
8. License plate numbers are not current.

23. Door latches:

- A. Open and close doors. Inspect door latches for proper operations.

Reject:

1. Door is missing.
2. Any door will not latch in the fully closed position without using unusual force.
3. Rope, wire or similar materials is used to hold doors in place.
4. Latches that do not operate properly, that do not allow safe locking or safe release.

24. Hood Latches:

- A. Open hood or trunk lid and inspect safety catches for proper operation. Close hood and inspect for proper full closure. Manually inspect latch or remote control for proper operation.

Reject:

1. Hood or trunk lid latch does not securely hold hood or trunk lid in its proper fully closed position.
2. Secondary or safety catch does not function properly.

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

3. Latch release mechanism or its parts are broken, missing or badly adjusted so that the hood or trunk lid cannot be opened and closed properly.
4. Rope, wire or similar material is used to hold doors, hood or trunk lid in place.

25. Seats and Seat Belts:

A. Notes for inspectors:

1. All passenger vehicles manufactured after January 1, 1968, and introduced into or sold in the U.S. are equipped with seat belts for all outboard passenger seating positions.
2. All passenger vehicles manufactured after January 1, 1970, are equipped with:
 1. Seat belts for all passenger seating positions; and
 2. Shoulder belts for all outboard passenger seating positions, except convertibles.

B. Inspect seats for proper operation of adjusting mechanism and to see that the seats are securely anchored to floor pan.

C. Inspect seat belts and shoulder harnesses (when so equipped) for frayed, split or torn webbing; malfunctioning buckles; loose or damaged anchorages to floor pan.

D. Inspect seat belt retractors for proper function. (Inertia locking retractors only. These belts have no provision for adjusting the length of the belt.)

E. While sitting in the driver's seat with seat belts unfastened, turn on the ignition and check seat belt warning system for audible signal and/or warning light (passenger vehicles manufactured after January 1, 1972).

Reject:

1. All seat anchor bolts are not securely fastened to floor or are missing.
2. Seat cannot be adjusted or seat adjusting mechanism slips out of set position.
3. When originally equipped, belts are missing (except where an alternate restraint system is installed);
Belt webbing is frayed, split or torn;
Buckles do not latch or release properly;
Belt anchorages are loose, missing or not fastened to belt;
Belts are not an approved type.
4. A retractor fails to maintain the restrained occupant belt length or fails to roll the belt onto the retractor when buckle is disconnected.
5. Audible signal and/or warning light does not activate for 4 to 8 seconds after ignition is turned on.

26. Fenders.

A. Visually inspect fenders for hazardous condition or unsafe mounting. Grasp fender firmly and apply moderate force up and down.

Reject:

1. Any fender is missing.
2. Any fender is loosely attached.

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

3. Any fender which does not cover the width of the tire tread.
4. Any fender is damaged to the extent that sharp edges or protruding portions are a safety hazard to persons nearby.
5. Modified fenders are not approved by the Territory of Guam.

27. Bumpers:

A. Notes for Inspectors:

1. Modified bumpers shall be:

- a. Constructed of substantial material that will not shatter or split upon impact;
- b. Firmly attached;
- c. Free of sharp or protruding edges or points; and
- d. Provide a horizontal contact face extending to the width of the body sheet metal, including fenders, at a height between 14" and 22" above a level road service.

2. Visually inspect bumpers for hazardous condition or unsafe mounting. Inspect for looseness by grasping the bumper and applying force up and down and from side to side.

Reject:

1. The bumper is missing.
2. The bumper can be moved at the attachment points by the application of force in any direction.
3. The bumper is damaged or broken to the extent that it is in contact with body sheet metal.
4. The bumper is damaged to the extent that sharp edges or protruding portions are a safety hazard to the persons or vehicles nearby.

28. Floor Pan:

A. Notes for Inspectors:

1. This is primarily a visual inspection which may be most easily conducted from under the vehicle.

B. Inspect floor pan in both occupant compartment and truck for holes which could permit entry of exhaust gases, or which would not support occupants adequately. Vehicles with other visible rust damage should be checked very carefully. Soft spots in the floor covering or loose seat mountings could be indications of a damaged floor pan.

Reject:

1. Floor pan (front and/or rear) has holes caused by rust or other damage. (Drainage holes provided by the manufacturer are not cause for rejection if they are securely plugged or otherwise sealed.)

29. Body Items:

- A. Visually inspect for torn or damages parts, loose or improperly assembled parts.

Reject:

1. Torn metal, broken glass or other loose or dislocated parts protrude from the exterior of the vehicle presenting a safety hazard to persons nearby.

30. Speedometer:

- A. Visually check the speedometer.

Reject:

1. If the speedometer is not functioning.

31. Emission Control:

- A. Visually inspect the Emission Control System.

Reject:

1. If the Emission Control System has been disconnected or modified.
-

Glazing:

Definitions:

1. "Glazing material" means any material (glass, plastic, etc., either clear or tinted) used in or on a vehicle:
 - a. As a windshield; or
 - b. In a window opening; or
 - c. As an interior partition.
2. "Tinting" means any process applied to glazing material that reduces the amount of visible light that passes through the material. The amount of light passing through the material is known by the technical term "luminous transmittance."

Only glazing material marked "AS-1 (DOT)" or "AS-2 (DOT)" is approved for use in regular passenger car windows or the windows to the immediate right and left of the driver in trucks and buses. "AS-10 (DOT)" or "AS-11 (DOT)" is approved for use in these locations where bullet resistance is required.

Vehicles manufactured before 1954 may be equipped with AS-2 safety glass in the windshield or may be equipped with unmarked glass in all windows if it is the original equipment.

I. Glazing material used in:

- A. The windshield and all windows and partitions in passenger cars and taxi cabs; and in
- B. The windshield and the windows to the immediate right and left of the driver in trucks

and buses; and in

C. The rear windows (windows facing outward from the rear of the vehicle) of trucks and buses not equipped with exterior rearview mirrors on the right and left sides of the vehicle;

Must not be tinted to the extent that luminous transmittance is reduced to less than 70 percent. Any after market tinting material applied in these locations must be approved by the Director of Revenue and Taxation.

II. There is no luminous transmittance requirement for:

A. Windows other than those indicated in paragraph I.B above, for trucks and buses; or

B. The rear, windows of a truck or a bus equipped with exterior rearview mirrors on the right and left side of the vehicle.

Therefore, there is no approved required for any tinting of these windows.

Although determination of percent of luminous transmittance must be measured by instruments, a general determination can be made:

1. Under ordinary daylight conditions persons and objects within a vehicle are readily visible and identifiable from outside of the vehicle when viewed through any glazing material with a luminous transmittance of 70 percent or more.

2. Conversely, if persons or objects within a vehicle are not readily visible and identifiable when viewed through the glazing material from outside of the vehicle under ordinary daylight conditions.

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

Motorcycles

Contents

| Section | Page |
|-----------------------------------|------|
| Registration | 147 |
| Tires | 148 |
| Wheels | 149 |
| Brakes | 149 |
| Steering Alignment and Suspension | 152 |
| Lighting and Electrical System | 155 |
| Body and Sheet Metal | |
| Body, Frame and Accessory Items | 160 |
| Exhaust System | 162 |
| Fuel System | 163 |

Registration

General Definitions - Motorcycles

1. **Motorcycle** Any motor vehicle other than a tractor, having a seat or saddle for use of the rider and designed to travel, on no more than 3 wheels in contact with the ground. Special purpose motorcycles, designed and sold exclusively for use off highway or in closed course competition events are not subject to inspection requirements.
2. **Sidecar** An attached third wheel to either side of a motorcycle, generally for the purpose of transporting persons or property.
3. **Longitudinal Plane of Symmetry**
 - a. **Two-wheeled motorcycle:** A vertical plane that passes through the centerline of the front and rear wheels.
 - b. **Three-Wheeled motorcycle:** A vertical plane that passes through the centerline of a single wheel and through the midpoint of two wheels sharing the same axis of rotation.
4. **Curb Weight** The weight of a vehicle with standard equipment, maximum capacity of engine fuel, oil, and coolant, but without passengers or cargo.
5. **Gross Axle Weight Rating (GAWR)** The value specified by the vehicle manufacturer as the load-carrying capacity of a single axle system as measured at the tire-ground interfaces.
6. **Gross Vehicle Weight Rating (GVWR)** The specific value specified by the manufacturer as the loaded weight of a single vehicle.

General Instructions

1. Follow the inspection procedure on page 164 for Passenger Vehicles.

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

2. Note the motorcycle license plate mounting location given below:

The license plate bracket should be mounted on the rear of the motorcycle so the plane of the plate, is vertical when the vehicle is standing in its upright operational position.

Tires

Definitions

1. Rim The metal support for a tire or a tire and tube assembly upon which the tire beads are seated.
2. Bead That part of a tire made of steel wires, wrapped or reinforced by ply cords and shaped to fit the inner edge of the rim.
3. Sidewall That portion of a tire between the tread and the bead.
4. Cord The strands forming the plies in the tire.
5. Ply A layer of rubber-coated parallel cords.
6. Tread That portion of a tire that comes into contact with the road.
7. Tread Rib A tread section, running circumferentially around a tire.
8. Groove The space between two adjacent tread ribs.

Tools and Equipment

1. Tread depth measuring gauge.

| Procedure | Reject Vehicle If: |
|--|--|
| A. Inspect for tire wear. | A. |
| 1. Tires without tread wear indicators. (Tread measurement shall not be made where tie bars bumps or fillets are located.) | 1. Tire is worn so that less than 1/32 inch tread remains in any groove at three locations equally spaced around the circumference of the tire, at least one of which shall be at the point where the tread is thinnest. |
| 2. Tires with tread wear indicators. | 2. Tire is worn so that tread wear indicators show a tread depth of 1/32 inch or less remains in any groove at three locations equally spaced around the circumference of the tire. |
| B. Inspect for cord exposure. | B. Any part of the cord or ply is exposed. |
| C. Inspect for tread cuts, snags, or outside wall cracks. | C. Any tread or sidewall cracks, cuts, or snags deep enough to expose any of the body cords. |

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

| | |
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| D. Check sidewall labeling or markings. | D. Tire labeling or markings such as; “Not for highway use,” “For racing purposes only,” or “Unsafe for highway use.” |
| E. Inspect for bumps, bulges or knots. | E. Tire has visible bumps, bulges, or knots indicating partial failure or separation of the tire structure. |
| F. Inspect for regrooved or recut tires. | F. Any tire has been regrooved or recut. |

Wheels

Definitions

1. Spokes The rods or braces that connect the hub and the rim of a wheel.

| Procedure | Reject Vehicle If |
|---|---|
| A. Inspect wheel bolts, nuts, studs and lugs. | A. Any wheel, bolts, nuts, studs, or lugs are loose, missing or damaged. |
| B. Inspect for wheel damage. | B. Any part of the wheel is bent, cracked, rewelded, or damaged so as to affect safe operation of the vehicle. (Advise driver if dust caps on valve stems are missing.) |
| C. Inspect for trueness. | C. Measured at edge of rim, wheel has eccentricity or wobble in excess, of 3/16 inch (5 mm.). |

Brakes

Definitions

1. Braking Distance The distance travelled by a motorcycle from the point of application of the force to the brake control to the point at which the motorcycle reaches a full stop.

2. Brake System A combination of one or more brakes and their related means of operation and control.

3. Brake Service System A brake system used for retarding, stopping and controlling the motorcycle braking under normal operating conditions. Brake service system shall incorporate braking capability on all wheels except sidecar if so equipped.

4. Brake Control Reserve The amount of brake control left in reserve when the brake control is actuated to the brake fully applied position. Note: The purpose of the brake control reserve check is to ascertain the degree of the brake adjustment and to demonstrate satisfactory brake actuation system condition.

5. Split Service Brake System A brake system consisting of two or more sub-systems actuated by a single control, designed so that a leakage-type failure of a pressure component in a

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

single subsystem (except structural failure of a housing that is common to all sub-systems) shall not impair the operation of the other subsystem(s).

6. Hydraulic Brake System A brake system in which the brakes are applied hydraulically. This may incorporate mechanical subsystems.

7. Mechanical Brake System A brake system in which the brakes are applied by mechanical means, through the use of cables and linkage only.

Comment: Motorcycles M-IV-1 3 [Definition 3]

This definition implies that a dual braking system is required on all motorcycles. Territory of Guam Ordinance allows motorcycles to be equipped with a rear wheel brake only.

Response: The Brake Service System definition will be changed to indicate that a .braking capability is required on all wheels that were originally so equipped. Brakes on both front and rear motorcycle wheels have been standard for many years. Such brakes have been required on all motorcycles manufactured on and after September 1, 1973 by Federal regulation. It is not believed that the intent of the Territory of Guam Ordinance is to permit a reduction in the safety capability of motorcycles but rather states a requirement relating to an obsolete industry practice.*

* So in original.

8. Brake Drum The cylindrical, rotational member of a drum brake assembly acted upon by the friction material.

9. Brake Disc or Rotor The parallel-faced circular rotational member of a disc brake assembly acted upon by a friction material.

10. Parking Brake A friction type brake with a solely mechanical means to retain engagement. Required only on three-wheeled motorcycles.

Tools and Equipment

1. Measuring device, steel gauge or scale.

| Procedure | Reject Vehicle If |
|---|---|
| <p>A. Mechanical Brake System. Initiate inspection of linkage, cables, pivots, and bearings for high friction, wear and broken parts.</p> | <p>A. Mechanical Brake System. 1. There is an angle greater than 110° between the cam operating lever and the actuating cable or rod in the fully applied position. 2. It is determined the cam operating lever has been repositioned on the shaft as a means of avoiding replacement of worn cam, worn shoes or worn lining.</p> |

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

| | |
|---|--|
| | <ol style="list-style-type: none"> 3. Any cables are frayed. (One broken strand.) 4. Brake adjusters do not have means to be locked. 5. Front brake cable routed to be pinched between fork and frame 6. Levers and pedals are not free to return. 7. The hand or foot brake levers do not have at least one third of their travel as reserve after the brakes are normally applied. 8. Modifications which make the pedal inaccessible for adequate leverage and safe operating conditions. 9. Brake adjustment changes with fork extended (loaded). |
| <p>B. Condition of Mechanical Components.</p> <ol style="list-style-type: none"> 1. Inspect for worn pins and missing or defective cotter pins. 2. Inspect for broken or missing springs and worn cables, clevises, couplings, rods and anchor pins. 3. Inspect for frozen, rusted or inoperative connections, missing spring clips and defective grease retainers. 4. Inspect pedal shaft and bearings for high friction, wear and misalignment. 5. Inspect for restriction of shoe movement at backing place and for bind between brake shoes and anchor pins 6. Inspect actuating cam for excessive wear, camshaft for looseness in backing plate bushing and determine that springs are of sufficient strength to return and hold shoes against cam. | <p>B. Condition of Mechanical Components.</p> <ol style="list-style-type: none"> 1. Mechanical parts are missing, broken or badly worn. 2. There is excessive friction in pedal and linkage or in brake components. 3. Pedal levers are improperly positioned or misaligned. |
| <p>C. Hydraulic System. Visually inspection condition of hydraulic system.</p> <ol style="list-style-type: none"> 1. Inspect hydraulic for leaks, cracks, chafing, flattened or restricted sections and improper support. 2. Inspect master cylinder for leakage and fluid level. 3. Inspect master cylinder push rod for improper adjustment. 4. Inspect wheel cylinders or hydraulic brake actuating systems. | <p>C. Hydraulic System</p> <ol style="list-style-type: none"> 1. Hoses or tubing leaks or they are cracked, chafed, flattened, restricted or are insecurely fastened. 2. Master cylinder leaks, or the fluid level is less than the minimum level as specified by the manufacturer. (Advise driver if fluid level in-master cylinder, is below the normal amount as specified by the manufacturer, brake system should be checked for possible leaks.) 3. Push rod adjustment fails to meet the recommended tolerances of the manufacturer. 4. |

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

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| | <ul style="list-style-type: none"> a. Any leakage is noted in braking system. b. Wheel cylinder leaks. |
| <p>D. Condition of Linings and Pads</p> <ul style="list-style-type: none"> 1. Bonded Linings (Refer to Passenger Vehicles, Section (3), Item A1.) 2. Riveted Linings (Refer to Passenger Vehicles, Section (3), Items A2; a, b, and c.) 3. All Linings (Refer to Passenger Vehicles, Section (3), Item 4.) 4. Pads (Disc Brakes) (Refer to Passenger Vehicles, Section (3), Item 5.) | <p>D. Condition of Linings and Pads</p> <ul style="list-style-type: none"> 1. Bonded Linings (Same criteria as for Passenger Vehicles, Section (3), Item A1.) 2. Riveted Linings (Same criteria as for Passenger Vehicles, Section (3), Items A2; a, b, and c.) 3. All Linings (Same criteria as for Passenger Vehicles, Section (3), Item 4.) 4. Pads (Disc Brakes) (Same criteria as for Passenger Vehicles, Section (3), Item 5.) |
| <p>E. Brake Drums and Rotor (Refer to Passenger Vehicles, Section (2), Items A1 through 4.)</p> | <p>E. Brake Drums and Rotor (Same criteria as for Passenger Vehicles, Section (2), Items A1 through 4.)</p> |
| <p>F. Brake Discs (Refer to Passenger Vehicles, Section (2), Items B1 through 3.)</p> | <p>F. Brake Discs (Same criteria as for Passenger Vehicles, Section (2), Items B1 through 3.)</p> |
| <p>G. Brake Performance</p> <ul style="list-style-type: none"> 1. At a speed of 20 mph. on a surface which is dry and level and free from loose material the brakes are required to stop the motorcycle within 25 feet. | <p>G. Brake performance</p> <ul style="list-style-type: none"> 1. <ul style="list-style-type: none"> a. The motorcycle fails to stop within 25 feet. b. Either brake does not indicate adequate braking performance. |

C. Inspection of the Condition of the Components of the Braking Mechanism:

The service brakes of the vehicle will be checked for excessive pedal or handle travel by parking the vehicle on a flat surface and depressing the brake pedal or handle to the brake-applied position. Causes for Rejection: Excessive pedal or handle travel to the brake-applied position.

D. Inspection of Performance of the Braking Mechanism:

The performance of the service brake system will be checked by testing the operation of the brakes by accelerating the vehicle and applying the brakes. Conduct the test on a substantially level, dry, smooth and hard surface that is free from loose material, oil or grease. Accelerate the vehicle until it reaches a speed of from 4 to 8 miles per hour on a substantially level, dry, smooth and hard surface that is free from loose material, oil or grease and apply the brakes so as to stop the vehicle in the shortest possible distance. If after conducting this test, it is determined that the brakes will stop the vehicle, with capability designed for it by the manufacturer, the vehicle shall not be rejected. If there is any doubt, retest the vehicle as follows: Accelerate the vehicle until it reaches a speed of 20 miles per hour on a substantially level, dry, smooth and hard surface that is free from loose material, oil or grease, then apply the brakes so as to stop the vehicle in the shorted possible distance. Cause for Rejection: Failure of the vehicle to come to a stop from a speed of 20 miles per hour in 30 feet or less.

Steering Alignment and Suspension

Definitions

1. Front Fork The front suspension assembly including the shock absorber and steering mechanism.
 2. Handlebars: The attachments to the front fork or steering shaft, used to control steering.
 3. Handlebar Controls, Levers, Cables A throttle control (twist grip) is located, on the right handlebar. A front brake lever (hand pull) is located on the right handlebar. Control cables normally attach the throttle control to the carburetor, and the handlebar* levers to mechanical front brakes and the clutch. Fluid tubes are used in the case of hydraulic front brake in lieu of cable attachment. Classics or antiques may not be equipped accordingly. Rear brake controls may be located on the left handlebar if the motorcycle is equipped with an automatic clutch*. Motorcycles equipped with self-proportioning or anti-lock devices, may have a single brake control operated by the right foot.
- * So in original.
4. Handlebar Mounts The method of attaching the handlebars to the forks or steering shaft, clamping to fork legs or to the top fork lug; by use of "U" bolts, clamps, or rubber mounted brackets.
 5. Jamming An obstruction or stop to the movement of the handlebars up to designed steering stops.
 6. Loaded The condition where the front wheel of the motorcycle is on the surface, bearing its full portion of the weight of the motorcycle.
 7. Play Any free steering movement of the handlebars without equivalent steering movement of the front wheel.
 8. Rake Angle (Caster Angle) The acute angle in the longitudinal plane of symmetry between the steering head or kingpin axis and the vertical. (Not to be confused with front fork angle.)
 9. Shock Absorbers Energy dissipating devices which provide damping of spring or unsprung mass and relative motion; increase vehicle stability; and improve steering, handling and ride performance.
 10. Steering Head The top front frame head, through which the fork stem is fitted in bearings or bushes to provide the front wheel steering axis.
 11. Steering Stops An obstruction or stop, limiting the rotation of the front forks in either direction.
 12. Trail The horizontal distance between a vertical line through the front wheel axle centerline and the projection of the steering head axis measured at the tire-to-ground contact

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

surface with the motorcycle “loaded” on a level plane.

13. Wheel Plane The central plane* of the tire-wheel system, perpendicular to the axis of rotation.

* So in original.

Tools and Equipment

1. Vehicle stand or frame ack.

| Procedure | Reject Vehicle If |
|---|---|
| A. Steering Head Bearing Adjustment | A. Steering Head Bearing Adjustment |
| 1. Place the motorcycle on stand or frame jack with front wheel raised clear of weight-bearing contact. Grasp both the left and right fork legs at axle location, and apply alternating fore and aft force. | 1. Noticeable play or roughness when fore and aft force is applied. |
| 2. Turn handlebars slowly from side to side and visually inspect bearings. | 2. Noticeable play or roughness in rotation as well as pitted bearings; also, if front fork falls to one side or the other after it has been turned at least 5 degrees off the straight ahead position. |
| 3. Remove vehicle from center stand or frame jack and repeat Step 2, above. | 3. Noticeable play or roughness is found within the steering head bearings. (Note: Drag from steering damper, if fitted, or drag from cables is not cause for rejection.) |
| B. Wheel Bearings | B. Wheel Bearings |
| 1. While vehicle is on center stand or frame jack, grasp tire at top and bottom, and shake in and out or back and forth. | There is noticeable play, vibrations or wheel bearing noise; |
| 2. Rotate wheel. | Or wheel play exceeds the manufacturer’s recommended tolerances when measured at the bead seat diameter. |
| C. Handlebars | C. Handlebars |
| 1. Inspect visually all fo* the exposed areas of the handlebars. | 1. Cracks, deformation, improper alignment, or excessive flexure other than flexure from rubber mounts. |
| 2. Rotate the handlebars attached to forks from steering-stop to steering-stop. | 2. Handlebars cause an obstruction that prevents rotation of fork from steering-stop to steering-stop. |
| 3. Measure the height of the handlebars. | 3. The lowest part of the handlebars is 15 inches (38 cm.) above that portion of the vehicle seat occupied by the rider. |
| 4. Measure the width of the handlebars, and visually inspect hand grips. | 4. a. Handlebars are less than 18 inches (46 cm.) |

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

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| | measured end to end, as mounted on the motorcycle. b. Rubber or plastic handlebar grips do not cover the ends of the handlebars. |
| 5. Consult manufacturer's specifications for handlebar thickness of vehicle make and model. | 5. Handlebar is not constructed of at least .060 inches thick steel tubing (1.5mm.). |
| D. Handlebar Controls | D. Handlebar Controls |
| 1. Inspect throttle twist grip. (Note: Some throttles have intermediate resistance point for idle adjust.) | 1. Throttle twist grip does not rotate freely from stop-to-stop, |
| 2. Inspect clutch lever, brake lever, and all clutch and brake cables, as well as cable housing and exposed portions of inner cables. | 2. a. Control levers are loose on the handlebars, or control levers do not operate freely. b. Outer cable housing is damaged and/or inner cables with loose ends, severe bends, kinks, or broken strands. |
| E. Shock Absorbers | E. Shock Absorbers |
| 1. Visually inspect the shock absorbers, if so equipped. | 1. Broken or cracked mounts. |
| 2. Press down on vehicle over the shock absorber with full body weight. | 2. Shock absorbers have no dampening effect on rebound. |
| 3. Inspect for leakage. | 3. Shock absorbers leak oil. |
| F. Steering Alignment | F. Steering Alignment |
| Visually examine front wheel to front fork tubes (Note: Motorcycles that have extended forks shall be rejected unless they are in accordance with reconstruction regulations.) | Front wheel plane is not parallel to front fork tubes, and/or front fork tubes, are bent or damaged enough to prevent full free action of front fork. |
| G. Rake (Caster Angle) | G. Rake (Caster Angle) |
| 1. Check manufacturer's recommended specifications. (Note: Modifications or deviations shall be cause for rejection unless they are in accordance with reconstruction regulations.) | 1. Modifications or deviations are beyond the manufacturer's recommended specifications. |
| 2. Visually examine frame at steering head. (Note: if cracks are suspected during visual inspection, a further test for cracks may be required using electromagnetic or chemical technology.) | 2. Cracked frame adjacent to welded area, defective weld or structural integrity. |

* So in original.

Lighting and Electrical System

Definitions

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

1. **Headlamp System** A major lighting device and related equipment used to provide general illumination ahead of the motorcycle.
 2. **Motorcycle Headlamp Assembly** Consists of a housing with a semisealed optical unit, or a housing which has a separable bulb, lens, and reflector, and provides an upper and a lower beam.
 3. **Motorcycle Sealed Beam Headlamp Unit** A sealed beam optical unit with one upper beam and one lower beam filament or a sealed-in bulb.
 4. **Motor-Driven Cycle Sealed Beam Headlamp** Consists of a housing which has a separable bulb, lens, and reflector, and provides an upper beam filament or an upper and lower beam filament.
 5. **Motor-Driven Cycle Sealed Beam Headlamp*** A sealed beam optical unit that provides a single beam filament or an upper and lower beam filament, or a sealed-in bulb.
- * So in original.
6. **Multiple Beam Headlamp** Incorporates an upper and low beam.
 7. **Single Beam Headlamp** Incorporates upper beam only.
 8. **Headlamp Upper Beam** A distribution of white light intended primarily for distant illumination and for use on the open highway when not meeting other vehicles.
 9. **Headlamp Lower Beam** A distribution of white light so directed as to avoid glare in the eyes of oncoming drivers while providing illumination ahead of the vehicle, and intended for use in congested areas and on highways when meeting other vehicles within a distance of 500 feet (152 meters).
 10. **Taillamps** Lamps providing red colored illumination to designate the rear of a vehicle.
 11. **Stoplamps** Lamps giving a steady red warning light to the rear of a motorcycle, to indicate that vehicle brakes are being applied. Stop lamps are activated automatically upon application of the rear brake.
 12. **License Plate Lamps** Lamps providing white illumination for the license plate on the rear of a vehicle.
 13. **Turn Signal Lamps** Lamps that provide a flashing warning light to indicate the intended direction of a turn, to others in the front or rear of the motorcycle. Yellow toward front of vehicle; red or yellow toward rear.
 14. **Reflective Devices** Devices used on vehicle to give an indication to an approaching driver by reflected light from the headlights of approaching vehicle. Those at or near the rear of the vehicle are red in color, all others are yellow in color.

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

15. Indicator Lamps Lamps visible to the operator of a motorcycle that indicate-

- (a) Appropriate electrical circuits are in operation.
- (b) Malfunction of vehicle performance.
- (c) Requirement for remedial action of operator.

16 Operating Units or Switches Devices by which the function of lamps are controlled.

General Instructions

1. Part A., Visual Check of Lamp Function, includes all original mandatory equipment, exterior lighting, plus whatever lights have been added. If the vehicle is equipped with a lamp, it should work properly.
2. On vehicles without batteries the engine should be run at high idle speed to perform lighting tests.
3. All lamps and reflectors should be of the type approved for use by the Motor Vehicle Division.
4. If only one inspector is checking, large mirrors may be placed so that all lamps may be observed from driver's position.

