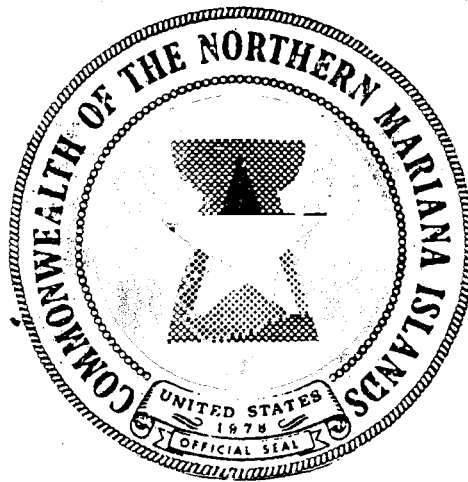


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Commonwealth of the Northern Mariana Islands  
 Department of Public Safety  
 Saipan, CM 96950



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 6952/7271

NOTICE OF PROPOSED  
 RULES AND REGULATIONS  
 DEPARTMENT OF PUBLIC SAFETY  
 BUREAU OF MOTOR VEHICLES

PUBLIC LAW 5-22

PROPOSED REGULATIONS: The Director of Public Safety is hereby proposing to promulgate Rules and Regulations pursuant to the provisions of Public Law 5-22 § 3108 and 1 CMC § 9104 regulating the activities and performance of safety inspection stations in the Commonwealth of the Northern Mariana Islands.

CONTENTS: These regulations govern the establishment and requirements of safety inspection stations and inspectors, responsibilities of the Department of Public Safety within the scope of safety inspection, and the procedure(s) for such inspection.

Pursuant to 1 CMC § 9104, comments regarding the contents of these regulations may be sent to the Office of the Director, Department of Public Safety, Civic Center, Susupe, Saipan, CM. 96950 within thirty (30) days from the date of this publication in the Commonwealth Registry.

DATED THIS 10<sup>th</sup> DAY OF September, 1987.

*Edward Manibusan*  
 EDWARD MANIBUSAN  
 DIRECTOR OF PUBLIC SAFETY  
 ACTING AS CHIEF OF BUREAU OF MOTOR VEHICLE



Commonwealth of the Northern Mariana Islands  
 Department of Public Safety  
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NUTISIA PARA I PUBLIKU

I MANMAPROPOPONI NA REGULASION SIHA:

KOMO GINAGAGAO NI NUMIRU 1, PAPA' SEKSIONA 9104, GI KODIKON MARIANAS, I DIREKTOT I DIPATTAMENTON PUBLIC SAFETY, GINEN ESTE NA NUTISIA, HA PROPOPONI UMENFUETSA I ARIKLAMENTO YAN REGULASION SIHA SIGUN GI PROBENSION I LAI PUBLIKU, NUMIRU 5-22, PAPA' SEKSIONA 3108, NI GUMUBIEBIETNA I AKTEBIDAT YAN CHE' CHO' I ESTASION RINIKOSEN SIGURIDAT KARETA SIHA GI HALON I COMMONWEALTH I SANGKATTAN SIHA NA ISLAS MARIANAS.

I MANTENITIKA SIHA:

ESTE SIHA NA REGULASION GUMUBIEBIETNA I INESTABLESI YAN KONDISION PAT KUALIFIKASION I ESTASION YAN I INSPEKTAN RINIKOSEN SIGURIDAT KARETA SIHA, I RESPONSABILIDAT I DEPATTAMENTON PUBLIC SAFETY GI CHE' CHO' RINIKOSEN SIGURIDAT KARETA SIHA, YAN I AREKLAMENTO PUT ENNAO SIHA NA KLASEN RINIKOSI.

REKOMENDASION YAN KUESTIONA SIHA PUT I MANTENITIKA NU ESTE SIHA NA REGULASION SINA MANA' FANHALOM GI UFISINAN I DIREKTOT I DEPATTAMENTON PUBLIC SAFETY, CIVIC CENTER, SAIPAN, CM 96950, GI HALOM TRENTA DIAS DESPUES DI I FECHA ANAI MANA'HALOM ESTE GI HALOM I COMMONWEALTH REGISTRY.

FECHA: Sept. 14, 1987

*Edward Manibusan*  
 EDWARD MANIBUSAN  
 DIREKTOT DEPATTAMENTON PUBLIC SAFETY

COMMONWEALTH OF THE NORTHERN MARIANA ISLANDS

Department of Public Safety

Saipan, CM 96950

ARONGORONG REEL FFÉÉRÚL

MWÓGHÚTÚGHÚTÚL ALLÉGH KKA LLÓL

BWULAASIYOOL AMMWELIL GHATCHÚÚR ARAMAS TOWLAP (PUBLIC SAFETY)

LEMELEMIL ALONGAL GHAREETA

ALLÉGH LAPALAP YE 5-22

FFÉÉRÚL ALÚGHÚLÚGH: Samwoolul Ammwelil Ghatchúúr Aramas Towlap (Public Safety) ekke fééerú bwe ebwe ayooráátá mwóghútúghútúl allégh kka sáangi wereweril Allégh Lapalap ye 5-22 § 3108 me 1 CMC § 9104 ikka ekke isiisiwow mwóghútúghútúl me fféerúl safety inspection stations mellól Commonwealth of the Northern Mariana Islands.

ÓWTOL:

Mwóghútúghút kkaal nge ekke lemelem reel fféer-táál me laúghúlúghúl safety inspection stations me schóól inspekta, angaang kka ebwe yaar schóól Depattamentool Public Safety reel ammwelil safety inspeciton, me mwóghútúghútúl reel ghal inspection.

Sáangi 1 CMC § 9104, ághiyágh reel ówtol alúghúlúgh kkaal emmwel schagh ebwe akkafang ngáli bwulaasiyool Samwoolul, Depattamentool Public Safety, Civic Center, Susupe, Saipan, CM 96950. 11ól eliigh (30 days) rál sáangi maram, rál me ráágh ye e toowow arongorong yeel mellól Commonwealth Registry.

E Alúghúlúghlól 11ól rál ye 12/16/87 wóól 14 1987.

  
EDWARD MANIBUSAN

SAMWOOLUL PUBLIC SAFETY  
ACTING AS CHIEF OF BUREAU OF MOTOR VEHICLE

**MOTOR VEHICLE BUREAU**  
**DEPARTMENT OF PUBLIC SAFETY**  
**RULES and REGULATIONS FOR**  
**PERIODIC SAFETY INSPECTION CONTROL**

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## Chapter I - General Provisions

- 1 - 1 **Definitions:** For purposes of these regulations, unless the context clearly indicates otherwise, the following definitions apply:
- "Ambulance" means a motor vehicle designed and equipped to provide normal and emergency transportation for persons requiring medical care.
- "Bus" means every motor vehicle designed for carrying more than ten (10) passengers and used for the transportation of persons.
- "Certified Vehicle Inspector" means a person who possesses a current valid, vehicle inspector certificate issued by the Department.
- "Chief" means the Chief of Bureau of Motor Vehicles.
- "Department" means the Department of Public Safety-Motor Vehicle Bureau.
- "Gross vehicle weight rating " (GVWR) means the weight of the vehicle plus the weight of the maximum load it is designed to carry.
- "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.
- "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.
- "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.
- "Official Vehicle Safety Inspection" means the safety inspection of vehicle equipment and components as required by this chapter.
- "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.

"Passenger Vehicle" means every motor vehicle, except motorcycle and motor scooter, designed for carrying ten (10) passengers or less and used for the transportation of persons.

"Semitrailer" means every vehicle designed for carrying persons or property used in 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.

"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.

"Truck" means every motor vehicle designed, used, or maintained primarily for the transportation of property.

"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.

1 - 2 Scope:

1. The rules governing the periodic safety inspection of vehicles under this chapter shall apply to all motor vehicles.
2. The rules also apply to:
  - a. The registered owner of any vehicle operated on a highway in the Commonwealth of the Northern Mariana Islands.
  - b. Every person who operates or parks any vehicle on a highway in the Commonwealth of the Northern Mariana Islands.
  - c. Every official inspection.
  - d. Every person who conducts official vehicle safety inspections or is the proprietor of an an official vehicle safety inspection

station.

3. The rules do not apply to:

- a. 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.
- b. 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.

1 - 3 Special Requirements: All motor vehicles shall be inspected and certified once every twelve (12) months and the date of inspection shall correspond with the date for registration of a vehicle.

1. 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 (5) days or have the defect corrected.
2. 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.

1 - 4 Administration and Enforcement: (1) The Department of Public Safety - Motor Vehicle Bureau shall have the power to administer and enforce these rules and regulations. (2) 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 these rules and regulations.

## Chapter II - Inspection Stations and Inspections

1 - 5 Inspection Stations; Permits; Department Responsibilities: The Department shall be responsible for:

1. The issuance of permits officially designating each vehicle inspection station that meets the minimum standards required by this chapter to conduct official vehicle inspections in accordance with these rules and regulations.
2. 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 these rules and regulations are met.
3. 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.
4. Recording the results of all inspections of station facilities and equipment of each applicant for an official vehicle inspection station permit.
5. 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.
6. Providing official application forms, approved by the Director, for an official vehicle inspection station permit.

7. Developing and issuing each additional forms and instructions as may be necessary to administer the issuance of official vehicle inspection station permits.

1 - 6 **Application for Inspection Station Permits:** Each applicant for certification as an official vehicle inspection station shall comply with the following procedures.

1. 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.
2. The applicant for the permit must provide the following information on the approved form:
  - a. The registered business name of the station.
  - b. The exact address and location of the applicant's place of business where the vehicle inspections will actually be conducted.
  - c. The name of owner, manager, or supervisor who will be responsible and accountable for the vehicle inspections and the performance of the vehicle inspectors.
  - d. 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 chapter.
  - e. Type of Business; e.g. service station, auto repair or vehicle safety inspection.
3. Each application for certification as an official vehicle safety inspection station shall be signed by proper authority representing the applicant as follows:
  - a. Single proprietorship - signed by the owner and notarized.
  - b. Partnerships - signed by all partners and notarized.
  - c. 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.
4. Requirements: Each applicant for a vehicle inspection station

permit shall provide the following:

- a. 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.
  - b. Proof of prior training and experience in the area.
  - c. A non-refundable application fee of \$100.00 payable to the Commonwealth Treasury.
5. Each applicant must meet the requirements specified in 1-8 of these rules and regulations.
6. No person or entity may be issued an official vehicle inspection station permit if:
- a. Applicant has been convicted of any crime exclusive of minor traffic infractions.
  - b. Fails to meet the requirements as provided for in these rules and regulations.
  - c. Fails to provide complete and truthful information in the application.
- 1 - 7 **Inspection Station Permits:** The official vehicle inspection station permit shall be on a form approved by the Director.
1. The following information shall appear on the face of the permit.
    - a. The registered name of the person, partnership, or corporation owning and operating the official vehicle inspection station.
    - b. The "doing business as" (DBA) name of the official vehicle inspection station.
    3. The address and location of the official vehicle inspection station.
    - d. A permit control number.
    - e. The date the permit issued.
    - f. 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.
  2. The permit shall be posted in a conspicuous place at the

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

3. 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.
4. 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.
5. 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.

1 -8 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:

1. 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 (8) hours during the span of time from 8:00 a.m. to 7:00 p.m. daily, except Sundays and holidays.
2. Personnel Requirements. There shall be on the premises during the hours of operation the following personnel:
  - a. One supervisor, manager or owner of the business and
  - b. a certified vehicle inspector.
3. Inspection Station Facilities. Each official vehicle inspection station shall conform to the following requirements:
  - a. The inspection area must comply with the minimum dimension as follows:
    1. Motorcycle and motor scooters - 8 feet by 10 feet.
    2. Passenger cars, trucks trailers, buses under 10,000

- pounds GVWB, and truck trailer - 12 feet by 25 feet.
3. Trucks, buses, and trailers 10,000 pounds GVWR or more 12 feet by 70 feet.
    - b. The inspection area shall also:
      1. Have an overhead protection from weather elements.
      2. Be designated and marked as such.
      3. Be clean and orderly.
      4. Have a hard surface, such as concrete, and be in sound condition. Wood or dirt floor shall not be acceptable.
      5. Have a surface limited to a 2.5 per cent slope 3 inches in 10 feet.
      6. Have no hazardous condition that may cause injury to persons or damage to vehicle.
    - c. 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.
    - d. 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.
    - e. All official vehicle inspection stations serving the public shall have the minimum of two (2) parking spaces, and each parking space shall have the minimum dimensions of 7 feet.
  4. 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:
    - a. One headlamp testing device, such as a mechanical aimer, optical or photoelectric aiming device, or aiming screen.
    - b. One driver over "slideslip" or alignment gauge.
    - c. One vehicle hoist drive over pit that facilitates a complete view of the underside of the vehicle to be inspected.
    - d. One floor jack with a 5,000 pounds lift capacity.
    - e. One flashlight or work light capable of illuminating under

vehicle or under hood inspections.

- f. A tire pressure gauge marked in pounds per square inch or metric equivalent.
- g. A tire tread depth gauge scored in 1/32 inch increments or 15 centimeters scored in increments of 1 millimeter.
- h. Service brake performance equipment.
- i. 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.
- j. 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).
- k. 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 guage 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.

- 5. Rules and Inspection Manual. Each public official vehicle inspection station shall obtain and maintain a copy of these rules and a copy of the Periodic Vehicle Inspection Manual which is attached hereto in good legible condition for use exclusively at the station.
- 6. 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.

1 - 9 Inspector Certification; Department Responsibilities: The Department shall be responsible for:

- 1. The issuance of certificates authorizing those persons



meeting the requirements established by this chapter to conduct vehicle inspections.

2. The administration of written and performance examination for all applicants.
3. Recording the results of all examinations.
4. Maintaining a record of examination results for a period of one year from the date applicant took the examination.
5. Maintaining a file for all formerly certified vehicle inspectors for a period of one year after decertification.
6. 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.

1 - 10 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:

1. Type of application - original or renewal.
2. Applicant's last name, first name, and middle initials.
3. Applicant's home address.
4. Applicant's telephone number.
5. Applicant's date of birth and place of birth.
6. Applicant's type of CNMI's driver license and driver's license number.
7. Applicant's driving experience in years and by the type of

vehicle.

8. Applicant's technical license or certificates.
  9. Applicant's vocational and technical training schools, accomplished by a copy of certificates of successful completion.
  10. Applicant's experience in vehicle safety inspection and/or automotive mechanics experience.
  11. Applicant's formal education.
  12. The date the application is filled.
  13. 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 these rules and regulations.
  14. 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.
- 1 - 11 Issuance of Inspector Certificates: The Department shall issue official vehicle safety inspector certificates only to those applicants who meet the following required minimum standards:
1. Each applicant shall be able to read and legibly hand print the English language.
  2. Each applicant shall be at least eighteen (18) years of age at the time of the application.
  3. Each applicant shall be a high school graduate or possess an equivalent education level certification.
  4. Applicant shall have a valid CNMI driver's license.
  5. Each applicant shall have at least: one (1) year of training in automotive mechanics, or a related technical field at a school conducting regularly scheduled classes and (1) year

of experience as an automotive mechanic.

6. Applicant must successfully complete an exam administered by the Department except that an applicant for renewal is not required to take an examination.
7. No applicant shall be issued an inspector certificate if he or she fails to meet the requirements of these rules or regulations and/or has previously been convicted of a crime exclusive of minor motor vehicle infractions.

**1 -12 Inspector Certificate Forms:**

1. 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:
  - a. The name of the person to whom the certificate is issued.
  - b. The date the certificate is issued.
  - c. The expiration date of the certification.
  - d. The signature of the Department agent authorized to issue the certificate.
  - e. The number of the certificate.
2. The following information shall be listed on the reverse side of the official vehicle inspector certificate.
  - a. The types of vehicle the inspector is certified to inspect.
  - b. The name and location of the official vehicle inspection station where the inspector will conduct the inspections.
3. The official certificate designating a person as a vehicle inspector shall be displayed in a conspicuous place in the area where inspections are conducted.
4. A vehicle safety inspector certificate shall expire four (4) years from the date of issuance, unless revoked or suspended by the Department.
5. Application for renewal of certification shall be made by the vehicle safety inspector not more than sixty (60) days nor less than thirty (30) days prior to the expiration of the certificate.

1 -13 Inspection Stations: Operating Procedures: Official vehicle inspection stations shall be operated in accordance with these rules and regulations 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.

1. Official public vehicle safety inspections shall be operated with reasonable regard for the convenience of the public.
2. Official vehicle safety inspections shall be conducted only at official vehicle safety stations which have been issued a permit by the Department.
3. Official vehicle safety inspections shall be conducted only by vehicle safety inspectors who have been issued a certificate by the Department .
4. The Department shall upon request furnish copies of all instructions and required forms, including a copy of these rules 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.
5. 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 words "Official Vehicle Safety Station", together with the identifying numbers and letters assigned to that station.

1 -14 Safety Inspection Records: A vehicle safety inspection checklist/certificate form, as designated and approved by the Director, shall be completed by the vehicle safety inspector, for each vehicle inspected.

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

- a. One copy shall be sent to the Department.
- b. One copy shall be retained by the certified safety inspection station for a period of at least one year.
- c. One copy shall be given to the vehicle owner for use as needed for vehicle registration purposes.
- d. One copy shall be given to the vehicle owner to be retained in the vehicle at all times.

**1 -15 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:

1. The issuance of instructions and any forms as may be required for:
  - a. The preparation and maintenance of records concerning official vehicle safety inspections.
  - b. The preparation and submission of reports by official vehicle inspection station operators.
  - c. The use and condition of station facilities and equipment used in the safety inspection of vehicles.
2. Monitoring and inspecting official vehicle inspection stations to:
  - a. Evaluate the procedures used in the safety inspection of vehicles.
  - b. Evaluate the condition of vehicle inspection facilities and equipment used in vehicle safety inspections.
  - c. Evaluate the condition and accuracy of test equipment used in vehicle safety inspections.
3. The analysis of official vehicle inspection reports to evaluate the performance of vehicle safety inspections.
4. The preparation and maintenance of appropriate records for each official vehicle inspection station.
5. 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:

- a. The number of vehicle inspection station applications processed.
- b. The number of vehicle inspector certificates suspended.
- c. The number of official inspection station permits revoked.
- d. The number of official inspection stations voluntarily withdrawing from the program.
- e. The number of vehicle inspector applications processed.
- f. The number of vehicle inspector certificates revoked.
- g. The number of certified vehicle inspectors active in the jurisdiction.
- h. The number of vehicle inspector certificates renewed.
- i. The number of official vehicle inspection stations monitored.
- j. A brief narrative describing any problems, innovations and recommendations.

1 -16 **Enforcement by the Department:** Any violation of these rules and regulations or failure to comply with these rules and regulations may result in suspension or revocation of a permit or a certificate.

1. 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.

1 -17 **Operating Procedures for Inspectors:** Certified vehicle inspectors shall conduct all official vehicle safety inspections in accordance with these regulations including the Periodic Vehicle Inspection Manual, and such instructions as may be issued by the Department that are not inconsistent with these regulations.

1. 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.
2. Certified vehicle inspectors shall be the only persons authorized to conduct safety vehicle inspection.
3. Every certified vehicle inspector shall conduct vehicle safety inspections in accordance with the procedures and criteria prescribed in the Periodic Vehicle Inspection Manual.

### Chapter III - General Procedures for Inspection

#### 1 -18 Applicant for Inspection Certification:

1. Any vehicle owner or operator shall be allowed to make an appointment with any public vehicle inspection station for inspection of a vehicle.
2. 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.
3. 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.

#### 1 -19 Inspection Fees: The following fees shall apply:

1. A five dollar (\$5.00) fee shall be charged for the safety inspection sticker payable to the Commonwealth Treasury.
2. Mopeds, Motorcycles, three and four wheeled recreational vehicles and other two wheeled motor vehicles shall be charged \$2.50.
3. A five dollar (\$5.00) fee shall be charged for pick-ups, sedans, jeeps, automobiles, and other motor vehicles not exceeding six passengers as stated by manufactures rating.
4. All owned and operated government vehicles shall be charged a fee of \$1.00.
5. A fee of (\$30.00) shall be charged for trucks, buses, all other heavy equipment vehicles and all other motor vehicles.

6. 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 these rules including and the Periodic Vehicle Inspection Manual, using the checklist form designed by the Director.
7. 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 (10) days after failure of the applicant's vehicle to qualify on the initial inspection.

**1 -20 Failure to Qualify for Certification and Correction of Defects:**

1. When a vehicle inspection pursuant to these rules 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.
2. 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.
3. All expired safety inspection stickers on the vehicle shall be removed and destroyed.

**1 -21 Replacement of Lost or Stolen Stickers:**

1. 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.
2. Reinspection shall be required if there is no evidence or previous safety inspection or the safety inspection certificate date has expired.
3. 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.

1 -22 Items of Equipment to be Inspected: The following items shall be inspected:

1. Registration
2. Tires.
3. Wheels.
4. Brakes.
5. Steering alignment and suspension.
6. Lighting and electrical systems.
7. Vehicle glazing (Windshield and Windows).
8. Body and sheet metal.
9. Fuel intake system.
10. Exhaust system.
11. Speedometer - odometer.

1 -23 Scope of Inspection: The scope of inspection shall specifically include the following:

1. 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.

2. Tires:

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

3. Wheels:

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

4. 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.

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

6. 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.

7. 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.

8. Body Items and Sheet Metal:

- a. Exterior rearview mirrors and the interior rearview mirror shall be inspected for location, field view, condition, mounting, ease of adjustment and sharp edges.
- b. Windshield wiper shall be inspected for proper operation, blade size and condition, and missing or damaged components.
- c. The windshield washer shall be inspected for operation and fluid distribution.
- d. 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 nonapproved modifications.
- e. 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.
  - f. The floor pan shall be inspected for condition damage and holes.
  - g. 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 nonapproved belts. Seat belt retractors shall be inspected for proper functioning. Audible signal and warning light shall be inspected for proper operation.

9. 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.

10. 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.

11. 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.

*Edward Manibusan*

Edward Manibusan  
Director of Public Safety

9-11-87

Date

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:

<u>Steering Wheel Diameter</u>	<u>Lash</u>
16" or less	2"
18"	2 $\frac{1}{8}$ "
20"	2 $\frac{1}{2}$ "
22"	2-3/4"

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 shear capsule from bracket. (Some models do not have shear 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.
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:

<u>Wheel Diameter</u>	<u>Free Play</u>
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 on 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 of cycles of free rocking motion allowed by shock absorbers.
- 3. Repeat procedure at opposite end of vehicle.

REJECT:

- 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:

Rear wheels 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 or 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.
  - 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 or 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 are 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 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 and 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, cannisters, 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 1½" in other systems.
  - 1. Emergency brake mechanism does not lock in the fully applied position.
- C. Take vehicle out on a 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.
- B. Headlamps that do not measure 50% of new lamp 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 1950's 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 1950's 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 an 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 1950's 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 manufactured 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 lamps 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:

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).
2. (Failure to start with the gear selector in PARK or NEUTRAL is not cause for rejection).

18. WINDSHIELD:

A. General Instructions:

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 1½ 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 fails to contact the windshield over the entire length of the blade.

20(A). WINDSHIELD WASHER:

1. NOTES for Inspectors:
  - 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 required 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 contribute 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.
2. Mirror is loosely mounted or will not maintain 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 operation.

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.
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 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 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.
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 surface.
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 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 damaged 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.

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\*\*\*\*\*

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.

MOTORCYCLES

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## 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 (CAWR) - 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 PV-I-1 for Passenger Vehicles.
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.

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## 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.**

1. Tires without tread wear indicators.

(Tread measurement shall not be made where tie bars bumps or fillets are located.)

2. Tires with tread wear indicators.

**B. Inspect for cord exposure.****C. Inspect for tread cuts, snags, or outside wall cracks.****D. Check sidewall labeling or markings.****E. Inspect for bumps, bulges or knots.****F. Inspect for regrooved or recut tires.****A.**

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. 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. Any part of the cord or ply is exposed.****C. Any tread or sidewall cracks, cuts, or snags deep enough to expose any of the body cords.****D. Tire labeling or markings such as; "Not for highway use," "For racing purposes only," or "Unsafe for highway use."****E. Tire has visible bumps, bulges, or knots indicating partial failure or separation of the tire structure.****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.).

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## 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 subsystems actuated by a single control, designed so that a leakage-type failure of a pressure component in a single subsystem (except structural failure of a housing that is common to all subsystems) 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.

