

Subchapter H MOTORCYCLES

175.141. Application of Subchapter

Equipment standards set forth in this subchapter apply to all motorcycles being driven on highways.

175.142. Suspension

- (a) **Condition of Suspension Components** - Every suspension component shall be in safe operating condition as described in §175.160 (relating to inspection procedure).
- (b) **Suspension System** - A motorcycle shall be equipped with a suspension system.
 - (1) A motorcycle shall be equipped with a suspension system on at least the front wheel.
 - (2) The suspension system shall be effective in reducing road shock and shall be designed for the purpose of maximizing the vehicle's stability.

175.143. Steering

- (a) **Condition of Steering Components** - The steering assembly and steering mechanism shall be in safe operating condition as described in §175.160 (relating to inspection procedure).
- (b) **Condition of Steering** - A motorcycle shall meet the following specifications in relation to front wheel geometry:
 - (1) Maximum Rake: 45°—Maximum trail: 14 inches positive.
 - (2) Minimum Rake: 20°—Minimum trail: 2 inches positive.
 - (3) Minimum rake and minimum trail are not applicable to three-wheel motorcycles unless the third wheel is derived from a sidecar.
- (c) **Steering Head** - A head shall be provided with a bearing or similar device allowing the steering shaft to turn freely in rotating fashion.
- (d) **Handlebars** - Nothing in this subchapter prohibits a motorcycle from being equipped with a steering wheel instead of handlebars.
 - (1) The handlebars or steering system shall be of a sturdy construction adequate in size and length to provide proper leverage for steering and capable of withstanding a minimum force of 100 pounds applied to each handle grip in any direction.
 - (2) The handlebars or steering system shall be designed so as not to restrict front fork movement and shall be capable of vertical adjustment.
 - (3) The handlebar design shall provide a minimum of 18 inches between ends, after final assembly.
 - (4) The handlebars shall be equipped with grips of non-slip design and materials.

175.144. Braking Systems

- (a) **Condition of Braking Systems** - Braking systems and components shall be in safe operating condition as described in §175.160 (relating to inspection procedure).
- (b) **Service Brakes** - A motorcycle shall be equipped with a service brake system. See 75 Pa.C.S. §4502 (relating to general requirements for braking systems).
 - (1) The service brakes shall act on all wheels upon application and shall be capable of stopping the vehicle in not more than the maximum stopping distance prescribed in Table I (relating to brake performance).
 - (2) The service brake system shall act upon all wheels according to the vehicle manufacturer's specifications, except on a vehicle being towed in driveaway-towaway operation or side cars not originally equipped.

- (3) The brake lining and brake fluids shall be of type approved by vehicle manufacturer or shall meet the Society of Automotive Engineers (SAE) standards (J998 January 1980) see Appendix A (relating to minimum requirements for motor vehicle brake linings - SAE J998).
- (4) The service brake system shall be of a design that rupture or failure of either the front or rear brake system will not result in the complete loss of braking function. Braking function may be obtained by hydraulic or other means through normal brake mechanism. In the event of rupture or failure of actuating force component, the unaffected brakes shall be capable of applying adequate braking force to vehicle.
- (5) Metal from the shoe or caliper shall not contact brake drums or rotors.
- (6) Brake lines shall be approved for use as brake lines.

175.145. Tires and Wheels

- (a) **Condition of Tires and Wheels** - Tires and wheels shall be in safe operating condition as described in §175.160 (relating to inspection procedure).
- (b) **Tire Standards** - A motorcycle shall have tires that were manufactured in conformance with standards contained in Chapter 159 (relating to new pneumatic tires). See 75 Pa.C.S. §4525 (relating to tire equipment and traction surfaces). Tires with equivalent metric size designations may be used.
- (c) **Non-Pneumatic Tires** - A motorcycle operated on a highway may not be equipped with nonpneumatic tires.
- (d) **Ice Grips or Stud** - A tire may not be equipped with ice grips or tire studs of wear-resisting material which have projections exceeding 2/32 inch beyond the tread of the traction surface of the tire.
- (e) **Antique Vehicle Pneumatic Tire Exemption** - An antique vehicle may be equipped with nonpneumatic tires if originally equipped by the manufacturer.