Procedure\Reject Vehicle If

| A. Visual Check of Lamp Function | A. Visual Check of Lamp Function |
|--|---|
| 1. Switch on the night driving lights and visually check the following: (Steps a and b should be conducted with ignition switch on.) | 1. Any bulb or sealed beam unit fails to light. |
| a. Actuate turn signal, switch to right and left, and observe function of turn signal lights. (If vehicle is so equipped.) | 2. Turn signals do not properly indicate right and left when switched. |
| b. Actuate the headlamp upper beam and observe the indicator lamp. | 3. Lamp or reflector shows color contrary to law. |
| c. Observe function of stop lamps, tail lamps, parking lamps, reflex reflectors. | 4. Any lamp fails to light the proper filament indicated at switch position. |
| (Note: Refer to Appendix A, following this section for Required Motorcycle Lighting Equipment, Color, Location and Height. | 5. Any lamp or reflector does not direct light properly. |
| | 6. Auxiliary equipment is placed on, in, or in front of any lamp or interferes with necessary visibility width. |
| | 7. Lamp assembly improperly secured. |

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

| | |
|---|--|
| | 8. Headlamp output is insufficient to make persons and objects visible at 500 feet (152 meters). |
| | 9. Headlamp high beam indicator lamp fails to function properly. |
| B. Headlamp Testing Preparation | B. Headlamp Testing Preparation |
| 1. Rock vehicle to free and equalize suspension and check visually for equal tire inflation. | Vehicle headlamp does not comply with mounting requirement. |
| 2. Aim with rider in the saddle. | (See Appendix A, following this section.) |
| 3. Clean lenses. | |
| 4. Check for approved type headlamp. One lamp is required; not more than two are permitted. Quartz-iodide or halogen type lamps are not permitted. | |
| 5. Determine if lamp is mounted properly; the minimum height being not less than 24 inches (61 cm.), nor more than 54 inches (137 cm.) above the road surface. | |
| C. Headlamp Aim Adjustment | C. Headlamp Aim Adjustment |
| 1. Beams shall be inspected for specific aim by using one of the following methods: a. Approved screen, placed 25 feet (8 m.) in front of the headlamp; or b. Approved headlamp testing, machine. | 1. Light output is not sufficient to make persons or objects visible at 500 feet (152 m.). Headlamp output less than 5,000 beam candlepower on low beam. Beam indicator is not operating. |
| 2. Adjust lamp until hot spot on high beam is dropped horizontally as follows. a. Double filament lamp: 3 inch drop (high beam) at 25 feet (8 m.). | 2. Proper adjustment cannot be made or maintained. |
| D. Additional Required Lighting Equipment | D. Additional Required Lighting Equipment |
| Inspect for operation, mounting, location, color, visibility, safe condition, wiring and switching of the following approved, required lighting equipment: | 1. Any lamp or reflector fails to function, is improperly mounted, or fails to comply with the requirements in Appendix A, following this section. |
| 1. Tail Lamp(s). | 2. Tail lamp(s) are not visible in normal atmospheric conditions at night from 500 feet (152 m.) to the rear. (Vehicles manufactured after Jan. 1, 1969, must be visible for 1,000 feet (305 m.)). |
| 2. Stop Lamps. | 3. Stop lamp(s) are not clearly visible under all conditions of lighting, including bright sunlight when tail lamps are illuminated. |
| 3. License Plate Lamp. | 4. Stop lamp(s) are not visible from 300 feet (91 m.) to the rear, or cannot be activated by separate application of front and rear brake on vehicles manufactured after Jan. 1, 1969. |

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

| | |
|--|---|
| 4. Rear Reflector(s). | 5. License plate lamp is not visible under normal atmospheric conditions at night from 50 feet (15 m.) to the rear, or does not activate by the same circuit which activates the headlamps. |
| 5. Side Reflectors (Only required on vehicles manufactured on Jan. 1, 1968.) | |

Appendix A
Required Motorcycle Lighting Equipment, Color, Location and Height

| Item/Color | Location on Vehicle | Height Above Surface Measured from Center of Item of Vehicle at Curb Wght* |
|--|--|--|
| Headlamps/1 White | On the front and on the vertical centerline, except that if two are used, they shall be symmetrically disposed about the vertical centerline. | Note* less than 24 inches (61 cm.) nor more than 54 inches (137 cm.) |
| Taillamps/1 Red | On the rear and on the vertical centerline except that if two are used, they shall be symmetrically disposed about the vertical centerline. | Not less than 15 inches (38 cm.), nor more than 72 inches (83 cm.). |
| Stoplamps/1 Red | On the rear and on the vertical centerline except that if two are used, they shall be symmetrically disposed about the vertical centerline. | Not less than 15 inches (38 cm.), nor more than 72 inches (183 cm.). |
| License Plate Lamp/1 White | At rear license plate. | No requirement |
| Reflex Reflectors/3 Red, 2 amber | On the rear - 1 red on the vertical centerline except that, if two are used on the rear, they shall be symmetrically disposed about the vertical centerline. On each side - 1 red as far to the rear as practicable, and 1 amber as far to the front as practicable. | Not less than 15 inches (38 cm.), nor more than 60 inches (152 cm.). |
| Turn Signal Lamps/2 Class B Amber; 2 Class B red or amber. | At or near the front - 1 amber on each side of the vertical centerline at the same height, and having a minimum horizontal separation distance (centerline of lamps) of 16 inches (40 cm.). Minimum | Not less than 15 inches (33 cm.), nor more than 33 inches (211 cm.). |

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

| | | |
|--|--|--|
| | <p>edge to edge separation distance between lamp and headlamp is 4 inches (10 cm.). At or near the rear - 1 red or amber on each side of the vertical centerline at the same height and having a minimum horizontal separation distance (centerline to centerline of lamps) of 9 inches (23 cm.). Minimum edge to edge separation distance between lamp and tail or stop lamps is 4 inches (10 cm.).</p> | |
|--|--|--|

* So in original.

**Vehicle Glazing
(Windshields or Windscreens)**

| A. Vehicle Glazing | A. Vehicle Glazing |
|--|---|
| <p>Windshields or windscreens are not required, but if installed inspect for cracks, discoloration or scratches that create a serious vision obstruction. They must be mounted so the driver's vision is not obstructed when he is seated on the driver's saddle. They must also be of an approved type in compliance with Federal Motor Vehicle Safety Standard No. 205, Glazing Material, 1 April 1973 as amended.</p> | <ol style="list-style-type: none"> 1. Windshield or windscreen obstructs the driver's vision when he is seated on the vehicle saddle. 2. Any support or stiffener device is mounted in the driver's line of vision. 3. Glazing is not of the approved type. 4. Cracks, discoloration or scratches that create an obstruction. |

Body, Frame and Accessory Items

Definitions

1. Sprocket and Chain A means by which motive power is transferred from the transmission to the rear wheel (except on models fitted with a shaft or pulley and belt drive).
2. Chain Guard A guard shield protecting the operator or passenger from the chain.
3. Fenders or Mudguard A shield over the wheels to protect the rider and passenger from foreign objects thrown by the centrifugal force of the tire.
4. Stand A center stand or side designed to allow motorcycle to stand alone.

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

- 5. Frame The basic structural component to which the other components are attached.

- 6. Swing Arm When fitted, the swing arm axis is located at the lower rear portion of the frame. The swing arm extends rearward and is attached to the rear wheel spindle. Shock absorber(s) are generally fitted between the swing arm and the main frame.

- 7. Rigid Rear Frame Hardtail When fitted, the rigid rear section attaches to the rear portion of the frame, and extends rearward. The rear wheel spindle is attached to the rear frame. No shock absorbers are fitted; however, certain frames include a “spring” mounting.

- 8. Accessory Items Such items include, but are not limited to: luggage racks, carriers, backrests,issy bars, highway bars, safety bars, trailer hitches.

Tools and Equipment

- 1. Center stand or frame ack.

| Procedure | Reject Vehicle If: |
|--|---|
| A. Body Items | A. Body Items |
| Check for required body items, defective or dislocated parts, and parts projecting from the vehicle on: Seat, Engine Mounting Frame, Side or Center Stand, Chain and Chain Guard, and Fenders. | 1. Seat |
| | a. Seat is improperly, or insecurely attached. Seat locking device not functioning where applicable. |
| | 2. Engine Mounting Frame |
| | a. Engine mounting frame or brackets cracked or broken. |
| | 3. Side or Center Stand |
| | a. Side or center stand when placed in the stored position will not remain in that position. |
| | b. The side or center stand is cracked or broken, or apparent structural weakness is present, which could result in collapse. |
| | c. Side or center stand is held in the stored position by the use of any of the following: locking wire; rubber band; or other method which would not insure that the stands would remain secured in stored position. |
| 4. Chain Guard | 4. Chain Guard |
| Motorcycles, if originally equipped, must be provided with a chain guard, or other suitable device, which is the equivalent of the original device. | The chain guard, or other device, is missing (if originally equipped) broken, cracked, or is not the reasonable equivalent of the original device. |

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

| | |
|--|--|
| 5. Fenders | 5. Fenders |
| Check to determine if the fenders are properly mounted and that there are no cracks, broken areas, bends or sharp edges present. | a. Fenders are missing, improperly mounted, cracked, bent, or if sharp edges are exposed. b. Fenders do not meet with approval of the Territory of Guam. |
| B. Frame | B. Frame |
| 1. Examine the vehicle frame and the swing arm or rigid rear frame in all areas which would not require the disassembly of any frame components. | 1. a. Cracks, welds, fatigue points, work hardening, flexure is discovered which would indicate that the motorcycle frame has suffered structural damage and constitutes a hazard to the rider and any passenger. b. Frame is damaged so as to cause misalignment of the wheels in either vertical or longitudinal planes. |
| 2. Swing Arm Bushing, Bearing, or Rubber Mount | 2. Swing Arm Bushing, Bearing, or Rubber Mount |
| a. Examine the swing arm bushing, bearing or rubber mount for wear or abnormal looseness while vehicle is on a center stand or frame jack. | a. Bearing or bushing found to have noticeable play or binding. |
| b. Check for lateral play at axis. | b. Any play in excess of .015 inches (4mm.). |
| C. Accessory Items | C. Accessory Items |
| Visually check components for secure mounting, cracks, breaks, or sharp points that present a hazard to the operator or passenger. | 1. Accessory items interfere with, obstruct, or prevent proper use of any control, component or system required for operation of the vehicle. 2. Accessory items have sharp, jagged edges, pointed bars or rod ends. |

Exhaust System

Definitions

1. Exhaust System -Includes all components and piping extending from the exhaust manifold to .the point of exhaust discharge.

| Procedure | Reject Vehicle If: |
|--|---|
| A. Examine the exhaust system visually for leaks and cracks. | A. 1. There are loose or broken joints, or areas where corrosion or rust has eaten through the device. 2. Excessive leakage exists. |
| B. Check the exhaust system components to see that they are properly mounted and that the supporting brackets are securely in place on the motorcycle. | B. Exhaust system is improperly mounted. |
| C. Inspect for unshielded protrusions or any | C. |

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

| | |
|---|---|
| <p>portion of the exhaust system mounted higher than the lowest part of the passenger seat pan. (Advise driver if baffle(s) are heavily plugged with carbon and oil.)</p> | <ol style="list-style-type: none"> 1. Heat shielding not sufficient to protect rider and passenger when in normal seating position from contact with hot surfaces during operation. 2. Any portion of an exhaust system protrudes in a manner which may burn the rider, passenger when in normal seating position. 3. Any portion of an exhaust system is mounted higher than the lowest portion of the passenger seat pan. 4. Baffle removed from the muffler. 5. Replacement exhaust equipment is not the reasonable equivalent of the original exhaust system. 6. Muffler has been modified, a portion of the muffler has been cut off, or pipes directed to side above 2 feet from the roadway. 7. Any type of cutout or bypass of the standard muffler. |
|---|---|

Fuel System

Definitions

1. Fuel System Includes all components and piping extending from and including the fuel tank filler cap to the carburetor or injection nozzles.

| Procedure | Reject Vehicle If: |
|---|---|
| <p>A. Visually examine the fuel tank, fuel tank supporting, brackets and hardware, fuel tubing, clamps, vent hoses, fuel tank cap, fuel valve on/off, fuel filter and carburetor.</p> | <p>A.</p> <ol style="list-style-type: none"> 1. Any part of system is not securely fastened. 2. There is fuel leaking at any point in system. 3. Fuel tank cap is missing. 4. There is physical damage to any of the components. (Advise driver if contaminated fuel or fuel filter is discovered.) |

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

Passenger Vehicles Table of Contents

| Section | Page |
|-----------------------------------|------|
| Registration | 164 |
| Tires | 164 |
| Wheels | 168 |
| Brakes | 169 |
| Steering Alignment and Suspension | 179 |
| Lighting and Electrical System | 193 |
| Body and Sheet Metal | |
| Vehicle Glazing | 200 |
| Exhaust System | 212 |
| Fuel System | 214 |

Registration

General Instructions

1. The first step in the inspection of a vehicle should be a review of the registration certificate.

| Procedure | Reject Vehicle If: |
|---|---|
| A. Agreement among Papers | A. Agreement among Papers |
| Inspect registration certificate, license plates, vehicle description, and vehicle identification number (VIN). Compare to determine if there is proper agreement among them. | 1. The registration certificate is not available. |
| | 2. Vehicle description or identification is not in agreement with registration certificate. |
| | 3. Numbers on license plates are not in agreement with numbers on registration certificate. |
| B. Plate Mounting and Condition | B. Plate Mounting and Condition |
| Inspect license plates to see that they are securely mounted, clean, legible and clearly visible. | 1. License plates are missing. |
| | 2. License plates are loosely mounted or improperly located. |
| | 3. Plates are obscured so that the numbers cannot be identified. |

Tires

General Instructions

1. The safest condition exists when all tires:
 - a. Are of the same size and type.
 - b. Have the same tread pattern and approximately equal tread depth.
 - c. Are not underinflated. (Tire pressure should not be less than that specified for the load on the tire, nor more than the maximum specified for the tire.)
2. Tires on each axle must be of the same type of construction; either all bias ply, or all belted bias ply, or all radial ply.
3. Tires on each axle must have the same or equivalent size designation.
4. When tires of different types or sizes are installed on a vehicle.
 - a. The largest sized tires must be installed on the rearmost axle.
 - b. Radial ply tires must be installed on the rearmost axle with any belted bias ply or bias ply tires installed on the forward axle(s).
 - c. Belted bias ply tires must be installed on the rearmost axle with any bias ply tires installed on the forward axle(s).
5. The following types of tires must not be used:
 - a. Tires marked “For farm use only,” “Off-highway use only,” “For racing use only,” and other tires designed and marketed for other than highway use by the manufacturer.
 - b. Tires that are not marked with a standard automotive size designation.
 - c. Tires that do not have a highway-type tread design of ribs and grooves around the tire in the plane of rotation. Mud and snow tires designed for highway use are permitted, but the use of metal studs in these tires is prohibited.
6. The installation and inspection of spare tires is recommended, but not required. Spare tires should meet the requirements of tires in use on the wheels of the vehicle.

Tools and Equipment

1. Tire tread depth gauge for tire wear inspection.
2. Tire pressure gauge for checking tire pressure.
3. Blunt probe for inspecting tire tread or sidewall cuts.

4. Flashlight and/or work light for examining inboard sides of tires.

Definitions

1. Bead The inside edges of the tire made of steel wires wrapped or reinforced by ply cords and shaped to fit the rim.
2. Belt Layer(s) of fabric or other material within the tire body under the tread.
3. Cord Strands (cotton, nylon, polyester, etc.) forming the plies in the tire.
4. Groove The space between two adjacent tread ribs.
5. Ply A layer of rubber-coated parallel cords.
6. Rim The outside edge of a wheel or a separate metal device upon which the tire beads are seated.
7. Sidewall That portion of the tire between the tread and bead.
8. Tread That portion of the tire that is designed to contact the road surface.
9. Tread Rib A ridge of tread material separated by grooves.
10. GVWR Gross Vehicle Weight Rating - The weight of the vehicle plus its load carrying capacity in pounds (or kilograms). This rating is specified by the manufacturer on all vehicles assembled since 1969.

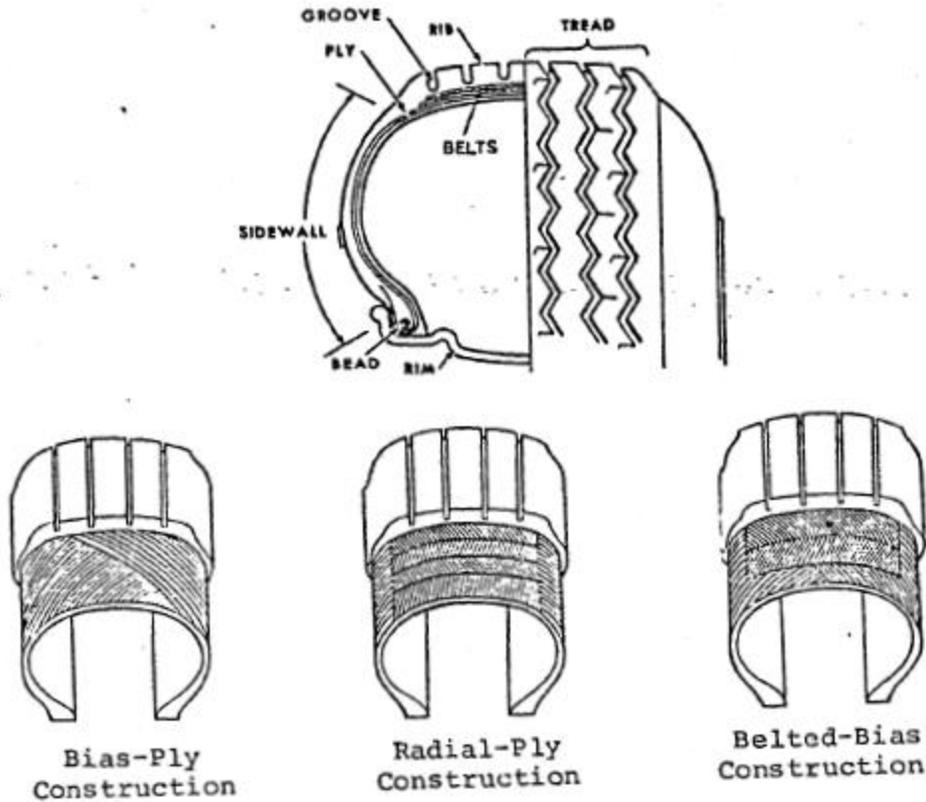


Figure 1

| Procedure | Reject Vehicle If: |
|--|---|
| A. Visually inspect for tire wear. | A. |
| 1. Tires without tread wear indicators. | 1. Tire is worn so that less than 2/32 inch tread remains when measured in any two adjacent major grooves at three locations spaced approximately equally around outside of tire. |
| 2. Tires with tread wear indicators. | 2. Tire is worn so that the tread wear indicators contact the road in any two adjacent major grooves at three locations spaced approximately equally around the tire. |
| B. Inspect for cuts, snags, or cracks in tread or sidewalls. | B. Tire has cuts, snags or cracks in excess of one inch in any direction, and deep enough to expose cords. |
| C. Inspect for bumps, bulges or knots in tread of sidewalls. | C. Tires has bumps, bulges or knots indicating partial failure or separation of the tire structure. |
| D. Inspect for regrooved or re-cut tires. | D. Tire has been regrooved or re-cut below original groove depth, except special tires which have undertread rubber for this purpose and are marked as such. |
| E. Inspect for mismatching of tires. | E. |

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

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|--|---|
| 1. Tires mounted on the same axle. | 1. Tires of different size or types are mounted on the same axle. (Refer to General Instructions, Nos. 2 and 3.) |
| 2. Location of mixed sizes or types. | 2. The type is mounted in an improper location of the size or type when mixed sizes are installed on the vehicle. Refer to General Instructions, No. 4. Note: Differences in brand name or tread design are not cause for rejection. |
| F. Inspect for tire size. | F. Any mounted tire: |
| | 1. Has a load capacity less than that required by the GVWR of the vehicle. |
| | 2. Is on a rim of improper width. |
| | 3. Can touch or rub on any other part of the vehicle. |
| G. Visually inspect for: | G. Any mounted tire: |
| 1. Restricted use markings on tire. | 1. Is marked "For farm use only," "Off-highway use only," "For racing use only," etc. |
| 2. Standard automotive size marking on tire. | 2. Is not marked with a standard automotive size designation. |
| 3. Highway-type tread design. | 3. Does not have a highway-type tread design. |
| 4. Metal studs in the tire tread. | 4. The tread of any tire is equipped with metal studs. (Refer to General Instructions, No. 5) |

Wheels

General Instructions

1. Wheels are inspected for security of mounting and condition of the wheel, rim, spokes, wheel nuts, knockoffs and lug bolts or nuts.
2. The vehicle owner or driver should be advised if either the lateral or radial runout is near the maximum limit indicating the possible need for wheel replacement or straightening.

Tools and Equipment

1. Flashlight and/or work light for examining inboard sides of wheels.
2. Wheel runout gauge or dial indicator to measure lateral and radial runout.
3. Vehicle hoist, or jack and stands to raise vehicle during wheel runout inspection.
4. Mallet to check for loose wheel knockoffs.
5. Screwdriver for checking wire wheel spokes.

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

Definitions

1. Runout A non-true or wobbling effect when a round object is turning.
2. Lateral Runout Variation from a perfectly vertical plane of rotation.
3. Radial Runout Variation from a perfect circle around the bead seat of the rim.

| Procedure | Reject Vehicle If: |
|--|---|
| A. Visually inspect wheel bolts, nuts or lugs. | A. Wheel bolts, nuts, studs, or lugs are loose, missing, severely worn, rusted or damages so that they cannot be remounted, tightened or safely used. |
| B. Inspect for wheel damage. (On wire wheels run screwdriver handle around spokes, clockwise and counter clockwise, to check for broken or loose spokes.) | B. 1. Any part of wheel is bent, cracked, repaired by welding or brazing, damages, or has elongated bolt holes which would effect safe operation of the vehicle. 2. Any wheel knockoff is broken or cracked. 3. Spokes of wire wheels are loose, bent or broken. |
| C. Inspect rims and rings. (Check for evidence of rim slippage - this is an indication of wear or loose nuts.) | C. 1. Rims and rings are mismatched, bent, sprung, or otherwise damaged. 2. Lockrings or side rings are cracked, bent, or improperly installed on two and three piece wheels. |
| D. Inspect all wheels for radial and lateral runout, using a wheel runout gauge or dial indicator according to manufacturer's instructions. | D. Any wheel has a radial or lateral runout which exceeds 1/8 of an inch. |
| E. Inspect wheel nuts or hub caps for winged projections. (Vehicles manufactured after January 1, 1968.) | E. Any wheel nut, hub cap or wheel cover has winged projections. |

Wheels*

* So in original.

General Instructions

1. There are seven brake inspection procedures in this section.

(1) Hydraulic System

(2) Drums and Rotor Discs

(3) Linings and Pads

(4) Mechanical Linkage

(5) Vacuum System

(6) Parking Brake

(7) Service Brake Performance

Tools and Equipment

Tools and equipment, if required, will be listed above each separate inspection procedure.

1. Brake System A combination of one or more brakes and their related means of operation and control.

2. Deceleration The rate of reduction of the speed of the vehicle expressed in feet per second per second (psps).

3. Emergency Brake System A brake system provided to slow and stop the vehicle in the event of a malfunction in the service brake system. (This function may be performed by the parking brake system or by a portion of the service brake system, or by a separate brake system.)

4. Pedal Reserve As applied to hydraulic, mechanical or power-assisted hydraulic brakes, this is the amount of total pedal travel left when the pedal is depressed to the brake-applied position. (The purpose of the pedal reserve check is to ascertain the degree of the brake adjustment and to demonstrate satisfactory brake actuating system condition.)

5. Parking Brake System A brake system used to hold and maintain a vehicle in a stationary position. (A positive mechanical means is used to hold the brake in the applied position.)

6. Service Brake System A brake system provided to slow and stop the vehicle under normal operating conditions.

7. Stopping Distance The distance traveled by a vehicle from the point of application of force to the brake control to the point where the vehicle stops.

(1) Hydraulic System

Notes for Inspectors

1. Failure Indicator Lamp.

a. Every new passenger car manufactured after January 1, 1968, is equipped with a brake

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

system failure indicator lamp.

b. The warning light usually* serves a dual purpose* as the hydraulic system failure indicator and as the parking brake warning light. It will illuminate whenever the parking brake is applied and the ignition is on.

c. The operating condition of the brake warning light must be tested to make sure the light will illuminate in case of hydraulic failure.

* So in original.

2. During the pedal reserve test advise the vehicle owner or driver when less than 2/5 (40%) of the total available pedal travel remains.

Tools and Equipment

1. Ruler or scale for measuring pedal height and travel.

2. Vehicle hoist or jack and stands to raise vehicle during wheel cylinder inspection.

3. Wheel removal tools:

| Procedure | Reject Vehicle If: |
|---|---|
| A. Brake Hydraulic System Leakage Test | A. Brake Hydraulic System Leakage Test |
| 1. a. Apply parking brake. b. On vehicles with power brakes, start and idle engines. c. On vehicles without power brakes, turn ignition switch on. d. Verify brake warning lamp operation. | 1. The brake warning light is burned out, missing or does not illuminate (Passenger cars manufactured after January 1, 1968.) |
| 2. a. Release parking brake. b. Apply a moderately heavy force (125 lbs.) to brake pedal and hold for 10 seconds. c. Note any decrease in pedal height. d. Note whether brake warning light illuminates. | 2. a. Brake pedal height decreases perceptibly when force is applied. b. Light comes on when brake pedal is depressed. |
| B. Pedal Reserve Test – This test is not required for vehicles equipped with full-power (central hydraulic brake systems, or those with brake systems designed to operate with greater than 80% pedal travel.) | B. Pedal Reserve Test |
| 1. a. Measure the distance (A) from the free pedal position to the floorboard or other object that restricts brake pedal travel. b. Depress brake pedal under moderate foot | 1. When the brake pedal is fully depressed, the distance that the pedal has traveled from its free position exceeds 80% (4/5) of the total distance from its free position to the floorboard or other object that restricts pedal travel. |

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

| | |
|---|---|
| <p>force (50 lbs. in non-powered systems and 25 lbs. in power assisted systems), and measure the distance (B) from the depressed pedal position to the floorboard or other object that restricts pedal travel.</p> <p>c. Determine the percentage as $((A-B)/A) \times 100$.</p> <p>(The engine must be operating when power-assisted brakes are checked.)</p> | |
| <p>C. Hydraulic System Visual Inspection (Step 1.a. of this procedure is done prior to hoisting vehicle.)</p> | <p>C. Hydraulic System Visual Inspection</p> |
| <p>1.</p> <p>a. Inspect master cylinder reservoir fluid level. Be sure no dirt gets into reservoir and that the filler cap gasket is serviceable.</p> <p>b. Inspect master cylinder for leakage. Check exterior of cylinder, mounting, pushrod dust cover and surrounding area for leakage.</p> | <p>1.</p> <p>a. The fluid level is less than one-half (1/2) of total capacity.</p> <p>b. There is evidence of leakage on the exterior of the master cylinder, mounting or surrounding area.</p> |
| <p>2. Raise vehicle and remove wheels (as required) to inspect wheel cylinders and caliper pistons for leakage.</p> | <p>2. Wheel cylinders or caliper pistons leak.</p> |
| <p>3. While vehicle is hoisted inspect hydraulic hoses and tubes for leaks, cracks, chafing, flattened or restricted sections, and improper support.</p> <p>(This inspection may be conducted at the same time as drums and rotor discs, linings and pads which require hoisting vehicle and wheel removal.)</p> | <p>3. Hoses or tubing leak, or are cracked, chafed, flattened, restricted or are insecurely fastened.</p> |

(2) Drums and Rotor Disc

Notes for Inspectors

1. Since January 1, 1971, manufacturer's maximum recommended inside drum diameters have been stamped on the drum. Also, since January 1, 1971, manufacturer's minimum recommended disc thicknesses have been stamped on the disc.
2. On drum-shoe type brakes at least one front brake assembly shall be sufficiently disassembled to permit the inspection of the drum interior, the lining, the shoes and the actuating mechanism.
3. On disc-pad type brakes at least one front brake assembly shall be sufficiently disassembled to permit the inspection of the rotor disc and the pads.

Tools and Equipment

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

1. Vehicle hoist or jack and stands for visual inspection of drum or rotor discs.
2. Wheel removal tools.

| Procedure | Reject Vehicle If: |
|---|---|
| A. Brake Drums (The vehicle must be on a hoist or jack and stands and the brake unit partially disassembled during this inspection.) | A. Brake Drums |
| 1. Inspect the condition of the drum friction surface for substantial cracks extending to the open edge of the drum. (Short hairline heat check cracks should not be considered.) | 1. There are substantial cracks on the friction surface extending to open edge. |
| 2. Inspect for cracks on the outside of the drum. | 2. There are external cracks. |
| 3. Inspect for damage and extreme wear. Measure as required. | 3. Brake drum is scored, deeply grooved, distorted, out of round, bellmouthed, or worn beyond manufacturer's recommended limit or diameter stamped on drum. |
| 4. Inspect for contaminated friction surface. | 4. Friction surface is contaminated with oil, grease or brake fluid. |
| B. Brake Rotor Discs (The vehicle must be on a hoist or jack and stands and the brake unit partially disassembled during this inspection.) | B. Brake Rotor Discs |
| 1. Inspect for substantial cracks extending to edge of rotor disc. | 1. There are substantial cracks extending to the edge. |
| 2. Inspect for damage and extreme wear. Measure as required. | 2. Rotor disc is scored, deeply grooved, or worn beyond the manufacturer's allowable minimum or thickness stamped on the disc. |
| 3. Inspect for contaminated friction surface. | 3. Friction surface is contaminated with oil, grease or brake fluid. |

(3) Linings and Pads

Notes for Inspectors

1. To inspect the lining on shoes* or pads, the drums or wheels must be removed unless the vehicle has inspection holes in the brake drums through which the shoes can be checked.