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.

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- 8. BRAKE DRUM - The cylindrical rotational member of a drum brake assembly acted upon by the friction material.
- 9. BRAKE DISC OR ROLLER - 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. <u>Mechanical Brake System</u></p> <p>Initiate inspection of linkage, cables, pivots, and bearings for high friction, wear and broken parts.</p>	<p>A. <u>Mechanical Brake System</u></p> <ol style="list-style-type: none"> <li>1. There is an angle greater than 110° between the cam operating lever and the actuating cable or rod in the fully applied position.</li> <li>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.</li> <li>3. Any cables are frayed. (One broken strand.)</li> <li>4. Brake adjusters do not have means to be locked.</li> <li>5. Front brake cable routed to be pinched between fork and frame.</li> </ol>

**PROCEDURE**

**REJECT VEHICLE IF:**

**B. Condition of Mechanical Components**

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 plate and for bind between brake shoes and anchor pins.

**B. Condition of Mechanical Components**

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).
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.

**PROCEDURE**

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.

**C. Hydraulic System**

Visually inspection condition of hydraulic system.

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.

**REJECT VEHICLE IF:**

**C. Hydraulic System**

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.
  - a. Any leakage is noted in braking system.
  - b. Wheel cylinder leaks.

PROCEDURE

D. Condition of Linings and Pads

1. Bonded Linings

(Refer to Passenger Vehicles, Section (3), Item A1, page PV-IV-9.)

2. Riveted Linings

(Refer to Passenger Vehicles, Section (3), Items A2; a, b, and c, page PV-IV-9.)

3. All Linings

(Refer to Passenger Vehicles, Section (3), Item 4, page PV-IV-10.)

4. Pads (Disc Brakes)

(Refer to Passenger Vehicles, Section (3), Item 5, page PV-IV-10.)

E. Brake Drums and Rotor

(Refer to Passenger Vehicles, Section (2), Items A1 through 4, pages PV-IV-7 and 8.)

F. Brake Discs

(Refer to Passenger Vehicles, Section (2), Items B1 through 3, page PV-IV-8.)

G. Brake Performance

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.

**REJECT VEHICLE IF:**

D. Condition of Linings and Pads

1. Bonded Linings

(Same criteria as for Passenger Vehicles, Section (3), Item A1, page PV-IV-9.)

2. Riveted Linings

(Same criteria as for Passenger Vehicles, Section (3), Items A2; a, b, and c, page PV-IV-9.)

3. All Linings

(Same criteria as for Passenger Vehicles, Section (3), Item 4, page PV-IV-10.)

4. Pads (Disc Brakes)

(Same criteria as for Passenger Vehicles, Section (3), Item 5, page PV-IV-10.)

E. Brake Drums and Rotor

(Same criteria as for Passenger Vehicles, Section (2), Items A1 through 4, pages PV-IV-7 and 8.)

F. Brake Discs

(Same criteria as for Passenger Vehicles, Section (2), Items B1 through 3, page PV-IV-8.)

G. Brake Performance

1.
  - 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 shortest 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.
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.

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- 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 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.

Tools and Equipment

- 1. Vehicle stand or frame jack.

PROCEDURE	REJECT VEHICLE IF:
<p>A. <u>Steering Head Bearing Adjustment</u></p> <p>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.</p>	<p>A. <u>Steering Head Bearing Adjustment</u></p> <p>1. Noticeable play or roughness when fore and aft force is applied.</p>

**PROCEDURE**

2. Turn handlebars slowly from side to side and visually inspect bearings.
  
3. Remove vehicle from center stand or frame jack and repeat Step 2, above.

**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.
  
2. Rotate wheel.

**C. Handlebars**

1. Inspect visually all fo the exposed areas of the handlebars.
  
2. Rotate the handlebars attached to forks from steering-stop to steering-stop.

**REJECT VEHICLE IF:**

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. 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**

There is noticeable play, vibrations or wheel bearing noise;

Or wheel play exceeds the manufacturer's recommended tolerances when measured at the bead seat diameter.

**C. Handlebars**

1. Cracks, deformation, improper alignment, or excessive flexure other than flexure from rubber mounts.
  
2. Handlebars cause an obstruction that prevents rotation of fork from steering-stop to steering-stop.

## PROCEDURE

3. Measure the height of the handlebars.
4. Measure the width of the handlebars, and visually inspect hand grips.
5. Consult manufacturer's specifications for handlebar thickness of vehicle make and model.

### D. Handlebar Controls

1. Inspect throttle twist grip.  
(Note: Some throttles have intermediate resistance point for idle adjust.)
2. Inspect clutch lever, brake lever, and all clutch and brake cables, as well as cable housing and exposed portions of inner cables.

### E. Shock Absorbers

1. Visually inspect the shock absorbers, if so equipped.

## REJECT VEHICLE IF:

3. The lowest part of the handlebars is 15 inches (38 cm.) above that portion of the vehicle seat occupied by the rider.
4.
  - a. Handlebars are less than 18 inches (46 cm.) measured end to end, as mounted on the motorcycle.
  - b. Rubber or plastic handlebar grips do not cover the ends of the handlebars.
5. Handlebar is not constructed of at least .060 inches thick steel tubing (1.5 mm.).

### D. Handlebar Controls

1. Throttle twist grip does not rotate freely from stop-to-stop.
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

1. Broken or cracked mounts.

## PROCEDURE

3. Measure the height of the handlebars.
4. Measure the width of the handlebars, and visually inspect hand grips.
5. Consult manufacturer's specifications for handlebar thickness of vehicle make and model.

### D. Handlebar Controls

1. Inspect throttle twist grip.  
(Note: Some throttles have intermediate resistance point for idle adjust.)
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  - b. Outer cable housing is damaged and/or inner cables with loose ends, severe bends, kinks, or broken strands.

### E. Shock Absorbers

1. Broken or cracked mounts.

PROCEDURE

2. Press down on vehicle over the shock absorber with full body weight.
3. Inspect for leakage.

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.)

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.)
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.)

REJECT VEHICLE IF:

2. Shock absorbers have no dampening effect on rebound.
3. Shock absorbers leak oil.

F. Steering Alignment

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)

1. Modifications or deviations are beyond the manufacturer's recommended specifications.
2. Cracked frame adjacent to welded area, defective weld or structural integrity.

## LIGHTING AND ELECTRICAL SYSTEM

### Definitions

1. HEADLAMP SYSTEM - A major lighting device and related equipment used to provide general illumination ahead of the motorcycle.
2. MOTORCYCLE HEAD-LAMP 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.
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).

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- 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.
- 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:
<p>A. <u>Visual Check of Lamp Function</u></p> <ol style="list-style-type: none"> <li>1. Switch on the night driving lights and visually check the following: (Steps a and b should be conducted with ignition switch on.)               <ol style="list-style-type: none"> <li>a. Actuate turn signal switch to right and left, and observe function of turn signal lights. (If vehicle is so equipped.)</li> <li>b. Actuate the headlamp upper beam and observe the indicator lamp.</li> <li>c. Observe function of: stop lamps, tail lamps, parking lamps, reflex reflectors.</li> </ol> </li> </ol> <p>(Note: Refer to <u>Appendix A</u>, following this section for <u>Required Motorcycle Lighting Equipment, Color, Location and Height.</u>)</p>	<p>A. <u>Visual Check of Lamp Function</u></p> <ol style="list-style-type: none"> <li>1. Any bulb or sealed beam unit fails to light.</li> <li>2. Turn signals do not properly indicate right and left when switched.</li> <li>3. Lamp or reflector shows color contrary to law.</li> <li>4. Any lamp fails to light the proper filament indicated at switch position.</li> <li>5. Any lamp or reflector does not direct light properly.</li> <li>6. Auxiliary equipment is placed on, in, or in front of any lamp or interferes with necessary visibility width.</li> <li>7. Lamp assembly improperly secured.</li> <li>8. Headlamp output is insufficient to make persons and objects visible at 500 feet (152 meters).</li> </ol>

PROCEDURE	REJECT VEHICLE IF:
<p><b>B. <u>Headlamp Testing Preparation</u></b></p> <ol style="list-style-type: none"> <li>1. Rock vehicle to free and equalize suspension and check visually for equal tire inflation.</li> <li>2. Aim with rider in the saddle.</li> <li>3. Clean lenses.</li> <li>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.</li> <li>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.</li> </ol> <p><b>C. <u>Headlamp Aim Adjustment</u></b></p> <ol style="list-style-type: none"> <li>1. Beams shall be inspected for specific aim by using one of the following methods: <ol style="list-style-type: none"> <li>a. Approved screen, placed 25 feet (8 m.) in front of the headlamp; or</li> <li>b. Approved headlamp testing machine.</li> </ol> </li> </ol>	<p>9. Headlamp high beam indicator lamp fails to function properly.</p> <p><b>B. <u>Headlamp Testing Preparation</u></b></p> <p>Vehicle headlamp does not comply with mounting requirement.</p> <p>(See <u>Appendix A</u>, following this section.)</p> <p><b>C. <u>Headlamp Aim Adjustment</u></b></p> <ol style="list-style-type: none"> <li>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.</li> </ol>

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**PROCEDURE****REJECT VEHICLE IF:**

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

Inspect for operation, mounting, location, color, visibility, safe condition, wiring and switching of the following approved, required lighting equipment:

1. Tail Lamp(s).
2. Stop Lamp(s).
3. License Plate Lamp.
4. Rear Reflector(s).
5. Side Reflectors (Only required on vehicles manufactured after Jan. 1, 1968.)

D. Additional 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.
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.).)
3. Stop lamp(s) are not clearly visible under all conditions of lighting, including bright sunlight when tail lamps are illuminated.
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.

PROCEDURE	REJECT VEHICLE IF:
	<p>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.</p>

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APPENDIX A

REQUIRED MOTORCYCLE LIGHTING EQUIPMENT, COLOR, LOCATION AND HEIGHT

Item/Color	Location on Vehicle	Height Above Surface Measured from Center of Item on Vehicle at CurbWght.
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.	Not 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 Reflec- tors/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 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.).	Not less than 15 inches (33 cm.), nor more than 33 inches (211 cm.).

VEHICLE GLAZING  
(WINDSHIELDS OR WINDSCREENS)

<p>A. <u>Vehicle Glazing</u></p> <p>Windshields or windscreens are <u>not</u> 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>	<p>A. <u>Vehicle Glazing</u></p> <ol style="list-style-type: none"><li>1. Windshield or windscreen obstructs the driver's vision when he is seated on the vehicle saddle.</li><li>2. Any support or stiffener device is mounted in the driver's line of vision.</li><li>3. Glazing is not of the approved type.</li><li>4. Cracks, discoloration or scratches that create an obstruction.</li></ol>
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## 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.
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, sissy bars, highway bars, safety bars, trailer hitches.

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Tools and Equipment

1. Center stand or frame rack.

PROCEDURE	REJECT VEHICLE IF:
<p>A. <u>Body Items</u></p> <p>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.</p>	<p>A. <u>Body Items</u></p> <ol style="list-style-type: none"> <li>1. <u>Seat</u> <ol style="list-style-type: none"> <li>a. Seat is improperly or insecurely attached. Seat locking device not functioning where applicable.</li> </ol> </li> <li>2. <u>Engine Mounting Frame</u> <ol style="list-style-type: none"> <li>a. Engine mounting frame or brackets cracked or broken.</li> </ol> </li> <li>3. <u>Side or Center Stand</u> <ol style="list-style-type: none"> <li>a. Side or center stand when placed in the stored position will not remain in that position.</li> <li>b. The side or center stand is cracked or broken, or apparent structural weakness is present, which could result in collapse.</li> <li>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.</li> </ol> </li> </ol>

PROCEDURE

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.

5. Fenders

Check to determine if the fenders are properly mounted and that there are no cracks, broken areas, bends or sharp edges present.

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.

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.

REJECT VEHICLE IF:

4. Chain Guard

The chain guard, or other device, is missing (if originally equipped) broken, cracked, or is not the reasonable equivalent of the original device.

5. Fenders

- 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

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

- a. Bearing or bushing found to have noticeable play or binding.

**PROCEDURE**

- b. Check for lateral play at axis.

**C. Accessory Items**

Visually check components for secure mounting, cracks, breaks, or sharp points that present a hazard to the operator or passenger.

**REJECT VEHICLE IF:**

- b. Any play in excess of .015 inches (4 mm.).

**C. Accessory Items**

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:
<p>A. Examine the exhaust system visually for leaks and cracks.</p> <p>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.</p> <p>C. Inspect for unshielded protrusions or any portion of the exhaust system mounted higher than the lowest part of the passenger seat pan.</p>	<p>A.</p> <ol style="list-style-type: none"> <li>1. There are loose or broken joints, or areas where corrosion or rust has eaten through the device.</li> <li>2. Excessive leakage exists.</li> </ol> <p>B. Exhaust system is improperly mounted.</p> <p>C.</p> <ol style="list-style-type: none"> <li>1. Heat shielding not sufficient to protect rider and passenger when in normal seating position from contact with hot surfaces during operation.</li> <li>2. Any portion of an exhaust system protrudes in a manner which may burn the rider, passenger when in normal seating position.</li> </ol>

**PROCEDURE**

(Advise driver if baffle(s) are heavily plugged with carbon and oil.)

**REJECT VEHICLE IF:**

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 of 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:
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.	A. <ol style="list-style-type: none"><li>1. Any part of system is not securely fastened.</li><li>2. There is fuel leaking at any point in system.</li><li>3. Fuel tank cap is missing.</li><li>4. There is physical damage to any of the components.</li></ol> (Advise driver if contaminated fuel or fuel filter is discovered.)

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PERIODIC VEHICLE INSPECTION MANUAL

PASSENGER VEHICLES

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## 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:
<p>A. <u>Agreement among Papers</u></p> <p>Inspect registration certificate, license plates, vehicle description, and vehicle identification number (VIN). Compare to determine if there is proper agreement among them.</p>	<p>A. <u>Agreement among Papers</u></p> <ol style="list-style-type: none"><li>1. The registration certificate is not available.</li><li>2. Vehicle description or identification number is not in agreement with registration certificate.</li><li>3. Numbers on license plates are not in agreement with numbers on registration certificate.</li></ol>
<p>B. <u>Plate Mounting and Condition</u></p> <p>Inspect license plates to see that they are securely mounted, clean, legible and clearly visible.</p>	<p>B. <u>Plate Mounting and Condition</u></p> <ol style="list-style-type: none"><li>1. License plates are missing.</li><li>2. License plates are loosely mounted or improperly located.</li><li>3. Plates are obscured so that the numbers cannot be identified.</li></ol>



## 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.

TIRE CONSTRUCTION

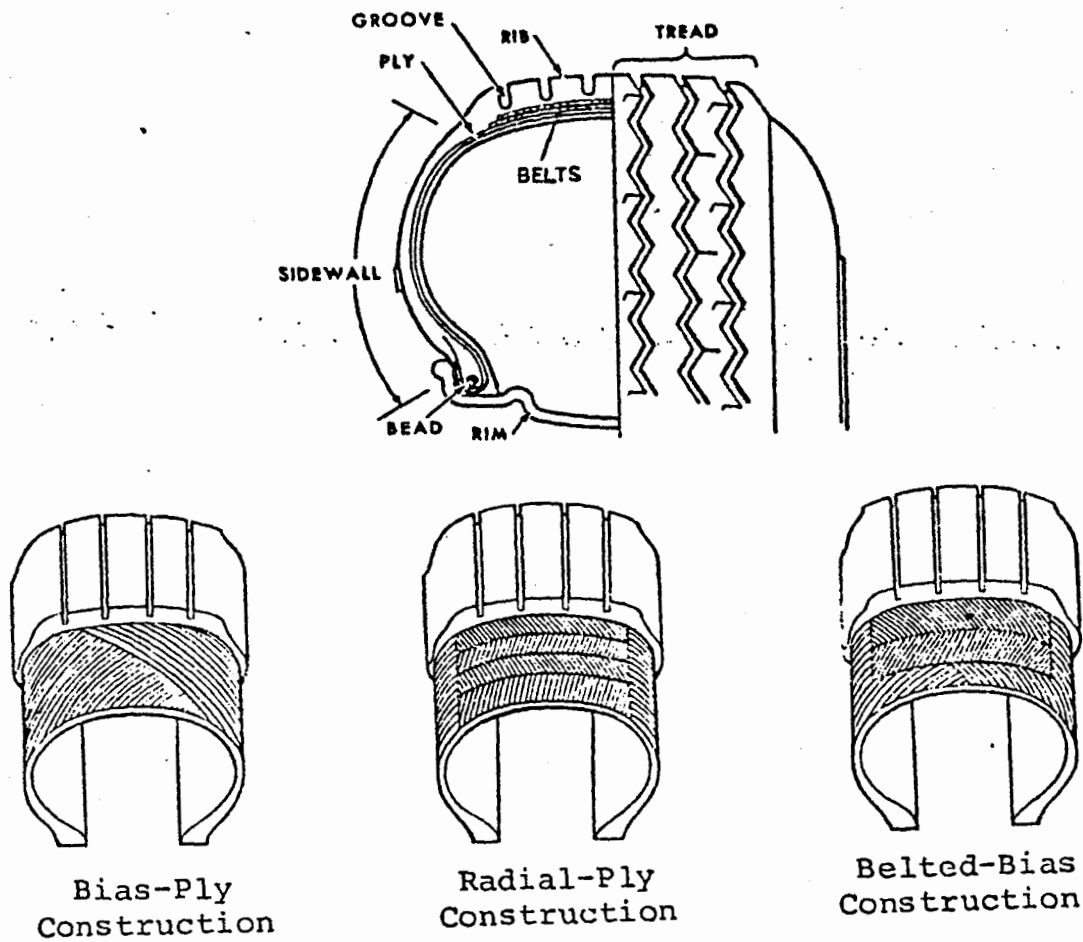


Figure 1

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PROCEDURE	REJECT VEHICLE IF:
<p>A. Visually inspect for tire wear.</p> <ol style="list-style-type: none"> <li>1. Tires <u>without</u> tread wear indicators.</li> <li>2. Tires <u>with</u> tread wear indicators.</li> </ol> <p>B. Inspect for cuts, snags, or cracks in tread or sidewalls.</p> <p>C. Inspect for bumps, bulges or knots in tread of sidewalls.</p> <p>D. Inspect for regrooved or re-cut tires.</p> <p>E. Inspect for mismatching of tires.</p> <ol style="list-style-type: none"> <li>1. Tires mounted on the same axle.</li> </ol>	<p>A.</p> <ol style="list-style-type: none"> <li>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.</li> <li>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 outside of tire.</li> </ol> <p>B. Tire has cuts, snags or cracks in excess of one inch in any direction, and deep enough to expose cords.</p> <p>C. Tire has bumps, bulges or knots indicating partial failure or separation of the tire structure.</p> <p>D. Tire has been regrooved or re-cut below original groove depth, except special tires which have undertread rubber for this purpose and <u>are marked</u> as such.</p> <p>E.</p> <ol style="list-style-type: none"> <li>1. Tires of different size or types are mounted on the same axle. (Refer to <u>General Instructions</u>, Nos. 2 and 3, p. PV-II-1.)</li> </ol>

PROCEDURE	REJECT VEHICLE IF:
<p>2. Location of mixed sizes or types.</p> <p>F. Inspect for tire size.</p> <p>G. Visually inspect for:</p> <ol style="list-style-type: none"> <li>1. Restricted use markings on tire.</li> <li>2. Standard automotive size marking on tire.</li> <li>3. Highway-type tread design.</li> <li>4. Metal studs in the tire tread.</li> </ol>	<p>2. The tire is mounted in an improper location for the size or type when mixed sizes or types are installed on the vehicle. Refer to <u>General Instructions, No. 4, p. PV-II-1.</u>)</p> <p>NOTE: Differences in brand name or tread design are not cause for rejection.</p> <p>F. Any mounted tire:</p> <ol style="list-style-type: none"> <li>1. Has a load capacity less than that required by the GVWR of the vehicle.</li> <li>2. Is on a rim of improper width.</li> <li>3. Can touch or rub on any other part of the vehicle.</li> </ol> <p>G. Any mounted tire:</p> <ol style="list-style-type: none"> <li>1. Is marked "For farm use only," "Off-highway use only," "For racing use only," etc.</li> <li>2. Is not marked with a standard automotive size designation.</li> <li>3. Does not have a highway-type tread design.</li> <li>4. The tread of any tire is equipped with metal studs.</li> </ol> <p>(Refer to <u>General Instructions, No. 5, p. PV-II-1.</u>)</p>

## 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.

### 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:
<p>A. Visually inspect wheel bolts, nuts or lugs.</p> <p>B. Inspect for wheel damage.  (On wire wheels run screw-driver handle around spokes, clockwise and counter clockwise, to check for broken or loose spokes.)</p> <p>C. Inspect rims and rings.  (Check for evidence of rim slippage - this is an indication of wear or loose nuts.)</p> <p>D. Inspect all wheels for radial and lateral runout, using a wheel runout gauge or dial indicator according to manufacturer's instructions.</p> <p>E. Inspect wheel nuts or hub caps for winged projections. (Vehicles manufactured after January 1, 1968.)</p>	<p>A. Wheel bolts, nuts, studs, or lugs are loose, missing, severely worn, rusted or damaged so that they cannot be remounted, tightened or safely used.</p> <p>B.</p> <ol style="list-style-type: none"> <li>1. 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.</li> <li>2. Any wheel knockoff is broken or cracked.</li> <li>3. Spokes of wire wheels are loose, bent or broken.</li> </ol> <p>C.</p> <ol style="list-style-type: none"> <li>1. Rims and rings are mismatched, bent, sprung, or otherwise damaged.</li> <li>2. Lockrings or side rings are cracked, bent, or improperly installed on two and three piece wheels.</li> </ol> <p>D. Any wheel has a radial or lateral runout which exceeds 1/8 of an inch.</p> <p>E. Any wheel nut, hub cap or wheel cover has winged projections.</p>

## WHEELS

### 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.

### Definitions

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 system failure indicator lamp.
- b. The warning light ususally serves a dual prupose 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.

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. <u>Brake Hydraulic System Leakage Test</u>  1.  a. Apply parking brake.  b. On vehicles <u>with power brakes</u> , start and idle engine.	A. <u>Brake Hydraulic System Leakage Test</u>  1. The brake warning light is burned out, missing or does not illuminate. (Passenger cars manufactured after January 1, 1968.)

