

INFORMATION CONCERNING THE NEW MASSACHUSETTS COMMERCIAL MOTOR VEHICLE INSPECTION

Commercial vehicles, trailers and converter dollies will be subject to the enhanced Mass. Commercial Motor Vehicle Inspection beginning 10/1/08.

- This inspection will be the equivalent to the annual Federal Motor Carrier Safety Administration (FMCSA) "DOT" inspection. When your vehicle/trailer receives this enhanced state inspection beginning 10/1/2008, you will **not** be required to obtain an annual "DOT" inspection.
- Single, full, or semi-trailers, used in commerce, that have a gross vehicle weight rating (GVWR) over 3,000 lbs or commercial vehicle/trailer combinations with a gross combined weight rating (GCVWR) of over 10,000 lbs will be subject to this new requirement, as will all heavy duty motor vehicles (over 10,000 lbs GVWR) and converter dollies.

TRAILERS AND CONVERTER DOLLIES IN USE AFTER JANUARY 1, 2009 MUST BE IN
COMPLIANCE WITH THIS NEW INSPECTION.

Registry of Motor Vehicle Regulations for Commercial Motor Vehicle Inspections

540 CMR 4.02: Special Definitions

Commercial Motor Vehicle For the purpose of 540 CMR 4.02, any motor vehicle which is not a private passenger motor vehicle, antique motor car, motorcycle, auto home, house trailer, taxicab, ambulance, hearse, livery vehicle, school pupil transport vehicle or off-road equipment. A commercial motor vehicle shall include the following vehicles:

- (a) The vehicle has a gross vehicle weight rating or gross combination weight rating of 10,001 or more lbs. unless such vehicle has a body type of a pickup, sport utility vehicle or van meeting the definition of a private passenger vehicle; or
- (b) The vehicle is designed to transport more than 15 passengers, including the driver; or
- (c) The vehicle is used in the transportation of hazardous materials in a quantity requiring placarding in accordance with the Hazardous Materials Regulations of the United States Department of Transportation. Any commercial motor vehicle that singularly has a gross vehicle weight rating of 10,001 lbs. or less and is designed to meet emissions standards, shall be submitted for an emissions inspection in addition to all applicable safety inspection requirements; or
- (d) A single, full or semi trailer, used in commerce, with a manufacturer's gross vehicle weight rating over 3,000 lbs.

4.05: Procedures for Inspection of Commercial Motor Vehicles

(1) Prior to beginning inspection, a visual check of the vehicle shall be made to determine that ice and snow accumulation or the condition of the suspension system will not impede or interfere with the proper aiming of headlamps.

(a) The Certificate of Registration or the online renewal confirmation receipt shall be inspected and the information contained thereon, including license plate, vehicle description, and vehicle identification number, shall be verified by observation of the subject vehicle. The information contained on the Certificate of Registration shall also be matched with the vehicle information accessible to the workstation. The data appearing on the Registration Certificate, the data accessible to the Workstation, the data appearing on the vehicle license plate, and the vehicle identification number and description must match in order for the inspection to proceed. No fee shall be assessed for an inspection which does not proceed due to a data match failure.

(b) No Certificate of Registration need be produced for any vehicle having a general registration issued in accordance with the provisions of M.G.L. c. 90, § 5. Either a photocopy of the original Certificate of Registration or the original Certificate of Registration may be produced for other motor vehicles.

(c) A licensed inspector shall refuse to conduct an inspection if the motor vehicle's registration is determined to be invalid.

(2) Inspection of the Vehicle. All inspections must be performed in accordance with the applicable provisions of 540 CMR 4.00 and 310 CMR 60.02 by licensed inspectors in the inspection bay or area approved for inspections by the Registrar.

(a) Inspectors must first collect the proper fee.

(b) The inspector shall drive the motor vehicle into the inspection bay or area approved for inspections.

(c) License plate(s), shall be undamaged, securely mounted, clean and clearly visible. No bumper, trailer hitch or other accessory may interfere with a clear view of the license plates. The license plate must be mounted in the proper location on the rear of the vehicle if the vehicle has been issued one plate. Both license plates must be mounted in the proper location on the rear and front of the vehicle if the vehicle has been issued two plates. Any decorative license plate or license plate replica not issued by the Registry of Motor Vehicles on which any jurisdiction name appears must be removed from the vehicle.

(d) General Registration Holders. Every motor vehicle in possession of a general registration holder shall be checked for the proper display of the compliance decal issued pursuant to 540 CMR 18.03. The Vehicle Identification Number (VIN) and Registration Number indicated on the decal shall correspond with said numbers of the vehicle inspected.

(e) Upon the completion of the inspection, the inspector will remove the old Certificate of Inspection from the windshield, and affix the new Certificate of Inspection and provide the motorist with all inspection documentation and program literature as required.