* So in original.

2. At least one front brake unit shall be exposed for inspection of linings and pads.

3. Linings and pads can be inspected during the drum and rotor disc inspection which requires hoisting the vehicle and exposure of the brake fluid.

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

4. Advise driver if any lining or pad is 1/16 inch or less in thickness.
5. Advise driver of any extremely uneven lining wear.
6. On vehicles equipped with disc brakes, some drag can be felt when turning the wheel and tire. This drag is not excessive if the wheel can be turned readily with both hands.

Tools and Equipment

1. Measuring device - steel scale, gauge, or small ruler - to determine lining thickness.
2. Vehicle hoist or jack and stands for visual inspection of linings and pads.
3. Wheel removal tools.

| Procedure | Reject Vehicle If: |
|---|---|
| A. Condition of Linings and Pads | A. Condition of Linings and Pads |
| 1. Bonded Linings Measure the lining thickness at the thinnest point. | 1. Bonded Linings Thinnest point is less than 1/32 inch. |
| 2. Riveted Linings a. Inspect for loose or missing rivets. b. Measure lining thickness above rivet head at thinnest point. c. Inspect for cracks and breaks. | 2. Riveted Linings a. Any rivets are loose or missing. b. Lining is less than 1/32 inch over any rivet head. c. There are cracks or breaks that extend to rivet holes (except for minor cracks that do not impair attachment). |
| 3. Wire-Backed Linings Inspect for wire showing on the friction surface of the lining. | 3. Wire-Backed Linings Wire backing is visible on the friction surface. |
| 4. All Linings Inspect for broken or cracked linings, and parts of linings not firmly attached to shoe. Also inspect for contamination. | 4. All Linings a. Lining is cracked, broken, or not firmly and completely attached to shoe. b. Friction surface is soaked with oil, grease or brake fluid. |
| 5. Pads (Disc Brakes) Inspect thickness of friction pad. | 5. Pads (Disc Brakes) Pad is less than 1/32 inch over any rivet head. |

(4) Mechanical Linkage

Notes for Inspectors

1. The brake hardware and structural components at the wheels must be visually inspected for wear, damage and proper installation.
2. These components can be inspected at the same time as drums, linings or pads which require

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

wheel or drum removal.

Tools and Equipment

1. Vehicle hoist or jack and stands for inspection of mechanical components.
2. Wheel removal tools.

| Procedure | Reject Vehicle If: |
|--|---|
| A. Condition of Mechanical Components | A. Condition of Mechanical Components |
| 1. Inspect pins, cotter pins springs, cables, clevises, couplings, rods, anchor pins, connections, spring clips and grease retainers for: (a) Wear; (b) Missing Items; and (c) Inoperative Items. | 1. a. Parts are worn to the extent that proper function is erratic. b. Parts are missing. c. Parts are broken or inoperative. |
| 2. Inspect pedal shaft and bearings for binding, wear and misalignment. Inspect for restriction of shoe movement at backing plate and for bind between brake shoes and anchor pins. | 2. a. There is binding or erratic movement in pedal and linkage, or in brake components. b. Pedal levers are improperly positioned or misaligned. |

(5) VACUUM SYSTEM

Note for Inspectors

1. This test applies only to vehicles with vacuum assisted power brakes.

| Procedure | Reject Vehicle If: |
|--|---|
| A. Condition of Vacuum System Visually inspect system for collapsed, broken, baldy chafed and improperly supported hoses and tubes, and loose or broken clamps. | A. Condition of Vacuum System Hoses or tubes are leaking, or if collapsed, broken, badly chafed, improperly supported or loose because of broken clamps. |
| B. Operation of Vacuum System 1. Determine if system is stopping by: a. Stopping engine; b. Depress brake pedal several times to destroy all vacuum in system; c. Depress pedal with a light force (approximately 25 pounds); d. While maintaining this force on the pedal, start engine; e. Note whether pedal moves slightly when engine starts. | B. Operation of Vacuum System 1. Service brake pedal does not drop slightly as engine is started while light pressure is maintained on pedal. |

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

(6) Parking Brake

Notes for Inspectors

1. Parking brakes on most vehicles function through at least one set of the rear service brake shoes.

2. A few vehicles have disc type service brakes on all four wheels which makes it necessary to have separate drums for the parking brakes. These drums and linings should be inspected in a manner similar to those for service brakes.

3. Any parking brakes should hold a stopped vehicle firmly on all normal road slopes.

4. All vehicles manufactured after May 23, 1970, must have a mechanical parking brake which will hold the vehicle to the limit of traction in either direction on a 30% grade.

| Procedure | Reject Vehicle If: |
|---|---|
| A. Parking Brake Function | A. Parking Brake Function |
| 1. Set the parking brake firmly. | 1. a. There is no reserve travel in the lever or pedal. b. The lever or pedal will not hold in locked position or release when release control is operated. |
| B. Linings and Drums | B. Linings and Drums |
| 1. If vehicle is equipped with parking brakes which are separate from the service brakes, visually inspect the linings and drums in the same manner that those on the service brakes are inspected. | 1. a. Parking brake drums are cracked, broken or otherwise damaged. b. Linings are loose, worn out, or soaked with grease, oil or brake fluid. |
| C. Mechanical Components | C. Mechanical Components |
| 1. Visually inspect the external mechanical parking brake components for worn pins, missing springs, worn rods and frayed or stretched pull cables. | 1. a. Mechanical components are missing or broken. b. Pull cables are broken or frayed. |
| D. Parking Brake Test | D. Parking Brake Test |
| 1. Vehicles Equipped with Automatic Transmission a. Set the parking brake firmly. b. Start engine and move the selector to “drive” position. (On some vehicles the parking brake will automatically release when the selector is moved from the “park” position. In that case it will be necessary to hold the brake control in “set” position.” c. Increase the rpm. to about twice idle speed. | 1. There is any forward movement of the vehicle with the parking brake in the “set” position. |

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

| | |
|---|---|
| d. Observe any movement of the vehicle. | |
| 2. Vehicles Equipped with Manual Transmission a. Set the parking brake firmly. b. Start the engine, depress the clutch pedal, and move gear shift lever to the lowest forward speed position. c. Increase the rpm. to about twice idle speed and slowly release the clutch pedal. d. Observe any movement of the vehicle. | 2. There is any forward movement of the vehicle with the parking brake in the “set” position. |

(7) Service Brake Performance

Notes for Inspectors

1. Brake performance should be inspected only after all other inspections of the braking systems have been completed. The brake performance test should not be made if system components are defective.
2. Using the service brake only, the stopping ability of the vehicle should be tested by one of the three methods described below.
3. The service brake road test, Method (a), should be conducted on a level, dry, hard, smooth surface road or area that is free from loose material, oil or grease. Caution: Always check for braking action at a very slow speed before operating the vehicle.
4. If Method (c) is used, the roller-type brake dynamometer should have rollers which are dry, smooth, and free from oil or grease. The machine indicates both braking effort and imbalance. Brakes on front and rear axles are evaluated separately'

Method (a) - Road Test

Tools and Equipment

1. Road surface 50 to 100 yards long, marked with a 12 foot wide lane, or wide enough to mark a lane 12 feet wide.
2. Marking equipment - cones, chalk, paint, rope or other materials suitable for indicating the test lane.

| | |
|---|--|
| Procedure | Reject Vehicle If: |
| Method (a) – Road Test | Method (a) – Road Test |
| 1. At a speed of 20 mph, apply service brakes firmly without locking brakes. Observe whether vehicle comes to a smooth stop within a distance of 25 feet or less without pulling to | 1. a. More than 25 feet is required in which to stop from 20 mph. b. Steering control must be used to keep the |

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

| | |
|--|----------------------------------|
| the right or left causing it to leave a lane 12 feet wide. The inspector should have firm control of the steering wheel throughout the test. | vehicle within the 12 foot lane. |
|--|----------------------------------|

Method (b) - Platform Testing Machine

Tools and Equipment

1. Platform testing machine (drive-on-and-stop tester) for measuring braking force at each wheel.

| Procedure | Reject Vehicle If: |
|--|--|
| Method (b) – Platform Testing Machine | Method (b) – Platform Testing Machine |
| 1. Drive vehicle onto “drive-on-and-stop” platform tester. Apply brakes firmly at a speed from 4 to 8 mph. without wheel lock-up. All braking action must take place on the platforms. Note and record braking force at each wheel. There should be braking action on all wheels and the action on any one wheel should be 80% or more of the action on the other wheel on the same axle. | 1. a. Readings are less than required by equipment manufacturer’s specifications. b. Any wheel fails to indicate braking action. c. The reading on any one wheel is less than 80% of the reading on the other wheel on the same axle. |

Method (c) - Roller Type Brake Dynamometer Test

Tools and Equipment

1. Roller type brake dynamometer (force measuring type) for measuring braking force at each wheel.

| Procedure | Reject Vehicle If: |
|--|--|
| Method (c) – Roller Type Brake Dynamometer Test | Method (c) – Roller Type Brake Dynamometer Test |
| 1. Adjust tire inflation to recommended values, position vehicle on dynamometer rolls and begin test. Follow equipment manufacturer’s recommended testing procedures. Note and record braking force at each wheel. | 1. a. Readings are less than required by equipment manufacturer’s specifications. b. The reading on any one wheel is less than 80% of the reading on the other wheel on the same axle. |

Appendix A

Brake Testing Machines

These types of brake testers measure braking force at each wheel. The effectiveness of the brake

testers that measure braking force in the testing of vehicles other than passenger vehicles or light trucks is very questionable.

The dimensions of these brake testers do not permit practical and reliable testing on combination vehicles. Use should therefore be restricted to two-axle vehicles. The simulated road surface of these machines will occasionally exhibit much higher coefficients of friction than is possible on the highway. Excessive braking should therefore be avoided, because braking distribution information is distorted.

For drive-on-and-stop test machines the vehicle is driven on the pads at speeds of 4 to 8 mph. When the brakes are applied at the time the vehicle is moving on the pads, the braking effort at each wheel causes a proportionate movement of the pad against the measuring system. The braking force on the pads is measured by indicating or recording instruments.

The roller-type brake testing machine has powered rollers that turn the individual wheels while the brakes are applied in order to measure the brake force developed.

(From American National Standards Institute Inspection Requirements D7.1)

Steering Alignment and Suspension Inspection

General Instructions

There are ten inspection procedures for steering alignment and suspension in this section.

- (1) Power Steering Condition
- (2) Lash or Free Play and Travel
- (3) Absorbing Steering Column
- (4) Wheel Bearings
- (5) Steering Linkage Play
- (6) Front Wheel Alignment (Toe In-Out)
- (7) Ball Joints Wear
- (8) Front and Rear Suspension Components
- (9) Shock Absorbers
- (10) Rear Wheel Tracking

Tools and Equipment

Tools and equipment, if required, will be listed above each separate inspection procedure.

Definitions

1. Sideslip (or Scuff) The amount of sidewise front tire slippage occurring on the road surface while vehicle is traveling straight ahead.
 2. Wheel Plane The central plane of the tire-wheel system, perpendicular to the axis of rotation.
 3. Camber The inclination of the wheel plane to the vertical. It is measured in degrees and considered positive when the wheel leans outward from vertical at the top and negative when the wheel leans inward.
 4. Caster The angle viewed from the side between the steering* axis (axis of kingpin or ball joints) and the vertical. It is measured in degrees* and is considered positive when the steering axis at the top is inclined rearward and negative when the steering axis is inclined forward.
- * So in original.
5. Toe (In or Out) As measured in inches, it is the difference in the traverse distances between the wheel planes taken, respectively, at the extreme rear and front points of the tire. When the distance at the rear is greater than at the front, the wheels are said to be “toed-out.”
 6. Steering Axis (King Pin) Inclination The angle between the steering axis and the center line of the wheel spindle.
 7. Toe-Out on Turns The angle of relationship between the inner and outer front wheels during turns.
 8. Play Any free movement of the front wheels and suspension components.
 9. Lash The condition in which the steering wheel may be turned through some part of a revolution without associated movement of the front wheels.
 10. Travel The complete, full turn of the steering wheel and linkage, free from binding or interference, in both directions from straight ahead to designed stops.
 11. Loaded The condition where the front wheels of the vehicle are on the ground, bearing their full portion of the weight of the vehicle.
 12. Shock Absorbers Energy-dissipating devices which provide damping of sprung and unsprung mass relative motions; increase vehicle stability; and improve steering, handling, and ride performance.

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

13. Ball Joints Devices installed in each control arm which allow the wheel spindles to pivot freely.

(1) Power Steering

Notes for Inspectors

1. This inspection is not required for vehicles with manual steering.
2. The condition of the power steering belt and amount of fluid in the pump reservoir affect the performance of the steering system.
3. A squealing noise, particularly during acceleration or parking, may be an indication of a slipping or loose drive belt.
4. Belt tension can be visually inspected by using a strand-type belt tension gauge or by hand pressure.
5. Vehicle manufacturer’s specifications should be consulted, but generally if a belt can be depressed by more than 1/2 inch of thumb pressure midway between the drive and driven pulleys, the drive belt is too loose.
6. The correct power steering fluid level can usually be checked against markings on the dipstick or filler neck.
7. This inspection is conducted with the engine stopped.
8. Avoid contact with hot cooling or exhaust system components.

| Procedure | Reject Vehicle If: |
|---|--|
| A. Power Steering Components | A. Power Steering Components |
| 1. Inspect power steering belts for proper condition and tension. | 1. Belts are badly frayed, cracked on the inner edge or loose. |
| 2. Inspect power steering system including gear, hoses, hose connections, cylinders, valves, pump and pump mounting for condition, rubbing and leaks. | 2. a. Hoses or hose connections have been rubbed by moving parts or are leaking. b. Cylinders, valves or pump show evidence of leakage. c. Pump mounting parts are loose or broken. |
| B. Power Steering Fluid Level | B. Power Steering Fluid Level |
| Inspect power steering reservoir for fluid level at operating temperature. | Fluid is below proper level. |

(2) Lash or Free Play and Travel

Notes for Inspectors

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

1. The steering system of the vehicle must be inspected to determine if excessive wear and/or maladjustment of the linkage and/or steering gear exists.
2. Vehicle must be on a dry, flat and substantially level surface.
3. On vehicles equipped with power steering, the engine must be running with wheels on the ground, and the fluid level, belt tension and condition must be adequate before testing.

Tools and Equipment

1. Ruler or tape measure at least 24 inches (60 cm.) long for measuring the steering wheel diameter, and the same or shorter ruler graduated in 1/4 inch (6 mm.) increments or less to measure for lash or free play.

| Procedure | Reject Vehicle If: | | | |
|--|--|------------|------|-----|
| A. Lash or Free Play | A. Lash or Free Play | | | |
| 1. With road wheels in straight ahead position turn steering wheel until the turning motion is observed at the front wheels. | Steering system free play exceeds values listed below: | | | |
| 2. Align a reference point on the steering wheel with ruler. | Steering Wheel Diameter | | Lash | |
| 3. Then, slowly turn steering wheel in opposite direction until front wheel movement is observed in opposite direction. | In. | Cm. | In. | Cm. |
| 4. Measure distance the reference point on steering wheel has traveled in relation to the ruler. | 16 or less | 40 or less | 2 | 5.1 |
| | 18 | 46 | 2 ¼ | 5.7 |
| | 20 | 51 | 2 ½ | 6.4 |
| | 22 | 56 | 2 ¾ | 7.0 |
| B. Travel | B. Travel | | | |
| 1. Unlock steering lock with ignition key (if vehicle is so equipped) | Front wheels are incapable of being turned full right and full left without binding or interference. | | | |
| 2. a. If vehicle has power steering start and idle engine. Wheels should be on the ground. b. If vehicle has manual steering it may be desirable to raise front wheels off the ground. | | | | |
| 3. Do not apply service brakes. | | | | |
| 4. Turn steering wheel to limits of travel and feel for binding or jamming conditions in the steering gear mechanism. | | | | |

(3) Absorbing Steering Column

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

Notes for Inspectors

1. Many 1967 and all later model cars have been equipped with an Energy Absorbing Steering Column. This special column was designed to absorb energy by controlling the collapsing of its components. It collapses under impact from either end of the column steering gear end and/or steering wheel end. To determine if the components are capable of functioning as designed, a careful inspection should be performed.

2. There are many variations of the energy absorbing column. It is recommended that the manufacturer's specifications be consulted if there are any detailed questions. The system may include one or more of the four devices shown in Figure 2, and the simplest to inspect is the shear capsule.

| Procedure | Reject Vehicle If: |
|---|---|
| A. Absorbing Steering Column | A. Absorbing Steering Column |
| From inside passenger compartment visually inspect for separation of shear capsule from bracket (See Figure 1, below) and general "looseness" of wheel and column. (Some models do not have shear capsules, in which case this procedure would not apply.) | Shear capsule is separated from bracket, and/or if wheel and column can be moved as a unit. |

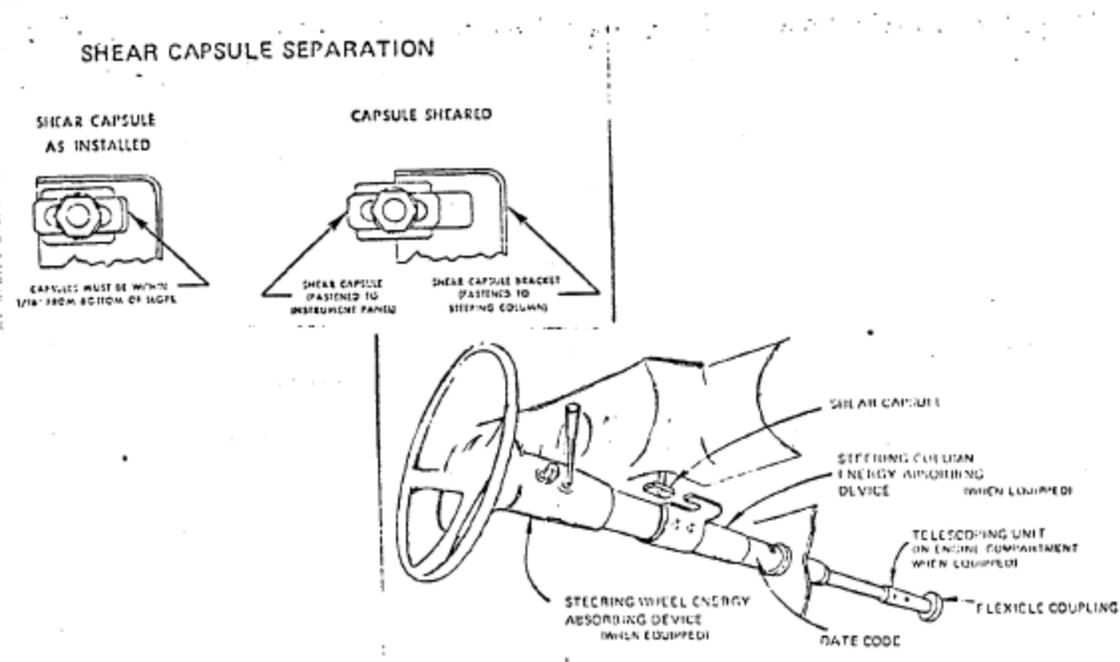


Figure 1 (Shear Capsule as Installed, and Capsule Sheared)

Figure 2 (Steering Wheel Energy Absorbing Device)

(4) Wheel Bearings

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

Notes for Inspectors

1. The steering system and related linkage and parts must be inspected to determine possible wear or damage at all points.
2. Wheel bearings out of adjustment can cause wander, erratic front brake action, and noise due to interference of parts.
3. Wheel bearing play can be eliminated by applying service brakes.
4. On all vehicles movement of the wheel in relation to the backing plate or calipers indicates looseness in the wheel bearing.

Tools and Equipment

1. Rule or scale at least 6 inches (15 cm.) long and graduated in 1/8 inch (3 mm.) increments to measure wheel bearing adjustment.
2. Vehicle hoist or jack and stands to raise vehicle before testing wheel bearings.

| Procedure | Reject Vehicle If: |
|---|---|
| A. Wheel Bearings | A. Wheel Bearings |
| 1. Lift front end of vehicle to load ball joints. (If spring or torsion bar is on the lower bar, hoist at frame. If spring or torsion bar is on the upper arm, hoist at lower arm close to ball joint.) | Relative movement between drum and backing plate is excessive. (More than 1/8 inch/3mm. measured at outer circumference of tire.) |
| 2. Check both front wheels by grasping each front tire, top and bottom, and rocking it in and out. | |
| 3. To verify that any looseness detected is in the wheel bearing, note the relative movement between the brake drum or disc and the backing plate or splash shield. | |
| 4. Measure movement. | |

(5) Steering Linkage Play

Notes for Inspectors

1. This inspection should be conducted after the wheel bearings have been checked for looseness (refer to the preceding section on wheel bearings).
2. Excessive free play causes wheel shimmy, erratic brake action and steering control problems. Make sure any looseness detected is not wheel bearing free play.

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

Tools and Equipment

1. Ruler or scale at least 6 inches (15 cm.) long and graduated in 1/8 inch (3 mm.) increments to measure kinkage play.
2. Vehicle hoist or jack and stands to raise vehicle and load ball joints to remove looseness.
3. Brake pedal depressor to apply service brakes to eliminate wheel bearing play. (If more than one inspector is conducting this test the brake pedal depressor is not required.)

| Procedure | Reject Vehicle If: | | | |
|---|---|-------------------------|-----|-----|
| A. Steering Linkage Play | A. Steering Linkage Play | | | |
| 1. Lift front end of vehicle to load ball joints. (If spring or torsion bar is on the lower arm, hoist at frame. If spring or torsion bar is on the upper arm, hoist at lower arm close to ball joint.) | Free movement measured at tire tread is found to be in excess of table shown below. | | | |
| 2. If vehicle is equipped with power steering, start and idle engine. | Maximum Permissible Play with Wheel Bearings Adjusted Properly | | | |
| 3. Apply service* brakes. | In. | Cm. | In. | Mm. |
| 4. Grasp each front tire, front and rear, and attempt to turn wheel and tire assembly left and right. Note any free movement at front and rear of tire. (Measure if necessary.) | 16 or less | 41 rim diameter or less | 1/4 | 6 |
| | 16.01 – 18.00 | 41.01 – 46.00 | 3/8 | 10 |
| | 18.01 or more | 46.01 or more | 1/2 | 13 |

(6) Front Wheel Alignment (Toe-In/Out)

Notes for Inspectors

1. There are five basic factors which are the foundation to front wheel alignment; caster, camber, toe-in and toe-out, steering axis inclination, and toe-out in turns.
 - a. Improper caster can cause hard steering, low speed shimmy, wander, and brake pull problems.
 - b. Improper camber can cause erratic tire wear problems, hard steering, and wander.
 - c. Improper toe-in or toe-out can cause a featheredged pattern on tire treads.
 - d. Improper steering axis inclination can cause directional instability.
 - e. Improper toe-out on turns which does not conform with manufacturer's specifications can

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

indicate that a steering arm is bent.

2. Measuring toe-in or toe-out provides an approximate indication of overall front wheel alignment condition.
3. If there is excessive toe-in or toe-out a complete check should be made of all alignment factors.
4. Note condition of tire tread. If there are feathered edges toward the inside, there is too much toe-in. If there are feathered edges toward the outside, there is too much toe-out.

Tools and Equipment

1. Tire pressure gauge to check front tire pressure.
2. Scuff gauge or other approved toe-in measuring device.

| Procedure | Reject Vehicle If: |
|--|--|
| A. Toe (In-Out) | A. Toe (In-Out) |
| 1. Check front tires for equal pressure. | Toe reading is 1.5 times greater than the value listed in the vehicle manufacturer's service specifications for alignment setting; |
| 2. Drive vehicle in a straight line slowly up to edge of scuff gauge. | Or, if the manufacturer's specifications are not available, the reading exceeds 30 feet per mile (5.7 m. per km.) on the slip gauge. |
| 3. Drive slowly across gauge. (Note: On scuff gauges which measure both front wheels the test is invalid if the inspector holds the steering wheel.) | |
| 4. Note and record sideslip reading in feet per mile in or out. | |
| 5. Using table below, convert toe-in readings in inches to scuff gauge readings in ft./mi. sideslip for different wheel sizes. | |

Toe Readings in Feet-Per-Mile Sideslip and Fractions of an Inch

| Wheel Size in Inches | Nominal Tire Diameter in Inches | Toe Readings in Fractions of an Inch In or Out | | | | | | | | |
|-------------------------|------------------------------------|--|------|------|------|------|------|------|-------|-------|
| | | 1/16 | 1/8 | 3/16 | 1/4 | 5/16 | 3/8 | 7/16 | 1/2 | 9/16 |
| | | Sideslip Readings in Feet per Mile – In or Out | | | | | | | | |
| 13 | 25.2 | 13.1 | 26.2 | 39.3 | 52.4 | 65.5 | 78.6 | 91.7 | 104.8 | 117.9 |
| 14 | 26.4 | 12.5 | 25.0 | 37.5 | 50.0 | 62.5 | 75.0 | 87.5 | 100.0 | 112.5 |
| 15 | 28.5 | 11.5 | 23.0 | 34.5 | 46.0 | 57.5 | 69.0 | 80.5 | 92.0 | 103.5 |
| 16 | 35.6 | 9.3 | 18.6 | 27.9 | 37.2 | 46.5 | 55.8 | 65.1 | 74.4 | 83.7 |

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

(7) Ball Joint Wear

Notes for Inspectors

1. Inspection of ball joints on models prior to 1973 must be conducted with the joints unloaded. Beginning with some 1973 models, however, some manufacturers provide a wear indicating ball joint to facilitate inspection, in which case a visual inspection is made with the joints loaded.
2. For inspection on models without wear-indicating ball-joints, ball joints must be unloaded.
3. On models with wear-indicating ball joints, inspection is in accordance with the manufacturer’s specifications.
4. Non-load carrying ball joints should not show an appreciable amount of wear. If there is any perceptible looseness, rejection and replacement by a qualified mechanic should be considered.
5. In checking for vertical motion of ball joints, keep in mind that the load carrying joint is unloaded, and that a pry bar pressure sufficient only to lift the weight of the wheel assembly is required. If the inspector uses the “leverage” of a pry bar to exert excessive pressure, he can easily “force” an apparent ball joint movement and get a false reading. This may result in expensive replacement of perfectly good joints.
6. Refer to Appendix A following this section, for additional front suspension information.

Tools and Equipment

1. Floor jack and stand to lift vehicles without wear indicating ball joints.
2. Dial indicator to measure horizontal movement between ball joint and the socket.
3. Pry bar to measure vertical movement of ball joints.

| Procedure | Reject Vehicle If: |
|---|--|
| A. Vehicles with Wear Indicating Ball Joints | A. Vehicles with Wear Indicating Ball Joints |
| 1. Support vehicle with ball joints loaded. | Checking surface is flush with or inside the cover surface. |
| 2. Wipe grease fitting and checking surface free of dirt and grease. | (Wear is indicated by the protrusion of the ½ inch/13 mm. diameter boss, into which the grease fitting is threaded. This round boss projects .050 inch/1.3 mm. beyond the surface of the ball joint cover on a new, unworn joint.) |
| 3. Observe, or scrape a scale, screwdriver or fingernail across the cover. | |
| 4. Determine if checking surface extends beyond the surface of the ball joint cover. (If the grease fitting boss is flush or inside the | |

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

| | |
|--|--|
| cover surface it is cause for rejection.) | |
| B. Vehicles without Wear Indicating Ball Joints | B. Vehicles without Wear Indicating Ball Joints |
| 1. Unload ball joints by raising vehicle (hoist vehicle by the by the* lower control arm when the spring is supported by the lower control arm, hoise* vehicle by the frame when the spring is supported by the upper control arm). | Perceptible movement of the non-load carrying ball joint is indicated; the upper ball joint on vehicles where the spring* is supported by the upper control arm; or |
| 2. Position a pry bar under the front tire and, with a lifting motion just sufficient to overcome the weight of the wheel assembly, move wheel up and down and measure axial movement between ball joint and socket. | Excessive wear of the load-carrying ball joint is indicated by horizontal motion of the tire, or by axial motion of the ball stud in excess of manufacturer's tolerances; or |
| 3. Grasp the tire and wheel assembly at the top and bottom. Move in and out to detect looseness. | If manufacturer's tolerances are not available; horizontal or vertical movement exceeds .250 inches (6.4 mm.) at the rim of the wheel. |
| C. Pre-Loaded Ball Joints | C. Pre-Loaded Ball Joints |
| 1. Follow the same procedure described in B.1. through 3., above, to inspect for ball joint movement relative to its socket. These ball joints are pre-loaded by rubber or springs under tension, and should have very little movement in a vertical direction. Consult manufacturer's specifications for further information. | Ball joint movement is in excess of manufacturer's specification for tolerances; or free play movement is detected in any direction. |
| D. Vehicles not Equipped with Ball Joints[†] | D. Vehicles not Equipped with Ball Joints[†] |
| 1. Raise and support the vehicle by the front axle or lower control arm. | Horizontal or vertical movement exceeds .250 inches (6.4 mm.) measured at the top or bottom of the wheel rim. |
| 2. Follow the procedure described in B.2. and B.3, above. | |

[†] See Appendix A, paragraphs 1., 2., and 3.b. following this section.