PROCEDURE	REJECT VEHICLE IF:
<p>c. On vehicles without power brakes, turn ignition switch on.</p> <p>d. Verify brake warning lamp operation.</p> <p>2.</p> <p>a. Release parking brake.</p> <p>b. Apply a moderately heavy force (125 lbs.) to brake pedal and hold for 10 seconds.</p> <p>c. Note any decrease in pedal height.</p> <p>d. Note whether brake warning light illuminates.</p> <p>B. <u>Pedal Reserve Test</u> - 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.)</p> <p>1.</p> <p>a. Measure the distance (A) from the free pedal position to the floorboard or other object that restricts brake pedal travel.</p>	<p>2.</p> <p>a. Brake pedal height decreases perceptibly when force is applied.</p> <p>b. Light comes on when brake pedal is depressed.</p> <p>B. <u>Pedal Reserve Test</u></p> <p>1. When the brake pedal is fully depressed, the distance that the pedal has traveled from its free position <u>exceeds</u> 80% (4/5) of the total distance from its free position to the floorboard or other object that restricts pedal travel.</p>

PROCEDURE	REJECT VEHICLE IF:
<p>b. Depress brake pedal under moderate foot 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 <math>\frac{A-B}{A} \times 100</math>.</p> <p>(The engine must be operating when power-assisted brakes are checked.)</p> <p>C. <u>Hydraulic System Visual Inspection</u></p> <p>(Step 1. a. of this procedure is done prior to hoisting vehicle.)</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>C. <u>Hydraulic System Visual Inspection</u></p> <p>1.</p> <p>a. The fluid level is less than one-half (1/2) of total capacity.</p>

PROCEDURE	REJECT VEHICLE IF:
<p>b. Inspect master cylinder for leakage. Check exterior of cylinder, mounting, pushrod dust cover and surrounding area for leakage.</p> <p>2. Raise vehicle and remove wheels (as required) to inspect wheel cylinders and caliper pistons for leakage.</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>b. There is evidence of leakage on the exterior of the master cylinder, mounting or surrounding area.</p> <p>2. Wheel cylinders or caliper pistons leak.</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

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

PROCEDURE	REJECT VEHICLE IF:
<p>A. <u>Brake Drums</u> (The vehicle must be on a hoist or jack and stands and the brake unit partially disassembled during this inspection.)</p> <ol style="list-style-type: none"> <li>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.)</li> <li>2. Inspect for cracks on the outside of the drum.</li> <li>3. Inspect for damage and extreme wear. Measure as required.</li> </ol>	<p>A. <u>Brake Drums</u></p> <ol style="list-style-type: none"> <li>1. There are substantial cracks on the friction surface extending to open edge.</li> <li>2. There are external cracks.</li> <li>3. Brake drum is scored, deeply grooved, distorted, out of round, bellmouthed, or worn beyond manufacturer's recommended limit or diameter stamped on drum.</li> </ol>

PROCEDURE	REJECT VEHICLE IF:
<p>4. Inspect for contaminated friction surface.</p> <p><b>B. <u>Brake Rotor Discs</u></b></p> <p>(The vehicle must be on a hoist or jack and stands and the brake unit partially disassembled during this inspection.)</p> <p>1. Inspect for substantial cracks extending to edge of rotor disc.</p> <p>2. Inspect for damage and extreme wear. Measure as required.</p> <p>3. Inspect for contaminated friction surface.</p>	<p>4. Friction surface is contaminated with oil, grease or brake fluid.</p> <p><b>B. <u>Brake Rotor Discs</u></b></p> <p>1. There are substantial cracks extending to the edge.</p> <p>2. Rotor disc is scored, deeply grooved, or worn beyond the manufacturer's allowable minimum or thickness stamped on the disc.</p> <p>3. Friction surface is contaminated with oil, grease or brake fluid.</p>

**(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.
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.

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:
<p>A. <u>Condition of Linings and Pads</u></p> <ol style="list-style-type: none"> <li>1. <u>Bonded Linings</u> Measure the lining thickness at the thinnest point.</li> <li>2. <u>Riveted Linings</u> <ol style="list-style-type: none"> <li>a. Inspect for loose or missing rivets.</li> <li>b. Measure lining thickness above rivet head at thinnest point.</li> <li>c. Inspect for cracks or breaks.</li> </ol> </li> </ol>	<p>A. <u>Condition of Linings and Pads</u></p> <ol style="list-style-type: none"> <li>1. <u>Bonded Linings</u> Thinnest point is less than 1/32 inch.</li> <li>2. <u>Riveted Linings</u> <ol style="list-style-type: none"> <li>a. Any rivets are loose or missing.</li> <li>b. Lining is less than 1/32 inch over any rivet head.</li> <li>c. There are cracks or breaks that extend to rivet holes (except for minor cracks that do not impair attachment).</li> </ol> </li> </ol>



PROCEDURE	REJECT VEHICLE IF:
<p>3. <u>Wire-Backed Linings</u></p> <p>Inspect for wire showing on the friction surface of the lining.</p>	<p>3. <u>Wire-Backed Linings</u></p> <p>Wire backing is visible on the friction surface.</p>
<p>4. <u>All Linings</u></p> <p>Inspect for broken or cracked linings, and parts of linings not firmly attached to shoe. Also inspect for contamination.</p>	<p>4. <u>All Linings</u></p> <p>a. Lining is cracked, broken, or not firmly and completely attached to shoe.</p> <p>b. Friction surface is soaked with oil, grease or brake fluid.</p>
<p>5. <u>Pads (Disc Brakes)</u></p> <p>Inspect thickness of friction pad.</p>	<p>5. <u>Pads (Disc Brakes)</u></p> <p>Pad is less than 1/32 inch over any rivet head.</p>

(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 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:
<p>A. <u>Condition of Mechanical Components</u></p> <p>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.</p> <p>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.</p>	<p>A. <u>Condition of Mechanical Components</u></p> <p>1.</p> <p>a. Parts are worn to the extent that proper function is erratic.</p> <p>b. Parts are missing.</p> <p>c. Parts are broken or inoperative.</p> <p>2.</p> <p>a. There is binding or erratic movement in pedal and linkage, or in brake components.</p> <p>b. Pedal levers are improperly positioned or misaligned.</p>

(5) VACUUM SYSTEM

Note for Inspectors

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

PROCEDURE	REJECT VEHICLE IF:
<p>A. <u>Condition of Vacuum System</u></p> <p>Visually inspect system for collapsed, broken, badly chafed and improperly supported hoses and tubes, and loose or broken clamps.</p>	<p>A. <u>Condition of Vacuum System</u></p> <p>Hoses or tubes are leaking, or if collapsed, broken, badly chafed, improperly supported or loose because of broken clamps.</p>

PROCEDURE	REJECT VEHICLE IF:
<p><b>B. <u>Operation of Vacuum System</u></b></p> <ol style="list-style-type: none"> <li>1. Determine if system is operating by:               <ol style="list-style-type: none"> <li>a. Stopping engine;</li> <li>b. Depress brake pedal several times to destroy all vacuum in system;</li> <li>c. Depress pedal with a light force (approximately 25 pounds);</li> <li>d. While maintaining this force on the pedal, start engine;</li> <li>e. Note whether pedal moves slightly when engine starts.</li> </ol> </li> </ol>	<p><b>B. <u>Operation of Vacuum System</u></b></p> <ol style="list-style-type: none"> <li>1. Service brake pedal does not drop slightly as engine is started while light pressure is maintained on pedal.</li> </ol>

**(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:
<p><b>A. <u>Parking Brake Function</u></b></p> <p>1. Set the parking brake firmly.</p> <p><b>B. <u>Linings and Drums</u></b></p> <p>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.</p> <p><b>C. <u>Mechanical Components</u></b></p> <p>1. Visually inspect the external mechanical parking brake components for worn pins, missing springs, worn rods and frayed or stretched pull cables.</p> <p>2. Inspect mechanical components for freedom of movement.</p>	<p><b>A. <u>Parking Brake Function</u></b></p> <p>1.</p> <p>a. There is no reserve travel in the lever or pedal.</p> <p>b. The lever or pedal will not hold in locked position or release when release control is operated.</p> <p><b>B. <u>Linings and Drums</u></b></p> <p>1.</p> <p>a. Parking brake drums are cracked, broken or otherwise damaged.</p> <p>b. Linings are loose, worn out, or soaked with grease, oil or brake fluid.</p> <p><b>C. <u>Mechanical Components</u></b></p> <p>1.</p> <p>a. Mechanical components are missing or broken.</p> <p>b. Pull cables are broken or frayed.</p> <p>2. Cables and other mechanical components do not move freely.</p>

PROCEDURE	REJECT VEHICLE IF:
<p data-bbox="201 278 579 310"><b>D. <u>Parking Brake Test</u></b></p> <ol style="list-style-type: none"> <li data-bbox="270 342 703 406">1. <u>Vehicles Equipped with Automatic Transmission</u> <ol style="list-style-type: none"> <li data-bbox="335 438 753 502">a. Set the parking brake firmly.</li> <li data-bbox="335 534 773 917">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.)</li> <li data-bbox="335 949 769 1012">c. Increase the rpm. to about twice idle speed.</li> <li data-bbox="335 1044 764 1108">d. Observe any movement of the vehicle.</li> </ol> </li> <li data-bbox="270 1140 708 1204">2. <u>Vehicles Equipped with Manual Transmission</u> <ol style="list-style-type: none"> <li data-bbox="335 1236 761 1300">a. Set the parking brake firmly.</li> <li data-bbox="335 1332 844 1491">b. Start the engine, depress the clutch pedal, and move gear shift lever to the lowest forward speed position.</li> </ol> </li> </ol>	<p data-bbox="915 272 1293 304"><b>D. <u>Parking Brake Test</u></b></p> <ol style="list-style-type: none"> <li data-bbox="984 336 1549 431">1. There is any forward movement of the vehicle with the parking brake in the "set" position.</li> <li data-bbox="984 1134 1554 1229">2. There is any forward movement of the vehicle with the parking brake in the "set" position.</li> </ol>

PROCEDURE	REJECT VEHICLE IF:
<p>c. Increase the rpm. to about twice idle speed and slowly release the clutch pedal.</p> <p>d. Observe any movement of the vehicle.</p>	

(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:
<p><u>Method (a) - Road Test</u></p> <ol style="list-style-type: none"> <li>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 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.</li> </ol>	<p><u>Method (a) - Road Test</u></p> <ol style="list-style-type: none"> <li>1.               <ol style="list-style-type: none"> <li>a. More than 25 feet is required in which to stop from 20 mph.</li> <li>b. Steering control must be used to keep the vehicle within the 12 foot lane.</li> </ol> </li> </ol>

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:
<p><u>Method (b) - Platform Testing Machine</u></p> <ol style="list-style-type: none"> <li>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.</li> </ol>	<p><u>Method (b) - Platform Testing Machine</u></p> <ol style="list-style-type: none"> <li>1.               <ol style="list-style-type: none"> <li>a. Readings are less than required by equipment manufacturer's specifications.</li> <li>b. Any wheel fails to indicate braking action.</li> </ol> </li> </ol>

PROCEDURE	REJECT VEHICLE IF:
<p>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.</p>	<p>c. The reading on any one wheel is less than 80% of the reading on the other wheel on the same axle.</p>

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:
<p><u>Method (c) - Roller Type Brake Dynamometer Test</u></p> <ol style="list-style-type: none"> <li>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.</li> </ol>	<p><u>Method (c) - Roller Type Brake Dynamometer Test</u></p> <ol style="list-style-type: none"> <li>1. <ol style="list-style-type: none"> <li>a. Readings are less than required by equipment manufacturer's specifications.</li> <li>b. The reading on any one wheel is less than 80% of the reading on the other wheel on the same axle.</li> </ol> </li> </ol>



## 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

1. 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.

PV - V - 1

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.
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.

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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.

13. BALL JOINTS

- Devices installed in each control arm which allow the wheel spindles to pivot freely.

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(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:
<p>A. <u>Power Steering Components</u></p> <ol style="list-style-type: none"><li>1. Inspect power steering belts for proper condition and tension.</li><li>2. Inspect power steering system including gear, hoses, hose connections, cylinders, valves, pump and pump mounting for condition, rubbing and leaks.</li></ol>	<p>A. <u>Power Steering Components</u></p> <ol style="list-style-type: none"><li>1. Belts are badly frayed, cracked on the inner edge or loose.</li><li>2.<ol style="list-style-type: none"><li>a. Hoses or hose connections have been rubbed by moving parts or are leaking.</li><li>b. Cylinders, valves or pump show evidence of leakage.</li></ol></li></ol>

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PROCEDURE	REJECT VEHICLE IF:
<p>B. <u>Power Steering Fluid Level</u></p> <p>Inspect power steering reservoir for fluid level at operating temperature.</p>	<p>c. Pump mounting parts are loose or broken.</p> <p>B. <u>Power Steering Fluid Level</u></p> <p>Fluid is below proper level.</p>

(2) LASH OR FREE PLAY AND TRAVEL

Notes for Inspectors

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.

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PROCEDURE	REJECT VEHICLE IF:																								
<p>A. <u>Lash or Free Play</u></p> <ol style="list-style-type: none"> <li>1. With road wheels in straight ahead position turn steering wheel until the turning motion is observed at the front wheels.</li> <li>2. Align a reference point on the steering wheel with ruler.</li> <li>3. Then, slowly turn steering wheel in opposite direction until front wheel movement is observed in opposite direction.</li> <li>4. Measure distance the reference point on steering wheel has traveled in relation to the ruler.</li> </ol> <p>B. <u>Travel</u></p> <ol style="list-style-type: none"> <li>1. Unlock steering lock with ignition key (if vehicle is so equipped).</li> <li>2. <ol style="list-style-type: none"> <li>a. If vehicle has power steering start and idle engine. Wheels should be on the ground.</li> <li>b. If vehicle has manual steering it may be desirable to raise front wheels off the ground.</li> </ol> </li> </ol>	<p>A. <u>Lash or Free Play</u></p> <p>Steering system free play exceeds values listed below:</p> <table border="1" data-bbox="915 442 1526 832"> <thead> <tr> <th colspan="2" data-bbox="915 442 1202 506">Steering Wheel Diameter</th> <th colspan="2" data-bbox="1202 442 1526 506">Lash</th> </tr> <tr> <th data-bbox="915 506 1030 540">In.</th> <th data-bbox="1030 506 1202 540">Cm.</th> <th data-bbox="1202 506 1334 540">In.</th> <th data-bbox="1334 506 1526 540">Cm.</th> </tr> </thead> <tbody> <tr> <td data-bbox="915 540 1030 634">16 or less</td> <td data-bbox="1030 540 1202 634">40 or less</td> <td data-bbox="1202 540 1334 634">2</td> <td data-bbox="1334 540 1526 634">5.1</td> </tr> <tr> <td data-bbox="915 634 1030 697">18</td> <td data-bbox="1030 634 1202 697">46</td> <td data-bbox="1202 634 1334 697">2-1/4</td> <td data-bbox="1334 634 1526 697">5.7</td> </tr> <tr> <td data-bbox="915 697 1030 761">20</td> <td data-bbox="1030 697 1202 761">51</td> <td data-bbox="1202 697 1334 761">2-1/2</td> <td data-bbox="1334 697 1526 761">6.4</td> </tr> <tr> <td data-bbox="915 761 1030 832">22</td> <td data-bbox="1030 761 1202 832">56</td> <td data-bbox="1202 761 1334 832">2-3/4</td> <td data-bbox="1334 761 1526 832">7.0</td> </tr> </tbody> </table> <p>B. <u>Travel</u></p> <p>Front wheels are incapable of being turned full right and full left without binding or interference.</p>	Steering Wheel Diameter		Lash		In.	Cm.	In.	Cm.	16 or less	40 or less	2	5.1	18	46	2-1/4	5.7	20	51	2-1/2	6.4	22	56	2-3/4	7.0
Steering Wheel Diameter		Lash																							
In.	Cm.	In.	Cm.																						
16 or less	40 or less	2	5.1																						
18	46	2-1/4	5.7																						
20	51	2-1/2	6.4																						
22	56	2-3/4	7.0																						

PROCEDURE	REJECT VEHICLE IF:
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

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.

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

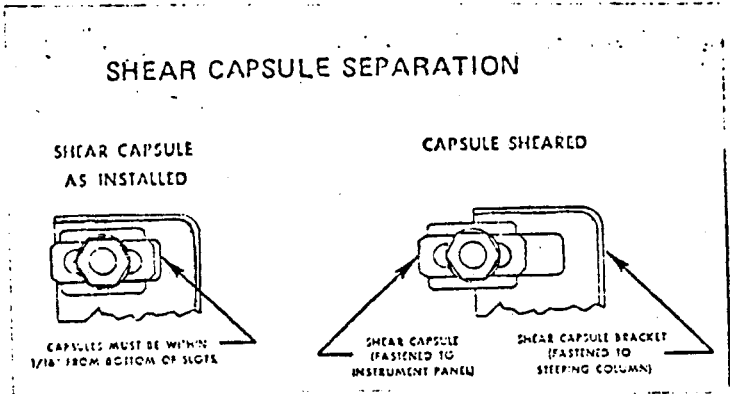


Figure 1 (Shear Capsule as Installed, and Capsule Sheared)

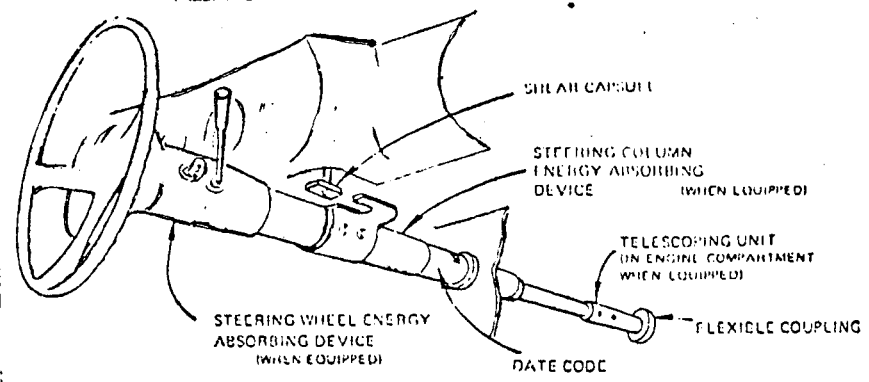


Figure 2 (Steering Wheel Energy Absorbing Device)

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(4) WHEEL BEARINGS

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:
<p>A. <u>Wheel Bearings</u></p> <ol style="list-style-type: none"><li>1. Lift front end of vehicle to load ball joints. (If spring or torsion bar is on the <u>lower</u> arm, hoist at frame. If spring or torsion bar is on the <u>upper</u> arm, hoist at <u>lower</u> arm close to ball joint.)</li></ol>	<p>A. <u>Wheel Bearings</u></p> <p>Relative movement between drum and backing plate is excessive. (More than 1/8 inch/3mm. measured at outer circumference of tire.)</p>

PROCEDURE	REJECT VEHICLE IF:
<ol style="list-style-type: none"> <li>2. Check both front wheels by grasping each front tire, top and bottom, and rocking it in and out.</li> <li>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.</li> <li>4. Measure movement.</li> </ol>	

(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.

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.)

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PROCEDURE	REJECT VEHICLE IF:																				
<p>A. <u>Steering Linkage Play</u></p> <ol style="list-style-type: none"> <li>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.)</li> <li>2. If vehicle is equipped with power steering, start and idle engine.</li> <li>3. Apply service brakes.</li> <li>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.)</li> </ol>	<p>A. <u>Steering Linkage Play</u></p> <p>Free movement measured at the tire tread is found to be in excess of table shown below.</p> <table border="1" data-bbox="942 498 1579 1080"> <thead> <tr> <th colspan="4" data-bbox="942 498 1579 562">Maximum Permissible Play with Wheel Bearings Adjusted Properly</th> </tr> <tr> <th data-bbox="942 562 1076 605">In.</th> <th data-bbox="1076 562 1273 605">Cm.</th> <th data-bbox="1273 562 1421 605">In.</th> <th data-bbox="1421 562 1579 605">Mm.</th> </tr> </thead> <tbody> <tr> <td data-bbox="942 605 1076 756">16 or less</td> <td data-bbox="1076 605 1273 756">41 rim diameter or less</td> <td data-bbox="1273 605 1421 756">1/4</td> <td data-bbox="1421 605 1579 756">6</td> </tr> <tr> <td data-bbox="942 756 1076 918">16.01 - 18.00</td> <td data-bbox="1076 756 1273 918">41.01 - 46.00</td> <td data-bbox="1273 756 1421 918">3/8</td> <td data-bbox="1421 756 1579 918">10</td> </tr> <tr> <td data-bbox="942 918 1076 1080">18.01 or more</td> <td data-bbox="1076 918 1273 1080">46.01 or more</td> <td data-bbox="1273 918 1421 1080">1/2</td> <td data-bbox="1421 918 1579 1080">13</td> </tr> </tbody> </table>	Maximum Permissible Play with Wheel Bearings Adjusted Properly				In.	Cm.	In.	Mm.	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
Maximum Permissible Play with Wheel Bearings Adjusted Properly																					
In.	Cm.	In.	Mm.																		
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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 feathered 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 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:
<p>A. <u>Toe (In-Out)</u></p> <ol style="list-style-type: none"> <li>1. Check front tires for equal pressure.</li> <li>2. Drive vehicle in a straight line slowly up to edge of scuff gauge.</li> <li>3. Drive slowly across gauge.</li> </ol>	<p>A. <u>Toe (In-Out)</u></p> <p>Toe reading is 1.5 times greater than the value listed in the vehicle manufacturer's service specifications for alignment setting;</p> <p>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.</p>

PROCEDURE	REJECT VEHICLE IF:
<p>(Note: On scuff gauges which measure both front wheels the test is invalid if the inspector holds the steering wheel.)</p> <p>4. Note and record sideslip reading in feet per mile in or out.</p> <p>5. Using table below, convert toe-in readings in inches to scuff gauge readings in ft./mi. sideslip for different wheel sizes.</p>	

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

## (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:
<p>A. <u>Vehicles with Wear Indicating Ball Joints</u></p> <ol style="list-style-type: none"> <li>1. Support vehicle with ball joints loaded.</li> <li>2. Wipe grease fitting and checking surface free of dirt and grease.</li> <li>3. Observe, or scrape a scale, screwdriver or fingernail across the cover.</li> <li>4. Determine if checking surface extends beyond the surface of the ball joint cover. (If the grease fitting boss is flush or inside the cover surface it is cause for rejection.)</li> </ol> <p>B. <u>Vehicles without Wear Indicating Ball Joints</u></p> <ol style="list-style-type: none"> <li>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).</li> <li>2. Position a pry bar under the front tire and, with a lifting motion just sufficient to overcome the weight of the wheel assembly,</li> </ol>	<p>A. <u>Vehicles with Wear Indicating Ball Joints</u></p> <p>Checking surface is flush with or inside the cover surface.</p> <p>(Wear is indicated by the protrusion of the 1/2 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.)</p> <p>B. <u>Vehicles without Wear Indicating Ball Joints</u></p> <p>Perceptible movement of the non-load-carrying ball joint is indicated; the upper ball joint on vehicles where the sring is supported by the upper control arm;</p> <p>Or</p> <p>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;</p>



PROCEDURE	REJECT VEHICLE IF:
<p>move wheel up and down and measure axial movement between ball joint and socket.</p> <p>3. Grasp the tire and wheel assembly at the top and bottom. Move in and out to detect looseness.</p> <p>C. <u>Pre-Loaded Ball Joints</u></p> <p>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.</p> <p>D. <u>Vehicles not Equipped with Ball Joints*</u></p> <p>1. Raise and support the vehicle by the front axle or lower control arm.</p> <p>2. Follow the procedure described in B.2. and B.3, above.</p> <p>*See <u>Appendix A</u>, paragraphs 1., 2., and 3.b. following this section.</p>	<p>Or</p> <p>If manufacturer's tolerances are not available; horizontal or vertical movement exceeds .250 inches (6.4 mm.) at the rim of the wheel.</p> <p>C. <u>Pre-Loaded Ball Joints</u></p> <p>Ball joint movement is in excess of manufacturer's specifications for tolerances;</p> <p>Or</p> <p>Free play movement is detected in any direction.</p> <p>D. <u>Vehicles not Equipped with Ball Joints*</u></p> <p>Horizontal or vertical movement exceeds .250 inches (6.4 mm.) measured at the top or bottom of the wheel rim.</p>

(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 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:
<p>A. <u>Vehicle Height</u></p> <p>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.</p>	<p>A. <u>Vehicle Height</u></p> <p>A modified suspension system does not have Territory of Guam approval as required;</p> <p>Or</p> <p>The height of the right and left sides are not within 1 inch (2.54 cm.) of each other.</p>

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PROCEDURE	REJECT VEHICLE IF:
<p data-bbox="188 300 773 331"><b>B. <u>Vehicle Suspension Components</u></b></p> <p data-bbox="270 363 794 491">Raise the vehicle and visually inspect the underside for condition of the front and rear suspension components listed below.</p> <ol data-bbox="270 523 794 1389" style="list-style-type: none"> <li data-bbox="270 523 551 555">1. Leaf Springs.</li> <li data-bbox="270 587 551 619">2. Coil Springs.</li> <li data-bbox="270 651 761 715">3. Shackles, U-Bolts, Spring Clips.</li> <li data-bbox="270 810 568 842">4. Stabilizer Bar.</li> <li data-bbox="270 906 794 1002">5. Control Arms, Radius Rods, Struts, Steering Arms, Tie Rods, Idler Arms.</li> <li data-bbox="270 1066 629 1098">6. Rubber Bushings.</li> <li data-bbox="270 1353 769 1385">7. Shock Absorber Mountings</li> </ol>	<p data-bbox="905 300 1493 331"><b>B. <u>Vehicle Suspension Components</u></b></p> <p data-bbox="987 363 1488 417">Any of the following conditions can be found.</p> <ol data-bbox="987 459 1538 1449" style="list-style-type: none"> <li data-bbox="987 459 1504 523">1. Leaf springs are found with loose or broken leaves.</li> <li data-bbox="987 555 1526 651">2. Coil springs are extended by spacers or blocks, or are insecurely mounted.</li> <li data-bbox="987 683 1500 778">3. Loose, broken or missing U-bolts, shackles or spring clips.</li> <li data-bbox="987 810 1488 874">4. Stabilizer bar is broken or loose.</li> <li data-bbox="987 906 1488 1034">5. Control arms, radius rods, struts, steering arms, tie rods, idler arms are bent or broken.</li> <li data-bbox="987 1066 1538 1332">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.</li> <li data-bbox="987 1364 1504 1449">7. Shock absorbers have loose or broken mountings, are disconnected or missing.</li> </ol>

PROCEDURE	REJECT VEHICLE IF:
<p>8. Suspension Brackets.</p> <p>9. Ball Joint Seals.</p>	<p>8. Suspension mounting brackets on vehicle frame as cracked or broken.</p> <p>9. Ball joint seals are cracked or cut.</p> <p>10. Any flexible suspension unit is "bottomed out," allowing the suspended portion of the vehicle to contact the axle or control arm.</p> <p>11. There are indicators that any tire, wheel or other moving part makes external contact with a stationary portion of the vehicle.</p>

(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.