175.146. Lighting and Electrical Systems

- (a) **Condition of Lamps and Switches** - Every required lamp or switch shall be in safe operating condition as described in §175.160 (relating to inspection procedure).
- (b) **Lighting Standards** - Lamps shall comply with the vehicle lighting equipment requirements of Tables II, IV, and V; Chapter 153; and 75 Pa.C.S. §4301.
- (c) **Headlamp System** - A motorcycle driven on a highway shall have at least one and no more than two headlamps. See 75 Pa.C.S. §4303(a) (relating to general lighting requirements).
 - (1) Lamps in the headlamp system shall be of Type I or Type II construction. On one-lamp system, the lamp shall be located in the center of vehicle. On a two-lamp system, the lamps shall be symmetrically located on each side of the vehicle's vertical centerline.
 - (2) The headlamp low beam minimum candlepower shall not be less than 7,500.
 - (3) The headlamp high beam minimum candlepower shall not be less than 10,000.
 - (4) Every headlamp shall be aimed to comply with inspection procedure of this subchapter.
 - (5) Approved SAE modulating lamps are legal.
 - (6) A motorcycle shall be equipped with a manual dimmer switch conveniently located for use by the driver while in a normal operating position. An automatic dimming device may be used in addition to a manual switch.
 - (7) A motorcycle shall be equipped with a beam indicator which shall be lighted whenever the high beam of light from the headlamp is in use and shall not otherwise be lighted. The indicator shall be so located that when lighted it is readily visible without glare to the operator of the vehicle.
- (d) **Total Candlepower** - Total candlepower for headlamps and auxiliary lamps shall not exceed 150,000.
- (e) **Other Required Lamps** - A motorcycle shall have at least one red stop lamp, and no more than two—one on each side—on the rear of the vehicle, which shall be illuminated immediately upon application of the service brake.

Subchapter H - Motorcycles

- (f) **Illumination except Headlamps, Fog Lamps, and Auxiliary Driving Lamps** - A motorcycle shall have a stop lamp and tail lamp which, under normal atmospheric conditions, shall be capable of being seen and distinguished during night time operation at a distance of 500 feet. See 75 Pa.C.S. §4303(b) and (d).
- (1) Rear lamps shall be lighted whenever headlamps, fog lamps, or auxiliary driving lamps are in operation.
 - (2) A vehicle specified under this subchapter may be equipped with turn signals.
 - (3) The turn signals shall have frequency of flash between 60-120 flashes per minute.
 - (4) The stop lamps shall be operated through a switching arrangement so that any motion of brake towards applied position immediately illuminates the stop lamp.
 - (5) The stop lamps shall not be combined with turn signal lamps unless arrangement of switches or other parts are such that the stop lamp is extinguished when turn signal is in use.
 - (6) The stop lamps shall be visible for 100 feet in normal sunlight.
 - (7) A motorcycle manufactured after 1978 shall be equipped with alternator, generator, or electrical energy storage source, capable of providing lighting in compliance with Chapter 153 (relating to lamps, reflective devices, and associated equipment) and SAE J392-Appendix B (relating to motorcycle and motor vehicle cycle electrical system [maintenance of design voltage]-SAE J392) - Maintenance of Design Voltage.
 - (8) A motorcycle shall be equipped with at least one red reflector to the rear.
 - (9) A motorcycle shall have at least one tail lamp if it was manufactured after 1973 or if originally so equipped.
- (g) **Condition and Position of Lamps** - Lamps shall be properly fastened; direct light properly; be of a color not contrary to Tables II, IV, and V; and not be so obstructed by a screen, bar, auxiliary equipment, or a device as to obscure, change the color of or obstruct the beam.
- (h) **Ornamental Lamps** - A lamp not enumerated in this section, and not located as described in Tables III - V of this chapter, is prohibited unless it is available as original equipment or is auxiliary lighting added to a motorcycle to protect the driver as permitted by 75 Pa.C.S. § 4310 (related to motorcycle lighting). An illuminated sign is prohibited. Flashing or revolving lights are not ornamental lamps. Provisions relating to flashing or revolving lights are located in Chapters 15 and 173 (relating to authorized vehicles and special operating privileges; and flashing or revolving lights on emergency and authorized vehicles).
- (i) **[Reserved]**.
- (j) **Registration Plate Lamp** - A registration plate lamp, if originally equipped, shall emit white light and make registration plate visible from a distance of 50 feet to the rear of the vehicle.
- (k) **Auxiliary Driving Lamps and Fog Lamps** - Auxiliary driving lamps and fog lamps may be installed on a motorcycle if they comply with the following requirements:
- (1) Fog lamps shall not be substituted for headlamps, except under conditions of rain or fog. Fog lamps may be used with lower headlamp beams.
 - (2) Auxiliary driving lamps and fog lamps shall be mounted on front at a height not less than 12 inches nor more than 42 inches above level surface upon which the vehicle stands. Rear fog lamps, if originally installed or offered as optional equipment, are acceptable.
 - (3) Auxiliary lamps and fog lamps shall be aimed when the vehicle and lamp assembly are in the straight ahead position with the beam not above the horizontal centerline of the lamp at 25 feet.
 - (4) A motorcycle may have one and no more than two approved auxiliary driving lamps and fog lamps.
 - (5) Auxiliary driving lamps and fog lamps shall not be placed in front of any required lamp.
 - (6) A vehicle equipped with headlamps, auxiliary driving lamps, or fog lamps may not have more than four forward projecting lamps illuminated at the same time.
- (l) **Antique Vehicle Lighting Exemption** - An antique vehicle, if operated exclusively between the hours of sunrise to sunset and not during periods of reduced visibility or insufficient illumination, is exempt from requirements of this section, except requirements pertaining to stop lamps.