* So in original.

(8) Front and Rear Suspension Components

Notes for Inspectors

1. All components of front and rear suspension should be in good condition for a safe and smooth ride.
2. Sagging springs, broken torsion bars, worn or deteriorated bushings, loose shackles and loose or mislocated "U" bolts can cause vehicle handling instability and brake pull, improper alignment and incorrect headlight aim. (Some vehicles use rubber suspension devices instead of

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

conventional leaf or coil springs.)

3. Part A of this inspection should be conducted on a level surface. The remaining parts of the inspection should be conducted with the vehicle raised on a hoist or jack and stands.

4. Modified suspension systems must be approved as required by the Territory of Guam.

Tools and Equipment

1. Vehicle hoist or jack and stands for inspecting the underside of the vehicle.

2. Flashlight and/or work light for inspecting the underside of the vehicle.

3. Ruler or scale for measuring vehicle height.

| Procedure | Reject Vehicle If: |
|---|--|
| A. Vehicle Height | A. Vehicle Height |
| With vehicle on a level surface, visually inspect the heights of the four corners of the vehicle. If necessary, use measuring device and determine differences from side to side. | A modified suspension system does not have Territory of Guam approval as required; or |
| | The height of the right and left sides are not within 1 inch (2.54 cm.) of each other. |
| B. Vehicle Suspension Components | B. Vehicle Suspension Components |
| Raise the vehicle and visually inspect the underside for condition of the front and rear suspension components listed below. | Any of the following conditions can be found. |
| 1. Leaf Springs. | 1. Leaf springs are found with loose or broken leaves. |
| 2. Coil Springs | 2. Coil springs are extended by spacers or blocks, or are insecurely mounted. |
| 3. Shackles, U-Bolts, Spring Clips. | 3. Loose, broken or missing U-bolts, shackles or spring clips. |
| 4. Stabilizer Bar | 4. Stabilizer bar is broken or loose. |
| 5. Control Arms, Radius Rods, Struts, Steering Arms, Tie Rods, Idler Arms | 5. Control arms, radius rods, struts, steering arms, tie rods, idler arms are bent or broken. |
| 6. Rubber Bushings. | 6. Rubber bushings are missing, split, badly damaged, or badly extruded from suspension joints to the extent that surfaces separated by bushings are in contact, or where the bushing is no longer functional. |
| 7. Shock Absorber Mountings | 7. Shock absorbers have loose or broken mountings, are disconnected or missing. |
| 8. Suspension Brackets. | 8. Suspension mounting brackets on vehicle frame as cracked or broken. |

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

| | |
|---------------------|---|
| 9. Ball Joint Seals | 9. Ball joint seals are cracked or cut. |
| | 10. Any flexible suspension unit is “bottomed out,” allowing the suspended portion of the vehicle to contact the axle or control arm. |
| | 11. There are indicators that any tire, wheel or other moving part makes external contact with a stationary portion of the vehicle. |

(9) Shock Absorbers

Notes for Inspectors

1. Inoperative, broken or disconnected shock absorbers can cause severe handling, steering and braking problems.
2. Part A of this inspection can be conducted following the previous inspection, (8) Front and Rear Suspension Components, while vehicle is still hoisted.

Tools and Equipment

1. Vehicle hoist or jack and stands for inspecting shock absorber leakage.
2. Flashlight and/or work light for inspecting shock absorber condition.

| Procedure | Reject Vehicle If: |
|--|--|
| A. Shock Absorber Leakage Inspection | A. Shock Absorber Leakage Inspection |
| 1. With vehicle hoisted visually inspect for leakage (fluid on outside of lower tube or cylinder). | 1. Severe leakage (not slight dampness) occurs. |
| B. Shock Absorber Operation Inspection | B. Shock Absorber Operation Inspection |
| 1. With vehicle on a level surface, push down on bumper on one end of vehicle and release. | 1. Vehicle continues bouncing after more than two cycles of free rocking motion. |
| 2. Note number of cycles of free rocking motion allowed by shock absorbers. | 2. Vertical motion cannot be induced. |
| 3. Repeat procedure at opposite end of vehicle. | |

(10) Rear Wheel Tracking

Notes for Inspectors

1. Possible causes for improper rear wheel tracking can consist of any one of the following: broken main leaf on rear spring; shifted axle on center bolt; bent or out of adjustment trailing links or radius rods, sway bar or track bar; bent or damaged axle housing frame.
2. Improper rear wheel tracking causes improper headlight aim and steering instability.

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

3. There are three alternate methods, (a), (b), and (c), for inspecting rear wheel tracking.

Tools and Equipment

1. Method (b)

- a. Tracking gauge.
- b. Vehicle hoist or jack and stands.
- c. Flashlight and/or work light.

2. Method (c)

- a. Measuring tape.

| Procedure | Reject Vehicle If: |
|--|---|
| Method (a) – Rear Wheel Tracking | Method (a) – Rear Wheel Tracking |
| By observation compare tracking of rear wheels with tracking of front wheels when the vehicle is moving “straight ahead.” | Rear wheels do not track parallel and the same lateral (side to side) distance from the front wheel tracks. |
| Method (b) – Rear Wheel Tracking | Method (b) – Rear Wheel Tracking |
| With vehicle on a level surface, adjust tracking gauge to the distance between the front and rear wheels of vehicle on one side and compare distance with the front and rear wheels on the opposite side. | The wheel base on one side is different from the wheel base on the other side by more than one inch. (Not applicable if vehicle specifications indicate different left and right wheelbase dimensions as designed.) |
| Method (c) – Rear Wheel Tracking | Method (c) – Rear Wheel Tracking |
| Using a tape measure, determine the distance between the centerline of the front wheel spindle and the centerline of the rear axle drive shaft and compare from side to side. (Front wheels must be in the straight ahead position.) | Rear axle is obviously misaligned. |

Appendix A

Additional Front Suspension Information

In virtually all vehicles used on roads, streets and highways steering is accomplished by turning the front wheels in the direction of intended travel. In these vehicles a flexible suspension unit is used on each wheel to provide for movement between the wheel and the chassis. In order to provide for these movements of the front wheels various steering-suspension arrangements are in general use.

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

1. Solid Front Axle. A one piece axle is supported by one or two flexible suspension units (springs). The front wheels are attached to each end and steering is accomplished by using a pin (kingpin) and bushing arrangement.

2. Twin “I” Beam. An adaptation of the solid front axle where each front axle is attached to one end of an individual solid axle. The other end of each axle is attached to the chassis with a pin and bushing. Steering is accomplished by using a pin (kingpin) and bushing arrangement. This system provides independent suspension for each front wheel. Usually a flexible suspension unit (spring or torsion bar) is provided for each wheel.

3. Double Control Arm Systems These systems provide for vertical movement of the front wheels by the use of upper and lower control arms and individual suspension units for each wheel. Three variations are used to provide steering control.

a. Two Ball Joint System. This is the most common system used on U.S. manufactured vehicles. An upper and lower ball joint is used on the upper and lower arms, respectively, to hold the front wheel in the proper position and permit the necessary movement. The flexible suspension unit can be attached to either control arm.

b. Pin and Bushing System. In this system pins and bushings are used on the upper and lower control arms to hold the wheel in the proper position and permit the necessary movement. The flexible suspension unit can be attached to either control arm.

c. Combination System. In this system a ball joint is attached to the lower control arm and a pin and bushing arrangement is attached to the upper control arm to hold the front wheel in the proper position and permit the necessary movement. The flexible suspension unit is usually attached to the upper control arm. This system has been commonly used on American Motors vehicles.

d. Single Control Arm System. This system has only a lower control arm. The wheel is attached to this control arm by means of a ball joint. A strut combining the suspension unit and shock absorber is used in place of an upper control arm. Attachment to the chassis is accomplished by using a flexible (rubber) bushing. The flexible suspension unit is always mounted on the strut.

Definitions

1. Loaded Ball Joint The load carrying ball joint when the weight of the vehicle is on the ball joint.

2. Unloaded Ball Joint The load carrying ball joint when the weight of the vehicle is removed from the ball joint.

3. Load Carrying Ball Joint The ball joint which supports the weight of the vehicle. This is always the ball joint which is on the control arm to which the spring or torsion bar is attached.

4. Non-Load Carrying Ball Joint A ball joint which does not support the weight of the

vehicle. This is always the ball joint which is on the control arm that does not have a spring or torsion bar attached. The only function of this ball joint is to hold the wheel in the proper position. This Ball joint has, in some cases, been incorrectly termed the unloaded ball joint.

5. Pre-Loaded Ball Joint A ball joint containing a spring or similar device within the socket to hold the ball tightly against the socket. Non-load carrying ball joints are usually pre-loaded. These ball joints will usually show no movement under test conditions.

Lighting and Electrical System

General Instructions

There are four inspection procedures for the lighting and electrical system inspection.

- (1) Lighting (General)
- (2) Headlamp Aim
- (3) Auxiliary Lamp Aim
- (4) Electrical System

Tools and Equipment

Tools and equipment, if required, will be listed above each separate inspection procedure.

Definitions

1. Sealed Beam Head Lamp Assembly A major lighting device used to provide general illumination ahead of the vehicle. It consists of the following: (a) One or more sealed beam units (bulb assembly); (b) Means for mounting securely to the vehicle; (c) Means to permit required aim adjustment.

2. Sealed Beam Unit An integral and hermetically sealed optical assembly with the name "Sealed Beam" molded in the lens.

3. Headlamp Upper Beam A distribution of light intended primarily for distance illumination and for use on the open highway when not meeting other vehicles.

4. Headlamp Lower Beam A distribution of light so directed as to avoid glare in the eyes of oncoming drivers while providing illumination ahead of the vehicle and intended for use in congested areas and on highways when meeting other vehicles within a distance of 500 feet.

5. 7-Inch Sealed Beam Headlamp Unit Two similar units are used on a vehicle.
(a) A sealed unit 7 inches in diameter providing an upper and a lower beam. This unit is identified by a number "2" on the lens and is aimed on the lower beam. Color - white.
(b) (With no identifying number on lens). A sealed unit 7 inches in diameter providing an upper and lower beam. This is an obsolete unit no longer being installed in production. It should be aimed on the upper beam. Color - white.

6. 5 ¾ Inch Type 1 Sealed Beam Unit A sealed unit 5 ¾ inches in diameter having a single filament and providing only an upper beam distribution of light. When used, two units are

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

required on each vehicle in combination with two 5 ¾ inch type 2 units. Color - white.

7. 5 ¾ Inch Type 2 Sealed Beam Unit A sealed unit 5 ¾ inches in diameter having two filaments, one filament providing the lower beam and one filament providing fill-in light for the upper beam. It is aimed on the lower beam. Color - white.

8. 6 ½ x 4 ¼ Inch Rectangular Type 1 Sealed Beam Headlamp A sealed unit 6 ½ x 4 ¼ inch rectangular headlamp having a single filament and providing only an upper beam distribution of light. When used, two units are required in combination with two 6 ½ x 4 ¼ Type 2 units. Color - white.

9. 6 ½ x 4 ¼ Inch Rectangular Type 2 Sealed Beam Headlamp A sealed unit 6 ½ inch rectangular headlamp having two filaments, one filament providing the lower beam and one filament providing fill-in light for the upper beam. It is aimed on the lower beam.

10. Symmetrical Beam A symmetrical beam is one in which both sides are symmetrical with respect to the median vertical plane of the beam. Lamps having symmetrical beams are: (a) 5 ¾ inch Type 1; (b) 5 ¾ inch Type 2 (upper beam filament); and (c) All 7 inch units (upper beam filament).

11. Asymmetrical Beam One in which both sides are not symmetrical with respect to the median vertical* plane of the beam. All lower beams are asymmetrical.

* So in original.

12. Tail Lamps Lamps which are used to designate the rear of a vehicle. Color - red.

13. Stop Lamps Lamps giving a steady warning light to the rear of a vehicle, to indicate the intention of the operator of the vehicle to reduce speed or stop. Color - red.

14. License Plate Lamps Lamps used to illuminate the license plate on the rear of a vehicle. Color – white.

15. Parking Lamps Forward facing lamps used to designate the front of a parked vehicle. Color - white or yellow.

16. Side Marker Lamps Lamps on the left and right sides, beamed to the side, and intended to indicate vehicle length. They are located near the front and rear on each side and, for vehicles over 30 feet in length, are also located at the midpoint (intermediate side marker). Front and midpoint side marker lamps are yellow; rear side marker lamps are red.

17. Back Up Lamps Lamps used to provide illumination behind the vehicle, and to provide a warning signal when the vehicle is in reverse gear. Color - white.

18. Turn Signal Lamps Lamps which provide a flashing warning light to indicate the intended direction of the turn. Front color – yellow or white; rear color – yellow or red.

19. Hazard Warning Lamps Turn signal lamps which flash all turn signal lamps simultaneously to warn of the presence of a vehicular hazard. Color - same as turn signal lamps.

20. Reflective Devices Devices used on vehicles to give an indication to an approaching driver by reflected light from the headlamps of approaching vehicles. Reflective devices are required to be used with, or incorporated within the lens of tail lamps and side marker lamps. Color is the same as required for tail lamps or side marker lamps.

21. Indicator Lamps Lamps visible to the operator of a vehicle that indicate: (a) Appropriate electrical circuits are in operation; and (b) Malfunction of vehicle equipment which requires remedial action by the operator of the vehicle.

22. Operating Units or Switches Devices which control the functioning of electrical equipment.

23. Auxiliary Lamps Fog lamps, driving lamps, passing lamps, etc., used to provide forward illumination to supplement the headlamps. Color - white or yellow.

(1) Lighting (General)

A. General Inspection of Lamp and Reflector Function, Condition, Location and Color

Notes for Inspectors

1 The general lamp and reflector inspection includes all original exterior lighting equipment and reflectors except cornering lamps, spot lamps and emergency warning lamps. It also includes all added driving lamps, passing lamps, fog lamps and backup lamps.

2. Interior indicator lamps that indicate exterior lamp function such as the headlamp beam indicator, and the turn signal lamp indicator and the hazard warning lamp indicator are included. in this inspection.

3. It is not sufficient that a lamp merely illuminates; the illumination must be of an intensity to be readily discernable. If the battery output is low, it may be necessary to operate the engine at a speed sufficient to produce electrical energy from the alternator or generator. The vehicle owner should be notified if this condition exists.

4. All lamps and reflectors shall be located and be of the color as installed in or on the vehicle by the original vehicle manufacturer; or conform to the location and color specified in Appendix A following this section.

5. Any lamp or reflector that is relocated or modified in any manner shall conform to the location and color requirements specified in Appendix A following this section.

6. Mirrors may be used to observe any lamp function from the driver's position.

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

| Procedure | Reject Vehicle If: |
|---|---|
| A. General Inspection of Lamp and Reflector Function, Condition, Location and Color | A. General Inspection of Lamp and Reflector Function, Condition, Location and Color |
| Turn on the headlamps and visually inspect the headlamps, parking lamps, side marker lamps, tail lamps and license plate lamp. (On older model vehicles the lamp switch must be placed in the parking lamp position to illuminate the parking lamps.) | 1. Any lamp fails to illuminate. |
| With lamps off visually inspect all reflectors. | 2. Any lamp or reflector shows an improper color. |
| | 3. Any lamp directs light improperly. |
| | 4. Any reflector does not redirect light properly. |
| | 5. Any lamp or reflector assembly is loose or improperly fastened. |
| | 6. Any lamp or reflectors had a cracked, broken or missing lens. |
| | 7. Any lamp lens does not fit properly or is improperly installed. |
| | 8. The interior of any lamp is soiled, discolored or otherwise contaminated to the extent that light output is reduced including deterioration of any interior reflector. |
| | 9. Any lamp is of a type not approved by the Motor Vehicle Division. (All standard original lamps are considered to be approved unless otherwise indicated.) |
| | 10. The illumination from any lamp is blocked or obscured by any material or device which is not a part of the original lamp equipment. |
| | 11. The illumination from any added lighting device interferes with an observer's view of any signal lamp, side marker lamp, tail lamp or stop lamp. |

B. Parking Lamp Inspection

Notes for Inspectors

1. All vehicles manufactured after January 1, 1969, are equipped with amber (yellow) parking lamps. Earlier model vehicles were equipped with white or amber parking lamps.
2. Parking lamps are mounted at the front of the vehicle except on some older model vehicles where they are mounted on each side of the cowl.

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

3. On all vehicles manufactured after January 1, 1969, the parking lamps are illuminated when the headlamps are illuminated. They also should be illuminated when the lamp switch is in the parking lamp position. On older model vehicles the parking lamps operate independent of the headlamps.

4. Parking lamps are commonly incorporated into the same lighting device as the front turn signal lamp.

| Procedure | Reject Vehicle If: |
|---------------------------------|--|
| B. Parking Lamp Inspection | B. Parking Lamp Inspection |
| Visually observe parking lamps. | 1. Any parking lamp fails to meet the General Inspection requirements on Section A, above. |
| | Parking lamps do not provide steady illumination of equal intensity. |

C. Turn Signal Lamps

Notes for Inspectors

1. Almost all vehicles manufactured since the early 1950s were equipped with self-cancelling turn signals. A few early models were equipped with manual cancelling signals. All steering column mounted turn signal switches are self-cancelling.

2. All vehicles manufactured after January 1, 1969 are equipped with self-cancelling turn signals and amber (yellow) colored front turn signal lamps.

3. Front turn signal lamps are either white or amber in color; rear turn signal lamps are either red or amber in color.

4. All vehicles equipped with turn signals have an interior indicator lamp(s).

5. Turn signal lamps are commonly incorporated into the same lighting device as the parking lamps and tail lamps/stop lamps. When incorporated, the stop lamp will not function on the side indicating the turn.

| Procedure | Reject Vehicle If: |
|--|--|
| C. Turn Signal Lamps | C. Turn Signal Lamps |
| With the parking lamps illuminated and the ignition switch "on;" | 1. Any turn signal lamp fails to meet the General Inspection requirements in Section A, above. |
| 1. Actuate the turn signal switch lever and observe the front and rear turn signal lamps and interior indicator; move the switch lever to the opposite direction, and again observe the lamps and indicator. | 2. Any turn signal lamp illumination is not readily visible under all lighting conditions. |

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

| | |
|--|--|
| 2. With the turn signal switch actuated in either direction, rotate the steering wheel one full turn and return to original position. Observe for self-cancellation. | 3. The turn signal flashing rate is less than 50 per minute or greater than 130 per minute. |
| | 4. The interior indicator does not indicate turn signal operation. |
| | 5. The turn signal does not properly illuminate on the left or right when so switched. |
| | 6. Operation of the turn signal causes changes in the illumination of other exterior lamps, except stop lamps. |
| | 7. The self-cancelling device does not operate. |

D. Hazard Warning Lamps

Notes for Inspectors

1. All vehicles manufactured after January 1, 1968, are equipped with hazard warning lamps.
2. Hazard warning lamps are operated by a separate switch and flasher unit to flash all turn signal lamps at the same time.
3. On some vehicles the hazard warning lamps will not flash when the service brake pedal is depressed.

| Procedure | Reject Vehicle If: |
|---|---|
| D. Hazard Warning Lamps | D. Hazard Warning Lamps |
| With the parking lamps illuminated, actuate the hazard warning lamp switch. Observe the turn signal lamps and indicator. (Hazard warning lamps should function with the ignition switch in the “off” position.) | 1. Any turn signal lamp fails to flash. |
| | 2. Any turn signal lamp is not readily visible under all lighting conditions. |
| | 3. The flashing rate is less than 50 per minute or greater than 130 per minute. |

E. Side Marker Lamps

Notes for Inspectors

1. All vehicles manufactured after January 1, 1969 are equipped with side marker lamps and side marker reflectors.
2. Side marker reflectors are usually incorporated within the side marker lamp lens.

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

3. Side marker lamps may be a portion of the front parking lamps or a portion of the tail lamps that directs light to the side of the vehicle.
4. Side marker lamps located at or near the front of the vehicle are amber (yellow) in color; side marker lamps located at or near the rear of the vehicle are red in color.
5. Amber colored intermediate side marker lamps are required on vehicles over 30 feet (9 meters) in length.
6. Side marker lamps are illuminated whenever the headlamps or the parking lamps are illuminated.

| Procedure | Reject Vehicle If: |
|--|--|
| E. Side Marker Lamps | E. Side Marker Lamps |
| 1. Turn on headlamps or parking lamps. Observe side marker reflectors. | Any side marker lamp or reflector fails to meet the General Inspection requirements in Section A, above. |
| 2. With headlamps and parking lamps off, observe side marker reflectors. | |

F. Tail Lamps

Notes for Inspectors

1. Almost all vehicles manufactured since the early 1950s were equipped with two red tail lamps, one mounted on each side of the rear of the vehicle. Earlier models may have only one red tail lamp mounted on the rear of the vehicle.
2. All vehicles manufactured after January 1, 1969, are equipped with at least two red tail lamps and reflectors mounted on either side of the rear of the vehicle.
3. Rear reflectors are usually incorporated within the tail lamp lens.
4. Tail lamps are illuminated whenever the headlamps or parking lamps are illuminated.

| Procedure | Reject Vehicle If: |
|---|---|
| F. Tail Lamps | F. Tail Lamps |
| 1. With the parking lamps or headlamps illuminated, observe the tail lamps. | Any tail lamp or reflector fails to meet the General Inspection requirements in Section A, above. |
| 2. With the headlamps and parking lamps off, observe the rear relectors*. | |

* So in original.

G. Stop Lamps

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

Notes for Inspectors

1. Almost all vehicles manufactured since the early 1950s were equipped with at least two red stop lamps mounted on each side of the rear of the vehicle. Earlier models may have only one red tail lamp mounted on the rear of the vehicle.

Vehicle Glazing
(Windshield and Window Glass or Other Material)

General Instructions

1. Automotive safety glazing is marked with the manufacturer's trademark and the letters "AS" followed by a number from 1 to 11B. Only AS1 (or AS10 - Bullet Resistant) may be used in the windshields. Safety glazing for 1966 and later models also has a glass manufacturer's model number or a DOT code number.
2. Vehicles manufactured before 1954 may be equipped with AS2 safety glass in the windshield or may be equipped with unmarked glass in all windows if it is the original equipment.
3. The word "glazing" refers to glass or plastic materials used in vehicle windows, windshields and other apertures used for window purposes.
4. The word "discoloration" used below refers to anything which impairs the transparency of the glazing.
5. The inspector should be familiar with the additional information on American National Standards Institute glazing specifications on the following pages.
6. Glazing material installed after January 1, 1972, must be approved by the Director of Revenue and Taxation. Original Equipment Manufacturer replacement glazing material displaying the "AS" and "DOT" codes are considered to be approved unless otherwise indicated.

Tools and Equipment

1. Damp sponge or cloth for cleaning mud or dirt from glazing markings.
2. Ruler or tape measure for measuring chips, cracks, stickers, decals, signs and posters.

| Procedure | Reject Vehicle If: |
|--------------------|---|
| A. Proper Markings | A. Proper Markings |
| | 1. There is no glass in the windshield. |
| | 2. On 1966 and later model vehicles, improper or unmarked glazing materials are used for specific positions (Refer to Additional Glazing Information following this section). |

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

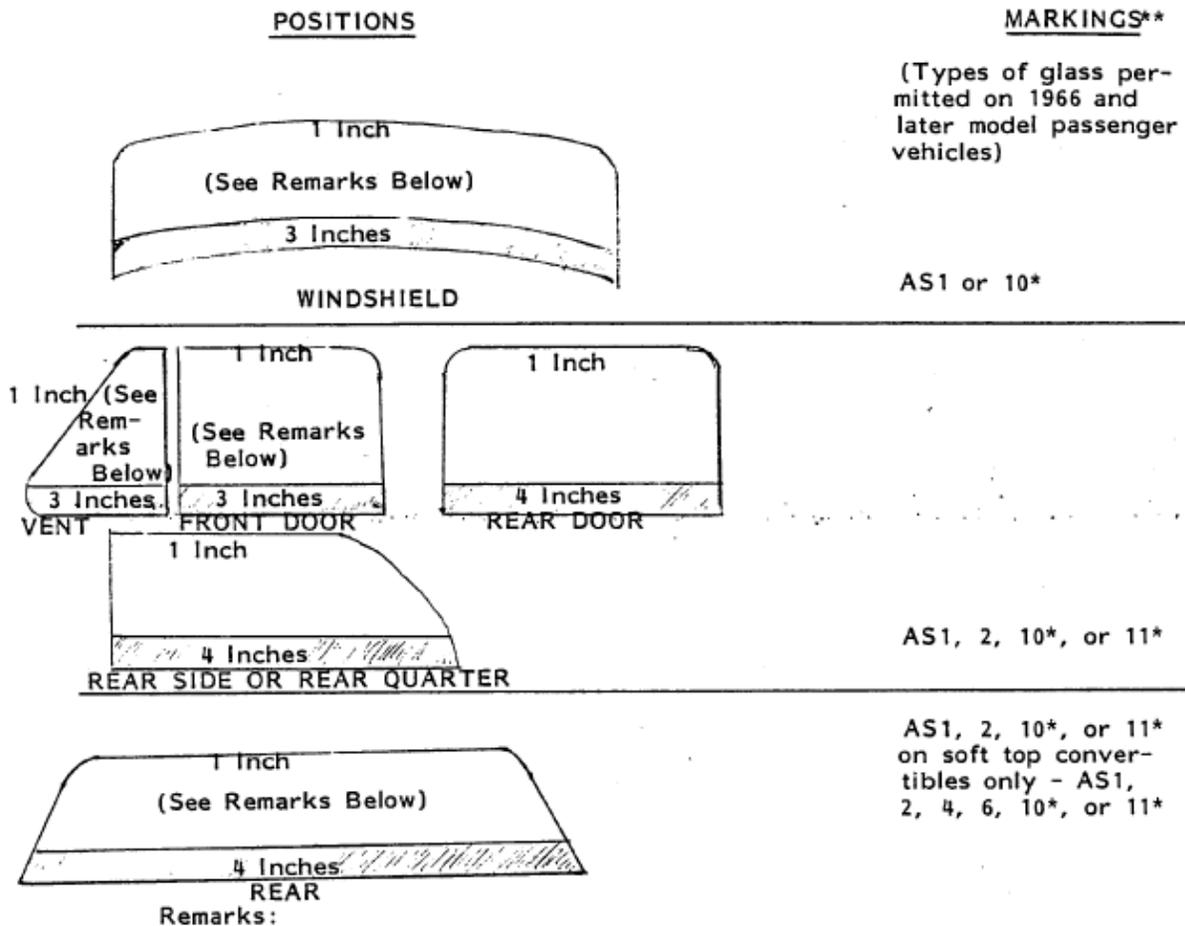
| | |
|--|---|
| | 3. Non-transparent materials such as plywood, etc., are used to replace glass. |
| B. Left Front Window | B. Left Front Window |
| Inspect operation of window at driver's left. Window must open readily even though the vehicle has approved turn signals. If equipped with power windows turn ignition on to test operation. | Window at driver's left cannot be readily opened to permit arm signals. (Absence of glass in any window except the windshield is not cause for rejection.) |
| C. Stickers – Tinting | C. Stickers – Tinting |
| Inspect all glass for material or conditions that obscure driver's vision; including stickers, posters, decals, signs, tinting, curtains and venetian blinds. | <p>1. Windshield contains any sticker, decal or sign, except current stickers, decals or signs issued by a government agency and posted in the authorized shaded area.[†]</p> <p>2. Glazed surfaces contain any vision reducing material, except in shaded area.[†]</p> <p>3. Tinting material which do not confirm with the minimum requirements of the law.</p> <p>[†] (Refer to Additional Glazing Information following this section.)</p> |
| D. Cracks – Chips – Discoloration | D. Cracks – Chips – Discoloration |
| Inspect windshield and all windows for cracks, chips, sharp edges and discoloration. | (Except in the shaded areas shown in Additional Glazing Information following this section.) |
| | 1. There is any scratched, discoloration or otherwise opaque area on the driver's side of the windshield which exceeds the dimensions shown in Table 1. |
| | 2. There is any scratched, discoloration or otherwise opaque area on the passenger's side of the windshield or any other window in the vehicle which exceeds the dimensions shown in Table 2. |
| | 3. There is any stone bruise or star chip greater than 13/16 inch (21 mm.) in diameter in the driver's side of the windshield. |
| | 4. There is any stone bruise or chip greater than 1 ½ inches (38 mm.) in diameter in the passenger's side of the windshield or any other window in the vehicle. |
| | 5. There are cracks in the driver's side of the windshield of a total length greater than 5 inches (127 mm.) |
| | 6. There are cracks in the passenger's side of the windshield or any other window in the vehicle of a total length greater than 8 inches (203 mm.). |