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PROCEDURE	REJECT VEHICLE IF:
<p>A. <u>Shock Absorber Leakage Inspection</u></p> <ol style="list-style-type: none"> <li>1. With vehicle hoisted visually inspect for leakage (fluid on outside of lower tube or cylinder).</li> </ol> <p>B. <u>Shock Absorber Operation Inspection</u></p> <ol style="list-style-type: none"> <li>1. With vehicle on a level surface, push down on bumper on one end of vehicle and release.</li> <li>2. Note number of cycles of free rocking motion allowed by shock absorbers.</li> <li>3. Repeat procedure at opposite end of vehicle.</li> </ol>	<p>A. <u>Shock Absorber Leakage Inspection</u></p> <ol style="list-style-type: none"> <li>1. Severe leakage (not slight dampness) occurs.</li> </ol> <p>B. <u>Shock Absorber Operation Inspection</u></p> <ol style="list-style-type: none"> <li>1. Vehicle continues bouncing after more than two cycles of free rocking motion.</li> <li>2. Vertical motion cannot be induced.</li> </ol>

(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.

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:
<p><u>Method (a) - Rear Wheel Tracking</u></p> <p>By observation compare tracking of rear wheels with tracking of front wheels when the vehicle is moving "straight ahead."</p> <p><u>Method (b) - Rear Wheel Tracking</u></p> <p>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.</p>	<p><u>Method (a) - Rear Wheel Tracking</u></p> <p>Rear wheels do not track parallel and the same lateral (side to side) distance from the front wheel tracks.</p> <p><u>Method (b) - Rear Wheel Tracking</u></p> <p>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 <u>as designed.</u>)</p>

.. PROCEDURE	REJECT VEHICLE IF:
<p><u>Method (c) - Rear Wheel Tracking</u></p> <p>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.)</p>	<p><u>Method (c) - Rear Wheel Tracking</u></p> <p>Rear axle is obviously misaligned.</p>

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## 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.

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.

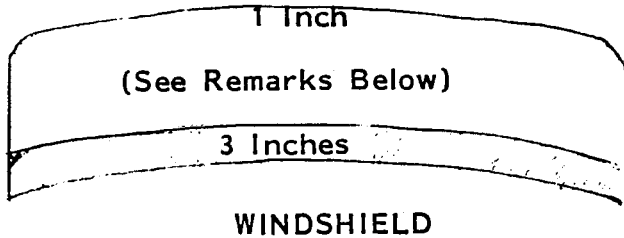
PROCEDURE	REJECT VEHICLE IF:
	<ol style="list-style-type: none"> <li data-bbox="987 314 1466 476">5. There are cracks in the driver's side of the windshield of a total length greater than 5 inches (127 mm.)</li> <li data-bbox="987 512 1516 695">6. There are cracks in the passenger's side of the windshield or any other window in the vehicle of a total length greater than 8 inches (203 mm.).</li> <li data-bbox="987 732 1533 893">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.</li> <li data-bbox="987 929 1539 1023">8. The windshield or any window is broken (pieces missing) or has exposed sharp edges.</li> </ol>

ADDITIONAL GLAZING INFORMATION

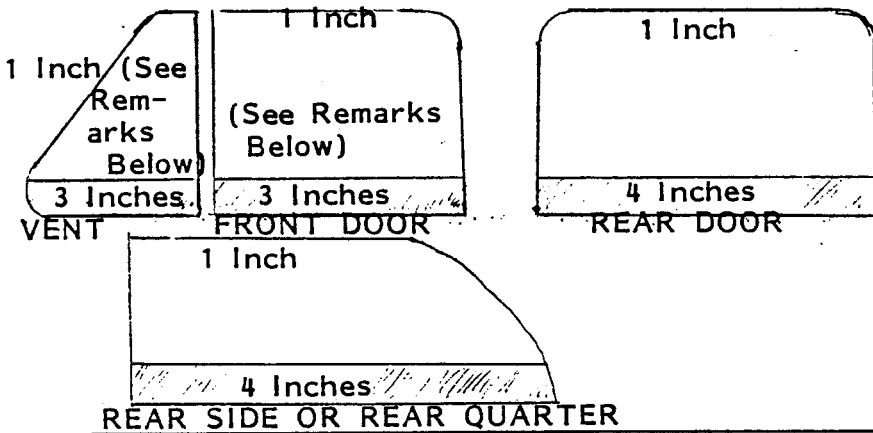
POSITIONS

MARKINGS\*\*

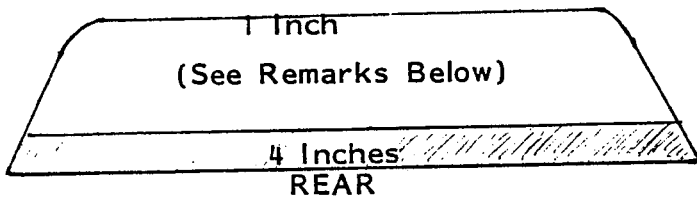
(Types of glass permitted on 1966 and later model passenger vehicles)



AS1 or 10\*



AS1, 2, 10\*, or 11\*



AS1, 2, 10\*, or 11\*  
on soft top convertibles only - AS1, 2, 4, 6, 10\*, or 11\*

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.

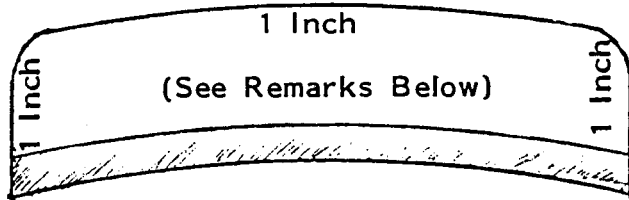
\* Glazing marked AS10 or AS11 has bullet resisting qualities.

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

ADDITIONAL GLAZING INFORMATION

POSITIONS

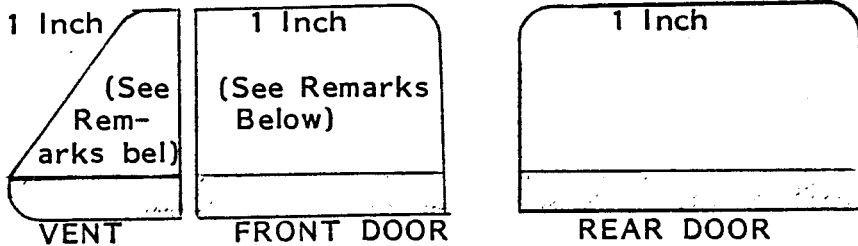
MARKINGS\*\*



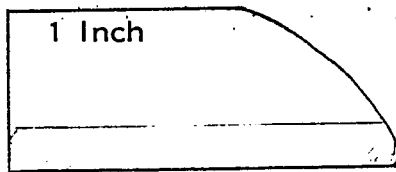
WINDSHIELD

(Types of glass permitted on 1966 and later model passenger vehicles)

AS1 or 10\*

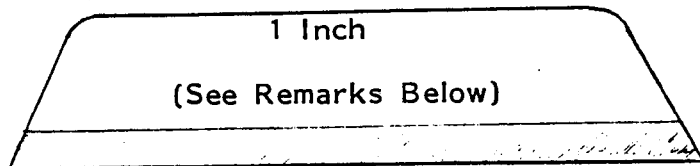


AS1, 2, 10\*, or 11\*



REAR SIDE OR REAR QUARTER

AS1, 2, 10\*, or 11\*  
On soft top convertibles only - AS1, 2, 4, 6, 10\*, or 11\*



REAR

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 WIDTH NO GREATER THAN:	LIMITING LENGTH OF AREA IS:	AREA WIDTH NO GREATER THAN:	LIMITING LENGTH OF AREA IS:
(Inches)		(Millimeters)	
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 Windshield and all Other Windows in Vehicle

Area width no greater than:	Limiting length of area	Area width no greater than:	Limiting length of area is:	Area width no greater than:	Limiting length of area is:
(Inches)			(Millimeters)		
1/16	28-5/16	1	1140	18	63
1/8	14-1/8	2	570	19	60
3/16	9-7/16	3	380	20	57
1/4	7-1/16	4	285	21	54
5/16	5-11/16	5	228	22	52
3/8	4-3/4	6	190	23	50
7/16	4-1/16	7	163	24	48
1/2	3-9/16	8	143	25	46
9/16	3-1/8	9	127	26	44
5/8	2-13/16	10	114	27	42
11/16	2-9/16	11	104	28	41
3/4	2-3/8	12	95	29	39
13/16	2-3/16	13	88	30	38
7/8	2	14	81	31	37
15/16	1-7/8	15	76	32	36
1	1-3/4	16	71	33	35
1-1/16	1-11/16	17	67	34	34
1-1/8	1-9/16				
1-3/16	1-1/2				
1-1/4	1-7/16				
1-5/16	1-3/8				

## 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) EXTERIOR REARVIEW MIRRORS
  - (2) INTERIOR 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.

- (1) EXTERIOR 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:
<p>A. From the driver's position, visually inspect exterior rearview mirrors for proper location and field of view.</p>	<p>A.</p> <ol style="list-style-type: none"> <li>1. Any mirror is missing from a vehicle originally equipped with, or required to be equipped with one.</li> <li>2. Mirror is obscured by a pillar or unwiped portion of windshield.</li> <li>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 (10.7m.) behind the side of the vehicle at the driver's position. (Partial obstruction by rear body or fender contours is permitted.)</li> <li>4. Mirror surface is cracked, discolored, pitted or clouded to the extent that any object within the required field of view (1.c., above) cannot be clearly seen.)</li> </ol>



PROCEDURE	REJECT VEHICLE IF:
<p>B. Visually inspect exterior rear-view mirrors for stable mounting, ease of adjustment, and sharp edges or points</p>	<p>B.</p> <ol style="list-style-type: none"> <li>1. Mirror mounting is so loose that a set position cannot be maintained.</li> <li>2. Mirror has sharp edges or points that could contribute to personal injury.</li> <li>3. Mirror on the driver's side is mounted so that it cannot be adjusted from the driver's seated position.</li> </ol>

(2) INTERIOR REARVIEW MIRROR

PROCEDURE	REJECT VEHICLE IF:
<p>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.</p>	<p>A.</p> <ol style="list-style-type: none"> <li>1. Mirror is missing.</li> <li>2. Mirror is loosely mounted or will not maintain a set adjustment.</li> <li>3. Mirror does not provide a clear view of highway beginning at a point no greater than 200 feet to the rear.</li> <li>4. Mirror does not give an unobstructed field of view at least 12 feet (3.7 m.) wide at a point 35 feet (10.7m.) behind the driver's viewing position. (Applies only to vehicles manufactured after Jan. 1, 1968. Passenger side rear-view mirror may be used in place of this requirement.)</li> </ol>

(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:
<p>A. 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.</p>	<p>A.</p> <ol style="list-style-type: none"><li>1. Vehicle has fewer wipers than originally installed.</li><li>2. Wipers on vehicles produced after Jan. 1, 1968, do not operate at two or more speeds.</li><li>3. On vehicles produced after Jan. 1, 1968:</li></ol>

.PROCEDURE	REJECT VEHICLE IF:
<p>B. Visually inspect for proper blade size.</p> <p>C. Inspect blades for damage, wear, aging, etc.</p> <p>D. Inspect for damaged wiper arms.</p>	<p>a. The highest operating speed is less than 20 cycles per minute.</p> <p>b. The low operating speed is less than 20 cycles per minute.</p> <p>c. The difference between such low operating speed and the highest operating speed is less than 15 cycles.</p> <p>4. On vehicles produced before Jan. 1, 1968, and equipped with electric, air or vacuum powered wipers:</p> <p>a. The operating speed is less than 20 cycles per minute.</p> <p>5. Blades smear or severely streak windshield after 5 cycles.</p> <p>6. Blades do not completely clear water from wiped area.</p> <p>B. Blade(s) are of improper size.</p> <p>C. Blade edges are hard, cracked or damaged.</p> <p>D. Parts of arms are missing or damaged to the extent that performance is impaired.</p>

PROCEDURE	REJECT VEHICLE IF:
<p>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.</p>	<p>E. Arm fails to return to original position or blade fails to contact the windshield over the entire length of the blade.</p>

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

PROCEDURE	REJECT VEHICLE IF:
<p>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.</p>	<p>A.</p> <ol style="list-style-type: none"> <li>1. System fails to function.</li> <li>2. System does not distribute fluid over the entire wiped area of the windshield within 5 wiper cycles.</li> </ol>

(5) 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 substantitally 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. <u>Body Parts</u>  Visually inspect for torn or damaged parts, loose or improperly assembled parts.	A. <u>Body Parts</u>  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.



(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:
<p>A. <u>Doors</u></p> <p>Open and close doors. Inspect door latches for proper operation.</p> <p>B. <u>Forward Opening Hood or Trunk Lid</u></p> <p>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.</p>	<p>A. <u>Doors</u></p> <ol style="list-style-type: none"><li>1. Door is missing.</li><li>2. Any door will not latch in the fully closed position without using unusual force.</li><li>3. Replacement device for door is not approved by the Territory of Guam.</li></ol> <p>B. <u>Forward Opening Hood or Trunk Lid</u></p> <ol style="list-style-type: none"><li>1. Hood or trunk lid latch does not securely hold hood or trunk lid in its proper fully closed position.</li></ol>

PROCEDURE	REJECT VEHICLE IF:
	<ol style="list-style-type: none"> <li>2. Secondary or safety catch does not function properly.</li> <li>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.</li> <li>4. Rope, wire or similar material is used to hold doors, hood or trunk lid in place.</li> </ol>

(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:
<p>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.</p>	<p>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.)</p>



(8) SEATS AND SAFETY BELTS

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:
  - 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
<p>A. Inspect seats for proper operation of adjusting mechanism and to see that seats are securely anchored to floor pan.</p> <p>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.</p>	<p>A.</p> <ol style="list-style-type: none"><li>1. All seat anchor bolts are not securely fastened to floor or are missing.</li><li>2. Seat adjusting mechanism slips out of set position.</li></ol> <p>B.</p> <ol style="list-style-type: none"><li>1. Belts are missing (except where an alternate restraint system is installed.)</li><li>2. Belt webbing is frayed, split or torn.</li><li>3. Buckles do not latch or release properly.</li></ol>

PROCEDURE	REJECT VEHICLE IF:
<p>C. Inspect seat belt retractors for proper function. (Inertia locking retractors only. These belts have no provision for adjusting the length of the belt.)</p> <p>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.)</p>	<p>4. Belt anchorages are loose, missing or not fastened to belt.</p> <p>5. Belts are not an approved type.</p> <p>C. A retractor fails to maintain the restrained occupant belt length or fails to roll the belt onto the retractor when buckle is disconnected.</p> <p>D. Audible signal and/or warning light does not activate for 4 to 8 seconds after ignition is turned on.</p>

## EXHAUST SYSTEM

### General Instructions

1. The exhaust system must conduct exhaust gases from the engine to a discharge point (end of 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 under vehicle inspection.
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:
<p>A. <u>Under Vehicle Exhaust System Inspection</u></p> <p>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. Rusted, corroded and damaged surfaces should be given particular attention. The engine should be running during this inspection.</p> <p>(Holes in the system made by the manufacturer for drainage are not cause for rejection.)</p>	<p>A. <u>Under Vehicle Exhaust System Inspection</u></p> <ol style="list-style-type: none"> <li>1. Vehicle has no muffler.</li> <li>2. There are loose or leaking joints.</li> <li>3. There are holes in, or patches on, any component.</li> <li>4. Elements of the system are not securely and permanently fastened (check for missing or broken hangers).</li> <li>5. Tail pipe end is pinched, rusted or broken off.</li> <li>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.</li> <li>7. Any part of the system passes through passenger compartment or trunk.</li> </ol>

PROCEDURE	REJECT VEHICLE IF:
<p>B. <u>Under Hood Exhaust System Inspection</u></p> <p>Visually inspect the exhaust manifold and connected piping. With engine running listen for hissing or other sounds which indicate leakage.</p>	<p>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.</p> <p>9. Exposed exhaust system parts might burn anyone.</p> <p>B. <u>Under Hood Exhaust System Inspection</u></p> <ol style="list-style-type: none"> <li>1. Any part of the system is damaged, loose or leaking.</li> <li>2. There are loose, missing or damaged nuts, bolts or fasteners.</li> <li>3. Any sounds clearly indicate exhaust gas leakage.</li> </ol>

## 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 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.

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PROCEDURE	REJECT VEHICLE IF:
<p>A. Visually examine all fuel system components (filler cap(s), filler tube(s), filter(s), cannister(s), etc) and all connecting lines, tubes and hoses for security of installation and leakage.</p>	<p>A.</p> <ol style="list-style-type: none"> <li>1. Any part of the system is not securely and permanently fastened.</li> <li>2. There is vapor or liquid fuel leakage at any point in the system.</li> <li>3. Fuel tank filler cap is missing or does not fit properly.</li> <li>4. Hoses, lines or tubes are cut, cracked or broken.</li> </ol>

TRUCKS, TRAILERS AND BUSES

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**REGISTRATION**

Follow the inspection procedure on page PV - 1 - 1 for Passenger Vehicles.

TTB - 1 - 1



PROCEDURE	REJECT VEHICLE IF:
<p>B. Inspect for cord exposure.</p> <p>C. Inspect for fabric breaks, boots, blowout patches, and exposed or damaged body cords.</p> <p>D. <u>On Front Wheels Only</u></p> <ol style="list-style-type: none"> <li>1. Inspect for reinforcement repairs to the cord body.</li> <li>2. Inspect for mismatching of tire types (bias, bias belted, radial ply).</li> </ol> <p>E. <u>Dual Tires</u></p> <p>Inspect for mismatching of tire construction, size, inflation, and wear on any pair of duals, or on any axle. Use caliper and gauge block if necessary.</p> <p>F. Inspect valve stems for damage or cracks.</p>	<p>B. Any tire has a worn spot that exposes the cord through the tread.</p> <p>C. Any tire has an unrepaired fabric break which has been repaired with a blowout patch or boot. If tire sidewall has damaged cords.</p> <p>D. <u>On Front Wheels Only</u></p> <ol style="list-style-type: none"> <li>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.)</li> <li>2. Front tires are incompatible as to type.</li> </ol> <p>E. <u>Dual Tires</u></p> <ol style="list-style-type: none"> <li>1. One of the duals is not within 10 psi air pressure of the other.</li> <li>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.)</li> </ol> <p>F. Valve stem is cracked or damaged or shows evidence of wear because of misalignment.</p>

## 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:
<p>A. Inspect rims and lock rims for improper matching, condition, tightness of nuts and clamps, and evidence of slippage.</p>	<p>A.</p> <ol style="list-style-type: none"> <li>1. Rims and rings are mismatched.</li> <li>2. Ring shows evidence of slippage or excessive rust or damage.</li> <li>3. Rims and/or rings are bent, sprung, cracked or otherwise damaged.</li> <li>4. Clamps or nuts are loose, damaged or missing.</li> </ol>
<p>B. Inspect wheel nuts, studs and/or clamps for tightness, general condition and thread engagement.</p>	<p>B.</p> <ol style="list-style-type: none"> <li>1. Wheel nuts are loose or have improper thread engagement.</li> <li>2. Wheel nuts, studs and/or clamps are broken, missing or mismatched.</li> </ol>
<p>C. Inspect disc wheels for elongated stud holes.</p>	<p>C.</p> <ol style="list-style-type: none"> <li>1. Stud holes are out-of-round.</li> <li>2. There are cracks between the hand holes and/or the stud holes in the disc.</li> </ol>
<p>D. Inspect cast wheels for cracks in the casting.</p>	<p>D. Casting is cracked or there is evidence of wear in the clamping area.</p>

## 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

TTB - IV - 1

## Tools and Equipment

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

Definitions (Additional)- Refer to Passenger Vehicles, Definitions, pages PV - IV - 1 and 2.

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.
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:
<p>A. <u>Pedal Reserve Test</u></p> <p>1. <u>Hydraulic System without Power Assist</u></p> <p>(Refer to <u>Passenger Vehicles</u>, Section (1), Part B., pages PV - IV - 4 and 5.)</p> <p>2. <u>Hydraulic System with vacuum Assist</u></p> <p>a. <u>Leakage Test</u></p> <p>(Refer to <u>Passenger Vehicles</u>, Section (5), Part B, page PV - IV - 12.)</p> <p>b. <u>Pedal Reserve Test</u></p> <p><u>On vacuum-assisted hydraulic systems with line pressure booster.</u> Apply moderate foot force and observe remaining available pedal travel.</p> <p>3. <u>Hydraulic System with Air Power Assist - Leakage Test</u></p> <p>Apply 2-3 psi air pressure and maintain for one minute.</p> <p>B. <u>Actuator Reserve</u></p> <p>1. <u>In air or vacuum mechanical brakes -</u> Measure the stroke of the air or vacuum chambers from fully released to fully applied position. (Refer to Figure 1.)</p> <p>2. <u>In air-over-hydraulic brake systems -</u> Measure air chamber travel from fully released to fully applied position. (Some systems include a rod gauge for visual checking.)</p>	<p>A. <u>Pedal Reserve Test</u></p> <p>1. <u>Hydraulic System without Power Assist</u></p> <p>(Same criteria as indicated in <u>Passenger Vehicles</u>, Section (1), Part B, pages PV - IV - 4 and 5.)</p> <p>2. <u>Hydraulic System with Vacuum Assist</u></p> <p>a. <u>Leakage Test</u></p> <p>(Same criteria as indicated in <u>Passenger Vehicles</u>, Section (5), Part B, page PV - IV - 12.)</p> <p>b. <u>Pedal Reserve Test</u></p> <p>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.</p> <p>3. <u>Hydraulic System with Air Power Assist - Leakage Test</u></p> <p>Air power assist push rod moves slowly toward master cylinder while air pressure is maintained for one minute.</p> <p>B. <u>Actuator Reserve</u></p> <p>Travel from fully released to fully applied positions is more than 75% of the specified maximum stroke. (See manufacturer's service specifications.)</p>

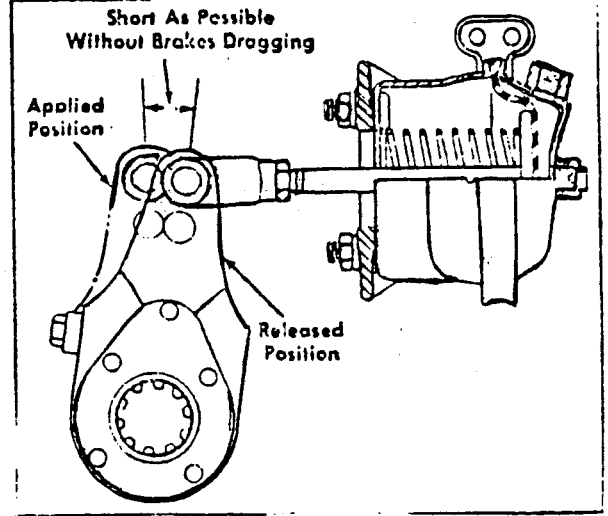
PROCEDURE	REJECT VEHICLE IF:
<p>A. <u>Pedal Reserve Test</u></p> <p>1. <u>Hydraulic System without Power Assist</u></p> <p>(Refer to <u>Passenger Vehicles</u>, Section (1), Part B., pages PV - IV - 4 and 5.)</p> <p>2. <u>Hydraulic System with vacuum Assist</u></p> <p>a. <u>Leakage Test</u></p> <p>(Refer to <u>Passenger Vehicles</u>, Section (5), Part B, page PV - IV - 12.)</p> <p>b. <u>Pedal Reserve Test</u></p> <p><u>On vacuum-assisted hydraulic systems with line pressure booster.</u> Apply moderate foot force and observe remaining available pedal travel.</p> <p>3. <u>Hydraulic System with Air Power Assist - Leakage Test</u></p> <p>Apply 2-3 psi air pressure and maintain for one minute.</p> <p>B. <u>Actuator Reserve</u></p> <p>1. <u>In air or vacuum mechanical brakes -</u> Measure the stroke of the air or vacuum chambers from fully released to fully applied position. (Refer to Figure 1.)</p> <p>2. <u>In air-over-hydraulic brake systems -</u> Measure air chamber travel from fully released to fully applied position. (Some systems include a rod gauge for visual checking.)</p>	<p>A. <u>Pedal Reserve Test</u></p> <p>1. <u>Hydraulic System without Power Assist</u></p> <p>(Same criteria as indicated in <u>Passenger Vehicles</u>, Section (1), Part B, pages PV - IV - 4 and 5.)</p> <p>2. <u>Hydraulic System with Vacuum Assist</u></p> <p>a. <u>Leakage Test</u></p> <p>(Same criteria as indicated in <u>Passenger Vehicles</u>, Section (5), Part B, page PV - IV - 12.)</p> <p>b. <u>Pedal Reserve Test</u></p> <p>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.</p> <p>3. <u>Hydraulic System with Air Power Assist - Leakage Test</u></p> <p>Air power assist push rod moves slowly toward master cylinder while air pressure is maintained for one minute.</p> <p>B. <u>Actuator Reserve</u></p> <p>Travel from fully released to fully applied positions is more than 75% of the specified maximum stroke. (See manufacturer's service specifications.)</p>



**PROCEDURE**

**REJECT VEHICLE IF:**

**Figure 1 - Brake Chamber Push Rod Travel (Typical)**



**C. Hydraulic System Condition**

1. Inspect hydraulic hoses and tubes for leaks, cracks, chafing, flattened or restricted sections and improper support.
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.