- (m) **Battery Fastening** - A vehicle specified under this subchapter shall be equipped with a system which is specifically designed for the secure fastening of the battery.

175.147. Glazing

- (a) **Condition of Glazing** - Glazing shall meet the requirements of Chapter 161 (relating to glazing materials). See 75 Pa.C.S. §4526 (relating to safety glass).
- (b) **Safety Glazing** - A motorcycle may be equipped with a windscreen. This subsection does not apply to a vehicle manufactured or assembled before January 1, 1934, if original glazing is not cracked or discolored.
- (c) **Stickers** - Out-of-state inspection stickers, tax stamps, road use permits, or other government-related permits—all municipalities and states—may be placed at lower left or right-hand corner of the windscreen.
- (d) **Obstructions** - A vehicle specified under this subchapter shall have glazing free from obstructions as described in §175.160 (relating to inspection procedure).
- (1) With the exception of the materials in paragraph (3), signs, posters or other materials, whose design prevents a driver from seeing through the material, may not be placed on the windscreen or a side wing or side window so as to obstruct, obscure or impair the driver's clear view of the highway or an intersecting highway. Under FMVSS No. 205, these restrictions do not apply to the rear side windows, rear wings or rear window of vehicles subject to this subchapter, if so equipped.
 - (2) The requirements of this subsection also apply to glass etchings, except those used for vehicle identification.
 - (3) A sun screening device or other material which does not permit a person to see or view the inside of the vehicle is prohibited unless otherwise permitted by FMVSS No. 205, or a certificate of exemption has been issued in compliance with §175.265 (relating to exemption provisions). See Table X for specific requirements for vehicles subject to this subchapter.

175.148. Mirrors

- (a) **Condition of Mirrors** - Mirrors shall be in safe operating condition as described in §175.160 (relating to inspection procedure).
- (b) **Rearview Mirrors** - A motorcycle shall be equipped with at least one rearview mirror or similar device. If a certificate of exemption for a sun screening device or other material has been issued, rearview mirrors, each with a minimum reflective surface of 12 1/2 square inches for a flat mirror or 10 square inches for a convex mirror, shall be installed on both sides of a motorcycle. A vehicle for which a certificate of exemption has been issued for medical reasons may be equipped with only a left outside rearview mirror, unless originally equipped with an outside rearview mirror on both sides of the vehicle.
- (1) A mirror may not be cracked, broken or discolored.
 - (2) A mirror shall hold adjustment.
 - (3) A mirror shall provide an unobstructed view of the highway to the rear of the vehicle for distance of not less than 200 feet.
 - (4) A mirror shall provide a minimum reflective surface of 12 1/2 square inches for a flat mirror or 10 square inches for a convex mirror.
- (c) **Obstructions** - A motorcycle rearview mirror shall be free from obstructions as described in §175.160.

175.149. Fuel Systems

- (a) **Condition of Fuel Systems** - All components in the fuel system shall be in safe operating condition as described in §175.160 (relating to inspection procedure).
- (b) **Fuel System Requirements** - The fuel system components shall be leakproof and shall be fastened securely to the vehicle with fasteners designed for that purpose.
- (c) **Accelerator Operation** - The accelerator control system shall return the engine throttle to the idle position when the operator removes the actuating force from the accelerator control.