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

| | |
|--|--|
| | 7. There is a crack in the windshield or any window in the vehicle that allows one piece of glass to be moved with respect to the other. |
| | 8. The windshield or any window is broken (pieces missing) or has exposed sharp edges. |

Additional Glazing Information

ADDITIONAL GLAZING INFORMATION

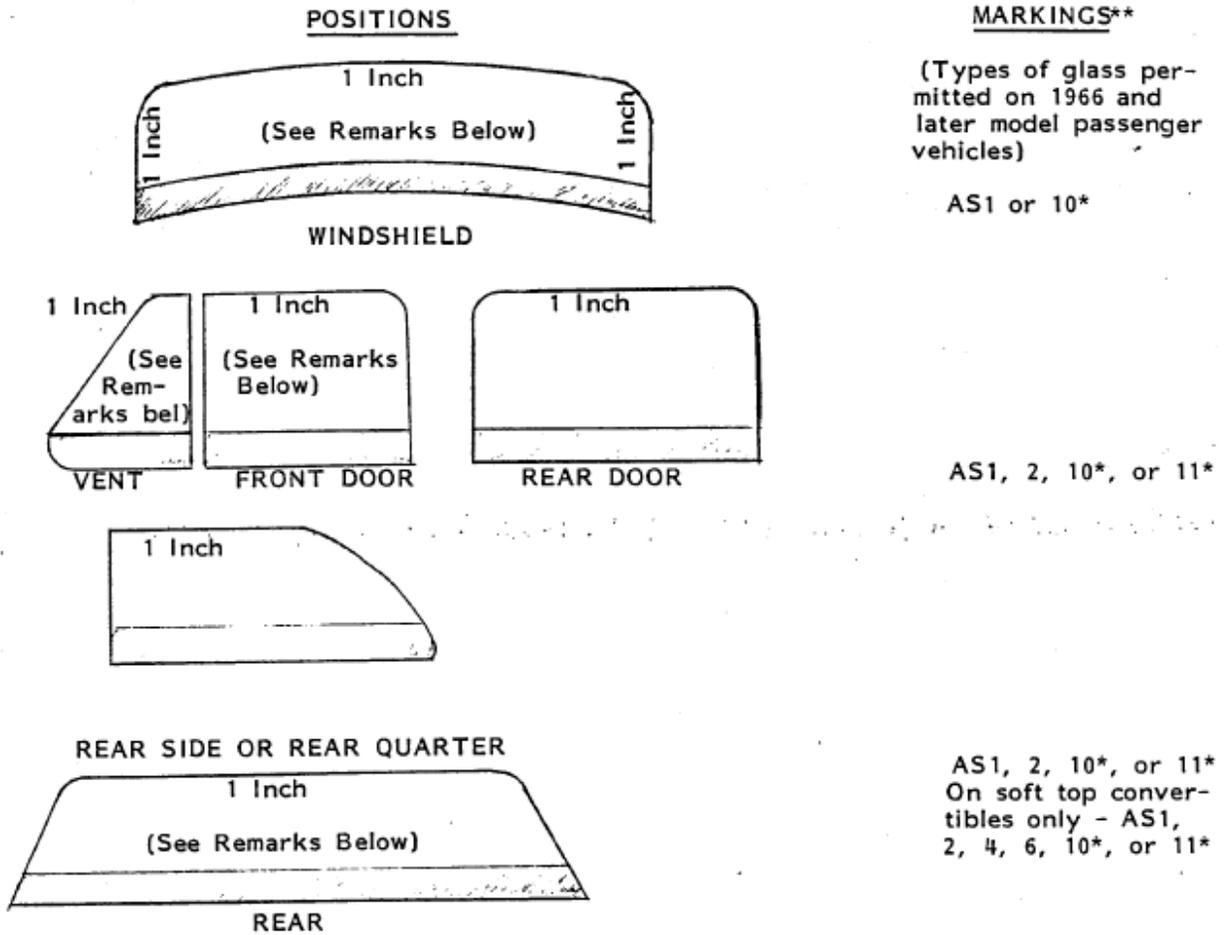


Remarks:

1. Discoloration permitted as shaded portion of diagrams indicate.
2. Tinting of AS2, 4, 6, or 11 type glazing materials are limited to a 65 percent reduction of visible light.

-
- * Glazing marked AS10 or AS11 has bullet resisting qualities.
 - ** Acceptable "AS" numbers in accordance with Federal Motor Vehicle Safety Standard Number 205 (ANSE Glazing Standard Z26.1 - 1966).

TITLE 150: DEPARTMENT OF PUBLIC SAFETY



Remarks:

1. Discoloration permitted as shaded portion of diagrams indicate.
2. Tinting of AS1, 2, 4, 6, 10, or 11 type glazing is limited to a 30 percent reduction of visible light.

* Glazing marked AS10 or AS11 has bullet resisting qualities.

** Acceptable "AS" numbers in accordance with Federal Motor Vehicle Safety Standard Number 205 (ANSE Glazing Standard Z26.1 - 1966).

Table 1

Limiting Dimensions of Scratched, Discolored or Opaque Areas On Driver's Side of Windshield

| Area Greater Than: | Width | No | Limiting Length of Area Is: | Area Greater Than: | Width | No | Limiting Length of Area Is: |
|--------------------|-------|----|-----------------------------|--------------------|-------|----|-----------------------------|
| (Inches) | | | | (Millimeters) | | | |

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

| | | | |
|-------|---------|----|-----|
| 1/16 | 8 5/16 | 1 | 335 |
| 1/8 | 4 1/8 | 2 | 167 |
| 3/16 | 2 3/4 | 3 | 112 |
| 1/4 | 2 1/8 | 4 | 84 |
| 5/16 | 1 11/16 | 5 | 67 |
| 3/8 | 1 3/8 | 6 | 56 |
| 7/16 | 1 3/16 | 7 | 48 |
| 1/2 | 1 1/16 | 8 | 42 |
| 9/16 | 15/16 | 9 | 37 |
| 5/8 | 13/16 | 10 | 33 |
| 11/16 | 3/4 | 11 | 30 |
| | | 12 | 28 |
| | | 13 | 26 |
| | | 14 | 24 |
| | | 15 | 22 |
| | | 16 | 21 |
| | | 17 | 20 |
| | | 18 | 19 |

Table 2

Limiting Dimensions of Scratched, Discolored or Opaque Areas on Passenger's Side of the Windshield and all Other Windows in Vehicle.

| Area Width No | Limiting Length of Area Is: | Area Width No | Limiting Length of Area Is: |
|---------------|-----------------------------|---------------|-----------------------------|
| (Inches) | | (Millimeters) | |
| 1/16 | 28 5/16 | 1 | 1140 |
| 1/8 | 14 1/8 | 2 | 570 |
| 3/16 | 9 7/16 | 3 | 380 |
| 1/4 | 7 1/16 | 4 | 285 |
| 5/16 | 5 11/16 | 5 | 228 |
| 3/8 | 4 3/4 | 6 | 190 |
| 7/16 | 4 1/16 | 7 | 163 |
| 1/2 | 3 9/16 | 8 | 143 |
| 9/16 | 3 1/8 | 9 | 127 |
| 5/8 | 2 13/16 | 10 | 114 |
| 11/16 | 2 9/16 | 11 | 104 |
| 3/4 | 2 3/8 | 12 | 95 |
| 13/16 | 2 3/16 | 13 | 88 |
| 7/8 | 2 | 14 | 81 |
| 15/16 | 1 7/8 | 15 | 76 |
| 1 | 1 3/4 | 16 | 71 |
| 1 1/16 | 1 11/16 | 17 | 67 |
| 1 1/8 | 1 9/16 | 18 | 63 |

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

| | | | |
|--------|--------|----|----|
| 1 3/16 | 1 1/2 | 19 | 60 |
| 1 1/4 | 1 7/16 | 20 | 57 |
| 1 5/16 | 1 3/8 | 21 | 54 |
| | | 22 | 52 |
| | | 23 | 50 |
| | | 24 | 48 |
| | | 25 | 46 |
| | | 26 | 44 |
| | | 27 | 42 |
| | | 28 | 41 |
| | | 29 | 39 |
| | | 30 | 38 |
| | | 31 | 37 |
| | | 32 | 36 |
| | | 33 | 35 |
| | | 34 | 34 |

Body and Sheet Metal

General Instructions

1. Body components and sheet metal are subject to rejections if a condition exists which is hazardous to occupants, pedestrians or other vehicles.
2. The eight body and sheet metal inspection procedures covered in this section are as follows:
 - (1) External Rearview Mirrors
 - (2) Internal Rearview Mirror
 - (3) Windshield Wipers
 - (4) Windshield Washer
 - (5) Body Parts – Bumpers – Fenders
 - (6) Doors – Hood/Trunk
 - (7) Floor Pan
 - (8) Seats and Safety Belts

Tools and Equipment

Tools and equipment, if required, will be listed above each separate inspection.

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

(1) External Rearview Mirrors

Notes for Inspectors

1. All passenger vehicles manufacturer after January 1, 1968 and introduced into or sold in the U.S. are equipped with an adjustable, non-magnifying, left-hand exterior rearview mirror.

2. All passenger vehicles manufactured after January 1, 1968 and introduced into or sold in the U.S. are equipped with an adjustable, non-magnifying, exterior right-hand rearview mirror if the interior rearview mirror does not meet the field of view requirements of Federal Motor Vehicle Safety Standard No. 111.

3. Any exterior rearview mirror required by any other applicable law or regulation shall meet these inspection standards.

| Procedure | Reject Vehicle If: |
|--|---|
| A. From the driver's position, visually inspect exterior rearview mirrors for proper location and field of view. | |
| | 1. Any mirror is missing from a vehicle originally equipped with one, or required to be equipped with one. |
| | 2. Mirror is obscured by a pillar or unwiped portion of windshield. |
| | 3. Mirror does not give a reasonably unobstructed field of view of the area to the rear and 8 feet (2.4 m.) outward to a point 35 feet (10.7 m.) behind the side of the vehicle at the driver's position. (Partial obstruction by rear body or fender contours is permitted.) |
| | 4. Mirror surface is cracked, discolored, pitted, or clouded to the extent that any object within the required field of view (i.e., above) cannot be clearly seen. |
| B. Visually inspect exterior rearview mirrors for stable mounting, ease of adjustment, and sharp edges or points | B. |
| | 1. Mirror mounting is so loose that a set position cannot be maintained. |
| | 2. Mirror has sharp edges or points that could contribute to injury. |
| | 3. Mirror on the driver's side is mounted so that it cannot be adjusted from the driver's seated position. |

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

(2) Interior Rearview Mirror

| Procedure | Reject Vehicle If: |
|---|--|
| A. From the driver's position, visually inspect interior mirror for proper mounting, location, cracks, sharp edges, ease of adjustment, clear view to the rear. | A. Proper Markings |
| | 1. Mirror is missing. |
| | 2. Mirror is loosely mounted or will not maintain a set adjustment. |
| | 3. Mirror does not provide a clear view of highway beginning at a point no greater than 200 feet to the rear. |
| | 4. Mirror does not give an unobstructed field of view at least 12 feet (3.7 m.) wide at a point 35 feet (10.7 m.) behind the driver's viewing position. (Applies only to vehicles manufactured after Jan. 1, 1968.) Passenger side rearview mirror may be used in place of this requirement. |

(3) Windshield Wipers

Notes for Inspectors

1. All vehicles produced after January 1, 1968, and introduced into or sold in the U.S. are equipped with wiper systems capable of operating at two or more speeds.
2. A cycle consists of blade movement from one extreme of the wiper pattern to the other and return.
3. The windshield must be free of insects, oil film or other foreign matter, and must be continuously wet when tested.
4. Advise vehicle owner or driver if wiping capability approaches minimum standards.

Tools and Equipment

1. Hose, or other source of clean water to test windshield wiper operation.
2. Watch with a sweep second hand for timing windshield wiper operation.

| Procedure | Reject Vehicle If: |
|---|--------------------|
| A. Visually inspect for satisfactory operation. Apply a small amount of water continuously to | A. Proper Markings |

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

| | |
|---|---|
| the wiped windshield surface during operation of the wipers. This may be accomplished by operation of the washer system, if installed. Count the number of cycles completed in one minute. If vacuum operated, engine must be idling and control full on. | |
| | 1. Vehicle has fewer wipers than originally installed. |
| | 2. Wipers on vehicles produced after Jan. 1, 1968, do not operate at two or more speeds. |
| | 3. On vehicles produced after Jan. 1, 1968: a. The highest operating speed is less than 20 cycles per minute. b. The low operating speed is less than 20 cycles per minute. c. The difference between such low operating speed and the highest operating speed is less than 15 cycles. |
| | 4. On vehicles produced before Jan. 1, 1968, and equipped with electric, air or vacuum powered wipers: a. The operating speed is less than 20 cycles per minute. |
| | 5. Blades smear or severely streak windshield after 5 cycles. |
| | 6. Blades do not completely clear water from wiped area. |
| B. Visually inspect for proper blade size. | B. Blade(s) are of improper size. |
| C. Inspect blades for damage, wear, aging, etc. | C. Blade edges are hard, cracked or damaged. |
| D. Inspect for damaged wiper arms. | D. Parts of arms are missing or damaged to the extent that performance is impaired. |
| E. Inspect for proper contact of blades with windshield. Raise arm 2 inches (5 cm.) away from windshield and release. Arm should return to original position and wiper blade should contact the windshield firmly. The arm should exert about 1 ounce of pressure for each inch of blade. | E. Arm fails to return to original position or blade fails to contact the windshield over the entire length of the blade. |

(4) WINDSHIELD WASHER

Notes for Inspectors

1. Vehicles produced after January 1, 1968, and introduced into or sold in the U.S. must be equipped with windshield washer systems.

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

2. Advise vehicle owner or driver if fluid level is low.

| Procedure | Reject Vehicle If: |
|--|---|
| A. Inspect for proper operation of hand or foot control, the location and amount of fluid delivered to the windshield surface. Windshield wipers should be in operation during the inspection. | A. |
| | 1. System fails to function. |
| | 2. System does not distribute fluid over the entire wiped area of the windshield within 5 wiper cycles. |

(4) Body Parts – Bumpers – Fenders

Notes for Inspectors

1. The inspector shall walk completely around the vehicle and inspect exterior body parts, bumpers and fenders as indicated below.

2. All original equipment body parts, bumpers or fenders that have been modified or rebuilt in a manner that substantially* changes their appearance or design, or have been replaced with an item that differs substantially in appearance or design from the original items, are subject to prior approval by the Territory of Guam.

3. Modified bumpers shall be:

a. Constructed of substantial material that will not shatter or split upon impact;

b. Firmly attached;

c. Free of sharp or protruding edges or points; and

d. Provide a horizontal contact face extending to the width of the body sheet metal, including fenders, at a height between 14 inches (35.5 cm.) and 22 inches (55.9 cm.) above a level road surface.

4. Modified fenders shall cover the width of the tire tread at the top of the wheel and extend for a distance around the perimeter of the tire to effectively suppress water spray from the tires'

| Procedure | Reject Vehicle If: |
|--|---|
| A. Body Parts | A. Body Parts |
| Visually inspect for torn or damages parts, loose or improperly assembled parts. | 1. Torn metal, broken glass, or other loose or dislocated parts protrude from the exterior of the vehicle presenting a safety hazard to persons nearby. |

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

| | |
|---|---|
| | 2. Modified or non-standard replacement parts are not approved by the Territory of Guam. |
| B. Bumpers | B. Bumpers |
| Visually inspect bumpers for hazardous condition or unsafe mounting. Inspect for looseness by grasping the bumper and applying force up and down and from side to side. | 1. The bumper is missing. |
| | 2. The bumper can be moved at the attachment points by the application of force in any direction. |
| | 3. The bumper is damaged or broken to the extent that sharp edges or protruding portions are a safety hazard to persons or vehicles nearby. |
| C. Fenders | C. Fenders |
| Visually inspect fenders for hazardous condition or unsafe mounting. Grasp fenders firmly and apply moderate force up and down. | 1. Any fender is missing. |
| | 2. Any fender is loosely attached. |
| | 3. Any fender which does not cover the width of the tire tread. |
| | 4. Any fender is damaged to the extent that sharp edges or protruding portions are a safety hazard to persons nearby. |
| | 5. Modified fenders are not approved by the Territory of Guam. |

(6) Doors – Hood/Trunk

Notes for Inspectors

1. Vehicles originally equipped with doors shall have:

- a. Original doors, or
- b. Equivalent original door replacement, or
- c. A substitute device approved by the Territory of Guam.

2. Vehicles having front-opening compartments (hood or trunk) located forward of the driver shall have suitable devices for holding the hood or trunk lid securely in the closed position.

3. Advise the vehicle owner or driver if the condition of any door, hood or trunk lid or latching device is approaching minimum inspection standards.

| | |
|------------------|---------------------------|
| Procedure | Reject Vehicle If: |
|------------------|---------------------------|

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

| | |
|--|---|
| A. Doors | A. Doors |
| Open and close doors. Inspect door latches for proper operation. | 1. Door is missing. |
| | 2. Any door will not latch in the fully closed position without using unusual force. |
| | 3. Replacement device for door is not approved by the Territory of Guam. |
| B. Forward Opening Hood or Trunk Lid | B. Forward Opening Hood or Trunk Lid |
| Open hood or trunk lid and inspect safety catches for proper operation. Close hood and inspect for proper full closure. Manually inspect latch or remote control for proper operation. | 1. Hood or trunk lid latch does not securely hold hood or trunk lid in its proper fully closed position. |
| | 2. Secondary or safety catch does not function properly. |
| | 3. Latch release mechanism or its parts are broken, missing or badly adjusted so that the hood or trunk lid cannot be opened and closed properly. |
| | 4. Rope, wire or similar materials is used to hold doors, hood or trunk lid in place. |

(4) Floor Pan

Notes for Inspectors

1. This is primarily a visual inspection which may be most easily conducted from under the vehicle.

Tools and Equipment

1. Flashlight and/or worklight for inspecting under seats and in trunk.

| Procedure | Reject Vehicle If: |
|---|---|
| A. Inspect floor pan in both occupant compartment and trunk for holes which could permit entry of exhaust gases, or which would not support occupants adequately. Vehicles with other visible rust damage should be checked very carefully. Soft spots in the floor covering or loose seat mountings could be indications of a damaged floor pan. | A. Floor pan (front and/or rear) has holes caused by rust or other damage. (Drain holes provided by the manufacturer are not cause for rejection if they are securely plugged or otherwise sealed.) |

(8) Seats and Safety Belts

Notes for Inspectors

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

1. All passenger vehicles manufactured after January 1, 1968, and introduced into or sold in the U.S. are equipped with seat belts for all outboard passenger seating positions.
2. All passenger vehicles manufactured after January 1, 1970, are equipped with:
 - a. Seat belts for all passenger seating positions; and
 - b. Shoulder belts for all outboard passenger seating positions, except convertibles.
3. Some vehicles may be equipped with other restraint systems such as air bags.

| Procedure | Reject Vehicle If: |
|---|--|
| A. Inspect seats for proper operation of adjusting mechanism and to see that seats are securely anchored to floor pan. | A. |
| | 1. All seat anchor belts are not securely fastened to floor or are missing. |
| | 2. Seat adjusting mechanism slips out of set position. |
| B. Inspect seat belts and shoulder harnesses (when so equipped) for frayed, split or torn webbing; malfunctioning buckles; loose or damaged anchorages to floor pan. | B. |
| | 1. Belts are missing (except where an alternate restraint system is installed.) |
| | 2. Belt webbing is frayed, split or torn. |
| | 3. Buckles do not latch or release properly. |
| | 4. Belt anchorages are loose, missing or not fastened to belt. |
| | 5. Belts are not an approved type. |
| C. Inspect seat belt retractors for proper function. (Inertia locking retractors only. These belts have no provision for adjusting the length of the belt.) | C. A retractor fails to maintain the restrained occupant belt length or fails to roll the belt onto the retractor when the buckle is disconnected. |
| D. While sitting in the driver's seat with seat belts unfastened, turn on ignition and check seat belt warning system for audible signal and/or warning light (passenger vehicles manufactured after Jan. 1, 1972.) | D. Audible signal and/or warning light does not activate for 4 to 8 seconds after ignition is turned on. |

Exhaust System

General Instructions

1. The exhaust system must conduct exhaust gases from the engine to a discharge point (end of

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

tailpipe) located at or beyond the edge of any compartment used for carrying passengers, including the trunk. The discharge point shall also be located to the rear of any window capable of being opened, vent, or other opening in any compartment used for carrying passengers.

2. All parts of the exhaust system must be protected from accidental personal contact with hot surfaces.
3. During the under vehicle exhaust system inspection the vehicle should be placed on a hoist, pit or jack and frame stands.
4. The engine should be running during the under vehicle exhaust system inspection to check for damage or leaks.
5. The vehicle owner or driver should be advised of rust, corrosion, damage or other conditions which approach rejection standards.
6. The vehicle owner or driver should also be advised of any noise, smoke or other emission condition that may be unlawful.
7. The exhaust system inspection should take place in a well ventilated area.

Tools and Equipment

1. Vehicle hoist, pit or jack and frames for unde* vehicle inspection.

* So in original.

2. Flashlight and/or work light for under the hood and under the vehicle inspections.

Definitions

1. Exhaust System Includes all components and piping extending from the engine to the point of exhaust discharge.
2. Manifold Connecting pipes between the engine exhaust ports and the exhaust pipe.
3. Muffler A device used to deaden the sound of escaping exhaust gases.
4. Tailpipe The open end section of an exhaust pipe.

| Procedure | Reject Vehicle If: |
|--|--|
| A. Under Vehicle Exhaust System Inspection | A. Under Vehicle Exhaust System Inspection |
| Visually examine mufflers, resonators, tail pipes, exhaust pipes, catalytic converters, and supporting hardware while vehicle is on a hoist, jack and frame stands, or over a pit. | 1. Vehicle has no muffler. |

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

| | |
|--|---|
| Rusted, corroded and damaged surfaces should be given particular attention. The engine should be running during this inspection. | |
| (Holes in the system made by the manufacturer for drainage are not cause for rejection.) | 2. There are loose or leaking joints. |
| | 3. There are holes in, or patches on, any component. |
| | 4. Elements of the system are not securely and permanently fastened (check for missing or broken hangers). |
| | 5. Tail pipe end is pinched, rusted or broken off. |
| | 6. There is a muffler cut-out or similar device that allows exhaust gases to be discharged before reaching the end of the tail pipe. |
| | 7. Any part of the system passes through passenger compartment or trunk. |
| | 8. The tail pipe ends beneath any compartment used for carrying passengers, including the trunk, or ends forward of any window capable of being opened, vent or other opening in the passenger compartment. |
| | 9. Exposed exhaust system parts might burn anyone. |
| B. Under Hood Exhaust System Inspection | B. Under Hood Exhaust System Inspection |
| Visually inspect the exhaust manifold and connected piping. With engine running listen for hissing or other sounds which indicate leakage. | 1. Any part of the system is damaged, loose or leaking. |
| | 2. There are loose, missing or damaged nuts, bolts or fasteners. |
| | 3. Any sounds clearly indicate exhaust gas leakage. |

Fuel System

General Instructions

1. The fuel system must be free of all liquid and vapor leaks.
2. The engine should be running during the fuel system inspection to check for damage or leaks.
3. The fuel system inspection should take place in a well ventilated area.
4. The various components of the fuel system may be found at different locations depending on

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

the vehicle. These components should be inspected from whatever vantage point they are most visible to the inspector - including vehicle exterior, engine compartment, trunk compartment, or under the vehicle.

Tools and Equipment

1. Vehicle hoist, pit or jack and frames, for under vehicle fuel system inspection.
2. Flashlight and/or work light for checking fuel lines, fittings and leaks.

Definitions

1. Fuel System Includes all components and piping extending from and including the fuel tank filler cap to the carburetor or injection nozzles.

| Procedure | Reject Vehicle If: |
|---|--|
| A. Visually examine all fuel system components (filler cap(s), filler tube(s), filter(s), canister(s), etc) and all connecting lines, tubes and hoses for security of installation and leakage. | A. |
| | 1. Any part of the system is not securely and permanently fastened. |
| | 2. There is vapor or liquid fuel leakage at any point in the system. |
| | 3. Fuel tank filler cap is missing or does not fit properly. |
| | 4. Hoses, lines or tubes are cut, cracked or broken. |

Trucks, Trailers and Buses

Contents

| Section | Page |
|-----------------------------------|------|
| Registration | 216 |
| Tires | 216 |
| Wheels | 217 |
| Brakes | 218 |
| Steering Alignment and Suspension | 232 |
| Lighting and Electrical System | 240 |
| Body and Sheet Metal | 241 |
| Vehicle Glazing | 244 |
| Exhaust System | 244 |

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

| | |
|-------------|--|
| Fuel System | |
|-------------|--|

Registration

Follow the inspection procedure for Passenger Vehicles.

Tires

General Instructions

1. Follow the inspection procedure on pages for Passenger Vehicles, except for the additions and/or substitutions noted below.

Tools and Equipment (Additional)

1. Caliper or “matching stick” for dual tires.
2. Gauge block (1/2 inch) for dual tires.

| Procedure | Reject Vehicle If: |
|--|--|
| A. Visually inspect for tire wear. | A. |
| 1. Tires without tread wear indicators | 1. Any front tire tread depth on a bus or truck is less than 4/32 of an inch or the tread depth on any other tire is less than 2/32 of an inch when measured in two adjacent major grooves at three locations spaced approximately 120° apart around the circumference of the tire at the area of greatest wear. |
| 2. Tires with tread wear indicators. | 2. a. Any tire is worn so that the tread wear indicators contact the road in any two adjacent major grooves at three locations spaced approximately 120° apart around the circumference of the tire. b. Any front tire tread depth on a bus or truck is less than 4/32 of an inch, or the tread depth on any other tire is less than 2/32 of an inch when measured in two adjacent major grooves at three locations spaced approximately 120° apart around the circumference of the tire at the area of greatest wear. |
| B. Inspect for cord exposure. | B. Any tire has a worn spot that exposes the cord through the tread. |
| C. Inspect for fabric breaks, boots, blowout patches, and exposed or damaged body cords. | C. Any tire has an unrepaired fabric break which has been repaired with a blowout patch or boot. If tire sidewall has damaged cords. |

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

| | |
|--|---|
| D. On Front Wheels Only | D. On Front Wheels Only |
| 1. Inspect for reinforcement repairs to the cord body. | 1. Tire has a reinforcement repair to the cord body. (Allowable on tires in other than front positions on vehicles over 10,000 pounds GVW.) |
| 2. Inspect for mismatching of tire types (bias, bias belted, radial ply). | 2. Front tires are incompatible as to type. |
| E. Dual Tires | E. Dual Tires |
| Inspect for mismatching of tire constructions, size, inflation, and wear on any pair of duals, or on any axle. Use caliper and gauge block if necessary. | 1. One of the duals is not within 10 psi air pressure of the other. |
| | 2. The diameter of one of the duals is not within ½ inch of the other (if guage* block can be inserted between the tire and caliper.) |
| F. Inspect valve stems for damage and cracks. | F. Valve stem is cracked or damaged or shows evidence of wear because of misalignment. |

Wheels

General Instructions

1. The inspection procedures for trucks, trailers and buses are given below. The wheel inspection for passenger vehicles in the previous section does not apply to heavy vehicles.