(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.)

**D. Dual Hydraulic Circuits**

If vehicle is equipped with a brake warning light:

1. Test for operation of light by turning on ignition to start position.
2. With ignition switch on and engine running, apply 125-150 pounds of pedal force and observe light.

**C. Hydraulic System Condition**

1. Hoses or tubing leak, or are chafed, flattened, restricted or are insecurely fastened.
2.
  - a. Master cylinder leaks.
  - b. Fluid level is more than 3/4 inch below top of reservoir.
  - c. Gasket is torn or mishapen.

**D. Dual Hydraulic Circuits**

1. Light is burned out.
2. Light comes on when brake pedal is depressed.

PROCEDURE	REJECT VEHICLE IF:
3. Examine both sections of reservoir.	3. Fluid level in either reservoir section is more than 3/4 inch below top.

(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 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. <u>Wheel Cylinders</u> Inspect wheel cylinders for leaks.	A. <u>Wheel Cylinders</u> Wheel cylinder leaks.
B. <u>Brake Drums</u> (Refer to <u>Passenger Vehicles</u> , (Section (2), Part A, pages PV - IV - 7 and 8. NOTE: Wheel removal is not necessary for heavy vehicles.)	B. <u>Brake Drums</u> (Same criteria as indicated in <u>Passenger Vehicles</u> , Section (2), Part A, pages PV - IV - 7 and 8).
C. <u>Brake Discs</u> (Refer to <u>Passenger vehicles</u> , Section (2), Part B, page PV - IV - 8. NOTE: Wheel removal is not necessary for heavy vehicles.)	C. <u>Brake Discs</u> (Same criteria as indicated in <u>Passenger Vehicles</u> , Section (2), Part B, page PV - IV - 8.)

(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:
<p>A. <u>Condition of Linings and Pads</u></p> <ol style="list-style-type: none"> <li>1. <u>Bonded Linings</u> Measure the lining thickness at the thinnest point.</li> <li>2. <u>Riveted Linings</u> (Refer to <u>Passenger Vehicles</u>, Section (3), Part A2, page PV - IV - 9.)</li> <li>3. <u>Wire-Backed Linings</u> (Refer to <u>Passenger Vehicles</u>, Section (3), Part A3, page PV - IV - 10.)</li> <li>4. <u>Bolted Linings (For Buses and Very Heavy Vehicles)</u> <ol style="list-style-type: none"> <li>a. Inspect for loose or missing bolts.</li> <li>b. Inspect brake linings for thickness.</li> </ol> </li> <li>5. <u>All Linings</u> Inspect for broken or cracked linings and parts of linings not firmly attached to shoe. Also inspect for contamination and extremely uneven lining wear.</li> </ol>	<p>A. <u>Condition of Linings and Pads</u></p> <ol style="list-style-type: none"> <li>1. <u>Bonded Linings</u> Thinnest point is less than 1/16 inch.</li> <li>2. <u>Riveted Linings</u> (Same criteria as indicated in <u>Passenger Vehicles</u>, Section (3), Part A2, page PV - IV - 9.)</li> <li>3. <u>Wire-Backed Linings</u> (Same criteria as indicated in <u>Passenger Vehicles</u>, Section (3), Part A3, page PV - IV - 10.)</li> <li>4. <u>Bolted Linings (For Buses and Very Heavy Vehicles)</u> <ol style="list-style-type: none"> <li>a. Any fastening parts are loose or missing.</li> <li>b. Lining at center of shoe is less than 5/16 inch thick, or linings are not securely fastened to shoe.</li> </ol> </li> <li>5. <u>All Linings</u> <ol style="list-style-type: none"> <li>a. Lining is cracked, broken or not firmly and completely attached to shoe.</li> </ol> </li> </ol>

PROCEDURE	REJECT VEHICLE IF:
<p>6. <u>Pads (Disc Brakes)</u> Inspect thickness of friction pad.</p> <p>B. <u>Bus Air Brakes - Linings and Drums</u></p> <ol style="list-style-type: none"> <li>1. Inspect brake linings for thickness. Inspect fastening bolts (refer to Figures <u>2</u>, <u>3</u>, <u>4</u>, and <u>5</u>.)</li> <li>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.)</li> </ol>	<p>b. Friction surface is soaked with oil, grease or brake fluid.</p> <p>c. Lining wear is extremely uneven.</p> <p>6. <u>Pads (Disc Brakes)</u> Any pad is 1/16 inch or less or 1/32 inch or less above rivet head.</p> <p>B. <u>Bus Air Brakes - Linings and Drums</u></p> <ol style="list-style-type: none"> <li>1. Lining at center of shoe is less than 5/16 inch thick, or linings are not securely fastened to shoe.</li> <li>2. Diameter of drum is more than 1/8 inch larger than dimension of new drum.</li> </ol>

(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, pages PV - IV 10 and 11.
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.

PROCEDURE	REJECT VEHICLE IF:
<p>A. <u>Condition of Vacuum System</u></p> <p>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.</p> <p>B. <u>Operation of Vacuum System - Truck or Tractor</u></p> <ol style="list-style-type: none"><li>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.</li><li>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.</li></ol> <p>C. <u>Operation of Vacuum System - Trailers</u></p> <p>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.</p>	<p>A. <u>Condition of Vacuum System</u></p> <p>Hoses or tubes are leaking, or if collapsed, broken, badly chafed, improperly supported or loose because of broken clamps.</p> <p>B. <u>Operation of Vacuum System - Truck or Tractor</u></p> <p>Service brake pedal does not move slightly as engine is started while pressure is maintained on pedal.</p> <p>C. <u>Operation of Vacuum System - Trailers</u></p>

PROCEDURE	REJECT VEHICLE IF:
<p>1. <u>In the case of trailer brakes equipped with brake chamber rods</u>, observe the chamber rod movement. Run the engine to re-establish maximum vacuum, then <u>shut off the engine</u> and apply the brakes with a 50 lb. force on the pedal. Note the brake application and check for low vacuum indicator activation.</p> <p>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.</p> <p>D. <u>Vacuum Reserve and Low Vacuum Indicators</u></p> <p>1. Build full vacuum - then shut off engine and make as many full brake applications as possible.</p> <p>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.</p>	<p>1.</p> <p>a. Trailer brakes do not permit one service brake application after engine is turned off without actuating the low vacuum indicator.</p> <p>b. Brake chamber rods do not act with brake pedal.</p> <p>c. Rods do not reach full release position.</p> <p>2. Trailer brakes do not remain in in applied position.</p> <p>D. <u>Vacuum Reserve and Low Vacuum Indicators:</u></p> <p>1. Vacuum reserve is insufficient to make 1 full application after engine shutoff.</p> <p>2. Vacuum indicator fails to function when system is reduced to 8 inches Hg vacuum.</p>

(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:
<p>A. <u>Air Brake System Integrity</u></p> <ol style="list-style-type: none"> <li>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.</li> <li>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.</li> <li>3. Continue running the engine until the governor cuts out, and note the pressure.</li> <li>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.</li> <li>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.</li> </ol>	<p>A. <u>Air Brake System Integrity</u></p> <ol style="list-style-type: none"> <li>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.)</li> <li>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 <u>Table 1</u>, with the engine running at the manufacturer's maximum recommended engine speed.</li> <li>3. Governor cut-out pressure exceeds 135 psi (unless other values are recommended by the vehicle manufacturer.)</li> <li>4. Governor cut-in pressure is lower than 80 psi (unless other values are recommended by the vehicle manufacturer.)</li> <li>5. Leakage in psi per minute exceeds the following limits:  <u>Brakes Released/Engine Stopped</u>  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.)</li> </ol>

PROCEDURE	REJECT VEHICLE IF:
<p>6. <u>Compressed Air Reserve</u></p> <p>a. With fully charged system, stop engine and make one full brake application. Measure drop in reservoir pressure.</p> <p>b. Make a series of brake applications until low pressure warning signal operates.</p> <p>7. <u>Compressor Drive Belt</u></p> <p>Inspect for wear, fraying and looseness.</p>	<p><u>Brakes Fully Applied/Engine Stopped</u></p> <p>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.</p> <p>6. <u>Compressed Air Reserve</u></p> <p>a. Reservoir pressure is lowered more than 20 percent of first reading.</p> <p>b. Air reserve is not sufficient to permit one full brake application after engine is stopped.</p> <p>7. <u>Compressor Drive Belt</u></p> <p>Belt is worn, frayed or loose.</p>



PROCEDURE	REJECT VEHICLE IF:
<p>8. <u>Air Brake System Hoses, Tubes, and Connections</u></p> <p>Stop engine and visually examine air hoses, tubes and connections.</p> <p>B. <u>Air-Over-Hydraulic Brake Subsystem Integrity</u></p> <p>(Follow the same procedures A, 1 through 6, for <u>Air Brake System Integrity</u>, above.)</p> <p>7. <u>Air-Over-Hydraulic Brake Subsystem Hoses, Master Cylinder, Tubes and Connections</u></p> <p>Stop engine and visually examine air and hydraulic brake hoses, brake master cylinder, tubes and connections.</p>	<p>8. <u>Air Brake System Hoses, Tubes and Connections</u></p> <p>a. Air system tubes, hoses and connections are restricted, cracked, improperly supported or broken.</p> <p>b. Air system components are being chafed by moving parts, or are touching the exhaust system.</p> <p>B. <u>Air-Over-Hydraulic Brake Subsystem Integrity</u></p> <p>(Same criteria as indicated in A, 1 through 6, for <u>Air Brake System Integrity</u>, above.)</p> <p>7. <u>Air-Over-Hydraulic Brake Subsystem Hoses, Master Cylinder, Tubes and Connections</u></p> <p>a. System tubes, hoses and connections are cracked, restricted, improperly supported or broken.</p> <p>b. Air and hydraulic hoses are chafed.</p> <p>c. Master cylinder shows signs of leakage.</p>

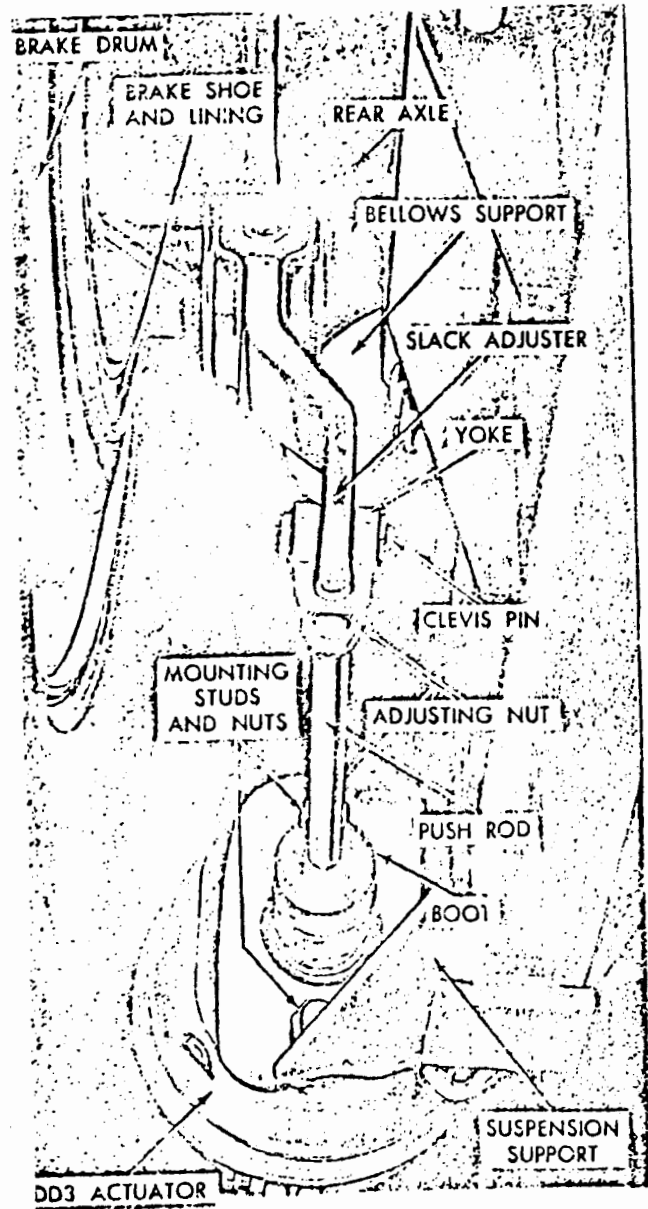
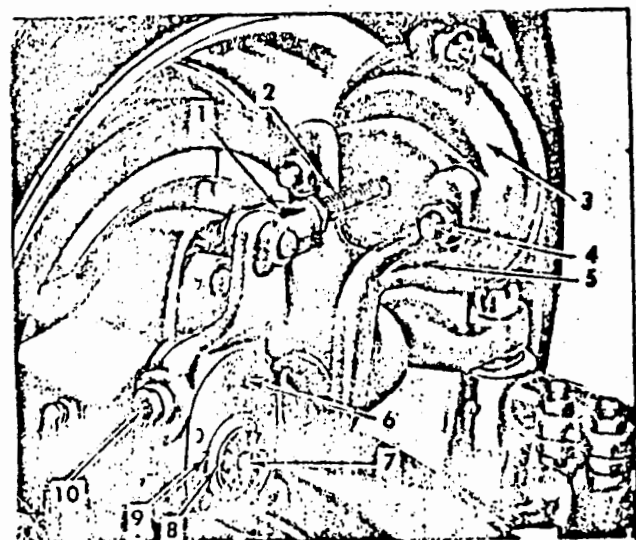
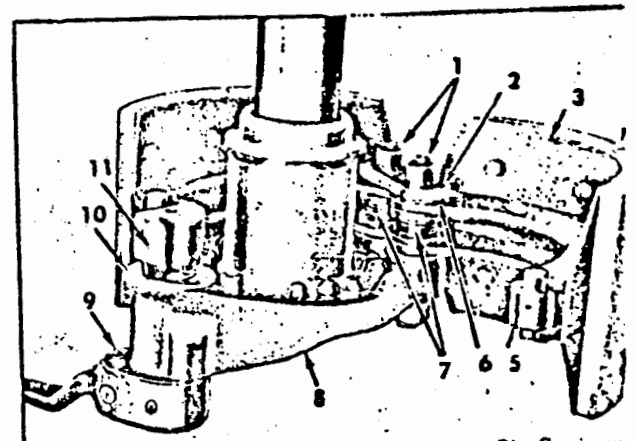


Figure 2 - Rear Brake Actuator and Slack Adjuster Installed (Typical)



- 1 Push Rod Yoke
- 2 Push Rod
- 3 Brake Chamber
- 4 Brake Chamber Mounting Stud
- 5 Brake Chamber Bracket
- 6 Slack Adjuster
- 7 Camshaft
- 8 Snap Ring
- 9 Washer
- 10 Slack Adjuster Worm Shaft

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



- 1 Anchor Pins
- 2 Lock Plate
- 3 Brake Shoe
- 4 Lining
- 5 Roller
- 6 Washer
- 7 Anchor Pin Springs
- 8 Spider
- 9 Slack Adjuster
- 10 Washer
- 11 Cam (Integral with Shaft)

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

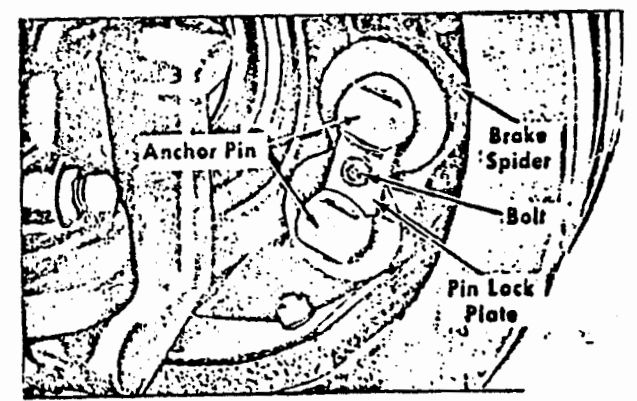


Figure 5 - Front Brake Shoe Anchor Pins Installed (Typical)

TABLE 1  
 AIR BRAKE SYSTEM PRESSURE BUILD UP TIME  
 (85 to 100 Pounds Per Square Inch)

System		Time in Seconds												
Front Axle Number and Size Chambers	Rear Axle Number and Size Chambers	Total Reservoir Volume - Cubic Inches												
		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

(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:
<p>A. Electric Brakes - Function</p> <ol style="list-style-type: none"><li>1.<ol style="list-style-type: none"><li>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.</li><li>b. Then: gradually return controller to full "off" position; ammeter should return to zero. Divide maximum ammeter reading by the number of brakes.</li></ol></li></ol>	<p>A. <u>Electric Brakes - Function</u></p> <ol style="list-style-type: none"><li>1. The maximum amperage <u>per brake</u> is: more than 20 percent above; or more than 30 percent below brake manufacturer's maximum current rating.</li></ol>

PROCEDURE	REJECT VEHICLE IF:
<p>2. Inspect for loose or corroded terminal connections and broken, frayed or unsupported wires.</p>	<p>2.</p> <ul style="list-style-type: none"> <li>a. Electric terminals are loose or excessively corroded.</li> <li>b. Wires or connectors are broken, frayed or not properly supported.</li> <li>c. Conductor wire gauge is below brake manufacturer's minimum recommendation.</li> </ul>

**(8) EMERGENCY BRAKES**

Notes for Inspectors

1. In order to avoid confusion between "emergency" and "parking" brake systems, refer to those definitions on pages PV-IV-1 and 2 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:
<p data-bbox="178 314 728 351"><b>A. <u>Emergency System - Function</u></b></p> <p data-bbox="244 378 761 538">Apply the emergency operating control fully, or release air pressure from the spring brake actuators using the manual control valve. Then:</p> <ol data-bbox="244 570 806 1251" style="list-style-type: none"> <li data-bbox="244 570 769 666">1. Observe locking and holding feature of the actuating mechanism.</li> <li data-bbox="244 697 794 793">2. Observe operating mechanism for "bottoming" before brakes are fully applied.</li> <li data-bbox="244 825 761 921">3. Observe if spring brakes apply when control valve is manually operated.</li> <li data-bbox="244 953 806 1091">4. Inspect for worn, missing, or defective cotter pins, springs, rods, yokes, couplings or anchor pins and cables.</li> <li data-bbox="244 1123 806 1251">5. Observe if mechanism releases brakes when release control is operated.</li> </ol>	<p data-bbox="872 314 1389 351"><b>A. <u>Emergency System Function</u></b></p> <ol data-bbox="946 570 1521 1251" style="list-style-type: none"> <li data-bbox="946 570 1466 666">1. Operating mechanism fails to hold brakes in applied position without manual effort.</li> <li data-bbox="946 697 1521 772">2. Operating mechanism "bottoms" before brakes are fully applied.</li> <li data-bbox="946 825 1521 900">3. Spring brakes fail to apply when control valve is operated.</li> <li data-bbox="946 953 1504 1112">4. Mechanical parts are missing, broken or badly worn, or pull cables are badly worn, stretched, frayed, or not operating freely.</li> <li data-bbox="946 1144 1455 1251">5. Brakes do not fully release when release control is operated.</li> </ol>

(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:
<p>A. <u>Parking Brake</u></p> <ol style="list-style-type: none"> <li>1. Set the parking brake firmly to determine the reserve travel of the hand lever or foot pedal.</li> <li>2. Inspect the band type parking brake on the properly (drive) shaft for the presence of oil or grease, condition of lining, and lightness.</li> </ol>	<p>A. <u>Parking Brake</u></p> <ol style="list-style-type: none"> <li>1. There is no reserve travel in the lever (or pedal).</li> <li>2. <ol style="list-style-type: none"> <li>a. There is oil or grease on the drum or lining.</li> <li>b. The lining is worn to less than 1/16 inch.</li> <li>c. The lining fails to make proper contact with the drum when brake is applied.</li> </ol> </li> </ol>

(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:
<p><b>A. <u>Emergency Brakes - Trailer</u></b></p> <ol style="list-style-type: none"> <li>1. Run engine to charge trailer air system fully or to evacuate trailer vacuum system. Then:               <ol style="list-style-type: none"> <li>a. Disconnect trailer couplings and observe for automatic application of trailer brakes.</li> <li>b. Record length of time trailer emergency brakes remain applied.</li> </ol> </li> </ol> <p><b>B. <u>If Manual Control for Trailer Emergency System is Installed</u></b></p> <ol style="list-style-type: none"> <li>1. Connect trailer couplings and build up system pressure to governor out-out point.</li> <li>2. Stop engine and operate control. Observe emergency application and release.</li> <li>3. Make a series of foot applications and observe automatic trailer brake application.</li> </ol> <p><b>C. <u>Trailer Electric Emergency Brake</u></b></p> <p>Place DC ammeter in emergency power supply lines. Disconnect all electrical connections between tractor and trailer. Then:</p>	<p><b>A. <u>Emergency Brakes - Trailer</u></b></p> <ol style="list-style-type: none"> <li>1. Emergency brakes do not automatically apply.</li> <li>2. Brakes do not remain applied for at least 15 minutes.</li> </ol> <p><b>B. <u>If Manual Control for Trailer Emergency System is Installed</u></b></p> <ol style="list-style-type: none"> <li>1. <u>WITH MANUAL CONTROL - Brakes do not apply and release by operating manual control.</u></li> <li>2. <u>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.</u></li> </ol> <p><b>C. <u>Trailer Electric Emergency Brake</u></b></p>



PROCEDURE	REJECT VEHICLE IF:
<ol style="list-style-type: none"> <li>1. Operate breakaway safety switch and observe application of trailer brakes.</li> <li>2. Observe ammeter reading and divide by the number of brakes.</li> <li>3. Reconnect electric cables, return safety switch to normal position and observe release of trailer brakes.</li> </ol>	<ol style="list-style-type: none"> <li>1. Brakes do not apply automatically when breakaway safety switch is operated.</li> <li>2. Brakes do not receive at least 50 percent of manufacturer's maximum current (amperes) rating <u>per brake</u>.</li> <li>3. Brakes do not release when switch is returned to normal position.</li> </ol>

(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.

<p>A. <u>Bus Air Brakes - Parking and Emergency Systems</u></p> <ol style="list-style-type: none"> <li>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.</li> </ol>	<p>A. <u>Bus Air Brakes - Parking and Emergency Systems</u></p> <ol style="list-style-type: none"> <li>1. System fails to function properly.</li> </ol>
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PROCEDURE	REJECT VEHICLE IF:
2. Drain air from system and observe whether parking and emergency brakes remain in a "set" position. (With no air pressure in the system, vehicle should remain "braked.")	2. Parking and emergency brakes <u>do not</u> remain in a "set" position.