Subchapter H - Motorcycles

- (d) **Filler Cap** - The fuel system shall be equipped with a filler cap.
- (e) **Alternate Fuel Systems** - See Subchapter M (relating to alternate fuel systems and controls).

175.150. Speedometers

Every motorcycle shall have an operating speedometer calibrated to indicate miles per hour or kilometers per hour.

175.151. Odometers

Every motorcycle shall have an operating odometer calibrated to indicate total miles or kilometers driven, except motorcycles at least 25 years old.

175.152. Exhaust Systems

- (a) **Condition of Exhaust System** - All components of the exhaust system shall be in safe operating condition as described in §175.160 (relating to inspection procedure).
- (b) **Exhaust System Requirements** - A motorcycle shall be equipped with a muffler or other effective noise-suppressing system in good working order and in constant operation. A muffler or exhaust system may not be equipped with a cutout, bypass or similar device and a muffler may not show evidence of external repair.
 - (1) The exhaust system of a motorcycle may not be modified in a manner which will amplify or increase noise emitted by the motor of the vehicle above the maximum level permitted by Chapter 157 (relating to established sound levels).
 - (2) An exposed exhaust systems shall be equipped with adequate heat shield or protective system or be located to prevent contact by operator or passenger.

175.153. Horns and Warning Devices

- (a) **Condition of Horns and Warning Devices** - All components of the horn or warning device shall be in safe operating condition as described in §175.160 (relating to inspection procedure).
- (b) **Horn and Warning Device Requirements** - A motorcycle shall have a horn or other warning device which is audible under normal conditions at a distance of not less than 200 feet. No vehicle shall be equipped with a siren, bell, whistle or similar device emitting an unreasonably loud or harsh sound, except emergency vehicles and vehicles equipped with an anti-theft device.

175.154. Body

- (a) **Condition of Body** - All items on the body shall be in safe operating condition as described in §175.160 (relating to inspection procedure).
- (b) **Fenders** - The wheels of a motorcycle shall be equipped with fenders of a type used as original equipment. At no time shall tires come in contact with the body, fenders or chassis of the vehicle.
- (c) **Protruding Objects** - A motorcycle shall have no torn metal, glass or other loose or dislocated parts protruding from body.

175.155. Chassis

- (a) **Condition of Chassis** - All items on the chassis shall be in safe operating condition as described in §175.160 (relating to inspection procedure).
- (b) **Vehicle Frame** - A vehicle frame shall be in solid condition.
- (c) **Seats** - A motorcycle shall be equipped with a seat for the operator which is firmly anchored to the frame or support. No metal spring shall protrude from the driver's seat.
- (d) **Chain guard or Drive Shaft Cover** - A covering device to prevent contact with a rider while in a normal riding position must be provided.
- (e) **Stands** - A motorcycle stand shall operate and be strong enough to support the vehicle and stay in the proper position when not holding the bike in standing position.

- (f) **Hand-Hold** - A hand-hold device shall be provided if the motorcycle is designed to carry more than one person.
- (g) **Footrests** - A motorcycle operated or driven upon highway shall have footrests for each person operating or riding upon the vehicle.
- (h) **Highway Bars** - If the motorcycle is so equipped, highway bars shall have a maximum width of 26 inches and shall be located less than 15 inches from the foot controls and shall not interfere with the operation of foot controls.

175.160. Inspection Procedure

- (a) **External Inspection** - An external inspection shall be performed as follows:

- (1) Verify ownership, legality and proof of financial responsibility. For the purpose of this subchapter, ownership and legality shall be proven by a vehicle registration card, certificate of title or manufacturer's statement of origin. When a vehicle being held for resale is presented for inspection by a dealer licensed to sell vehicles in this Commonwealth, a VIN-specific auction slip or VIN-specific secure power of attorney evidencing the dealership's acquisition of the vehicle, or both, may be presented instead of a vehicle registration card, certificate of title or manufacturer's statement of origin. **REJECT IF** one or more of the following apply:
 - (i) When vehicle ownership and legality are demonstrated by presentation of certificate of title, manufacturer's statement of origin, VIN-specific auction slip or VIN-specific secure power of attorney:
 - (A) The VIN is not in agreement with the certificate of title, manufacturer's statement of origin, VIN-specific auction slip or VIN-specific secure power of attorney. Exception: If only one digit is incorrect or two digits are transposed, and the owner provides evidence that the appropriate Department form has been completed to correct the error or transposition.
 - (B) The VIN plate is not securely fastened or is defaced, misplaced or missing.
 - (ii) When vehicle ownership and legality are demonstrated by presentation of vehicle registration card:
 - (A) The license plate is not in agreement with the numbers on the vehicle registration card. Exception: If only one digit is incorrect or two digits are transposed, and the owner provides evidence that the appropriate Department form has been completed to correct an error or transposition.
 - (B) The license plate is hanging loosely from its mounting bracket.
 - (C) The license plate is obscured so that the numbers cannot be identified.
 - (D) The license plate lamp, if so equipped, does not illuminate the license plate.
 - (iii) Acceptable proof of financial responsibility is not provided. For the purpose of this chapter, financial responsibility shall be proven by one of the following documents:
 - (A) A valid financial responsibility identification card issued in accordance with 31 Pa. Code (relating to insurance).
 - (B) The declaration page of a valid insurance policy.
 - (C) A valid self-insurance identification card.
 - (D) A valid binder of insurance issued by an insurance company licensed to sell motor vehicle liability insurance in this Commonwealth.
 - (E) A valid insurance policy issued by an insurance company licensed to sell motor vehicle liability insurance in this Commonwealth.
- (2) Check the Glazing.
 - (i) **REJECT IF** one or more of the following apply:
 - (A) Approved safety glazing is not used in the windshield.

- (B) A sign, poster or other material whose design prevents a driver from seeing through the material, obstructs, obscures or impairs the driver's clear view of the highway or an intersecting highway.
 - (C) A vehicle displays a sticker other than those prescribed under §175.147(c) (relating to glazing), or displays a parking sticker in a location described in §175.147(d).
 - (D) The glass is shattered, broken or has any exposed sharp edges.
 - (E) There are defects in an acute area of the windshield—center of the critical area on the driver's side of the vehicle directly in the driver's normal line of vision, 8 1/2 inches wide and 5 1/2 inches high—or discolorations or hazardous cracks which would interfere with the driver's vision.
- (ii) This paragraph does not prohibit the use of a product or material along the top edge of the windshield as long as the product or material is transparent and does not encroach upon the AS-1 portion of the windshield as provided by FMVSS No. 205, and the product or material is not more than 3 inches from the top of the windshield.
- (3) Check mirrors and **REJECT IF** one or more of the following apply:
- (i) The mirror is cracked, broken, or discolored.
 - (ii) The mirror will not hold adjustment.
 - (iii) The mirror does not provide a minimum reflective surface of 12 1/2 square inches for a flat mirror or 10 square inches for a convex mirror.
 - (iv) Outside rearview mirrors, with a minimum reflective surface as described in §175.148(b) (relating to mirrors), are not installed on both sides of the motorcycle, if a certificate of exemption for a sun screening device or other material has been issued by the Department. See §175.264 (relating to mirrors). A vehicle for which a certificate of exemption has been issued for medical reasons may be equipped with only a left outside rearview mirror, unless originally equipped with an outside rearview mirror on both sides of the vehicle.
- (4) Check the fenders and **REJECT IF** any of the following apply:
- (i) A fender—front or rear—has been removed.
 - (ii) A fender is not of a type and size used as original equipment.
- (5) Check the flooring and floor beds if applicable and **REJECT IF** any of the following apply:
- (i) The flooring or floor beds are not in a condition constructed to support occupants and cargo.
 - (ii) The floor pan is rusted through so as to cause a hazard to occupants or to permit exhaust gases to enter passenger compartment.
- (6) Check the lamps and lenses and **REJECT IF** one or more of the following apply:
- (i) An exterior bulb or sealed beam, if originally equipped or installed, fails to light properly, except ornamental lights.
 - (ii) The turn signal lamps do not flash between 60-120 flashes per minute.
 - (iii) The turn signal lamps do not properly indicate right or left, when so switched.
 - (iv) The lamp shows a color contrary to Tables IV or V (relating to required motor vehicle lighting equipment; and location of required equipment), as applicable.
 - (v) The lamp or filament indicated at switch position does not light when the correct switch indicates the lamp should be on.
 - (vi) The lamp has a missing or broken lens.
 - (vii) A required lamp is missing.
 - (viii) Auxiliary equipment is placed on, in, or in front of any lamp.
 - (ix) The fog lamps operate with the high beams of headlamps.