Tools and Equipment

1. Flashlight and/or work light for examining inboard sides of wheels.

| Procedure | Reject Vehicle If: |
|--|--|
| A. Inspect rims and lock rims for improper matching, tightness of nuts and clamps, and evidence of slippage. | A. |
| | 1. Rims and rings are mismatched. |
| | 2. Ring shows evidence of slippage or excessive rust or damage. |
| | 3. Rims and/or rings are bent, sprung, cracked or otherwise damaged. |
| | 4. Clamps or nuts are loose, damaged or missing. |
| B. Inspect wheel nuts, studs and/or clamps for tightness, general condition and thread engagement. | B. |
| | 1. Wheel nuts are loose or have improper thread engagement. |

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

| | |
|---|---|
| | 2. Wheel nuts, studs and/or clamps are broken, missing or mismatched. |
| C. Inspect disc wheels for elongated stud holes. | C. |
| | 1. Stud holes are out-of-round. |
| | 2. There are cracks between the hand holes and/or the stud holes in the disc. |
| D. Inspect cast wheels for cracks in the casting. | D. Casting is cracked or there is evidence of wear in the clamping area. |

Brakes

General Instructions

Two items of special interest must be considered by the inspector when evaluating the braking on large, heavily loaded vehicles.

a. Safety – The vehicle or combination of vehicles may weigh many tons and too much stress cannot be put on upon the safety of the inspector and others when testing the stopping ability of such vehicles. These tests must be conducted with extreme care in order to prevent possible skidding, jackknifing, load shifting, and overturning. In particular extreme care should be used in testing liquid, cargo-carrying vehicles under partially loaded conditions because of the sudden surging of the cargo.

b. Practicality - A thorough brake inspection would probably include looking at the inside of the brake assembly, which is relatively easy when checking passenger vehicles. The removal of wheel hubs and drums from large commercial vehicles, however, is another matter and usually is impractical at an inspection station. A sensible approach would, therefore, probably not include the removal of a hub and drum from the axle unless strong evidence were present indicating an unsafe condition inside the brake. A thorough check of hydraulic, vacuum, or air systems can normally give him a fair idea of the general condition of the braking system, especially when augmented by a practical performance demonstration. Wheel removal from large vehicles is not only difficult because of size and weight problems, but is further complicated by the lack of assurance that they can be properly returned to the axle. The “pulling” of wheels for brake inspection on heavy vehicles is, therefore, not recommended except when considered mandatory and then only by a highly qualified mechanic.

There are twelve inspection procedures for brakes in this section.

(1) Hydraulic System

(2) Wheel Cylinders, Drums and Discs

(3) Linings and Pads

(4) Mechanical

- (5) Vacuum System
- (6) Air System
- (7) Electric Brakes - Trailer
- (8) Emergency Brakes
- (9) Parking Brakes
- (10) Trailer Brakes - Emergency
- (11) Bus Air Brakes – Parking and Emergency
- (12) Service Brake Performance

Tools and Equipment

Tools and equipment, if required, will be listed above each separate inspection procedure.

Definitions (Additional) - Refer to Passenger Vehicles Definitions.

1. **Equivalent Braking Ratio** The percentage ratio of the sum of the retarding force developed by each braked wheel to the “as tested” gross weight of the vehicle or combination.
2. **Air-Over Hydraulic Brake Subsystem** A subsystem of the air brake that uses compressed air to transmit a force from the driver control to a hydraulic brake system to actuate the service brakes.
3. **Electric Brake System** A system that uses electric current to actuate the service brake.
4. **Vacuum Brake System** A system that uses a vacuum and atmospheric pressure for transmitting a force from the driver control to the service brake, but does not include a system that uses vacuum only to assist the driver in applying muscular force to hydraulic or mechanical components.

(1) Hydraulic System

Notes for Inspectors

1. The engine should be running when checking vehicles with vacuum or air assisted hydraulic systems.
2. “Pumping” or repeated application of brake pedal is not permitted.

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

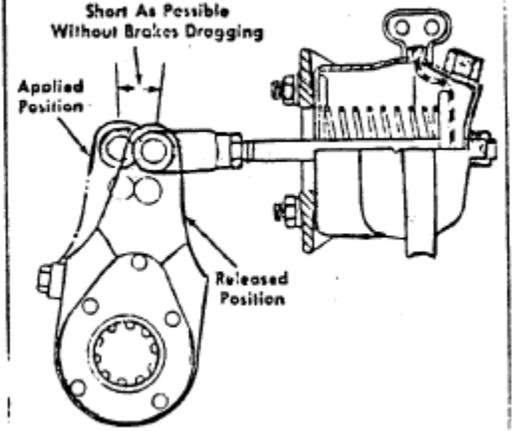
3. Advise vehicle owner or driver when less than 2/5 (40%) of the total available pedal travel remains during the pedal reserve test.

Tools and Equipment

1. Air pressure application gauge for testing leakage in hydraulic systems with air power assist.
2. Steel scale.

| Procedure | Reject Vehicle If: |
|---|--|
| A. Pedal Reserve Test | A. Pedal Reserve Test |
| 1. Hydraulic System without Power Assist (Refer to Passenger Vehicles, Section (1), Part B.) | 1. Hydraulic System without Power Assist (Same criteria as indicated in Passenger Vehicles, Section (1), Part B.) |
| 2. Hydraulic System with Vacuum Assist a. Leakage Test (Refer to Passenger Vehicles, Section (5), Part B.) b. Pedal Reserve Test On vacuum-assisted hydraulic systems with line pressure booster. Apply moderate foot force and observe remaining available pedal travel. | 2. Hydraulic System with Vacuum Assist a. Leakage Test (Same criteria as indicated in Passenger Vehicles, Section (5), Part B.) b. Pedal Reserve Test The distance the pedal has traveled from its free position exceeds 4/5 (80%) of the total distance from its free position to the floorboard or other object that restricts pedal travel. |
| 3. Hydraulic System with Air Power Assist – Leakage Test Apply 2-3 psi air pressure and maintain for one minute. | 3. Hydraulic System with Air Power Assist – Leakage Test Air power assist push rod moves slowly toward master cylinder while air pressure is maintained for one minute. |
| B. Actuator Reserve | B. Actuator Reserve |
| 1. In air or vacuum mechanical brakes – Measure the stroke of the air or vacuum chambers from fully released to fully applied position. (Refer to Figure 1.) | Travel from fully released to fully applied positions is more than 75% of the specified maximum stroke. (See manufacturer’s service specifications.) |

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

| | |
|--|---|
| <p>2. In air-over-hydraulic brake systems – Measure air chamber travel from fully released to fully applied position. (Some systems include a rod gauge for visual checking.)</p> | <p align="center">Figure 1 - Brake Chamber Push Rod Travel (Typical)</p>  <p>The diagram shows a cross-section of a brake chamber. A push rod is connected to the chamber. Two positions are indicated: 'Applied Position' where the push rod is extended further into the chamber, and 'Released Position' where it is retracted. A note above the push rod says 'Short As Possible Without Brakes Dragging'.</p> |
| <p>C. Hydraulic System Condition</p> | <p>C. Hydraulic System Condition</p> |
| <p>1. Inspect hydraulic hoses and tubes for leaks, cracks, chafing, flattened or restricted sections and improper support.</p> | <p>1. Hoses or tubing leak, or are chafed, flattened, restricted or are insecurely fastened.</p> |
| <p>2. Inspect master cylinder for leakage and fluid level. Be sure no dirt or water gets into reservoir when cover is removed, and that the gasket is serviceable.</p> | <p>2. a. Master cylinder leaks. b. Fluid level is more than ¾ inch below the top of the reservoir. c. Gasket is torn or misshapen.</p> |
| <p>(Note: It is imperative that the hydraulic system reservoir cover and the surrounding area be thoroughly cleaned before cover is removed for inspection to assure that no foreign matter enters the master cylinder reservoir.)</p> | |
| <p>D. Dual Hydraulic Circuits</p> | <p>D. Dual Hydraulic Circuits</p> |
| <p>If vehicle is equipped with a brake warning light:</p> | |
| <p>1. Test for operation of light by turning on ignition to start position.</p> | <p>1. Light is burned out.</p> |
| <p>2. With ignition switch on and engine running, apply 125-150 pounds of pedal force and observe light.</p> | <p>2. Light comes on when brake pedal is depressed.</p> |
| <p>3. Examine both sections of reservoir.</p> | <p>3. Fluid level in either reservoir section is more than ¾ inch below top.</p> |

(2) Wheel Cylinders, Drums and Discs

Notes for Inspectors

(1) The hubs and wheel bearings of many large vehicles are sealed and run in oil. Wheel removal for the inspection of brakes is very impractical and is recommended only when inspector is

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

convinced that an unsafe condition exists.

(2) Since January 1, 1971, manufacturer’s maximum recommended inside drum diameters have been stamped on the drum. Also, since January 1, 1971, manufacturer’s minimum recommended disc thicknesses have been stamped on the disc. If drums and discs are not embossed, they shall be within the manufacturer’s specifications.

(3) Some vehicles have brake backing plates from which a portion can be removed for viewing drum edges and brake lining thickness. The inspector should take advantage of this if possible.

(4) Always inspect a brake assembly when the wheel shows evidence of “throwing” fluid or grease.

| Procedure | Reject Vehicle If: |
|--|--|
| A. Wheel Cylinders | A. Wheel Cylinders |
| Inspect wheel cylinders for leaks. | Wheel cylinder leaks. |
| B. Brake Drums | B. Brake Drums |
| (Refer to Passenger Vehicles, Section (2), Part A. Note: Wheel removal is not necessary for heavy vehicles.) | (Same criteria as indicated in Passenger Vehicles, Section (2), Part A.) |
| C. Brake Discs | C. Brake Discs |
| (Refer to Passenger Vehicles, Section (2), Part B. Note: Wheel removal is not necessary for heavy vehicles.) | (Same criteria as indicated in Passenger Vehicles, Section (2), Part B.) |

(3) Lining and Pads

Notes for Inspectors

1. On vehicles equipped with disc brakes, some drag can be felt when turning the wheel and tire. This drag is not excessive if the wheel can be turned readily with both hands.

2. Some buses and other large vehicles do not utilize a “backing plate” to anchor internal brake parts; but instead use an integral part of the axle housing called a “brake spider” to hold anchor pins, “S” cams, etc. In such cases it may be possible to see the linings and other parts without removing a wheel. (Refer to Figures 2, 3 and 5 for Procedure B at the end of this section.)

3. Linings and pads can be inspected during the drum and rotor disc inspection.

Tools and Equipment

1. Measuring device - steel scale, gauge, or small ruler - to determine lining thickness.

| Procedure | Reject Vehicle If: |
|----------------------------------|----------------------------------|
| A. Condition of Linings and Pads | A. Condition of Linings and Pads |
| 1. Bonded Linings | 1. Bonded Linings |

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

| | |
|--|--|
| Measure the lining thickness at the thinnest point. | Thinnest point is less than 1/16 inch. |
| 2. Riveted Linings | 2. Riveted Linings |
| (Refer to Passenger Vehicles, Section (3), Part A2.) | (Same criteria as indicated in Passenger Vehicles, Section (3), Part A2.) |
| 3. Wire-Backed Linings | 3. Wire-Backed Linings |
| (Refer to Passenger Vehicles, Section (3), Part A3.) | (Same criteria as indicated in Passenger Vehicles, Section (3), Part A3.) |
| 4. Bolted Linings (For Buses and Very Heavy Vehicles) | 4. Bolted Linings (For Buses and Very Heavy Vehicles) |
| a. Inspect for loose or missing bolts. b. Inspect brake linings for thickness. | a. Any fastening parts are loose or missing. b. Lining at center of shoe is less than 5/16 inch thick, or linings are not securely fastened to shoe. |
| 5. All Linings | 5. All Linings |
| Inspect for broken or cracked linings and parts of linings not firmly attached to shoe. Also inspect for contamination and extremely uneven lining wear. | a. Lining is cracked, broken or not firmly attached to shoes. b. Friction surface is soaked with oil, grease or brake fluid. c. Lining wear is extremely uneven. |
| 6. Pads (Disc Brakes) | 6. Pads (Disc Brakes) |
| B. Bus Air Brakes – Linings and Drums | B. Bus Air Brakes – Linings and Drums |
| 1. Inspect brake linings for thickness. Inspect fastening bolts (refer to Figures 2, 3, 4, and 5.) | 1. Lining at center of shoe is less than 5/16 inch thick, or linings are not securely fastened to shoe. |
| 2. Measure diameter of brake drum. (Should not be more than 1/8 inch larger than dimension of new drum in manufacturer's service manual.) | 2. Diameter of drum is more than 1/8 inch larger than dimension of new drum. |

(4) Mechanical

Notes for Inspectors

1. When inspecting the brake hardware and structural components at the wheels the inspector may follow the procedures for the mechanical linkage inspection found in Passenger Vehicles.
2. Note: This inspection does not require wheel removal for heavy vehicles.

(5) Vacuum System

Notes for Inspectors

1. Advise vehicle owner or driver if hoses or tubes are in good condition, but abnormally exposed to danger from excessive heat, flying gravel, or rubbing.

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

| Procedure | Reject Vehicle If: |
|---|---|
| A. Condition of Vacuum System | A. Condition of Vacuum System |
| Visually inspect system and listen for collapsed, broken, badly chafed and improperly supported hoses and tubes, and loose or broken hose clamps and audible leaks. | Hoses or tubes are leaking, or if collapsed, broken, badly chafed, improperly supported or loose because of broken clamps. |
| B. Operation of Vacuum System – Truck or Tractor | B. Operation of Vacuum System – Truck or Tractor |
| 1. With trailer shutoff valves closed, determine if system is operating by first stopping engine – then depress brake several times to destroy all vacuum in system. | Service brake pedal does not move slightly as engine is started while pressure is maintained on pedal. |
| 2. Depress pedal with a light force (50 lbs.). While maintaining this force on the pedal, start engine; observe if pedal moves slightly when engine starts. | |
| C. Operation of Vacuum System – Trailers | C. Operation of Vacuum System – Trailers |
| Inspect vacuum system by coupling trailer(s) to truck or truck tractor and opening trailer shutoff valves. Start engine and allow about one minute to build up vacuum. Apply and release brake pedal. | |
| 1. In the case of trailer brakes equipped with brake chamber rods, observe the chamber rod movement. Run the engine to re-establish maximum vacuum, then shut off the engine and apply the brakes with a 50 lb. force on the pedal. Note the brake application and check for low vacuum indicator activation. | 1. a. Trailer brakes do not permit one service brake application after engine is turned off without actuating the low vacuum indicator. b. Brake chamber rods do not act with brake pedal. c. Rods do not reach full release position. |
| 2. In the case of a combination vehicle equipped with breakaway protection and no reservoir on the towing vehicle supply line, close the supply line shutoff valve and disconnect the supply line. Apply a 50 lb. force to the pedal on the towing vehicle and release. | 2. Trailer brakes do not remain in applied position. |
| D. Vacuum Reserve and Low Vacuum Indicators | D. Vacuum Reserve and Low Vacuum Indicators |
| 1. Build full vacuum – then shut off engine and make as many full brake applications as possible. | 1. Vacuum reserve is insufficient to make 1 full application after engine shutoff. |
| 2. On trucks with low vacuum indicators, build full vacuum – then shut off engine and reduce vacuum by making a series of moderate brake applications. A flashing or buzzing signal should function when vacuum reaches 8 inches Hg on gauge. | 2. Vacuum indicator fails to function when system is reduced to 8 inches Hg vacuum. |

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

(6) AIR SYSTEM

Notes for Inspectors

1. The following requirements apply to vehicles with air brake and air-over-hydraulic brake systems.
2. Trailer(s) must be coupled to a truck or truck tractor for this inspection, except as noted.

| Procedure | Reject Vehicle If: |
|--|---|
| A. Air Brake System Integrity | A. Air Brake System Integrity |
| 1. With the air system charged, the drain cocks in the service and supply reservoir on the truck or truck tractor. Note the pressure at which the visual or audible warning device connected to the low pressure indicator is activated. | 1. Low pressure warning device fails to function before pressure is lowered to 50 psi. (For vehicles manufactured after March 1, 1975 the warning device should function when pressure is lowered to 60 psi.) |
| 2. Close the drain cocks and, with the trailer(s) uncoupled, check air pressure build-up at the manufacturer's recommended engine speed. Observe the time required to raise the air pressure from 85 to 100 psi. | 2. The air brake system compressor fails to increase the air pressure in the reservoir(s) from 85 to 100 psi in the time specified in Table 1, with the engine running at the manufacturer's recommended engine speed. |
| 3. Continue running the engine until the governor cuts out, and note the pressure. | 3. Governor cut-out pressure exceeds 135 psi (unless other values are recommended by the vehicle manufacturer.) |
| 4. Reduce the engine speed to idle, couple the trailer(s) if applicable, and make a series of brake applications. Note the pressure at which the governor cuts in. | 4. Governor cut-in pressure is lower than 80 psi (unless other values are recommended by the vehicle manufacturer.) |
| 5. Increase engine speed to fast idle and charge the system to its governed pressure. Then stop the engine and record the pressure drop in psi per minute with brakes fully applied and brakes released. | 5. Leakage in psi per minute exceeds the following limits: Brakes Released/Engine Stopped Air brake pressure drops more than 2 psi in 1 minute for combination vehicles. (Allow a 1 psi drop in 1 minute for each additional towed vehicle.) Brakes Fully Applied/Engine Stopped With the reservoir(s) fully charged air pressure drops more than 3 psi in 1 minute for single vehicle or more than 4 psi in 1 minute for combination vehicles. (Allow a 1 psi drop in 1 minute for each additional towed vehicle.) |
| 6. Compressed Air Reserve | 6. Compressed Air Reserve |
| a. With fully charged system, stop engine and | a. Reservoir pressure is lowered more than 20 |

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

| | |
|--|---|
| make one full brake application. Measure drop in reservoir pressure. b. Make a series of brake applications until low pressure warning signal operates. | percent of first reading. b. Air reserve is not sufficient to permit one full brake application after engine is stopped. |
| 7. Compressor Drive Belt | 7. Compressor Drive Belt |
| Inspect for wear, fraying and looseness*. | Belt is worn, frayed or loose. |
| 8. Air Brake System Hoses, Tubes, and Connections | 8. Air Brake System Hoses, Tubes, and Connections |
| Stop engine and visually examine air hoses, tubes and connections. | a. Air system tubes, hoses and connections are restricted, cracked, improperly supported or broken. b. Air system components are being chafed by moving parts, or are touching the exhaust system. |
| B. Air-Over-Hydraulic Brake Subsystem Integrity | B. Air-Over-Hydraulic Brake Subsystem Integrity |
| (Follow the same procedures A, 1 through 6, for Air Brake System Integrity, above.) | (Same criteria as indicated in A, 1 through 6, for Air Brake System Integrity, above.) |
| 7. Air-Over-Hydraulic Brake Subsystem Hoses, Master Cylinder, Tubes and Connections | 7. Air-Over-Hydraulic Brake Subsystem Hoses, Master Cylinder, Tubes and Connections |
| Stop engine and visually examine air and hydraulic brake hoses, brake master cylinder, tubes and connections. | a. System tubes, hoses and connections are cracked, restricted, improperly supported or broken. b. Air and hydraulic hoses are chafed. c. Master cylinder shows signs of leakage. |

* So in original.

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

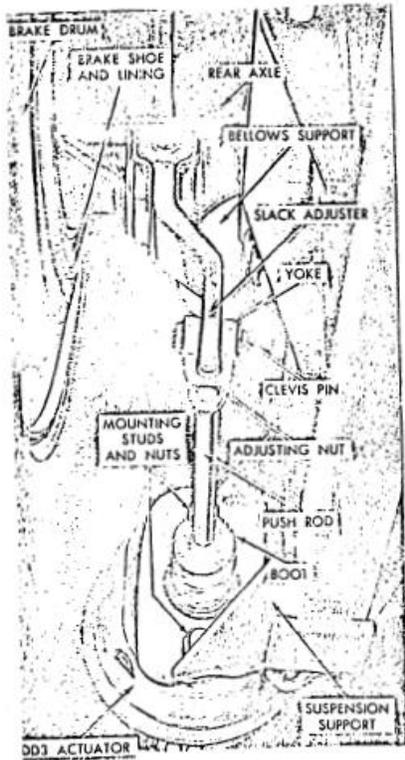


Figure 2 - Rear Brake Actuator and Slack Adjuster Installed (Typical)

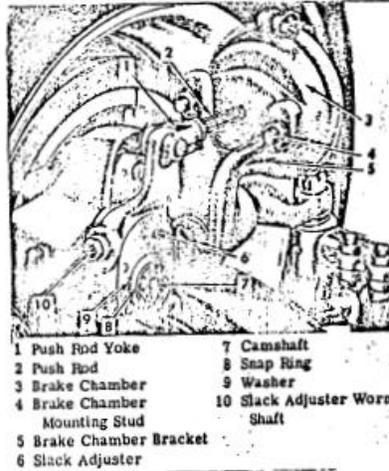


Figure 3 - Front Brake Chamber, Bracket and Slack Adjuster Installed on Axle (Typical)

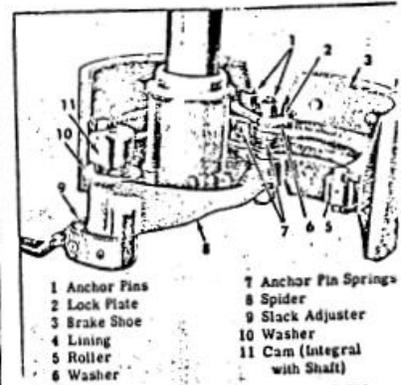


Figure 4 - Rear Brake Shoe Anchor Pins Installed (Typical)

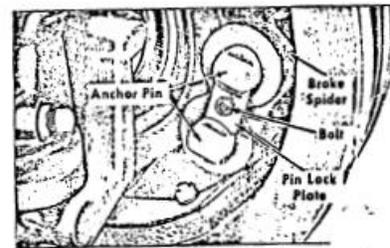


Figure 5 - Front Brake Shoe Anchor Pins Installed (Typical)

**Table 1
Air Brake System Pressure Build Up Time
(85 to 100 Pounds Per Square Inch)**

| System | | Time in Seconds | | | | | | | | | | | | |
|-------------------------------------|------------------------------------|---------------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| | | Total Reservoir Volume – Cubic Inches | | | | | | | | | | | | |
| Front Axle Number and Size Chambers | Rear Axle Number and Size Chambers | 2500 | 3000 | 3500 | 4000 | 4500 | 5000 | 5500 | 6000 | 6500 | 7000 | 7500 | 8000 | 8500 |
| | | 3000 | 3500 | 4000 | 4500 | 5000 | 5500 | 6000 | 6500 | 7000 | 7500 | 8000 | 8500 | 9000 |
| (2) 16 | (2) 24 | 30 | 36 | 41 | 46 | 51 | 56 | 60 | 66 | 71 | 76 | 81 | 84 | 90 |
| (2) 16 | (4) 24 | -- | -- | -- | 30 | 34 | 37 | 41 | 45 | 47 | 51 | 54 | 58 | 60 |
| (2) 16 | (2) 30 | -- | 30 | 35 | 40 | 44 | 48 | 52 | 56 | 60 | 64 | 70 | 74 | 78 |
| (2) 16 | (4) 30 | -- | -- | -- | -- | -- | -- | 30 | 34 | 38 | 39 | 41 | 43 | 46 |
| (2) 20 | (2) 24 | 30 | 36 | 41 | 46 | 51 | 56 | 60 | 66 | 71 | 76 | 81 | 84 | 90 |
| (2) 20 | (4) 24 | -- | -- | -- | 30 | 34 | 37 | 41 | 45 | 47 | 51 | 54 | 58 | 80 |
| (2) 20 | (2) 30 | -- | -- | 30 | 35 | 39 | 42 | 46 | 50 | 53 | 58 | 60 | 65 | 69 |
| (2) 20 | (4) 30 | -- | -- | -- | -- | -- | -- | 30 | 34 | 36 | 39 | 41 | 42 | 46 |
| (2) 24 | (2) 24 | -- | 30 | 35 | 40 | 44 | 48 | 52 | 56 | 60 | 64 | 70 | 74 | 78 |
| (2) 24 | (4) 24 | -- | -- | -- | -- | 30 | 34 | 36 | 40 | 42 | 46 | 48 | 51 | 54 |
| (2) 24 | (2) 30 | -- | -- | 30 | 35 | 39 | 42 | 46 | 50 | 53 | 58 | 60 | 65 | 69 |
| (2) 24 | (4) 30 | -- | -- | -- | -- | -- | -- | 30 | 33 | 35 | 37 | 40 | 42 | |
| (2) 30 | (2) 30 | -- | -- | -- | -- | 30 | 34 | 36 | 40 | 42 | 46 | 48 | 51 | 54 |
| (2) 30 | (4) 30 | -- | -- | -- | -- | -- | -- | -- | -- | 30 | 33 | 35 | 37 | 60 |
| (2) 30 | (2) 36 | -- | -- | -- | -- | -- | -- | 30 | 34 | 36 | 39 | 41 | 43 | 46 |

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

(7) Electric Brakes – Trailer

Notes for Inspectors

1. Electric brakes are generally used on smaller trailers and occasionally on large commercial trailers.

Tools and Equipment

1. Ammeter - 0 to 25 amperes for most two and four brake systems. 0 to 40 amperes may be required for six brake systems.

| Procedure | Reject Vehicle If: |
|--|---|
| A. Electric Brakes – Function | A. Electric Brakes – Function |
| 1. a. Insert a low range DC ammeter into the circuit between the controller and brakes. Ammeter should read “zero” with controller in “off” position. Gradually apply controller to full “on” position and take maximum ammeter reading. b. Then: gradually return controller to full “off” position; ammeter should return to zero. Divide maximum ammeter reading by the number of brakes. | 1. The maximum amperage per brake is: more than 20 percent above; or more than 30 percent below brake manufacturer’s maximum current rating. |
| 2. Inspect for loose or corroded terminal connections and broken, frayed or unsupported wires. | 2. a. Electric terminals are loose or excessively corroded. b. Wires or connectors are broken, frayed or not properly supported. c. Conductor wire gauge is below brake manufacturer’s minimum recommendation. |

(8). Emergency Brakes

Notes for Inspectors

1. In order to avoid confusion between “emergency” and “parking” brake systems, refer to those definitions in the section on Passenger Vehicles.

2. On vehicles equipped with spring type emergency braking systems, manual operation of the control valve will also provide an effective parking brake system.

| Procedure | Reject Vehicle If: |
|--|------------------------------|
| A. Emergency System – Function | A. Emergency System Function |
| Apply the emergency operating control fully, | |

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

| | |
|--|---|
| or release air pressure from the spring brake actuators using the manual control valve. Then: | |
| 1. Observe locking and holding feature of the actuating mechanism. | 1. Operating mechanism fails to hold brakes in applied position without manual effort. |
| 2. Observe operating mechanism for “bottoming” before brakes are fully applied. | 2. Operating mechanism “bottoms” before brakes are fully applied. |
| 3. Observe if spring brakes apply when control valve is manually operated. | 3. Spring brakes fail to apply when control valve is operated. |
| 4. Inspect for worn, missing, or defective cotter pins, springs, rods, yokes, couplings or anchor pins and cables. | 4. Mechanical parts are missing, broken or badly worn, or pull cables are badly worn, stretched, frayed, or not operating freely. |
| 5. Observe if mechanism releases brakes when release control is operated. | 5. Brakes do not fully release when release control is operated. |

(9) Parking Brakes

Notes for Inspectors

1. An “emergency” brake can also serve as a “parking brake” but a parking brake is not adequate to serve as an emergency brake.
2. Most large vehicles with hydraulic systems and some large vehicles with air brake systems will have a parking brake located on the propeller shaft. This type of parking brake is usually open and is easily inspected.

| Procedure | Reject Vehicle If: |
|--|--|
| A. Parking Brake | A. Parking Brake |
| 1. Set the parking brake firmly to determine the reserve travel of the hand lever or foot pedal. | 1. There is no reserve travel in the lever (or pedal). |
| 2. Inspect the band type parking brake on the properly* (drive) shaft for the presence of oil or grease, condition of lining, and lightness. | 2. a. There is oil or grease on the drum or lining. b. The lining is worn to less than 1/16 inch. c. The lining fails to make proper contact with the drum when brake is applied. |

* So in original.