**(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:
<p><u>Method (a) - Road Test</u></p> <p>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 steering wheel throughout the test.</p>	<p><u>Method (a) - Road Test</u></p> <ol style="list-style-type: none"><li>1. More than 35 feet is required in which to stop from 20 mph. for single unit vehicles.</li><li>2. More than 40 feet is required in which to stop from 20 mph. for combination vehicles and truck tractors.</li></ol>

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 braking force at each wheel.

### Procedure

Follow the same procedure for Passenger Vehicles, pages PV-IV-16 and 17.

### 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, page PV-IV-17.

## 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, pages PV-V-4 and 5).
  - (2)\* LASH OR FREE PLAY AND TRAVEL, (Refer to Passenger Vehicles, pages PV-V-5 to 7).
  - (3) STEERING COLUMN
  - (4) WHEEL BEARINGS - LINKAGE PLAY
  - (5) LINKAGE/KINGPIN PLAY
  - (6)\* FRONT WHEEL ALIGNMENT (TOE IN-OUT), (Refer to Passenger Vehicles, pages PV-V-11 to 13.)
  - (7)\* BALL JOINT WEAR - When so equipped, (Refer to Passenger Vehicles, pages PV-V-14 to 16.)
  - (8)\* FRONT AND REAR SUSPENSION COMPONENTS (Refer to Passenger Vehicles, pages PV-V-17 to 19.)
  - (9)\* SHOCK ABSORBERS - When so equipped, (Refer to Passenger Vehicles pages PV-V-19 and 20.)

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

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3 **TEERING 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.

PROCEDURE	REJECT VEHICLE IF:
<p>A. <u>Steering Column (Heavy Vehicle)</u></p> <p>Inspect flexible coupling in steering column (if the vehicle is so equipped) for excessive misalignment and tightness of clamp bolt or nut.</p> <p>B. <u>Energy Absorbing Steering Column</u></p> <p>(Refer to <u>Passenger Vehicles, Section (3), Part A, page PV-V-8.</u>)</p>	<p>A. <u>Steering Column (Heavy Vehicle)</u></p> <ol style="list-style-type: none"> <li>1. The "pot joint" or "rag joint" is improperly aligned.</li> <li>2. Clamp bolt (nut) is loose or missing.</li> </ol> <p>B. <u>Energy Absorbing Steering Column</u></p> <p>(Same criteria as indicated in <u>Passenger Vehicles, Section (3), Part A, page PV-V-8.</u>)</p>

(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 1/4 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:
<p>A. <u>Front Wheel Bearings</u></p> <ol style="list-style-type: none"> <li>1. Raise front end of vehicle until wheels clear (one side at a time) to load ball joints, if vehicle is so equipped.</li> <li>2. Attempt to move wheel relative to the spindle by grasping front tire top and bottom or by using a bar for leverage.</li> <li>3. Measure movement between the brake drum or disc and the backing plate or splash shield.</li> </ol>	<p>A. <u>Front Wheel Bearings</u></p> <p>Relative movement between drum and backing plate is excessive. (More than 1/4 inch (6 mm.) measured at outer circumference of tire.)</p>
<p>B. <u>"I" Beam or "Tube" Type Front Axle</u></p> <ol style="list-style-type: none"> <li>1. Hoist vehicle from underside axle. Inspect pitman arm, drag link, and tie rods for looseness and locked joints.</li> </ol>	<p>B. <u>"I" Beam or "Tube" Type Front Axle</u></p> <ol style="list-style-type: none"> <li>1. Linkage is loose or if joints are not secured with cotter pins or other devices.</li> </ol>

PROCEDURE	REJECT VEHICLE IF:
<p>2. Inspect for loose spring "U" bolts, broken center bolt in spring, and broken spring leaves.</p> <p>3. Turn wheels from full right to left and inspect for tire rub on frame sheet metal, or other chassis parts.</p>	<p>2.</p> <p>a. Spring "U" bolts are loose or damaged.</p> <p>b. Spring center bolt is broken, sheared or missing.</p> <p>c. Spring leaf is broken or shifted.</p> <p>3. Steering stops allow tire to rub on frame, metal or other chassis parts.</p>

(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.

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

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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:																				
<p>A. <u>Steering Linkage/Kingpin</u> (For trucks with "I" beam, twin "I" beam, or tube type front axle.)</p> <ol style="list-style-type: none"> <li>1. Elevate the front end of the vehicle to load the ball joints, if vehicle is so equipped.</li> <li>2. Apply service brakes.</li> <li>3. Grasp each front tire, front and rear, and attempt to turn wheel and tire assembly left and right to determine linkage looseness.</li> <li>4. Then grasp top and bottom of tire and attempt to rock in and out to determine kingpin looseness.</li> <li>5. Note movement at extreme front and rear top and bottom of tire. Use bar for heavy wheels. (Measure if necessary.)</li> </ol>	<p>A. <u>Steering Linkage/Kingpin</u> (For trucks with "I" beam, twin "I" beam, or tube type front axle.)</p> <p>Free movement measured at the front or rear tread is found to be in excess of table shown below.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th colspan="4" style="text-align: center;">Maximum Permissible Play with Wheel Bearings Adjusted Properly</th> </tr> <tr> <th style="text-align: center;">Inches</th> <th style="text-align: center;">Cm.</th> <th style="text-align: center;">Inches</th> <th style="text-align: center;">Mm.</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">16 or less</td> <td style="text-align: center;">41 rim diameter or less</td> <td style="text-align: center;">1/4</td> <td style="text-align: center;">6</td> </tr> <tr> <td style="text-align: center;">16.01 to 18</td> <td style="text-align: center;">41.01 to 46</td> <td style="text-align: center;">3/8</td> <td style="text-align: center;">10</td> </tr> <tr> <td style="text-align: center;">18.01 or more</td> <td style="text-align: center;">over</td> <td style="text-align: center;">1/2</td> <td style="text-align: center;">13</td> </tr> </tbody> </table>	Maximum Permissible Play with Wheel Bearings Adjusted Properly				Inches	Cm.	Inches	Mm.	16 or less	41 rim diameter or less	1/4	6	16.01 to 18	41.01 to 46	3/8	10	18.01 or more	over	1/2	13
Maximum Permissible Play with Wheel Bearings Adjusted Properly																					
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18.01 or more	over	1/2	13																		

## 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:
<p><u>Wheel Tracking</u></p> <p>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.</p>	<p>A. <u>Wheel Tracking</u></p> <ol style="list-style-type: none"><li>1. The dimensions between wheel centers on one side differ from similar dimensions on the other side by more than one inch (3 cm.).</li></ol>

(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.

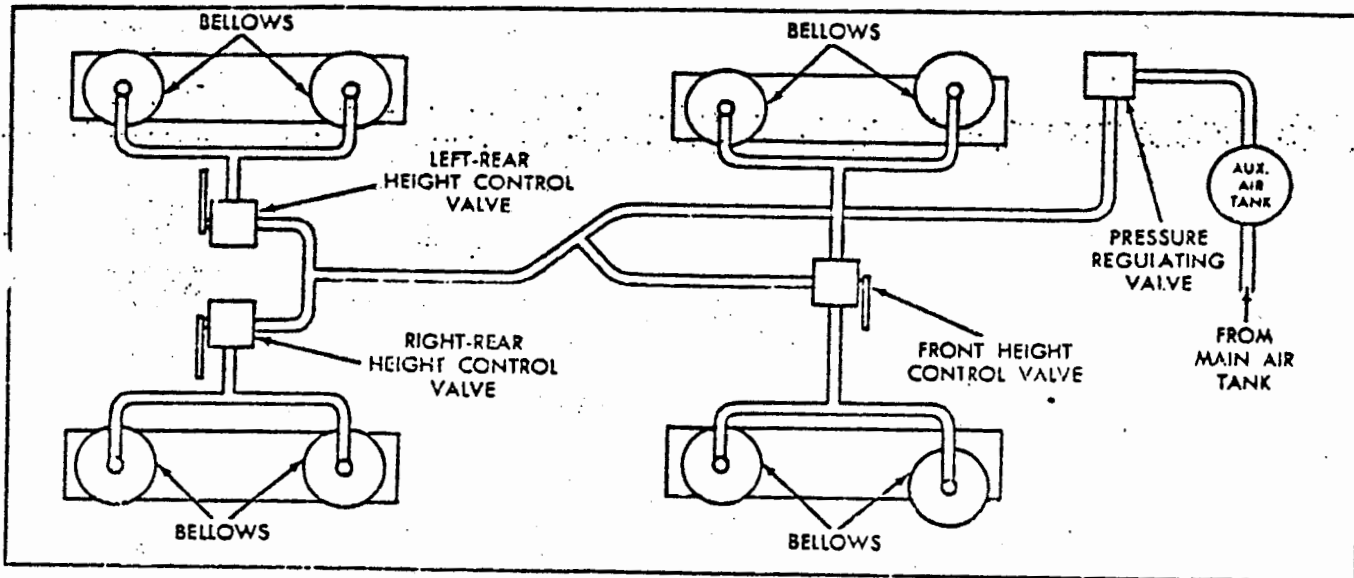
Tools and Equipment

1. Vehicle hoist, pit or jack and stands.

PROCEDURE	REJECT VEHICLE IF:
<p><u>Air Suspension</u></p> <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>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><u>Air Suspension</u></p> <p>A. Air begins to flow into suspension system <u>before</u> 55 psi is indicated on pressure gauge.</p> <p>B. Air leakage rate is greater than 3 psi in 5 minutes.</p>

PROCEDURE	REJECT VEHICLE IF:
<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)

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(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 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.

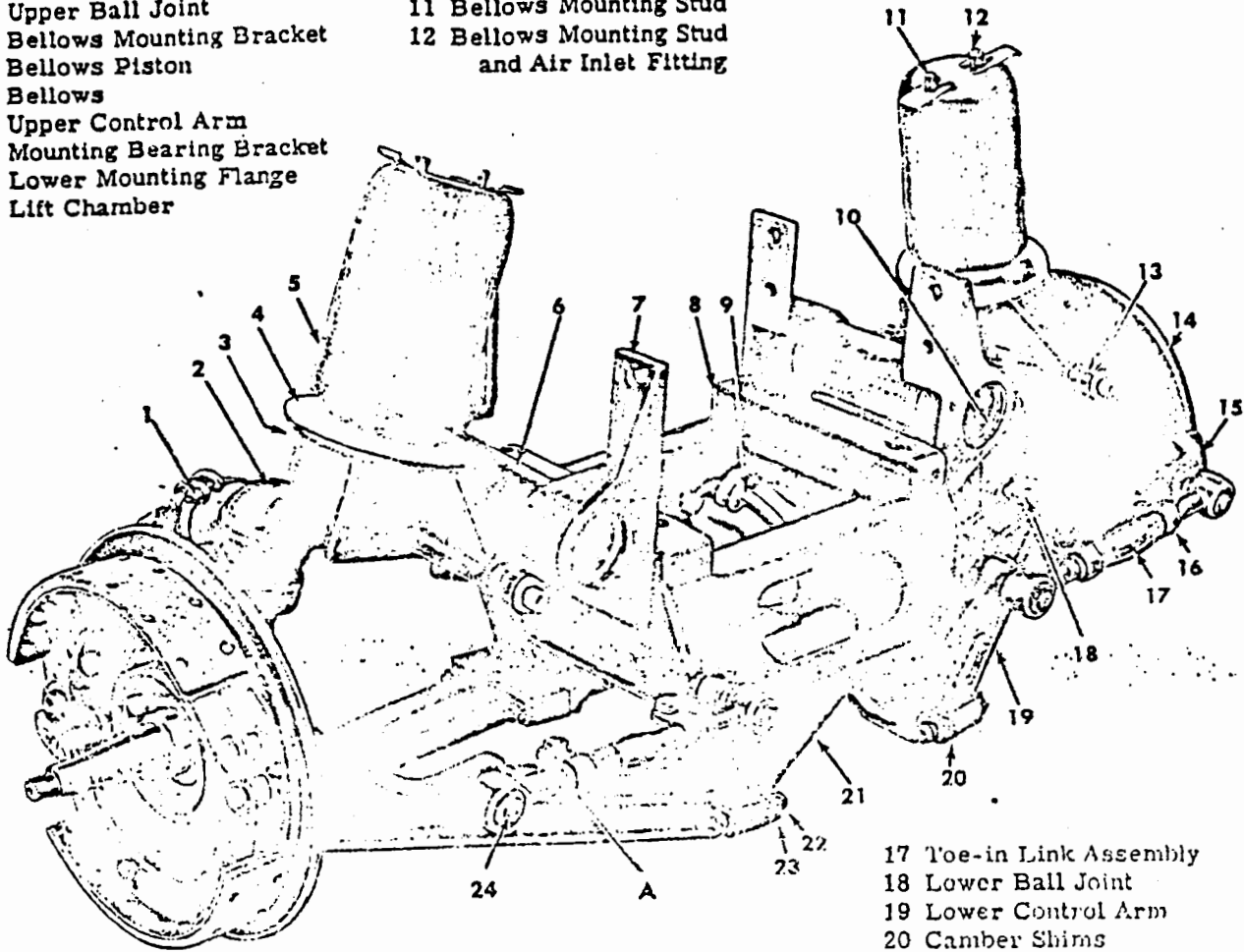
PROCEDURE	REJECT VEHICLE IF:
A. <u>On vehicles equipped with retractable axle(s)</u> . With air in the system at normal operating pressure, activate the axle lift control switch to "WHEELS UP" and "WHEELS DOWN" positions to check function.	A. Axle fails to respond properly to the axle lift control switch.
B. If retractable axle has independent suspension inspect for toe. Dimensions A and B in <u>Figure 3</u> should be equal.	B. Toe (in or out) is not reasonably close to zero (plus or minus 1/16 inch).

PROCEDURE	REJECT VEHICLE IF:
<p>C. If retractable axle has independent suspension - with system activated and wheels down, inspect for ball joint wear as follows:</p> <ol style="list-style-type: none"> <li>1. Mark ball joints (upper and lower) with center punch as indicated in Figure 4. Measure and record distance between punch marks.</li> <li>2. <u>UPPER BALL JOINT.</u> 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.</li> <li>3. <u>LOWER BALL JOINT.</u> 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.</li> </ol>	<p>C.</p> <ol style="list-style-type: none"> <li>2. Second measurement between punch marks exceeds first measurement by more than 3/32 inch.</li> <li>3. Second measurement exceeds first by more than 3/32 inch.</li> </ol>

Figure 2

- 1 Brake Chamber
- 2 Upper Ball Joint
- 3 Bellows Mounting Bracket
- 4 Bellows Piston
- 5 Bellows
- 6 Upper Control Arm
- 7 Mounting Bearing Bracket
- 8 Lower Mounting Flange
- 9 Lift Chamber

- 10 Upper Control Arm Bushing
- 11 Bellows Mounting Stud
- 12 Bellows Mounting Stud and Air Inlet Fitting



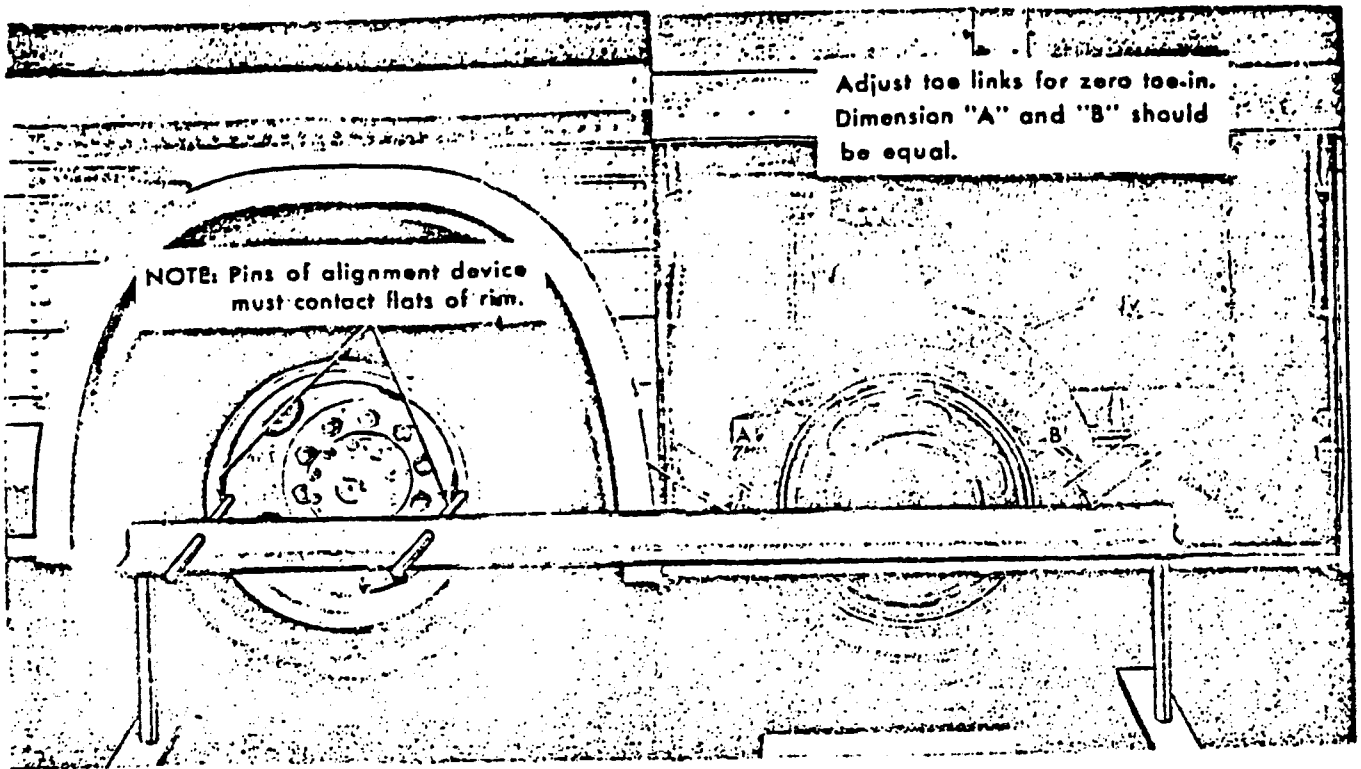
- 13 Shock Absorber Bracket
- 14 Brake Backing Plate
- 15 Spindle Adapter Arm
- 16 Toe-in Link Clamp

- 17 Toe-in Link Assembly
- 18 Lower Ball Joint
- 19 Lower Control Arm
- 20 Camber Shims
- 21 Center Support Housing
- 22 Pivot Pin Bolt
- 23 Pivot Pin Bushing
- 24 Swivel Joint

RETRACTABLE AXLE ASSEMBLY (TYPICAL)

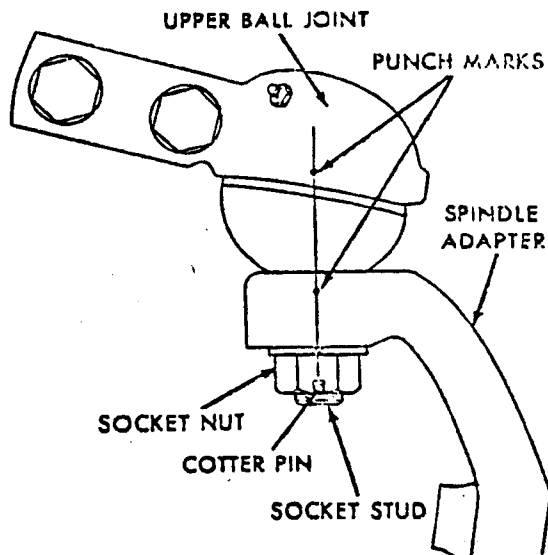
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Figure 3



TOE-IN TOOL POSITIONED

Figure 4



CHECKING BALL JOINTS FOR WEAR

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## LIGHTING AND ELECTRICAL SYSTEM

### General Instructions

Follow the inspection procedures on pages PV-VI-1 through PV-VI-33 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, page PV-VI-26, 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, page PV-VI-31, for vehicles over 80 inches (203 cm.) in width.

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## 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)\* EXTERIOR REARVIEW MIRRORS (Refer to Passenger Vehicles, pages PV-VIII-1 to 3.)
  - (2)\* INTERIOR REARVIEW MIRROR (Refer to Passenger Vehicles, page PV-VIII-3.)
  - (3)\* WINDSHIELD WIPERS (Refer to Passenger Vehicles, pages PV-VIII-4 to 6.)
  - (4)\* WINDSHIELD WASHER (Refer to Passenger Vehicles, page PV-VIII-6.)
  - (5)\* BODY PARTS - BUMPERS - FENDERS (Refer to Passenger Vehicles, pages PV-VIII-7 and 8.)
  - (6)\* DOORS-HOOD/TRUNK (Refer to Passenger Vehicles, pages PV-VIII-9 and 10.)
  - (7)\* FLOOR PAN (Refer to Passenger Vehicles, page PV-VIII-10.)
  - (8)\* SEATS AND SAFETY BELTS (Refer to Passenger Vehicles, pages PV-VIII-11 and 12.)
  - (9) BUS BODY ITEMS
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:
<p>A. <u>Rivets and Bolts - Buses</u></p> <p>Inspect entire bus body for loose rivets and bolts.</p>	<p>A. <u>Rivets and Bolts - Buses</u></p> <p>There is evidence of excessive strain indicated by several loose body rivets or bolts.</p>
<p>B. <u>Floor Covering - Buses</u></p> <p>Inspect interior for loose floor covering, floor board deterioration, seat hold-down bolt rust and deterioration, or excessive corrosion.</p>	<p>B. <u>Floor Covering - Buses</u></p> <p>There is evidence of loose floor covering, openings in floor, or excessive deterioration of seat legs or fastening parts.</p>
<p>C. <u>Compartment Doors - Buses</u></p> <p>Inspect all exterior compartment doors (baggage, engine, etc.) to determine whether they open, close, and latch properly.</p>	<p>C. <u>Compartment Doors - Buses</u></p> <p>Compartment doors do not function properly or do not remain properly latched or locked.</p>

PROCEDURE	REJECT VEHICLE IF:
<p>D. <u>Door Lock - Buses</u></p> <p>On buses equipped with lavatory, inspect for proper functioning of lavatory door locking device.</p> <p>E. <u>System Function - Buses</u></p> <p>Inspect functioning of water supply, drains, lights, flushing mechanism, toilet seats, ventilation fans, emergency signals.</p> <p>F. <u>Holding Tank - Buses</u></p> <p>Inspect holding tank for functioning and chemicals. Also check drain plug.</p> <p>G. <u>General Sanitation - Buses</u></p> <p>Inspect entire lavatory for general cleanliness and sanitation.</p> <p>H. <u>Service Doors - Buses</u></p> <ol style="list-style-type: none"> <li>1. From driver's position, inspect function of opening and closing operation.</li> <li>2. Inspect condition of flexible material on vertical closing edges.</li> <li>3. Inspect safety devices that prevent doors from closing on passengers.</li> </ol>	<p>D. <u>Door Lock - Buses</u></p> <p>Door fails to open or close properly assuring easy entrance, exit, and privacy.</p> <p>E. <u>System Function - Buses</u></p> <p>Water system, drains, flushing mechanism, emergency signals, vent fans, or lights fail to function properly.</p> <p>F. <u>Holding Tank - Buses</u></p> <p>Not properly maintained according to regulations.</p> <p>G. <u>General Sanitation - Buses</u></p> <p>There is evidence of a lack of reasonable sanitary maintenance of lavatory.</p> <p>H. <u>Service Doors - Buses</u></p> <ol style="list-style-type: none"> <li>1. Opening and closing device shows evidence of binding, jamming, excessive wear, or other malfunction.</li> <li>2. Flexible material on vertical closing edges of service door is excessively loose, torn or missing.</li> <li>3. Safety devices fail to function properly.</li> </ol>

PROCEDURE	REJECT VEHICLE IF:
<p>I. <u>Emergency Doors and Windows - Buses</u></p> <ol style="list-style-type: none"> <li>1. Check for access to door.</li> <li>2. Inspect inside and outside quick release mechanism.</li> <li>3. Inspect for function of push-out windows.</li> <li>4. Check function of buzzer indicating that door is not fully closed.</li> <li>5. Check emergency exit instruction decals.</li> </ol>	<p>I. <u>Emergency Doors and Windows - Buses</u></p> <ol style="list-style-type: none"> <li>1. Any emergency exit is not easily accessible.</li> <li>2. Door release fails to function positively when activated, OR if it opens accidentally or too easily.</li> <li>3. Push-out windows do not function properly.</li> <li>4. Signal fails to function when door is slightly opened.</li> <li>5. Emergency exit decals are missing or not legible.</li> </ol>
<p>J. <u>Seats and Seat Belts - Buses</u></p> <ol style="list-style-type: none"> <li>1. Inspect seats to see that they are securely anchored to floor pan and/or driver's seat.</li> <li>2. Inspect seats for condition of frames, springs and cover material.</li> <li>3. Inspect driver's seat belt for frayed, split, or torn webbing; malfunctioning buckles; loose or damaged anchorages or floor pan.</li> </ol>	<p>J. <u>Seats and Seat Belts - Buses</u></p> <ol style="list-style-type: none"> <li>1. All seat anchor bolts are not securely fastened to floor or are missing.</li> <li>2. Cover material is torn or seat springs are exposed.</li> <li>3. <ol style="list-style-type: none"> <li>a. No seat belt is installed for driver on vehicles originally so equipped or otherwise required.</li> <li>b. Seat belt webbing is frayed, split or torn.</li> <li>c. Buckles do not operate properly.</li> <li>d. Belt anchorages are loose, badly corroded or not fastened to belt.</li> </ol> </li> </ol>

PROCEDURE	REJECT VEHICLE IF:
<p>4. Inspect for torn interior metal trim, etc., which may present a hazard to patrons.</p>	<p>e. Belt mounting surfaces are badly deformed, damaged or corroded.</p> <p>4. Interior metal trim or other parts present a hazard to patrons.</p>
<p>K. <u>Stanchions and Guard Rails - Buses</u></p> <p>Inspect all stanchions, guard rails, grab handles, etc., for tightness.</p>	<p>K. <u>Stanchions and Guard Rails - Buses</u></p> <p>Any looseness is detected, or fastening parts are missing.</p>
<p>L. <u>Stepwell - Buses</u></p> <p>Inspect general condition of stepwell and stepwell illumination at service door entrance.</p>	<p>L. <u>Stepwell - Buses</u></p> <p>Stepwell is blocked, cluttered, or surface material is loose. Also if stepwell is not properly illuminated.</p>
<p>M. <u>Ventilation - Buses</u></p> <p>Check for function and general condition of ventilating system.</p>	<p>M. <u>Ventilation - Buses</u></p> <p>System fails to furnish proper quantity of fresh air under operating conditions.</p>
<p>N. <u>Fire Extinguisher - Buses</u></p> <p>Inspect for presence of, location, and readiness of the fire extinguisher.</p>	<p>N. <u>Fire Extinguisher - Buses</u></p> <ol style="list-style-type: none"> <li>1. Extinguisher is missing.</li> <li>2. Extinguisher is not functional.</li> <li>3. Extinguisher is not readily accessible to driver.</li> <li>4. Extinguisher contains a vaporizing liquid filler.</li> <li>5. Extinguisher does not permit visual determination of charge.</li> <li>6. Directed and certified by the Fire Department.</li> </ol>

PROCEDURE	REJECT VEHICLE IF:
<p>O. <u>Package Shelf - Buses</u></p> <p>Inspect overhead package shelf for excessively worn or broken components which may affect the capability of the shelf to retain luggage or packages.</p>	<p>O. <u>Package Shelf - Buses</u></p> <p>Shelf is in such condition that packages or luggage might fall off while bus is moving.</p>

**VEHICLE GLAZING**  
**(WINDSHIELD AND WINDOW GLASS OR OTHER MATERIAL)**

General Instructions

Follow the same inspection procedures on pages PV-VII-1 through PV-VII-7 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.