- (x) Auxiliary driving lamps operate with the low beam of the standard headlamp system or alone.
- (xi) The headlamps are out of adjustment as follows:
 - (A) Mechanical aimer, if any of the following apply:
 - (I) Horizontal aim is more than 4 inches to the left or right.
 - (II) Vertical aim is higher or lower than 4 inches from the center.
 - (B) Screen or photo electric type tester. See charts 1-3 (*relating to aiming screen distance and marking identification; high beam inspection limits and low beam inspection limits*).
 - (I) Turn the lamps on high beam and **REJECT IF** the center of the beam is horizontally more than 4 inches to the right or left of straight ahead or if the center of the light beam is vertically more than 4 inches above or below the horizontal line.
 - (II) Turn the lamps on low beam and **REJECT IF** the upper edge of beam is more than 4 inches above or below the horizontal center line of the headlamp or if the inner edge of the beam is more than 4 inches to the right or left of the vertical line.
- (7) Check for protruding metal and **REJECT IF** torn metal, glass or other loose or dislocated parts protrude from the surface of the vehicle so as to create a hazard.
- (8) Check the fuel tank cap and **REJECT IF** the fuel tank filler cap is missing.
- (b) Internal Inspection** - An internal inspection shall be performed as follows:
 - (1) Check the high beam and turn signal indicator lamps and **REJECT IF** the indicator lamps are not working.
 - (2) Check the horn and **REJECT IF** any of the following apply:
 - (i) There is no horn or other acceptable audible warning device.
 - (ii) The horn or other warning device is not audible under normal conditions for a distance of not less than 200 feet.
 - (iii) The vehicle is equipped with a siren, bell, whistle or a device emitting harsh or unreasonably loud sound, except on emergency vehicles and vehicles equipped with an anti-theft device.
 - (3) Check the brake system by doing visual inspection. If the vehicle is equipped with view ports or mechanical brake wear indicators, wheels do not have to be pulled but the mechanic shall determine if lining should be replaced. **REJECT IF** one or more of the following apply:
 - (i) Brake control travel exceeds 80% of total available travel.
 - (ii) Brake control fades while the vehicle is stopped.
 - (iii) There is excessive friction in the control linkage or components or control levers are misaligned or improperly positioned.
 - (iv) The drums or rotors are scored deeper than .015 inch.
 - (v) There is mechanical damage other than wear.
 - (vi) The inside diameter of the drum is greater than the maximum diameter stamped on the drum or greater than .090 inch over the original drum diameter for unmarked drums.
 - (vii) The disc thickness is less than the minimum stamped on assembly or less than the manufacturer's specifications.
 - (viii) The bonded linings are less than 1/32 inches at the thinnest point.
 - (ix) The riveted linings are less than 1/32 inches above the rivet head at the thinnest point.
 - (x) The lining is broken; not firmly attached to the shoe; or contaminated with oil, grease or another substance that would affect proper brake operation.
 - (xi) The master cylinder leaks.
 - (xii) The hydraulic hoses or lines leak or are disconnected, flattened or restricted.

Subchapter H - Motorcycles

- (xiii) The hydraulic booster for the power brake system is leaking or inoperative or has excessively worn belts.
- (xiv) Mechanical indicator shows that pads should be replaced.
- (4) Check the motor mounts and **REJECT IF** motor mounts are broken, cracked or missing.
- (5) Check the fuel systems and controls and **REJECT IF** any of the following apply:
 - (i) There is liquid fuel leakage at any point in the system.
 - (ii) Part of the fuel line is not securely fastened.
 - (iii) A fuel tank or line was not specifically designed or manufactured as fuel tank or line.
 - (iv) A fuel line is in contact with a high temperature surface or moving part.
 - (v) The fuel tank or line intrudes into a driver, passenger or cargo compartment, except if the vehicle was originally so designed. If the vehicle is equipped with an alternate fuel system, see Subchapter M (relating to alternate fuel systems and controls).
 - (vi) The throttle does not return to the idle position when the actuating force is removed.