(10) Trailer Brakes – Emergency

Tools and Equipment

1. Ammeter - 0 to 25 amperes for most two and four brake systems, 0 to 40 amperes for six brake systems - for trailer emergency electric brakes.

| Procedure | Reject Vehicle If: |
|-------------------------------|-------------------------------|
| A. Emergency Brakes – Trailer | A. Emergency Brakes – Trailer |

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

| | |
|---|---|
| 1. Run engine to charge trailer air system fully or to evacuate trailer vacuum system. Then: a. Disconnect trailer couplings and observe for automatic application of trailer brakes. b. Record length of time trailer emergency brakes remain applied. | 1. Emergency brakes do not automatically apply. |
| | 2. Brakes do not remain applied for at least 15 minutes. |
| B. If Manual Control for Trailer Emergency System is Installed | B. If Manual Control for Trailer Emergency System is Installed |
| 1. Connect trailer couplings and build up system pressure to governor out-out point. | 1. With Manual Control – Brakes do not apply and release by operating manual control. |
| 2. Stop engine and operate control. Observe emergency application and release. | 2. Automatic Control – Brakes apply automatically when tractor reservoir pressure is above 45 psi or fail to apply automatically when pressure is reduced within a range of 45-20 psi by foot applications. |
| 3. Make a series of foot applications and observe automatic trailer brake application. | |
| C. Trailer Electric Emergency Brake | C. Trailer Electric Emergency Brake |
| 1. Operate breakaway safety switch and observe application of trailer brakes. | 1. Brakes do not apply automatically when breakaway safety switch is operated. |
| 2. Observe ammeter reading and divide by the number of brakes. | 2. Brakes do not receive at least 50 percent of manufacturer’s maximum current (amperes) rating per brake. |
| 3. Reconnect electric cables, return safety switch to normal position and observe release of trailer brakes. | 3. Brakes do not release when switch is returned to normal position. |

(11) Bus Air Brakes – Parking and Emergency

Notes for Inspectors

1. Commercial buses and some trucks may be equipped with hand-operated controls for parking, and emergency air brake systems.

| Procedure | Reject Vehicle If: |
|--|---|
| A. Bus Air Brakes – Parking and Emergency Systems | A. Bus Air Brakes – Parking and Emergency Systems |
| 1. With air pressure in the braking system at operational level, set parking brake control and observe functioning of parking and emergency braking at wheels. | 1. System fails to function properly. |
| 2. Drain air from system and observe whether parking and emergency brakes remain in a “set” position. (With no air pressure in the | Parking and emergency brakes do not remain in a “set” position. |

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

| | |
|--|--|
| system, vehicle should remain “braked.”) | |
|--|--|

(12) Service Brake Performance

General Instructions

1. Brake performance should be inspected only after all other inspections of the braking systems have been completed. The brake performance test should not be made if system components are defective.

2. The effectiveness of brake testing machines (roller type brake dynamometer or the “drive-on-and-stop” platform tester) on vehicles other than passenger vehicles or light trucks, is questionable. The dimensions of these brake testers do not permit practical and reliable testing on combination vehicles. Therefore, it is advised that use of these machines be restricted to two-axle vehicles.

3. Using the service brake only the stopping ability of the vehicle should be tested by one of the three methods described below.

Method (a) - Road Test

Note for Inspectors

1. This test should be conducted on a level, dry, hard, smooth surface road or area that is free from loose material, oil or grease. Caution: Always check for braking action at a very slow speed before operating the vehicle.

Tools and Equipment

1. Road surface 50 to 100 yards long, marked with a 12 foot wide lane, or wide enough to mark a line 12 feet wide.

2. Marking equipment - cones, chalk, paint, rope or other materials - suitable for indicating the test lane.

| Procedure | Reject Vehicle If: |
|---|--|
| Method (a) – Road Test | Method (a) – Road Test |
| At a speed of 20 mph. apply service brakes firmly without locking brakes. Observe whether vehicle comes to a smooth stop within a distance of 35 feet or less (for single unit vehicles except truck tractors); or 40 feet or less (for combination vehicles and truck tractors); without pulling to the right or left causing it to leave a lane 12 feet wide. The inspector should have firm control of the | 1. More than 35 feet is required in which to stop from 20 mph. for single unit vehicles. |

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

| | |
|-------------------------------------|---|
| steering wheel throughout the test. | |
| | 2. More than 40 feet is required in which to stop from 20 mph. for combination vehicles and truck tractors. |

Method (b) – Platform Testing Machine

Note for Inspectors

1. Before attempting this method of inspection, be sure that the machine has the capacity and that the inspector is trained and experienced in the use of the machine.

Tools and Equipment

1. Platform testing machine (drive-on-and-stop tester) for measuring breaking* force at each wheel.

* So in original.

Procedure

Follow the same procedure for Passenger Vehicles.

Method (c) - Roller Type Brake Dynamometer Test

Notes for Inspectors

1. This test is for stations equipped with a roller type brake dynamometer.
2. If Method (c) is used, the roller-type brake dynamometer should have rollers which are dry, smooth, and free from oil or grease. The machine indicates both braking effort and imbalance. Brakes on front and rear axles are evaluated separately. Test speed should be about 45 mph.
3. This test is not recommended for vehicles over 6,000 pounds GVW rating.

Tools and Equipment

1. Roller type brake dynamometer (force measuring type) for measuring braking force at each wheel.

Procedure

Follow the same procedure for Passenger Vehicles.

Steering Alignment and Suspension

General Instructions

1 On heavy vehicles the service brake performance test must precede inspection of the suspension system.

2. There are twelve inspection procedures for steering alignment and suspension in this section. The items marked with an asterisk (*) indicate that the inspection procedures for heavy vehicles are the same as for passenger vehicles.

(1)* Power Steering, (Refer to Passenger Vehicles).

(2)* Lash or Free Play and Travel,

(3) Steering Column

(4) Wheel Bearings – Linkage Play

(5) Linkage/Kingpin Play

(6)* Front Wheel Alignment (Toe In-Out), (Refer to Passenger Vehicles.)

(7)* Ball Joint Wear – When so equipped, (Refer to Passenger Vehicles.)

(8)* Front and Rear Suspension Components (Refer to Passenger Vehicles.)

(9)* Shock Absorbers – When so equipped. (Refer to Passenger Vehicles.)

Note: It will probably not be possible to perform the Shock Absorber Operation Inspection on heavier vehicles.

(10) Tracking

(11) Air Suspension

(12) Air Suspension Retractable Axle

(3) Steering Column

Notes for Inspectors

1. On some vehicles, there may be a flexible connection in the steering column located just above the steering gear, usually known by names such as “rag joint,” “pot joint,” or “U joint.”

2. The energy absorbing steering column may be used on light vehicles, but seldom if ever on medium and heavy vehicles. If present, it should be inspected in the same manner as on a passenger vehicle.

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

| Procedure | Reject Vehicle If: |
|---|---|
| A. Steering Column (Heavy Vehicle) | A. Steering Column (Heavy Vehicle) |
| Inspect flexible coupling in steering column (if the vehicle is so equipped) for excessive misalignment and tightness of clamp bolt or nut. | 1. The “pot joint” or “rag joint” is improperly aligned. |
| | 2. Clamp bolt (nut) is loose or missing. |
| B. Energy Absorbing Steering Column (Refer to Passenger Vehicles, Section (3), Part A.) | B. Energy Absorbing Steering Column (Same criteria as indicated in Passenger Vehicles, Section (3), Part A.) |

(4) Wheel Bearings – Linkage Play

Notes for Inspectors

1. Wheel bearings out of adjustment can cause wander, erratic front brake action, and noise due to interference Of parts,
2. On all vehicles movement of the wheel in relation to the backing plates or calipers indicates looseness in the wheel bearing.

Tools and Equipment

1. Ruler or scale at least 6 inches (15 cm.) long and graduated in ¼ inch (6 mm.) increments to measure wheel bearing adjustment.
2. Vehicle hoist or jack and stands to raise vehicle before testing wheel bearings.
3. Steel bar (lever) to test for bearing maladjustment.

| Procedure | Reject Vehicle If: |
|--|--|
| A. Front Wheel Bearings | A. Front Wheel Bearings |
| 1. Raise front end of vehicle until wheels clear (one side at a time) to load ball joints, if vehicle is so equipped. | Relative movement between drum and backing plate is excessive. (More than ¼ inch (6 mm.) measured at outer circumference of tire.) |
| 2. Attempt to move wheel relative to the spindle by grasping front tire top and bottom or by using a bar for leverage. | |
| 3. Measure movement between the brake drum or disc and the backing plate or splash shield. | |
| B. “I” Beam or “Tube” Type Front Axle | B. “I” Beam or “Tube” Type Front Axle |
| 1. Hoist vehicle from underside axle. Inspect pitman arm, drag link, and tie rods for looseness and locked joints. | 1. Linkage is loose or if joints are not secured with cotter pins or other devices. |

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

| | |
|---|---|
| 2. Inspect for loose spring “U” bolts, broken center bolts, broken center bolt in spring, and broken spring leaves. | 2. a. Spring “U” bolts are loose or damaged. b. Spring center bolt is broken, sheared or missing. c. Spring leaf is broken or shifted. |
|---|---|

* So in original.

(5) Linkage/Kingpin Play

Notes for Inspectors

1. Excessive free play causes wheel shimmy, erratic brake action and steering control problems.

†2. Make sure any looseness detected is not wheel bearing free play by applying service brakes during the inspection of this item.

3. This inspection should be conducted after the wheel bearings have been checked for looseness.

† This may not be possible on many truck-tractors as they have no front wheel brakes.

Tools and Equipment

1. Ruler or scale at least 6 inches (15 cm.) long and graduated in 1/8 inch (3 mm.) increments to measure linkage play.

2. Vehicle hoist or jack and stands to raise vehicle and load ball joints to remove looseness.

3. Brake pedal depressor to apply service brakes to eliminate wheel bearing play. (If more than one inspector is conducting this test the brake pedal depressor is not required.)

4. Steel bar (lever) to test for looseness of linkage.

| Procedure | Reject Vehicle If: | | | |
|---|--|--------------------|--------|-----|
| A. Steering Linkage/Kingpin (For trucks with “I” beam, twin “I” beam, or tube type front axle.) | A. Steering Linkage/Kingpin (For trucks with “I” beam, twin “I” beam, or tube type front axle.) | | | |
| 1. Elevate the front end of the vehicle to load the ball joints, if vehicle is so equipped. | Free movement measured at the front or rear tread is found to be in excess of table shown below. | | | |
| 2. Apply service brakes. | Maximum Permissible Play with Wheel Bearings Adjusted Properly | | | |
| 3. Then grasp top and bottom of tire and attempt to rock in and out to determine kingpin looseness. | Inches | Cm. | Inches | Mm. |
| 4. Note movement at extreme front and rear top and bottom of tire. Use bar for heavy | 16 or less | 41 rim diameter or | ¼ | 6 |

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

| | | | | |
|--|---------------|-------------|-----|----|
| wheels. (Measure if necessary.) | | less | | |
| 2. Stop engine and operate control. Observe emergency application and release. | 16.01 to 18 | 41.01 to 46 | 3/8 | 10 |
| 3. Make a series of foot applications and observe automatic trailer brake application. | 18.01 or more | Over | 1/2 | 13 |

(10) Wheel Tracking

Notes for Inspectors

1. The wheelbase of a vehicle with tandem rear axles is determined by measuring from the center of the front wheel to a point between the wheel centers of the “bogey.”
2. When measuring for tracking, the dimensions must be taken between wheel centers.

Tools and Equipment

1. Steel measuring tape.

| | |
|--|---|
| Procedure | Reject Vehicle If: |
| A. Wheel Tracking | A. Wheel Tracking |
| With front wheel in straight ahead position, measure distance between center of front wheels to center of rear wheels. Compare dimensions on right side against those on left. | 1. The dimensions between wheel centers on one side differ from similar dimensions on the other side by more than one inch (3 cm.). |

(11) Air Suspension

Notes for Inspectors

1. Most commercial buses and some trucks and trailers may be equipped with air suspension systems. Inspection of such a system consists mostly of checking for air leaks, proper height and ride level.
2. Caution - The inspector should not use a creeper underneath vehicle because there may not be enough room when air is drained from bellows.
3. Vehicle should be properly jacked or positioned over a pit.

Tools and Equipment

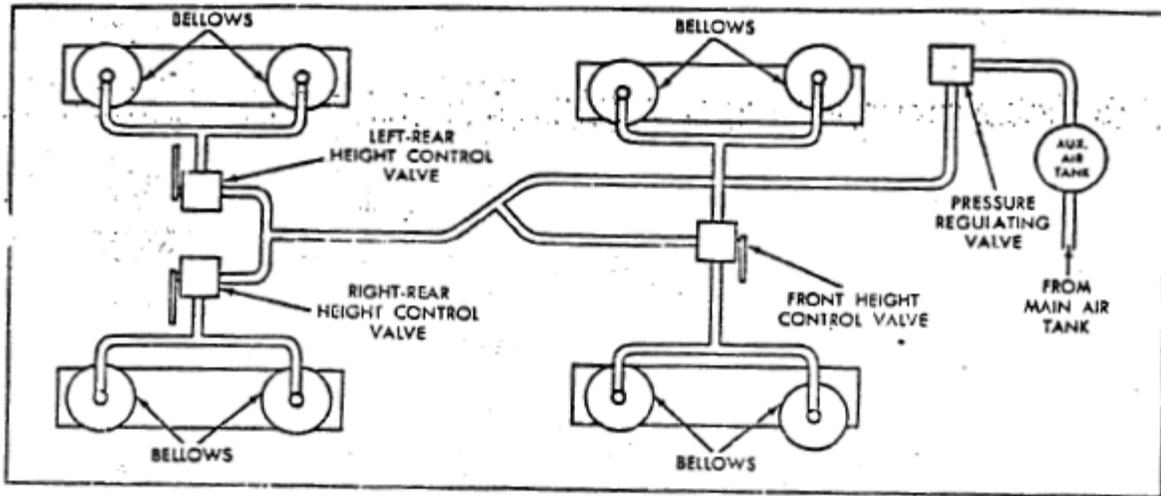
1. Vehicle hoist, pit or jack and stands.

| | |
|----------------|--------------------|
| Procedure | Reject Vehicle If: |
| Air Suspension | Air Suspension |

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

| | |
|--|--|
| <p>A. With entire system drained of air start engine and observing air pressure gauge, determine pressure at which air begins to lift vehicle to normal position. (Pressure regulator valve should not allow air into the suspension system until at least 55 psi is in braking system.)</p> | <p>A. Air begins to flow into suspension system before 55 psi is indicated on pressure gauge.</p> |
| <p>B. With air in system at normal operating pressure, inspect hoses, connections, and bellows for leaks, and excessive deterioration. (Open air-operated doors and apply service brakes fully.) Engine should be stopped during inspection.</p> | <p>B. Air leakage rate is greater than 3 psi in 5 minutes.</p> |
| <p>C. With air at normal operating pressure, observe height and level of vehicle relative to ground surface. (This will indicate function of pressure regulator and height control valves.)</p> | <p>C. Vehicle is resting on one or both axles, or if the vehicle is not level (is listing to right or left).</p> |

Figure 1



SCHEMATIC DIAGRAM OF AIR SUSPENSION SYSTEM (TYPICAL)

(12) Air Suspension Retractable Axle

Notes for Inspectors

1. Some large vehicles may be equipped with retractable axles.
2. If the axle is the type having independent suspension, the toe in-out must be checked in the

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

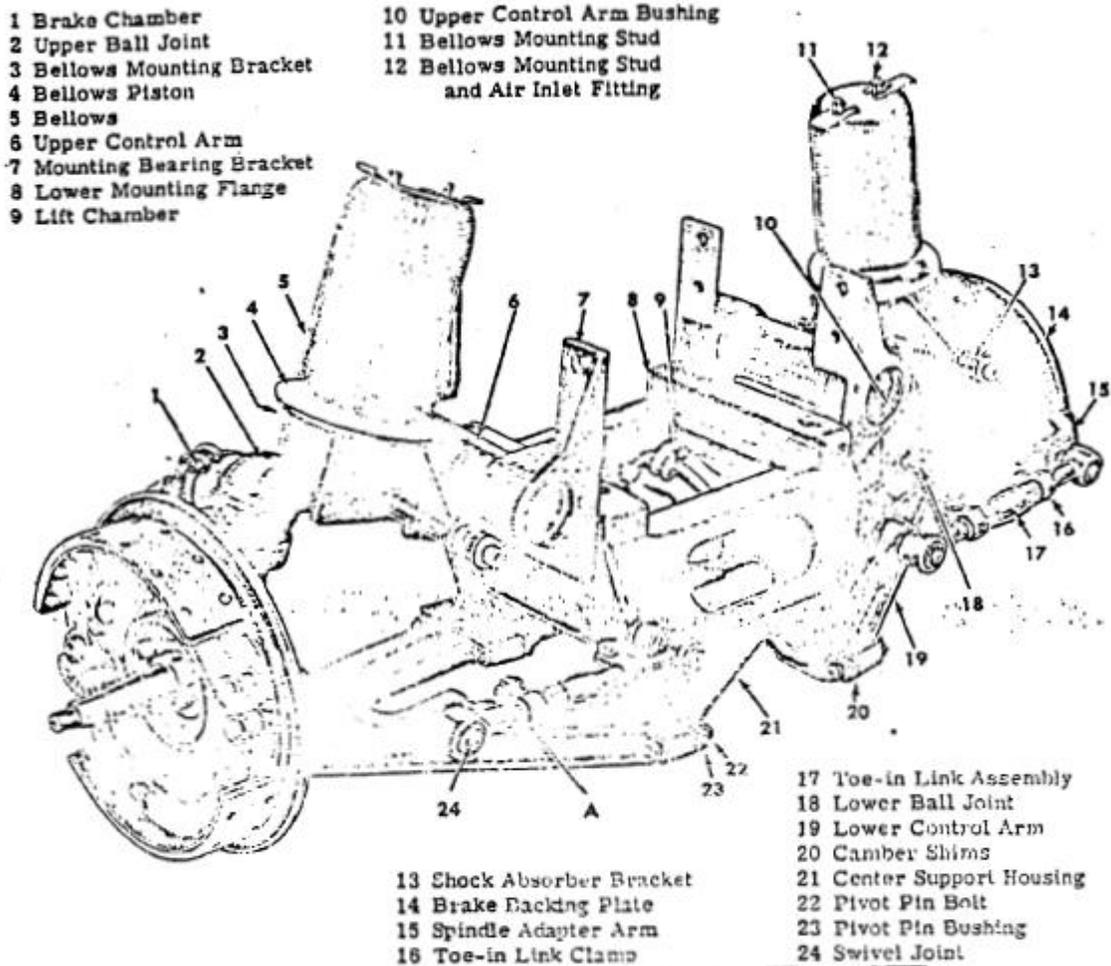
same manner as front suspension systems.

Tools and Equipment

1. Construct tool similar to that shown in Figure 3.
2. Center Punch.
3. Hammer.
4. Divider.
5. Jack.

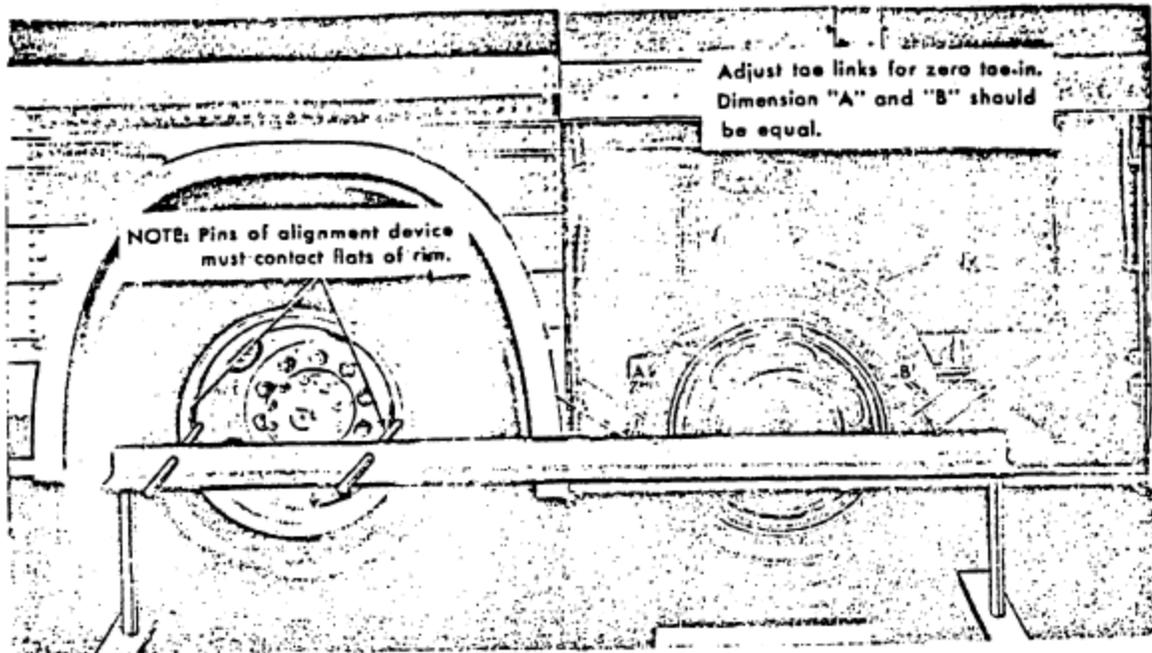
| Procedure | Reject Vehicle If: |
|---|---|
| A. On vehicles equipped with retractable axle(s). With air in the system at normal operating pressure, active the axle lift control switch to “Wheels Up” and “Wheels Down” positions to check function. | A. Axle fails to respond properly to the axle lift control switch. |
| B. If retractable axle has independent suspension inspect for toe. Dimensions A and B in Figure 3 should be equal. | B. Toe (in or out) is not reasonably close to zero (plus or minus 1/16 inch). |
| C. If retractable axle has independent suspension – with system activated and wheels down, inspect for ball joint wear as follows: | C. |
| 1. Mark ball joints (upper and lower) with center punch as indicated in Figure 4. Measure and record distance between punch marks. | |
| 2. Upper Ball Joint. Carefully place jack under axle so that jack screw extends through lower control arm, and raise upper control arm until wheel is clear of floor. Measure distance between punch marks. | 2. Second measurement between punch marks exceeds first measurement by more than 3/32 inch. |
| 3. Lower Ball Joint. Carefully place jack on top of lower control arm near ball joint and extend jack ram to underside of upper control arm. Apply force until lower ball joint is fully compressed. Measure distance between punch marks with divider. | 3. Second measurement exceeds first by more than 3/32 inch. |

Figure 2



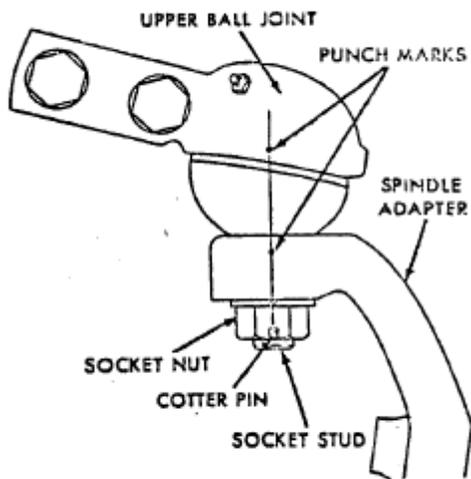
RETRACTABLE AXLE ASSEMBLY (TYPICAL)

Figure 3



TOE-IN TOOL POSITIONED

Figure 4



CHECKING BALL JOINTS FOR WEAR

Lighting and Electrical System

General Instructions

Follow the inspection procedures for Passenger Vehicles, except for the following changes which apply to trucks and buses only.

1. When conducting the automatic transmission Neutral Safety Starting Switch Inspection found in Passenger Vehicles, follow the safety precautions listed below.

a. On Gasoline/Ignition Engines - Remove center wire from coil or distributor before checking to be sure that engine does not start with vehicle in a running gear.

b. On Diesel Engines - Apply parking brakes, fully apply service brakes, and pull stop out to No-fuel position before checking.

2. Refer to Table II, Appendix A in Passenger Vehicles for vehicles over 80 inches (203 cm.) in width.

Body and Sheet Metal

General Instructions

1. Body components and sheet metal are subject to rejections if a condition exists which is a hazard to occupants, pedestrians or other vehicles.

2. There are nine body and sheet metal inspection procedures covered in this section. Items (1) through (8), marked with an asterisk (*), indicate that the inspection procedures for heavy vehicles are the same as for passenger vehicles.

(1)* External Rearview Mirrors (Refer to Passenger Vehicles)

(2)* Interior Rearview Mirror (Refer to Passenger Vehicles)

(3)* Windshield Wipers (Refer to Passenger Vehicles)

(4)* Windshield Washer (Refer to Passenger Vehicles)

(5)* Body Parts – Bumpers – Fenders (Refer to Passenger Vehicles)

(6)* Doors – Hood/Trunk (Refer to Passenger Vehicles)

(7)* Floor Pan (Refer to Passenger Vehicles)

(8)* Seats and Safety Belts (Refer to Passenger Vehicles)

(9) Bus Body Items

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

3. Please note the following additions for inspection procedures (1) and (2).

a. Exterior Rearview Mirrors - Most truck tractors are inspected without attached trailers, and allowance should be made for protruding exterior mirrors to include the width of a towed load when checking “unnecessary protrusion.”

b. Interior Rearview Mirror - The interior rearview mirror in trucks and buses should provide a clear view of the highway at least 12 feet (3.7 m.) wide at a point 35 feet (10.7 m.) behind the driver’s viewing position. (Applies only to vehicles manufactured after January 1, 1968. Passenger side rearview mirror may be used in place of this requirement.)

(9) Bus Body Items

Notes for Inspectors

1. There are many items on and in the bodies of buses which should be inspected for the safety and well being of patrons.

2. For purposes of safety and sanitation, the lavatory of each bus, if so equipped, should be thoroughly inspected.

| Procedure | Reject Vehicle If: |
|---|---|
| A. Rivets and Bolts – Buses | A. Rivets and Bolts – Buses |
| Inspect entire bus body for loose rivets and bolts. | There is evidence of excessive strain indicated by several loose body rivets or bolts. |
| B. Floor Covering – Buses | B. Floor Covering – Buses |
| Inspect interior for loose floor covering, floor board deterioration, seat hold-down bolt rust and deterioration, or excessive corrosion. | There is evidence of loose floor covering, openings in floor, or excessive deterioration of seat legs or fastening parts. |
| C. Compartment Doors – Buses | C. Compartment Doors – Buses |
| Inspect all exterior compartment doors (baggage, engine, etc.) to determine whether they open, close, and latch properly. | Compartment doors do not function properly or do not remain latched or locked. |
| D. Door Lock – Buses | D. Door Lock – Buses |
| On buses equipped with lavatory, inspect for proper functioning of lavatory door locking device. | Door fails to open or close properly assuring easy entrance, exit, and privacy. |
| E. System Function – Buses | E. System Function – Buses |
| Inspect functioning of water supply, drains, lights, flushing mechanism, toilet seats, ventilation fans, emergency signals. | Water system, drains, flushing mechanism, emergency signals, vent fans, or lights fail to function properly. |
| F. Holding Tank – Buses | F. Holding Tank – Buses |
| Inspect holding tank for functioning and chemicals. Also check drain plug. | Not properly maintained according to regulations. |
| G. General Sanitation – Buses | G. General Sanitation – Buses |

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

| | |
|---|---|
| Inspect entire lavatory for general cleanliness and sanitation. | There is evidence of a lack of reasonable sanitary maintenance of lavatory. |
| H. Service Doors – Buses | H. Service Doors – Buses |
| 1. From driver’s position, inspect function of opening and closing operation. | 1. Opening and closing device shows evidence of binding, jamming, excessive wear, or other malfunction. |
| 2. Inspect condition of flexible material on vertical closing edges. | 2. Flexible material on vertical closing edges of service door is excessively loose, torn or missing. |
| 3. Inspect safety devices that prevent doors from closing on passengers. | 3. Safety devices fail to function properly. |
| I. Emergency Doors and Windows – Buses | I. Emergency Doors and Windows – Buses |
| 1. Check for access to door. | 1. Any emergency exit is not easily accessible. |
| 2. Inspect inside and outside quick release mechanism. | 2. Door release fails to function positively when activated, or if it opens accidentally or too easily. |
| 3. Inspect for function of push-out windows. | 3. Push-out windows do not function properly. |
| 4. Check function of buzzer indicating that door is not fully closed. | 4. Signal fails to function when door is slightly opened. |
| 5. Check emergency exit instruction decals. | 5. Emergency exit decals are missing or not legible. |
| J. Seats and Seat Belts – Buses | J. Seats and Seat Belts – Buses |
| 1. Inspect seats to see that they are securely anchored to floor pan and/or driver’s seat. | 1. All seat anchor bolts are not securely fastened to floor or are missing. |
| 2. Inspect seats for condition of frames, springs and cover material. | 2. Cover material is torn or seat springs are exposed. |
| 3. Inspect driver’s seat belt for frayed, split, or torn webbing; malfunctioning buckles; loose or damaged anchorages or floor pan. | 3. a. No seat belt is installed for driver on vehicles originally so equipped or otherwise required. b. Seat belt webbing is frayed, split or torn. c. Buckles do not operate properly. d. Belt anchorages are loose, badly corroded or not fastened to belt. e. Belt mounting surfaces are badly deformed, damaged or corroded. |
| 4. Inspect for torn interior metal trim, etc., which may present a hazard to patrons. | 4. Interior metal trim or other parts present a hazard to patrons. |
| K. Stanchions and Guard Rails – Buses | K. Stanchions and Guard Rails – Buses |
| Inspect all stanchions, guard rails, grab handles, etc., for tightness. | Any looseness is detected, or fastening parts are missing. |
| L. Stepwell – Buses | L. Stepwell – Buses |
| Inspect general condition of stepwell and stepwell illumination at service door entrance. | Stepwell is blocked, cluttered, or surface material is loose. Also if stepwell is not properly illuminated. |

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

| | |
|--|---|
| M. Ventilation – Buses | M. Ventilation – Buses |
| Check for function and general condition of ventilating system. | System fails to furnish proper quantity of fresh air under operating conditions. |
| N. Fire Extinguisher – Buses | N. Fire Extinguisher – Buses |
| Inspect for presence of, location, and readiness of the fire extinguisher. | 1. Extinguisher is missing. |
| | 2. Extinguisher is not functional. |
| | 3. Extinguisher is not readily accessible to driver. |
| | 4. Extinguisher contains a vaporizing liquid filler. |
| | 5. Extinguisher does not permit visual determination of charge. |
| | 6. Directed and certified by the Fire Department. |
| O. Package Shelf – Buses | O. Package Shelf – Buses |
| Inspect overhead package shelf for excessively worn or broken components which may affect the capability of the shelf to retain luggage or packages. | Shelf is in such condition that packages or luggage might fall off while bus is moving. |

Vehicle Glazing
(Windshield and Window Glass or Other Material)

General Instructions

Follow the same inspection procedures for Passenger Vehicles.