TTB - VIII - 1



## EXHAUST SYSTEM

### General Instructions

1. Follow the inspection procedure on pages PV-IX-1 through 3 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.

TTB - IX - 1

## FUEL SYSTEM

### General Instructions

1. Follow the inspection procedures on pages PV-X-1 and 2 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.

TTB - X - 1

SCHOOL BUSES

CONTENTS

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Lighting and Electrical System	SB - VI
Body and Sheet Metal	SB - VII
Vehicle Glazing	SB - VIII
Exhaust System	SB - IX
Fuel System	SB - X

REGISTRATION

Follow the inspection procedures on page PV-1-1 for Passenger Vehicles.

SB - 1 - 1

## TIRES

### General Instructions

1. Follow the inspection procedures on pages TTB-II-1 to 3 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.

SB - II - 1

## WHEELS

### General Instructions

1. Follow the inspection procedures on pages TTB-III-1 and 2 for Trucks, Trailers and Buses.

SB - III - 1

## BRAKES

### General Instructions

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, pages TTB-IV-3 through 6.)
- (2)\* WHEEL CYLINDERS, DRUMS AND DISCS (Refer to Trucks, Trailers and Buses, page TTB-IV-7.)
- (3)\* LININGS AND PADS (Refer to Trucks, Trailers and Buses, pages TTB-IV-8 through 11.)
- (4)\* MECHANICAL (Refer to Passenger Vehicles, pages PV-IV-10 and 11.)
- (5)\* VACUUM SYSTEM
  - a. For Condition of Vacuum System refer to Trucks, Trailers and Buses, page TTB-IV-12.)
  - b. For Operation of Vacuum System refer to Passenger Vehicles, Procedure B, page PV-IV-12.)
  - c. For Vacuum Reserve and Low Vacuum Indicators refer to Trucks, Trailers and Buses, Procedure D, page TTB-IV-14.)
- (6)\* AIR SYSTEM (Refer to Trucks, Trailers and Buses, pages TTB-IV-14 through 18.)
- (7)\* EMERGENCY BRAKES (Refer to Trucks, Trailers and Buses, pages TTB-IV-20 and 21.)
- (8)\* PARKING BRAKES (Refer to Trucks, Trailers and Buses, pages TTB-IV-21 and 22.)

(9)\* **BUS AIR BRAKES - PARKING AND EMERGENCY** (Refer to Trucks, Trailers and Buses, pages TTB-IV-24 and 25.)

(10)\* **SERVICE BRAKE PERFORMANCE** (Refer to Trucks, Trailers and Buses, pages TTB-IV-25 through 27.)

2. PLEASE NOTE THE EXCEPTIONS BELOW.

- a. **LININGS AND PADS INSPECTION** - 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.

<u>School Buses</u>	<u>Stopping Distance</u>
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, pages PV-V-4 and 5.)
  - (2)\* LASH OR FREE PLAY AND TRAVEL (Refer to Passenger Vehicles, pages PV-V-5 to 7.)
  - (3)\* STEERING COLUMN (Refer to Trucks, Trailers and Buses, page TTB-V-2.)
  - (4)\* WHEEL BEARINGS - LINKAGE PLAY (Refer to Trucks, Trailers and Buses, pages TTB-V-2 to 4.)
  - (5)\* LINKAGE/KINGPIN PLAY (Refer to Trucks, Trailers and Buses, pages TTB-V-4 and 5.)
  - (6)\* FRONT WHEEL ALIGNMENT (TOE IN-OUT) (Refer to Passenger Vehicles, pages PV-V-11 to 13.)
  - (7)\* BALL JOINT WEAR - When so equipped - (Refer to Passenger Vehicles, pages PV-V-14 to 16.)
  - (8)\* FRONT AND REAR SUSPENSION COMPONENTS (Refer to Passenger Vehicles, pages PV-V-17 to 19.)
  - (9)\* SHOCK ABSORBERS - When so equipped - (Refer to Passenger Vehicles, pages PV-V-19 and 20.)

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, page TTB-V-6.)
- (11)\* AIR SUSPENSION (Refer to Trucks, Trailers and Buses, pages TTB-V-7 and 8.)
- (12)\* AIR SUSPENSION RETRACTABLE AXLE (Refer to Trucks, Trailers and Buses, TTB-V-9 through 12.)

SB - V - 2

## 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, pages PV-VI-1 through 4.)

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.

SB - VI - 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, pages PV-VI-4 through 6.
  - 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), pages PV-VI-7 through 16.
3. For school buses less than 80 inches (203 cm.) overall width refer to Passenger Vehicles, Table I; Appendix A, pages PV-VI-27 through 30.
4. For school buses of 80 or more inches (203 cm.) overall width refer to Passenger Vehicles, Tables I and II, Appendix A, pages PV-VI-27 through 31.

(2) HEADLAMP AIM

Note for Inspectors

1. Follow the inspection procedures on pages PV-VI-16 through 23 (including Appendix B and C) for Passenger Vehicles.

(3) AUXILIARY LAMP AIM

Note for Inspectors

1. Follow the inspection procedures on pages PV-VI-24 and 25 for Passenger Vehicles.

(4) ELECTRICAL SYSTEM

Notes for Inspectors

1. Follow the inspection procedures on pages PV-VI-25 and 26 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, page PV-VI-26, 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.

SB - VI - 4

2. When inspecting the electrical system on school buses the battery must be checked in addition to the items listed on pages PV-VI-25 and 26 for Passenger Vehicles.

PROCEDURE	REJECT VEHICLE IF:
<u>Battery - School Buses</u> Check general condition of battery.	<u>Battery - School Buses</u> 1. Battery is broken or excessively corroded. 2. Connections are loose or not held down securely.

SB - VI - 5

## VEHICLE GLAZING

(WINDSHIELD AND WINDOW GLASS OR OTHER MATERIAL)

### General Instructions

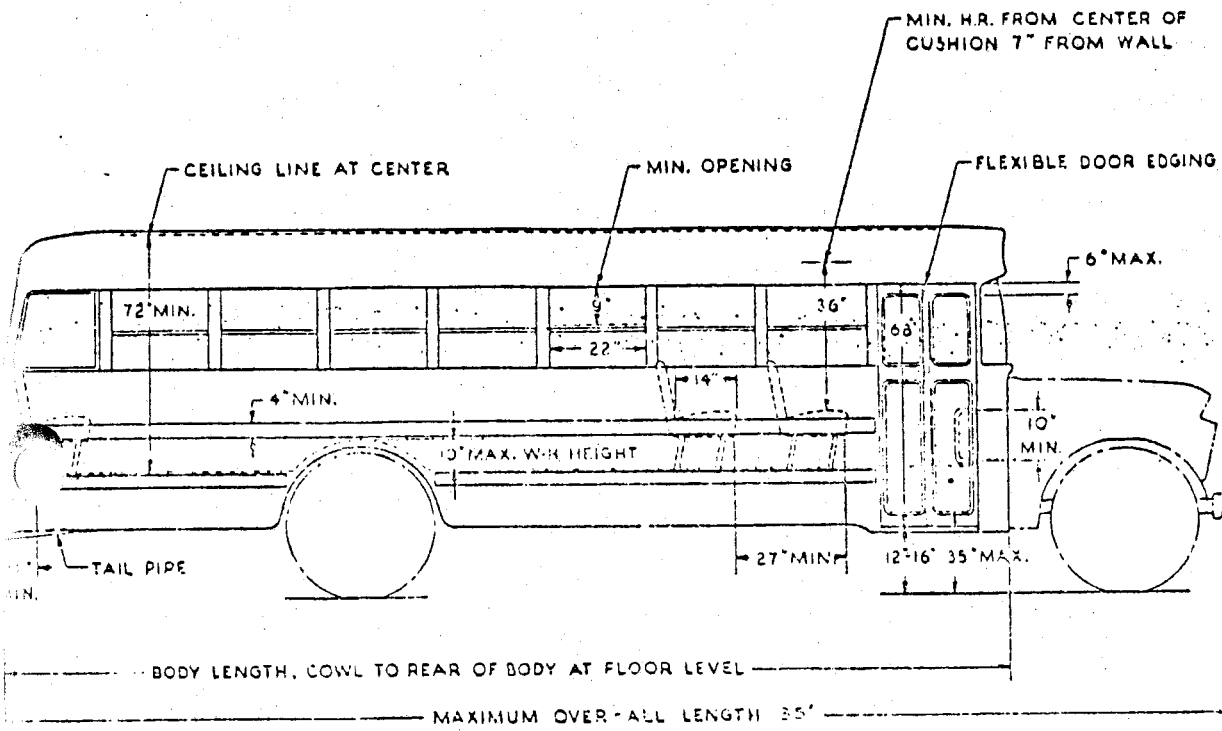
1. Follow the inspection procedures for Passenger Vehicles, pages PV-VII-1 through 7.
2. Note the additional inspection procedures listed below for school bus glazing requirements. Procedure A below, Side Windows - School Buses, applies only to standard school buses similar to the vehicle in Figure 1 on page SB-VII-2. Other vehicles used as school buses, such as station wagons or vans, may not have side windows which meet this requirement.

PROCEDURE	
A. <u>Side Windows - School Buses</u>  Determine whether all full side windows can be opened readily to provide at least a 9 inch (23 cm.) emergency opening for each. Also check closing.	A. <u>Side Windows - School Buses</u>  Any side window cannot be readily opened to permit at least a 9 inch (23 cm.) unobstructed emergency opening. (See <u>Figure 1</u> .)
B. <u>Edging - School Buses</u>  Inspect for unbanded exposed edges of laminated glass.	B. <u>Edging - School Buses</u>  1. Any exposed edges of laminated glass are not banded.  2. Banding is loose is broken.

SB - VII - 1

Figure 1

BODY ELEVATION



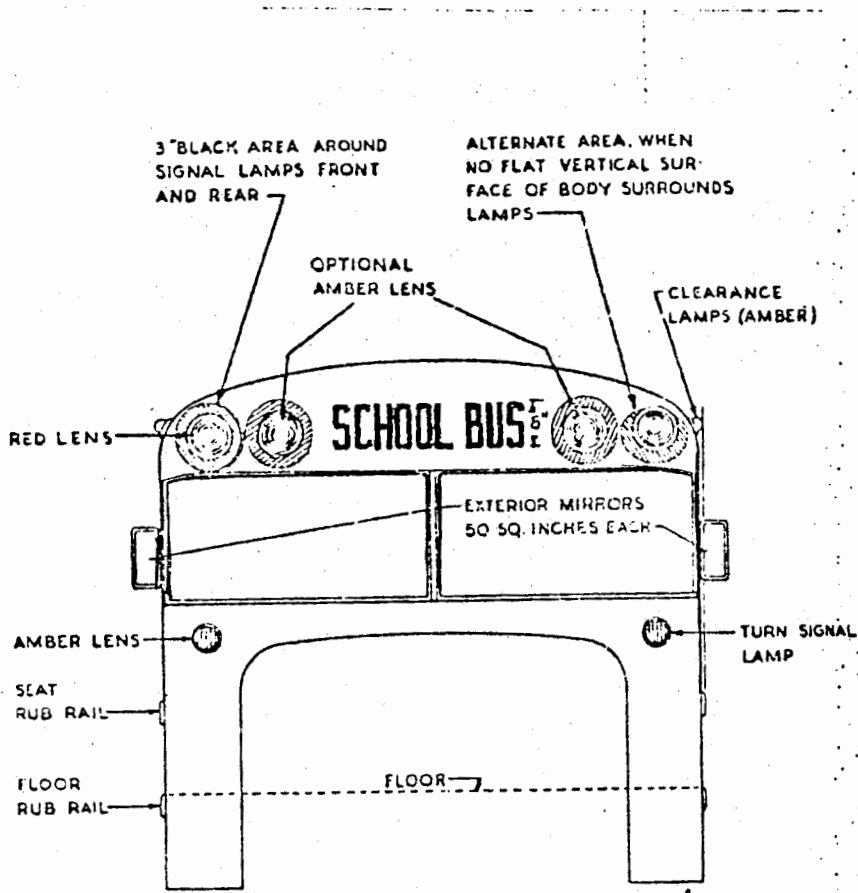
From NEA Minimum Standards for School Buses

SB - VII - 2



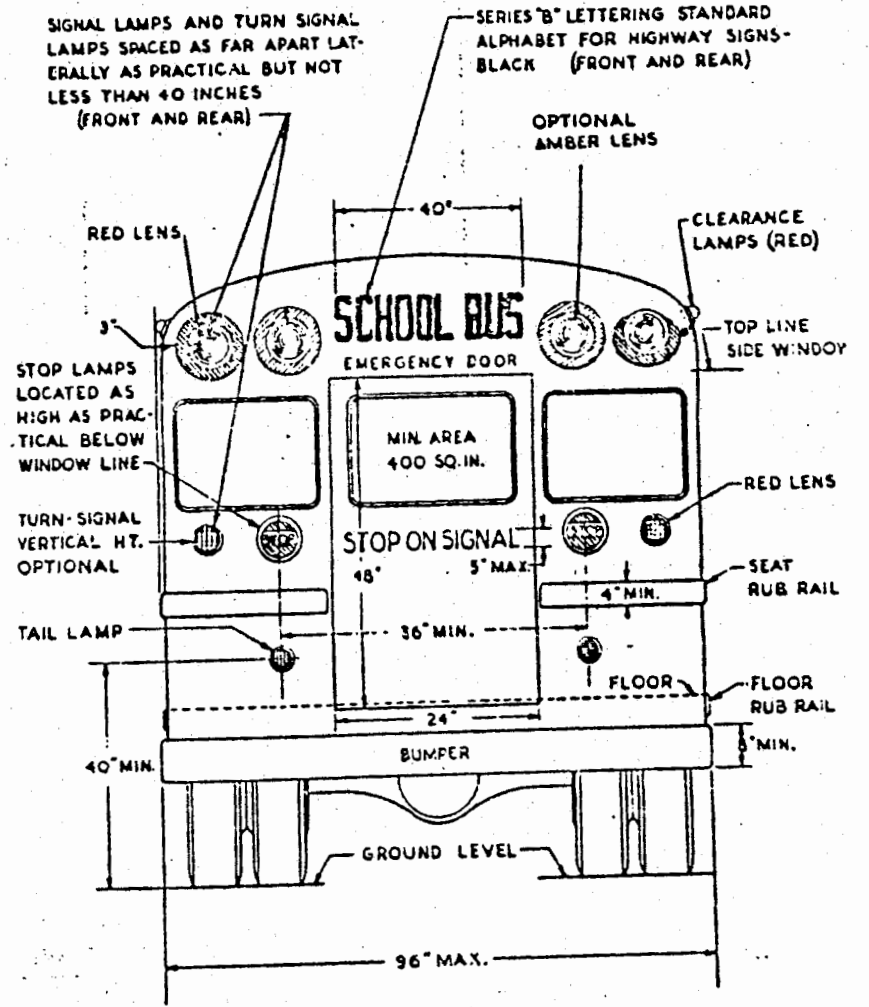
SB - VI - 3

Figure 1



FRONT ELEVATION

Figure 2



REAR ELEVATION

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 MIRRORS (Refer to Passenger Vehicles, pages PV-VIII-1 through 3.)

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, page PV-VIII-3.)

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.

- (3)\* WINDSHIELD WIPERS (Refer to Passenger Vehicles, pages PV-VIII-4 through 6.)

- (4)\* WINDSHIELD WASHER (Refer to Passenger Vehicles, page PV-VIII-6.)

- (5)\* BODY PARTS - BUMPERS - FENDERS (Refer to Passenger Vehicles, pages PV-VIII-7 and 8.)

- (6)\* DOORS - SERVICE, EMERGENCY

- (7)\* HOOD/TRUNK (Refer to Passenger Vehicles, Procedure B, pages PV-VIII-9 and 10.)

- (8) FLOOR PAN

- (9)\* SEATS AND SAFETY BELTS - STANCHIONS AND GUARD RAILS (Refer to Trucks, Trailers and Buses, Procedures J and K, pages PV-VIII-4 and 5.)
- (10)\* STEPWELL - VENTILATION (Refer to Trucks, Trailers and Buses, Procedures L and M, page PV-VIII-5.)
- (11)\* SUN VISORS
- (12)\* FIRE EXTINGUISHER - FIRST AID KIT (Refer to Trucks, Trailers and Buses, Procedures N and O, pages PV-VIII-5 and 6.)

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:
<p>A. <u>Service Door - School Buses</u></p> <p>1. From driver's position, inspect function of opening and closing operation.</p>	<p>A. <u>Service Door - School Buses</u></p> <p>1. Power or manual opening and closing device shows evidence of binding, jamming excessive wear, or malfunction.</p>

PROCEDURES	REJECT VEHICLE IF:
<p>2. Inspect condition of flexible material on vertical closing edges.</p> <p><b>B. <u>Emergency Door - School Buses</u></b></p> <p>1. Inspect for clear passageway to door.</p> <p>2. Inspect inside and outside quick release mechanism.</p> <p>3. Check length of stroke on slide bar/cam operated lock.</p> <p>4. Check function of buzzer indicating door is not fully closed.</p>	<p>2. Flexible material on vertical closing edges of service door is excessively loose, torn or missing.</p> <p><b>B. <u>Emergency Door - School Buses</u></b></p> <p>1. Passageway to emergency door is blocked or restricted in any way, to less than 12 inches width.</p> <p>2. Door release mechanism fails to function positively when activated from both inside and outside of bus OR if it opens accidentally or <u>too</u> easily.</p> <p>3. Slide bar has less than one inch stroke length.</p> <p>4. Buzzer fails to function in driver's compartment when slide bar is moved.</p>

(8) FLOOR PAN

PROCEDURE	REJECT VEHICLE IF:
<p><b>A. <u>Floor Pan - School Buses</u></b></p> <p>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</p>	<p><b>A. <u>Floor Pan - School Buses</u></b></p> <p>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.)</p>

PROCEDURE	REJECT VEHICLE IF:
<p>should be checked very carefully. Soft spots in the floor covering or loose seat mountings could be indications of a damaged floor pan.</p> <p>2. Inspect floor covering for cracking, adhesion, and sealing.</p>	<p>2. Floor covering is cracked, curled, or worn so that it is not waterproof at the seams, or presents a tripping hazard.</p>

(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:
<p><u>Sun Visor(s) - School Buses</u></p> <p>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.</p>	<p><u>Sun Visor(s) - School Buses</u></p> <p>Driver visor is missing.</p>