(f) A vehicle which is determined not to meet all inspection requirements shall be issued a Certificate of Rejection.

(3) Perform Emissions Testing Requirements and Procedures. The following motor vehicles are exempt from emissions testing: Any vehicle exempted pursuant to 310 CMR 60.02(3)(b) and in accordance with M.G.L. c. 111, § 142M.

(4) Reflectors. Every commercial motor vehicle or trailer weighing, with its load, more than 12,000 lbs. shall be equipped with a red reflector at the rear.

(5) Chock Blocks. Every bus having a seating capacity of more than seven passengers, every truck weighing, unloaded, more than 4,000 lbs. and every tractor, trailer, semi-trailer or combination which is not equipped with positive spring loaded, air parking brakes, shall be equipped with one pair of adequate safety chock blocks.

(6) Splash Guards. Every motor vehicle or trailer, except passenger motor vehicles, shall be equipped with suitable guards which will effectively reduce the spray or splash, to the rear, of mud, water, or slush, caused by the rear wheels.

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(7) Marker Light. Commercial motor vehicles and trailers, having a registered carrying capacity of three tons or over, shall have an amber light attached to the extreme left of the front of the vehicle, so attached and adjusted as to indicate the extreme left lateral extension of the vehicle or load.

(8) Horn. Sound horn to test for adequate signal. The horn must be securely fastened to the vehicle and operate as originally designed.

(9) Warning Devices. Every commercial motor vehicle or trailer that is required to have a backup warning device shall be checked for proper operation of said device. Every commercial motor vehicle equipped with a dump body shall be equipped with an adequate audible warning system to alert the operator when the dump body is in an upright and elevated position.

(10) Bumpers. The existence of broken or bent bumpers, fenders, exterior sheet metal or moldings having sharp edges or abnormal protrusions extending beyond normal vehicle extremities so as to constitute a danger to pedestrians and other motor vehicle traffic shall be reason for rejection. If bumper face plates are removed, bumper brackets must also be removed. On vehicles equipped with air bags the front bumper may not be removed. The vehicle hood, door(s), luggage compartment lid, and battery or engine compartment doors or lids, if so equipped, must be capable of being firmly latched.

(11) Fenders. Front and rear fenders must be in place. Every commercial motor vehicle which is equipped with tires which extend beyond the fenders or body of such vehicle shall be equipped with flaps or suitable guards to reduce such spray or splash to the rear and side.

(12) Floor Pans. Vehicles with holes or cracks, due to rust or otherwise, in the floor pans or other body panels which would permit the passage of exhaust gases into the passenger compartments shall fail.

(13) Seat Belts. Shall be inspected to assure that all are maintained in good order. The Requirements of 49 CFR, Part 393.93 shall apply.

(14) Air Bags. All vehicles ten or less model years old must comply with 49 CFR, Parts 571 through 595. The inspector shall check for proper operation of the airbag malfunction indicator lamp. If not operating as designed, or if the lamp indicates a malfunction in the airbag system, or if any airbag originally equipped in the vehicle is deployed or is missing the vehicle shall be rejected.

(15) Procedures for Inspecting Certain Commercial Motor Vehicles and Trailers Pursuant to Federal Regulation. 49 CFR Parts 390 through 397, including Appendix G to Sub-chapter B, as appearing or as may be revised in the Code of Federal Regulations, as related to the inspection of Commercial Motor Vehicles or any activity related thereto, are hereby adopted as the Regulations of the Registry of Motor Vehicles. Said regulations are applicable to trucks with a gross vehicle weight rating of over 10,000 lbs., buses transporting more than 15 passengers including the driver or any motor vehicle transporting hazardous materials in a quantity requiring placarding in accordance with the Hazardous Material Regulations of the United States Department of Transportation, 49 CFR Parts 171 through 180. In the event of any conflict between 540 CMR 4.00 and any other regulations or law of the Commonwealth of Massachusetts, the stricter more stringent standard shall apply. A Certificate of Rejection shall be issued to any vehicle or trailer submitted for inspection if any of the following conditions exist:

(a) Air Brake Systems.

1. Leakage Test. Start the vehicle engine and run at fast idle until air pressure on gauge reaches cut-off point. Cut-off must occur at 90 lbs. per square inch (PSI) or more, or manufacturer specifications. Stop engine and observe pressure gauge. With service brakes in released position, if drop in pressure exceeds 2 PSI in one minute for a single vehicle or 3 PSI for a combination vehicle or if audible leakage is evident, the vehicle will be rejected. Start engine and allow system to reach maximum pressure. Stop engine

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and apply service brakes, at which time a pressure drop of 5 PSI to 15 PSI will occur and system will be stabilized. With brakes in applied position, if drop in pressure exceeds 3 PSI in one minute for a single vehicle, or 4 PSI per minute for a combination vehicle, or of audible leakage is evident, the vehicle will be rejected.