(c) Beneath the Vehicle Inspection - A beneath the vehicle inspection shall be performed as follows:

- (1) Inspect the tires and wheels and **REJECT IF** one or more of the following apply:
 - (i) A tire has two adjacent treads with less than 2/32 inches tread remaining at any point.
 - (ii) A tire is worn so that tread wear indicators contact the road in any two adjacent grooves.
 - (iii) Part of the ply or cord is exposed.
 - (iv) A tire has been repaired with blow-out patch or boot.
 - (v) There is a bump, bulge or separation.
 - (vi) A tire is marked "not for highway use," "for racing purposes only," or "unsafe for highway use," or has a similar designation.
 - (vii) There are other conditions or markings reasonably believed to render a tire unsafe for highway use.
 - (viii) A tire has been regrooved or recut.
 - (ix) The wheel nuts or bolts are missing or loose or have improper thread engagement.
 - (x) The stud or bolt holes are worn out of round.
 - (xi) Part of the wheel is bent, cracked, welded or damaged so as to affect safe operation of vehicle.
 - (xii) The rear wheel does not track front wheel track in the straight ahead position within 1 inch to either side, except for three-wheeled vehicles which must track as originally designed.
 - (xiii) Studded tires are in use after April 15 and before November 1.
 - (xiv) A tire extends beyond body line, any tire is smaller than the manufacturer's recommended minimum size or below the manufacturer's recommended load rating or a tire makes contact with the body or chassis.
- (2) Inspect the steering system and **REJECT IF** one or more of the following apply:
 - (i) The front wheel geometry of a motorcycle with a single front wheel does not meet the following specifications as to rake and trail:
 - (A) Maximum rake: 45 degrees; maximum trail: 14 inches positive.
 - (B) Minimum rake: 20 degrees; minimum trail: 2 inches positive.
 - (ii) The handlebars or steering system of each motorcycle are not of sturdy construction.
 - (iii) The handlebars or steering system restrict front fork movement.
 - (iv) The handlebars do not provide a minimum of 18 inches between grip ends. If equipped with a steering wheel instead of handlebars, the steering wheel, except if specially designed for

handicapped drivers, is not circular or equivalent in strength to original equipment or has an outside diameter less than 13 inches.

- (v) The handlebars are not equipped with grips of non-slip design and material.
- (vi) The measured movement at the front or rear of the tire is greater than 1/4 inch in relation to the axle shaft.
- (vii) The linkage components are not secured with cotter pins or other suitable devices.
- (viii) The steering stops allow a tire to rub on the frame or chassis parts.
- (ix) The front wheel is incapable of being turned to the right and left steering stops without binding or interference.

(3) Inspect the suspension system and **REJECT IF** any of the following apply:

- (i) The shock absorbers are missing.
- (ii) The shock absorber's mounting bolts or mounts are broken.
- (iii) The shock absorbers have severe leakage—not slight dampness.
- (iv) The vehicle continues free rocking after release, indicating loss of the shock absorber function.

(4) Inspect the vehicle frame and **REJECT IF** any of the following apply:

- (i) The vehicle frame is not in solid condition.
- (ii) A repair is made with tape, tar paper or cloth or is made in another temporary manner.
- (iii) The frame components are missing cracked, rotted, or broken or are in deteriorated or dangerous condition.
- (iv) The chain guard or other covering device is missing.
- (v) The motorcycle stand does not operate or is not strong enough to support the vehicle.
- (vi) A hand-hold device is not provided if the motorcycle is designed to carry more than one person.
- (vii) Footrests are not provided for each person operating or riding upon vehicle.
- (viii) The highway bars exceed maximum width of 26 inches or are located more than 15 inches from the foot controls.

(5) Inspect the exhaust system and **REJECT IF** one or more of the following apply:

- (i) The vehicle has no muffler or muffler has external repair.
- (ii) There are loose or leaking joints.
- (iii) There are holes, cracks or leaking seams in exhaust system.
- (iv) There is a muffler cutout or similar device.
- (v) Part of the exhaust system passes through the occupant compartment.
- (vi) The elements are not securely fastened with proper clamps and hangers.
- (vii) The exposed exhaust system does not have an adequate heat shield or protective system or is not located to prevent contact with riders.

(6) Check the battery and **REJECT IF** the battery is not securely fastened.

(d) Road Test - Perform road test and **REJECT IF** one or more of the following apply:

- (1) The vehicle is not capable of stopping within the maximum stopping distance prescribed in Table I (*relating to brake performance*).
- (2) There is a malfunction of the braking or steering mechanism - particularly shimmy, wander and pull—or another questionable operating behavior that affects safe operation of vehicle.
- (3) The speedometer does not operate.

Subchapter H - Motorcycles

- (4) The odometer does not operate except on motorcycles at least 25 years old.
- (5) The vehicle cannot be driven forward.