Figure 1  
BODY ELEVATION

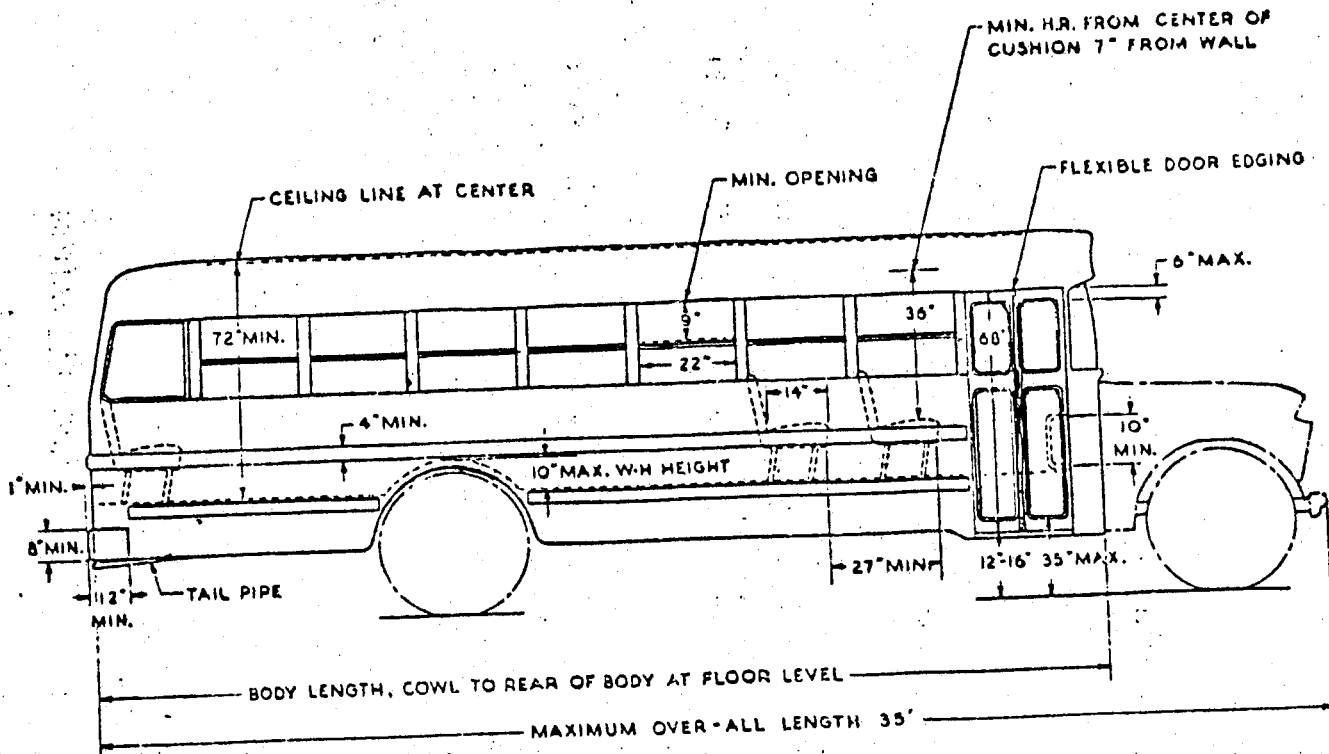
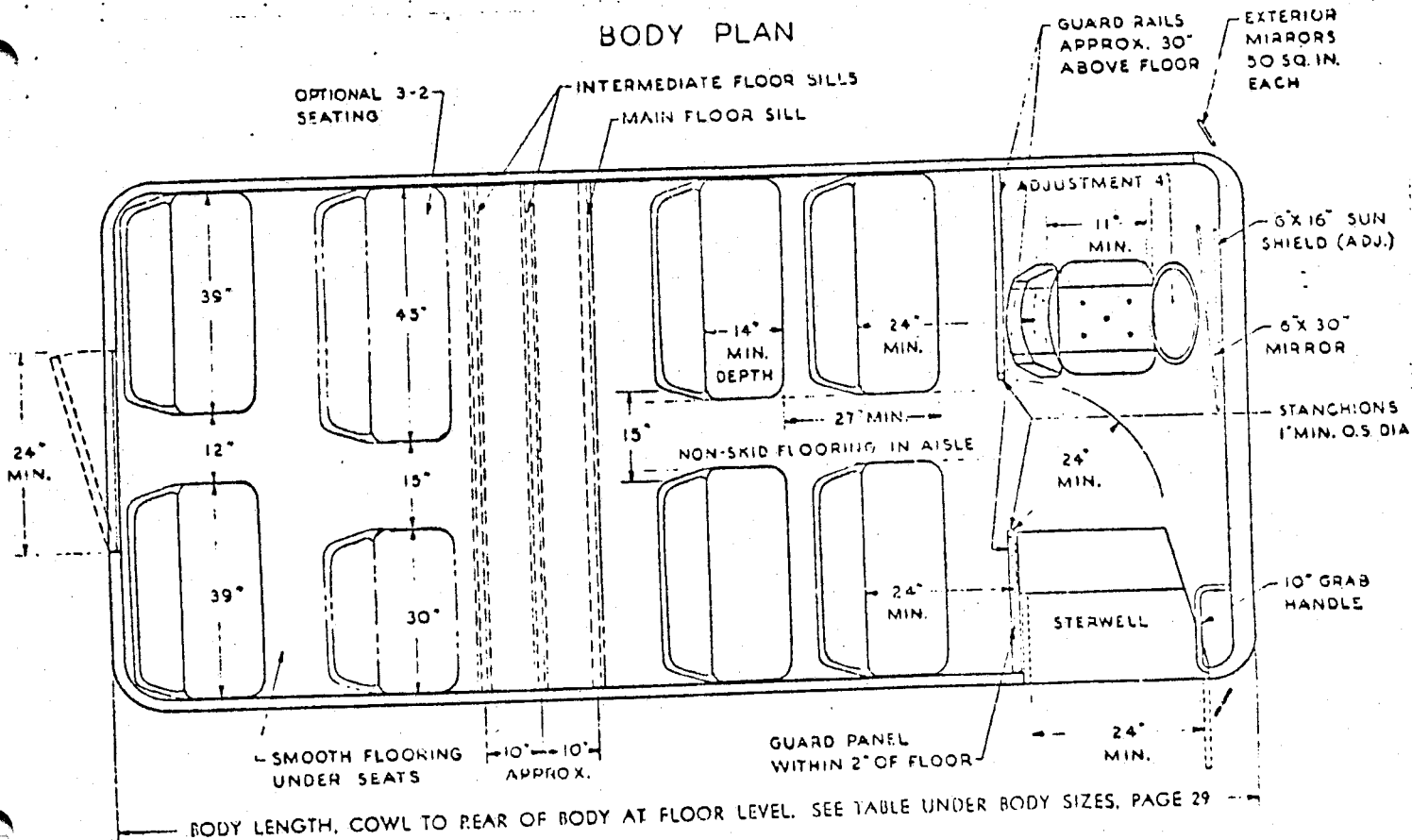


Figure 2

BODY PLAN

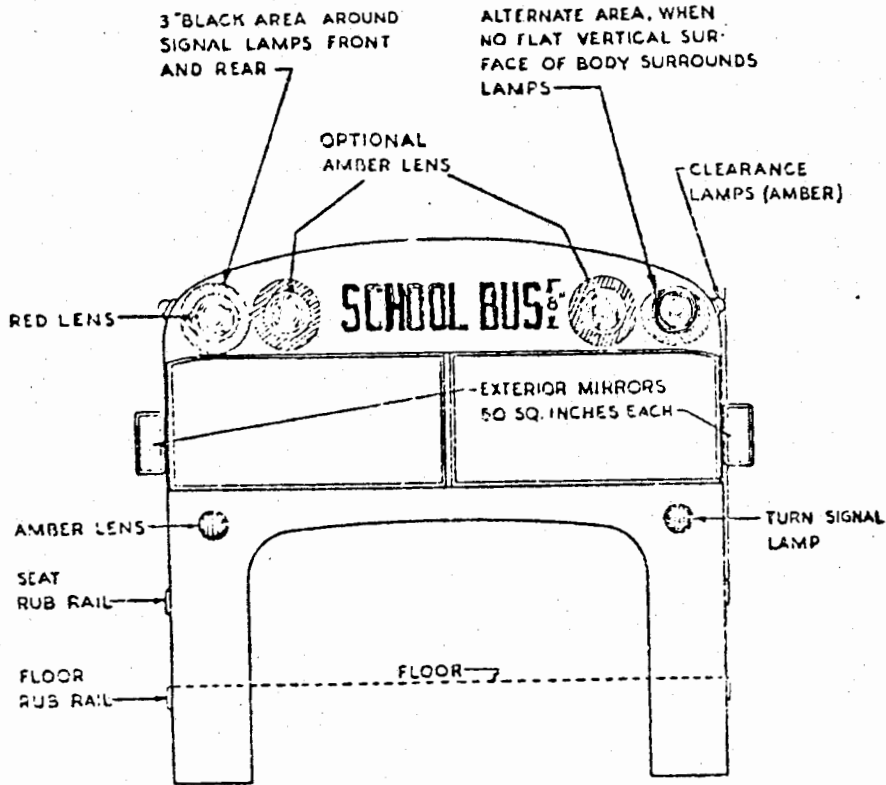


From NEA Minimum Standards for School Buses

SB - VIII - 5

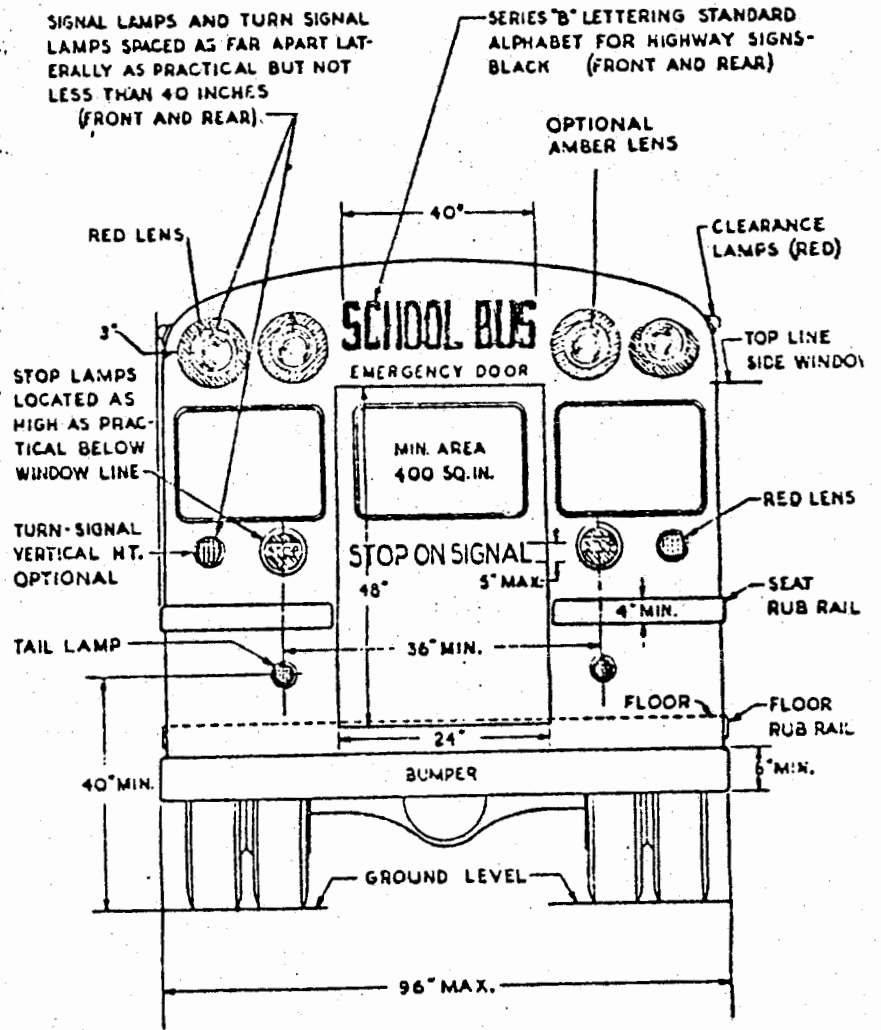
SB - VIII - 6

Figure 3



FRONT ELEVATION

Figure 4



REAR ELEVATION

From NEA Minimum Standards for School Buses

## EXHAUST SYSTEM

### General Instructions

1. Follow the inspection procedure on pages PV-IX-1 through 3 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.

SB - IX - 1



## FUEL SYSTEM

### General Instructions

1. Follow the inspection procedure on pages PV-X-1 and 2 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.

SB - X - 1



Filed this 8th day of September 1987. gan

Department of Finance  
Office of the Director  
Commonwealth of the Northern Mariana Islands

Commonwealth of the Northern Mariana Islands  
P.O. Box 234 CHRB  
Saipan, CM 96950

Cable Address  
Gov. NMI Saipan

AMENDMENT NO. 80987  
REVENUE AND TAXATION REGULATIONS NO. 8301  
OFFICE OF THE DIRECTOR OF FINANCE  
COMMONWEALTH OF THE NORTHERN MARIANA ISLANDS

Section 1. Title. This amendment shall be known as Amendment No. 80987.

Section 2. Purpose. This amendment shall provide for management flexibility in determining more efficient operation hours to meet the public needs.

Section 3. Amendment. Amendment No. 80987 to Revenue and Taxation Regulations No. 8301 amends Section 4.818.8(b) and Section 4.818.8(c) of the regulations. The amended sections read as follows:

Section 4.818.8 Operation

"(b) Unless the Director of Finance or his designee has determined otherwise, the hours of operation for the Division of Revenue and Taxation shall be from 0800 to 1130 hours and 1230 to 1600 hours daily except Saturday, Sunday, or a legal holiday, and other days authorized by the Governor for government offices to be closed. During these hours, the Division of Revenue and taxation will render services to the general public and other government agencies.

(c) Unless the Director of Finance or his designee has determined otherwise, the regular working hours for the employees of the Division of Revenue and Taxation shall be from 0730 to 1130 hours and 1230 to 1630 hours daily except Saturday, Sunday, or a legal holiday, and other days authorized by the Governor for government offices to be closed."

Certified by: [Signature]  
Eloy S. Inos  
Director of Finance

9/4/87



Filed this 8<sup>th</sup> day of September 1987. 9 am

**Department of Finance** Office of Registrar of Corporations  
**Office of the Director** Commonwealth of the Northern Mariana Islands

Commonwealth of the Northern Mariana Islands  
P.O. Box 234 CHRB  
Saipan, CM 96950

Cable Address  
Gov. NMJ Saipan

September 4, 1987

PUBLIC NOTICE

PROPOSED AMENDMENT NO. 80987  
REVENUE AND TAXATION REGULATIONS NO. 8301


The Director of Finance, in accordance with 4 CMC §1818 and 1 CMC §2557, is proposing to promulgate amendments to Revenue and Taxation Regulations No. 8301.

The proposed amendment is to accord the management of the Division of Revenue and Taxation the flexibility to make decision that best cater to rendering an efficient public service.

The proposed amendments may be inspected at the Division of Revenue and Taxation, Central Office, Capitol Hill, Commonwealth of the Northern Mariana Islands, Saipan, CM 96950. These amendments are published in the Commonwealth Register. Copies of the register may be obtained from the Attorney General's Office.

The Office of the Director of Finance is soliciting views, opinions, facts and data for or against the proposed amendments to Revenue and Taxation Regulations No. 8301 from the general public.

Anyone interested in commenting on the proposed amendments to Revenue and Taxation Regulations No. 8301 may do so by submitting in writing to the Director of Finance, Commonwealth of the Northern Mariana Islands, Capitol Hill, Saipan, CM 96950 not later than thirty (30) days from the date of its publication in the Commonwealth Register.

Certified by:   
Eloy S. Inos  
Director of Finance

9/4/87  
Date



Filed this 0<sup>th</sup> day of September 1987. 9am

**Department of Finance**  
Office of Registrar of Corporations  
Commonwealth of the Northern Mariana Islands

Office of the Director  
Commonwealth of the Northern Mariana Islands  
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Gov. NMJ Saipan

SEPTEMBRE 4, 1987

NOTISIAN PUBLIKU

MA INTENSIONA NA AMENDASION  
NO. 80987  
AREGLAMENTO NUMERO 8301  
PARA I REVENUE YAN TAXATION

I Direktot i Finansiat, segun i 4 CMC \$1818 yan i 1 CMC \$2557, ha introdudusi para una efktibo amendasion gi areglamento yan regulasion, ya para uma rekognisa komo Amendasion No. 80987 gi Revenue yan Taxation Regulasion No. 8301.

I ma intensiona na amendasion ma publika para uma establese areglamento yan regulasion ni para uma na guaha faset gi operasion yan inenkatga i ofisinan Revenue yan Taxation kosa ke sina mana mas libianu i setbision publiku.

I ma intensiona na amendasion sina ma rikonosi gi ofisinan i Division i Revenue yan Taxation gi Capitol Hill, Commonwealth i Northern Mariana Islands, Saipan, CM 96950. Este na amendasion ma publika gi Commonwealth Register. Sina manuli hao kopian este na publikasion gi ofisinan i Abogadon Gobietno.

I Ofisinan i Direktot i Finansiat ma ma-maisen idea, fakto yan nota ginen i publiku, kao mauleg pat ma kokontra este na inintrodusen amendasion gi Regulasion Numero 8301.

Todo man interesao na individuat ni para ufan na halom opinion ni fumabot, osino ma kokontra este na amendasion gi Revenue yan Taxation Regulasion Numero 8301, man ma-fafaisen na u ma satmite i matugi na opinion niha guato gi Ofisinan i Direktot i Finansiat, Commonwealth i Northern Mariana Islands, Saipan, CM 96950, gi halom 30 dias deste i fecha anai ma publika este na notisia gi Commonwealth Register.

Sinettifika as: [Signature]  
Eloy S. Inos  
Direktot i Finansiat

9/4/87  
Fecha

COMMONWEALTH OF THE NORTHERN MARIANA ISLANDS  
BOARD OF EDUCATION  
DEPARTMENT OF EDUCATION  
SAIPAN, CM 96950

Tel: 322-9311/322-9812



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PUBLIC NOTICE

Adopted Rules and Regulations  
Department of Education

The Board of Education of the Northern Mariana Islands in accordance with Public Law 3-43 has adopted for the Department of Education rules and regulations for the following subject areas:

1. Elementary School Grading System
2. Construction of Classrooms
3. Students Beyond Normal Age of Attendance

Copies of the rules and regulations were published on May 5, 1987 in the Commonwealth Register. During the designated period for public comment, no comments were received by the Board of Education concerning the proposed policy. The policy is adopted as originally promulgated.

Date: 8/26/87

*E. D. Rechebei*  
Elizabeth D. Rechebei

Chairperson, Board of Education

Filed, this 8<sup>th</sup> day of  
Sept. 19 87.  
Office of Registrar of Corporations  
Commonwealth of the Northern Mariana Islands

EMERGENCY REGULATIONS  
EXCLUDING SPECIFIC FUNCTIONS FROM  
PROCUREMENT REGULATIONS

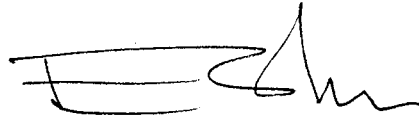
The Procurement Regulations of the Commonwealth of the Northern Mariana Islands, published at Vol. 7, No. 7, Commonwealth Register, p. 3736-3771, published by the Director of Finance pursuant to the authority of 1 CMC 2553(j) are hereby amended as follows:

Section 1-105 Application of Regulations.

Except as otherwise specified by law, these regulations apply to every expenditure of public funds irrespective of source, including federal assistance monies and Covenant funds, which are not subject of federal procurement requirements. These regulations do not apply to contracts between the government and its political subdivisions or other governments. Nothing in these regulations shall be construed to prevent any governmental body or political subdivision from complying with the terms and conditions of any grant, cooperative agreement or memoranda of understanding. These regulations shall not apply to Department of Vocational Rehabilitation or Job Training Partnership Act recruitment and reimbursement of training program employers for special needs

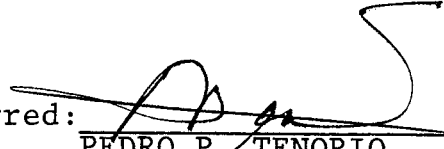
persons in the CNMI.

Dated: 8/14/87



ELOY S. INOS  
Director of Finance

Dated: 9/8/87

Concurred: 

PEDRO P. TENORIO  
Governor

Dated: 7/8/87



SOLEDAD B. SASAMOTO  
Registrar of Corporations



Department of Finance  
Office of the Governor  
Commonwealth of the Northern Mariana Islands  
Saipan, CM 96950

CABLE ADDRESS  
GOV. NMI SAIPAN

Filed this 11<sup>th</sup> day of

Sept. 19 87

Office of Registrar of Corporations  
Commonwealth of the Northern Mariana Islands

PUBLIC NOTICE

Revenue and Taxation Ruling 87-001

The Director of Finance has issued a ruling concerning the dividends and interest paid by a Commonwealth of the Northern Mariana Islands (CNMI) corporation to foreign shareholders and creditors and the rabatability of the taxes paid.

This ruling is published in this issue of the Commonwealth Register for public review. Other documents relating to this issue may be inspected at the Division of Revenue and Taxation, Capitol Hill, Saipan, CM 96950 during regular operation hours.

A handwritten signature in black ink, appearing to read "Eloy S. Inos".

Eloy S. Inos  
Director of Finance

9/3/87  
Date





Department of Finance  
Office of the Governor  
Commonwealth of the Northern Mariana Islands  
Saipan, CM 96950

CABLE ADDRESS  
GOV. NMI SAIPAN

Filed this 11<sup>th</sup> day of

Sept. 19 87  
Office of Registrar of Corporations  
Commonwealth of the Northern Mariana Islands

NOTISIAN PUBLIKU

Revenue and Taxation Areglo No. 87-001

I Direktot Finansiat man publika areglamento pot pattida yan i interes ni ma apase ginen kompania gi Sankatan na Islas Marianas guato gi un estrangheru na patida yan akredot yan lokue hafa na patti gi aduana sina i gobietno ha nae tatti.

Este na areglo ma publika guine gi Commonwealth Register para sensuran publiku. Otro dokumento siha pot esti na asunto sina ma rikonose gi Division i Revenue yan Taxation, Capitol Hill, Saipan, CM 96950 duranten i oran chocho.

Sinettifika As:

Eloy S. Inos  
Direktot i Finansiat

9/3/87  
Fecha



Department of Finance  
Office of the Governor  
Commonwealth of the Northern Mariana Islands  
Saipan, CM 96950

CABLE ADDRESS  
GOV. NMI SAIPAN

Filed this 11<sup>th</sup> day of

Sept. 19 87.  
Office of Registrar of Corporations  
Commonwealth of the Northern Mariana Islands

REVENUE RULING 87-001

Issues

1. Whether dividends and interest paid by a Commonwealth of the Northern Mariana Islands (CNMI) corporation to foreign shareholders and creditors subject to a withholding tax at the source of payment.
2. Whether foreign shareholders and creditors which are subject to such withholding tax will, upon filing a claim for such, be allowed a 95% rebate for taxes actually withheld and paid over to the CNMI.

Background Facts

Y Corporation is a foreign corporation and the majority shareholder of X Corporation, a corporation organized under the laws of the CNMI. X Corporation owns and operates a business in the CNMI. Y Corporation own shares as well as receivables due from X Corporation. For some business reasons, Y Corporation plans to transfer the capital stock and receivables due from X Corporation to its wholly-owned subsidiary, Z Corporation, a foreign corporation.

Law and Analysis

Section 1701 of CNMI Public Law 4-24 adopts the U.S. Internal Revenue Code (IRC) as a local income tax known as the Northern Marianas Territorial Income Tax (NMTIT). The IRC is generally applied as the CNMI income tax law by substituting "CNMI" for "United States" wherever appropriate in order to give the law proper effect in the CNMI. Therefore, all references to the United States in the IRC as adopted by the NMTIT, are deemed also to refer to the CNMI.

Section 881(a)(1) of the NMTIT (IRC) imposes a tax of 30 percent of amounts received as interest and dividends from sources within the CNMI by a foreign corporation to the extent the amount so received is not effectively connected with the conduct of a trade or business within the CNMI.

Section 1442(a) of the NMTIT provides that in the case of a foreign corporation subject to tax under subtitle A, there shall be deducted and withheld at the source in the same manner and on the same items of income as is provided in section 1441 which includes interest and dividends. The tax is imposed at the rate of 30 percent. The payor of the income enumerated under NMTIT Section 881 must withhold tax at the source of payment.

Pursuant to 4 CMC §1708, every person subject to NMTIT subtitle A who paid taxes on income derived from sources within the CNMI is entitled to a rebate. Foreign Corporations that paid taxes under Chapter 3 of Subtitle A shall also be entitled to a rebate. The rebate percentage shall be 95% of the first \$7,500,000 of tax paid and 50% of the tax paid in excess of such amount up to \$20,000,000 and 25% of any tax paid in excess of \$20,000,000.

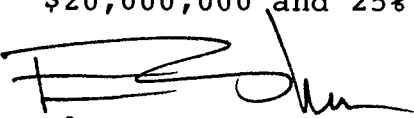
Section 1708(f) of the NMTIT provides that amounts properly subject to rebate shall be treated as overpayment of tax and refunded after the filing of the taxpayers return for the taxable year to which the rebate relates. The rebate is obtained by filing a form prescribed by the Commissioner (DOF) at the end of the taxable year.

#### Holdings

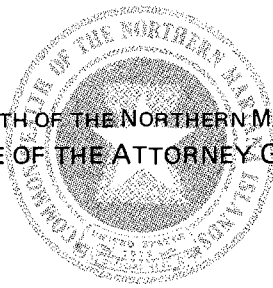
1. Dividends and interest paid by X Corporation to Y Corporation or Z Corporation (foreign corporations) are subject to the withholding tax at the source of payment pursuant to Section 881(a) of the NMTIT. Such tax must be withheld by X Corporation in accordance with Section 1442(a) of the NMTIT.

2. Pursuant to the provisions of NMTIT section 1708(a), every person subject to the NMTIT shall be entitled to a rebate with respect to their NMTIT tax. Such is obtained by filing a form prescribed by the Director after the end of the taxable year.

The rebate percentage shall be 95% of the first \$7,500,000 of tax paid and 50% of the tax paid in excess of \$7,500,000 up to \$20,000,000 and 25% of any tax paid in excess of \$20,000,000.

  
Eloy S. Inos  
Director of Finance

Dated: 9/02/87



COMMONWEALTH OF THE NORTHERN MARIANA ISLANDS  
OFFICE OF THE ATTORNEY GENERAL

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PUBLIC NOTICE

A.G. OPINIONS PUBLISHED

August 19, 1987 - September 14, 1987

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87-24	08/19/87	Board Member Term (Supplemental Opinion to 87-19)
87-25	09/09/87	Employees as Candidates for Board of Election
87-26	09/14/87	DOSA Submarine and Excise Tax

Date: \_\_\_\_\_

*9/15/87*

*Alexandro C. Castro*

\_\_\_\_\_  
ALEXANDRO C. CASTRO  
Attorney General