1. Exception: The requirements relating to stickers and tinting apply only to those windows in trucks and buses which may be used by the driver for driving visibility. These include, but are not limited to the windshield and the windows to the immediate right and left of the driver.

Exhaust System

General Instructions

Follow the inspection procedure for Passenger Vehicles, except for the change noted below for trucks and buses.

Because of the difficulties involved in hoisting, a creeper may be used to inspect the exhaust system components under heavy vehicles instead of a hoist, pit or jack and frame stands.

Fuel System

General Instructions

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

1. Follow the inspection procedures for Passenger Vehicles, except for the change noted below for trucks and buses.

Because of the difficulties involved in hoisting, a creeper may be used to inspect the fuel system components under heavy vehicles instead of a hoist, pit or jack and frame stands.

School Buses

Contents

| Section | Page |
|-----------------------------------|------|
| Registration | 245 |
| Tires | 245 |
| Wheels | 245 |
| Brakes | 245 |
| Steering Alignment and Suspension | 247 |
| Lighting and Electrical System | 247 |
| Body and Sheet Metal | 251 |
| Vehicle Glazing | 249 |
| Exhaust System | 255 |
| Fuel System | 255 |

Registration

Follow the inspection procedures for Passenger Vehicles.

Tires

General Instructions

1. Follow the inspection procedures for Trucks, Trailers and Buses.
2. Note the following exception: Reinforcement repair to the cord body of any school bus tire is cause for rejection.

Wheels

General Instructions

Follow the inspection procedures for Trucks, Trailers and Buses.

Brakes

General Instructions

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

1. There are 10 inspection procedures for brakes in this section. The items marked with an asterisk (*) indicate that the inspection procedures for school buses are the same as for Trucks, Trailers and Buses or Passenger Vehicles.

- (1)* Hydraulic System (Refer to Trucks, Trailers and Buses.)
- (2)* Wheel Cylinders, Drums and Discs (Refer to Trucks, Trailers and Buses.)
- (3)* Linings and Pads (Refer to Trucks, Trailers and Buses.)
- (4)* Mechanical (Refer to Passenger Vehicles.)
- (5)* Vacuum System
 - a. For Condition Vacuum System refer to Trucks, Trailers and Buses.
 - b. For Operation of Vacuum System refer to Passenger Vehicles.
 - c. For Vacuum Reserve and Low Vacuum Indicators refer to Trucks, Trailers and Buses.
- (6)* Air System (Refer to Trucks, Trailers and Buses.)
- (7)* Emergency Brakes (Refer to Trucks, Trailers and Buses.)
- (8)* Parking Brakes (Refer to Trucks, Trailers and Buses.)
- (9)* Bus Air Brakes- Parking and Emergency (Refer to Trucks, Trailers and Buses.)
- (10)* Service Brake Performance (Refer to Trucks, Trailers and Buses.)

2. Please note the exceptions below.

a. Linings and Pad Inspections. It is recommended that at least one front and rear wheel assembly be removed for inspection of linings on school bus drum brakes (vehicles less than 10,000 pounds GVWR only).

b. Service Brake Performance Road Test. School buses should stop within a distance which is five feet shorter than the requirements for trucks, trailers and other buses.

| School Buses | Stopping Distance |
|----------------------|-------------------|
| 10,000 BVW and under | 25 feet |
| Over 10,000 GVW | 35 feet |

Steering Alignment and Suspension

General Instructions

1. On heavy vehicles the service brake performance test must precede inspection of the suspension system.

2. There are 12 steering alignment and suspension inspection procedures applicable to school buses. The items marked with an asterisk (*) indicate inspection procedures for school buses which are similar to those for Passenger Vehicles or Trucks, Trailers and Buses.

(1)* Power Steering (Refer to Passenger Vehicles.)

(2)* Lash or Free Play and Travel (Refer to Passenger Vehicles.)

(3)* Steering Column (Refer to Trucks, Trailers and Buses.)

(4)* Wheel Bearings – Linkage Play (Refer to Trucks, Trailers and Buses.)

(5)* Linkage/Kingpin Play (Refer to Trucks, Trailers and Buses.)

(6)* Front Wheel Alignment (Toe In-Out) (Refer to Passenger Vehicles.)

(7)* Ball Joint Wear – When so equipped (Refer to Passenger Vehicles.)

(8)* Front and Rear Suspension Components (Refer to Passenger Vehicles.)

(9)* Shock Absorbers – When so equipped (Refer to Passenger Vehicles.)

Note: It will probably not be possible to perform the Shock Absorber Operation inspection on heavier vehicles.

(10)* Tracking (Refer to Trucks, Trailers and Buses.)

(11)* Air Suspension (Refer to Trucks, Trailers and Buses.)

(12)* Air Suspension Retractable Axle (Refer to Trucks, Trailers and Buses.)

Lighting and Electrical System

General Instructions

1. There are four inspection procedures for the lighting and electrical system inspection.

(1) Lighting (General)

(2) Headlamp Aim

(3) Auxiliary Lamp Aim

(4) Electrical System

Tools and Equipment

Tools and equipment, if required, will be listed above each separate inspection procedure.

Definitions (Additional) - (Refer to Passenger Vehicles.)

1. School Bus Alternately Flashing Red Signal Lamps Lamps mounted at same horizontal level, intended to identify vehicle as school bus and to inform other users of highway that such vehicle is stopped or about to stop on roadway to take on or discharge school children. There shall be two red lamps at rear of vehicle and two at front of vehicle which shall be controlled by a manually actuated switch, and when actuated shall flash alternately.

(1) Lighting (General)

Notes for Inspectors

1. If the school bus is equipped with the following lamps they should be inspected, in addition to the lamps listed in Procedure A, General Inspection of Lamp and Reflector Function Condition, Location and Color, for Passenger Vehicles.

a. School Bus Alternately Flashing Red Signal Lamps.

b. Stepwell Light.

c. All interior lights.

2. Follow the remaining inspection procedures B through K for Passenger Vehicles, Lighting (General).

3. For school buses less than 80 inches (203 cm.) overall width refer to Passenger Vehicles, Table I, Appendix A.

4. For school buses of 80 or more inches (203 cm.) overall width refer to Tables I and II, Appendix A.

(2) Headlamp Aim

Note for Inspectors

1. Follow the inspection procedures for Passenger Vehicles, including Appendix B and C.

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

(3) Auxiliary Lamp Aim

Note for Inspectors

1. Follow the inspection procedures for Passenger Vehicles.

(4) Electrical System

Notes for Inspectors

1. Follow the inspection procedures on for Passenger Vehicles, except for the following changes which apply to large school buses.

When conducting the automatic transmission Neutral Safety Starting Switch Inspection in Passenger Vehicles, follow the safety precautions listed below.

a. On Gasoline/Ignition Engine - Remove center wire from coil or distributor before checking to be sure that engine does not start with vehicle in-a running gear.

b. On Diesel Engines - Apply parking brakes, fully apply service brakes, and pull stop out to No-fuel position before checking.

2. When inspecting the electrical system on school buses the battery must be checked in addition to the items listed for Passenger Vehicles.

| Procedure | Reject Vehicle If: |
|-------------------------------------|---|
| Battery – School Buses | Battery – School Buses |
| Check general condition of battery. | 1. Battery is broken or excessively corroded. |
| | 2. Connections are loose or not held down securely. |

Vehicle Glazing
(Windshield and Window Glass or Other Material)

General Instructions

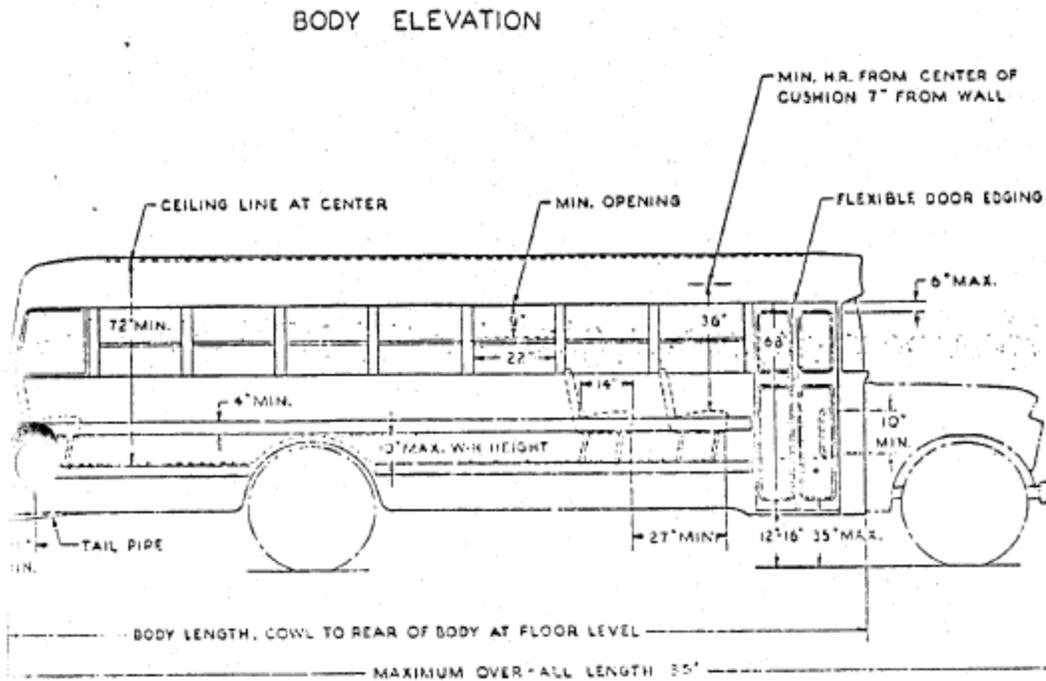
1. Follow the inspection procedures for Passenger Vehicles
2. Note the additional inspection procedures listed below for school bus glazing requirements. Procedure A below, Side Windows- School Buses, applies only to standard school buses similar to the vehicle in Figure 1. Other vehicles used as school buses, such as station wagons or vans, may not have side windows which meet this requirement.

| Procedure | Reject Vehicle If: |
|---|---|
| A. Side Windows – School Buses | A. Side Windows – School Buses |
| Determine whether all full side windows can | Any side window cannot be readily opened to |

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

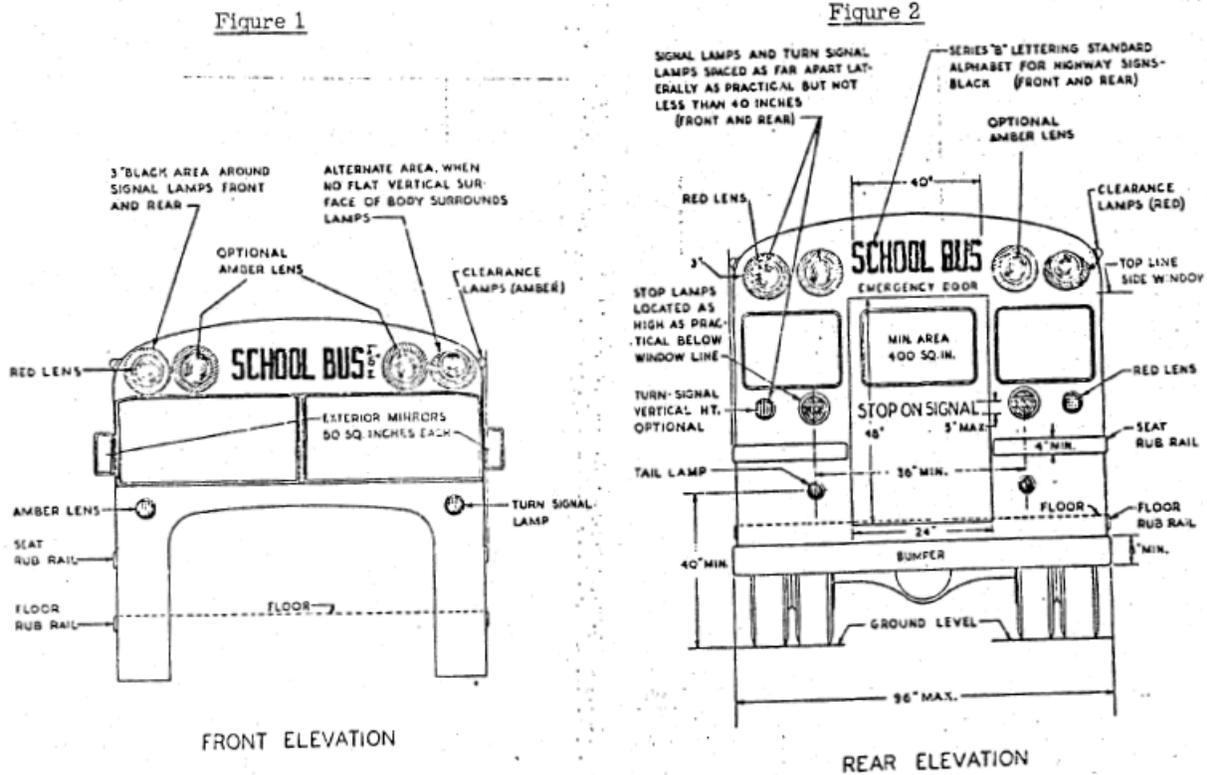
| | |
|---|---|
| be opened readily to provide at least a 9 inch (23 cm.) emergency opening for each. Also check closing. | permit at least a 9 inch (23 cm.) unobstructed emergency opening. (See Figure 1.) |
| B. Edging – School Buses | B. Edging – School Buses |
| Inspect for unbanded exposed edges of laminate glass. | 1. Any exposed edges of laminated glass are not banded. |
| | 2. Banding is loose or broken. |

Figure 1



From NEA Minimum Standards for School Buses

TITLE 150: DEPARTMENT OF PUBLIC SAFETY



Figures from National Education Association Minimum Standards for School Buses

Body and Sheet Metal

General Instructions

1. The body components and sheet metal are subject to rejection if a condition exists which is hazardous to occupants, pedestrians or other vehicles.
2. There are twelve body and sheet metal inspection procedures covered in this section. Items marked with an asterisk (*) indicate that the inspection procedures for school buses are the same as for passenger vehicles and/or trucks, trailers and buses.

(1)* Exterior Rearview Mirros* (Refer to Passenger Vehicles.)

* So in original.

Note: The NEA recommends one exterior rearview mirror on each side of school bus, each having an area not less than 50 (127 cm.) square inches - See Figures 2 and 3.

(2)* Interior Rearview Mirror (Refer to Passenger Vehicles.)

Note: The NEA recommends a large interior rearview mirror at least 6 x 30 (15 x 76 cm.) inches overall, for a good view of pupils as well as roadway to the rear - See Figure 2.

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

(3)* Windshield Wipers (Refer to Passenger Vehicles.)

(4)* Windshield Washer (Refer to Passenger Vehicles.)

(5)* Body Parts – Bumpers – Fenders (Refer to Passenger Vehicles.)

(6)* Doors – Service, Emergency

(7)* Hood/Trunk (Refer to Passenger Vehicles, Procedure B.)

(8) Floor Pan

(9)* Seats and Safety Belts – Stanchions and Guard Rails (Refer to Trucks, Trailers and Buses, Procedures J and K.)

(10)* Stepwell – Ventilation (Refer to Trucks, Trailers and Buses, Procedures L and M.)

(11)* Sun Visors

(12)* Fire Extinguisher – First Aid Kit (Refer to Trucks, Trailers and Buses, Procedures N and O.)

Note: The NEA recommends a dry chemical-type fire extinguisher with a rating of not less than 10-B:C., labeled by Underwriters Labs, Inc.

Note: The NEA recommends a Grade A first aid kit as set forth in current Bureau of Motor Carrier Safety Regulations..

(6) Doors – Service, Emergency

Notes for Inspectors

1. The NEA recommends that service door may be split type, sedan type, or jackknife type with vertical closing edges covered with flexible material to protect children’s fingers – See Figures 1, 2 and 4.

| Procedure | Reject Vehicle If: |
|---|--|
| A. Service Door – School Buses | A. Service Door – School Buses |
| 1. From driver’s position, inspect function of opening and closing operation. | 1. Power or manual opening and closing device shows evidence of binding, jamming excessive wear, or malfunction. |
| 2. Inspect condition of flexible material on vertical closing edges. | 2. Flexible material on vertical closing edges of service door is excessively loose, torn or missing. |
| B. Emergency Door – School Buses | B. Emergency Door – School Buses |

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

| | |
|--|--|
| 1. Inspect for clear passageway to door. | 1. Passageway to emergency door is blocked or restricted in any way, to less than 12 inches width. |
| 2. Inspect inside or outside quick release mechanism. | 2. Door release mechanism fails to function positively when activated from both inside and outside of bus or if it opens accidentally or too easily. |
| 3. Check length of stroke on slide bar/cam operated lock. | 3. Slide bar has less than one inch stroke length. |
| 4. Check function of buzzer indicating door is not fully closed. | 4. Buzzer fails to function in driver's compartment when slide bar is moved. |

(8) Floor Pan

| Procedure | Reject Vehicle If: |
|---|---|
| A. Floor Pan – School Buses | A. Floor Pan – School Buses |
| 1. Inspect floor pan in both occupant compartment and trunk holes which could permit entry of exhaust gases, or which would not support occupants adequately. Vehicles with other visible rust damage should be checked very carefully. Soft spots in the floor covering or loose seat mountings could be indications of a damaged floor pan. | 1. Floor pan (front and/or rear) has holes caused by rust or other damage. (Drain holes provided by the manufacturer are not cause for rejection if they are securely plugged or otherwise sealed.) |
| 2. Inspect floor covering for cracking, adhesion, and sealing. | 2. Floor covering is cracked, curled, or worn so that it is not waterproof at the seams, or presents a tripping hazard. |

(11). Sun Visors

Notes for Inspectors

1. The NEA recommends an interior sun visor for the driver not less than 6 x 16 inches (15 x 41 cm.) in size.
2. Advise driver if visor cannot be positioned to protect driver's eyes from sun, or if vibration from running engine causes visor(s) to move from set position.

| Procedure | Reject Vehicle If: |
|---|-----------------------------|
| Sun Visor(s) – School Buses | Sun Visor(s) – School Buses |
| Inspect sun visor for broken, bent or loose parts which prevent it from being positioned; or for visor which will not stay in a set position. | Driver visor is missing. |

Figure 1
BODY ELEVATION

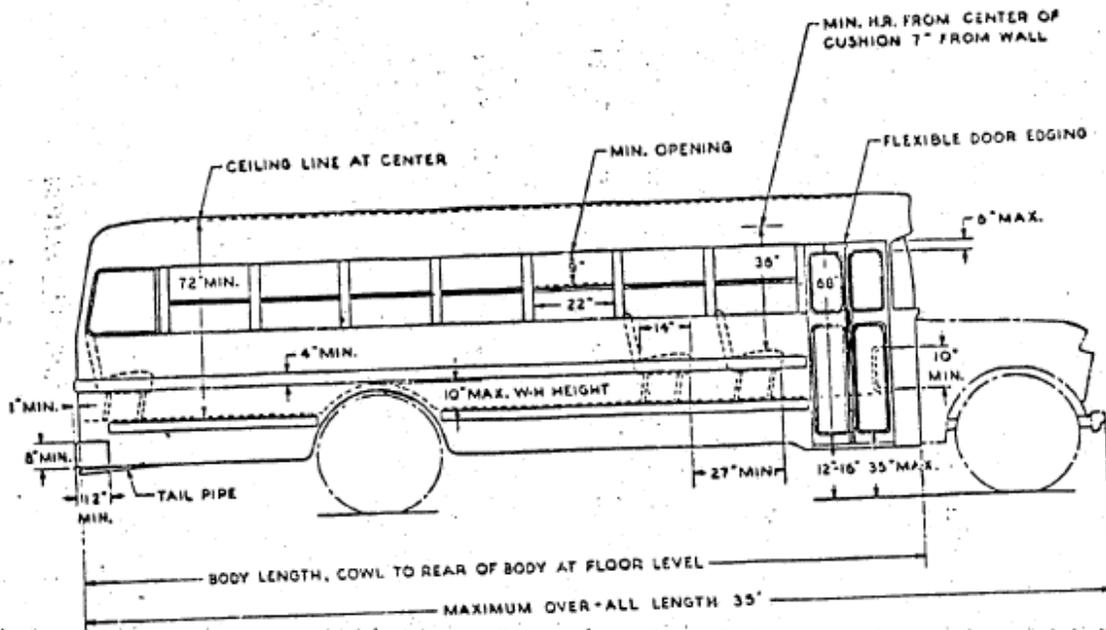
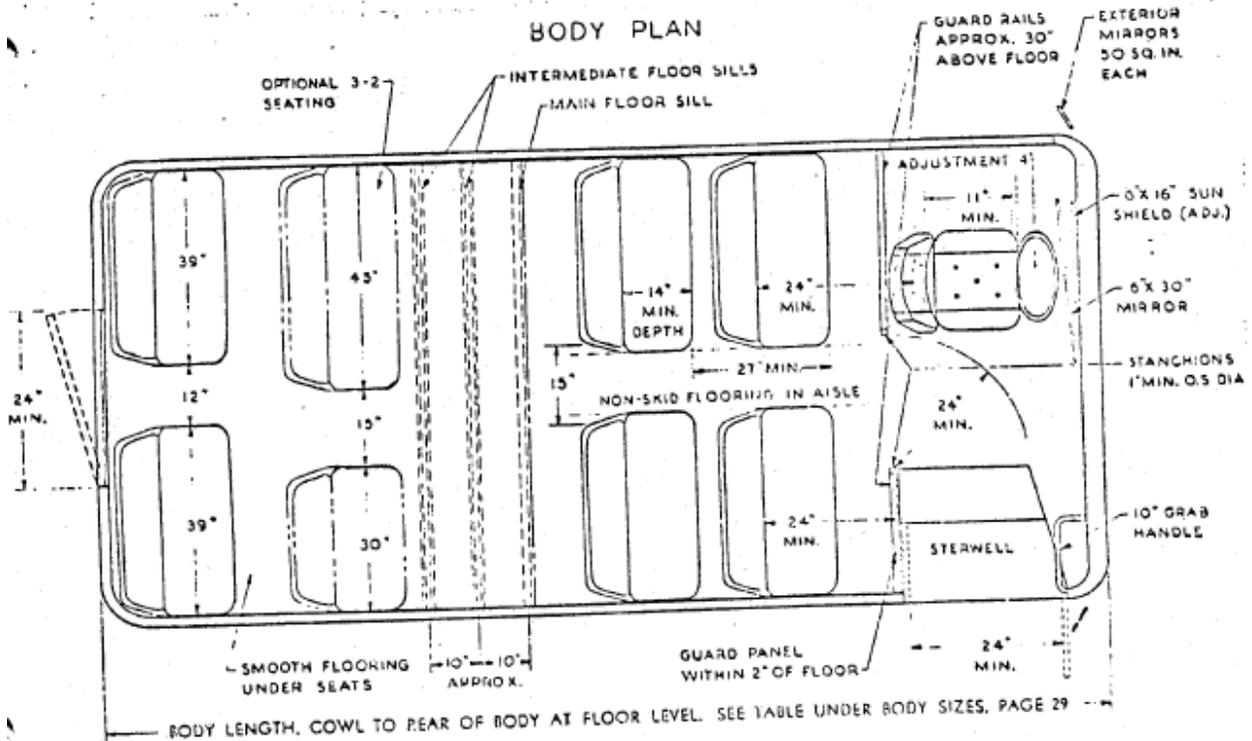


Figure 2

BODY PLAN



From NEA Minimum Standards for School Buses

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

Figure 3

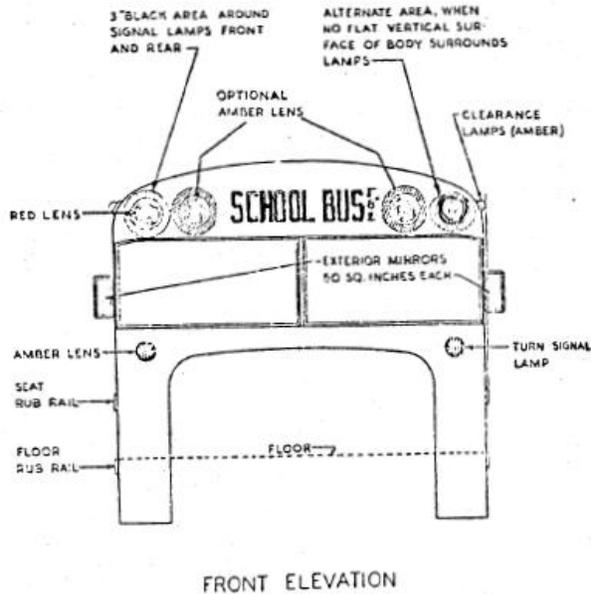
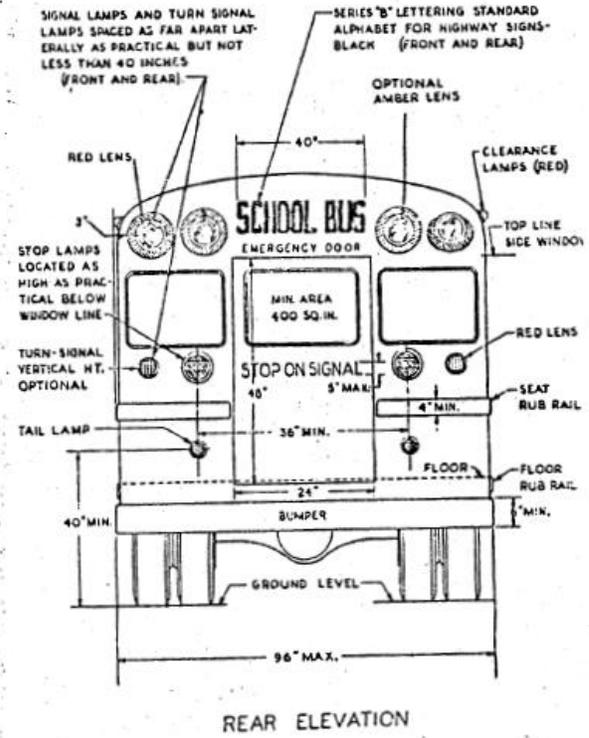


Figure 4



Exhaust System

General Instructions

1. Follow the inspection procedure for Passenger Vehicles, except for the change noted below for school buses over 10,000 pounds GVW.
 - a. Because of the difficulties involved in hoisting, a creeper may be used to inspect the exhaust system components under heavy vehicles instead of a hoist, pit or jack and frame stands.

Fuel System

General Instructions

1. Follow the inspection procedure for Passenger Vehicles, except for the change noted below for school buses over 10,000 pounds GVW.
 - A. Because of the difficulties involved in hoisting, a creeper may be used to inspect the fuel system components under heavy vehicles instead of a hoist, pit or jack and frame stands.

History: Amdts Adopted 23 Com. Reg. 18181 (July 20, 2001); Amdts Proposed 11 Com. Reg. 6281 (July 15, 1989); Adopted 9 Com. Reg. 5291 (Dec. 15, 1987); Proposed 9 Com. Reg. 5010 (Sept. 15, 1987).

TITLE 150: DEPARTMENT OF PUBLIC SAFETY

Commission Comment: The 2001 amendments inserted previously omitted pages PV-VI-1 through PV-VII-3. The Commission moved punctuation inside quotation marks pursuant to 1 CMC § 3806(g) and updated cross-referenced page numbers pursuant to 1 CMC § 3806(d). The Commission corrected numerous missing parentheses.