2. Low Pressure Warning Device Test. Apply service brakes repeatedly until the audible and visual low pressure indicator comes on. Reject vehicle if indicator comes on above 70 PSI or below 50 PSI or if the indicator is inoperable. A gauge indicating pressure is not deemed to be an adequate low pressure indicator.

3. Condition of Air Brake Components. During the inspection of the vehicle, the conditions of visible air brake components should be checked. The vehicle shall be rejected if tubing or hoses are cracked, chafed, or restricted or are insecurely fastened or improperly retained.

(b) Brake System.

1. Service Brakes.

a. All brake systems are to be inspected in accordance with the manufacturer(s) recommended procedures. Absence of braking action of any axle required to have brakes upon application of the service brakes (such as missing brakes or brake shoe(s) failing to move upon application of a wedge, S-cam, cam, or disc brake).

b. Missing or broken mechanical components including shoes, lining, pads, springs, anchor pins, spiders, cam rollers, push rods, and air chamber mounting bolts.

c. Loose brake components including air chamber spiders, and cam shaft support brackets.

d. Audible air leak at brake chamber (example-ruptured diaphragm, loose chamber clamp, *etc.*).

e. Readjustment Limits. The maximum stroke at which brakes should be readjusted is given below. Any brake $\frac{1}{4}$ inch or more past the readjustment limit or any two brakes at the readjustment limit or less than $\frac{1}{4}$ inch beyond the readjustment limit shall be cause for rejection. Stroke shall be measured with the engine off and reservoir pressure of 80 to 90 PSI with brakes fully applied.

BOLT TYPE BRAKE CHAMBER DATA

Type	Effective area (sq. in.)	Outside dia. (in.)	Maximum stroke at which brakes should be readjusted
A	12	$6\frac{15}{16}$	$1\frac{3}{8}$
B	24	$9\frac{3}{16}$	$1\frac{3}{4}$
C	16	$8\frac{1}{16}$	$1\frac{3}{4}$
D	6	$5\frac{1}{4}$	$1\frac{1}{4}$
E	9	$6\frac{3}{16}$	$1\frac{3}{8}$
F	36	11	$2\frac{1}{4}$
G	30	$9\frac{7}{8}$	2

ROTOCHAMBER DATA

Type	Effective area (sq. in.)	Outside dia. (in.)	Maximum stroke at which brakes should be readjusted
9	9	$4\frac{9}{32}$	$1\frac{1}{2}$
12	12	$4\frac{13}{16}$	$1\frac{1}{2}$
16	16	$5\frac{13}{32}$	2
20	20	$5\frac{13}{16}$	2
24	24	$6\frac{13}{32}$	2
30	30	$7\frac{1}{16}$	$2\frac{1}{4}$
36	36	$7\frac{5}{8}$	$2\frac{3}{4}$
50	50	$8\frac{7}{8}$	3

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CLAMP TYPE BRAKE CHAMBER DATA

Type	Effective area (sq. in.)	Outside dia. (in.)	Maximum stroke at which brakes should be re-adjusted
6	6	4½	1¼
9	9	5¼	1⅜
12	12	5 ¹¹ / ₁₆	1⅜
16	16	6 ³ / ₈	1¾
20	20	6 ²⁴ / ₃₂	1¾
24	24	7 ⁷ / ₃₂	1¾ ¹
30	30	8 ³ / ₃₂	2
36	36	9	2¼

¹ Note (2 inches for long stroke design)

Wedge Brake Data. Movement of the scribe mark on the lining shall not exceed 1/16 inch.

- f. Brake linings or pads.
 - i. Lining or pad is not firmly attached to the shoe;
 - ii. Saturated with oil, grease, or brake fluid; or
 - iii. Non-steering Axles: Lining with a thickness less than ¼ inch at the shoe center for air drum brakes, ¹/₁₆ inch or less at the shoe center for hydraulic and electric drum brakes, and less than ⅛ inch for air disc brakes.
 - iv. Steering Axles: Lining with a thickness less than ³/₁₆ inch at the shoe center for drum brakes, less than ⅛ inch for air disc brakes and ¹/₁₆ inch or less for hydraulic disc and electric brakes.
 - g. Missing brake on any axle required to have brakes.
 - h. Mismatch across any power unit steering axle of:
 - i. Air chamber sizes.
 - ii. Slack adjuster length.
2. Parking Brake System. No brakes on the vehicle or combination are applied upon actuation of the parking brake control, including driveline hand controlled parking brakes. The inspector shall operate the vehicle to test the parking and service brake. The parking brake on all vehicles shall be tested by sufficiently accelerating the motor with the vehicle in the lowest forward gear against the brake in the applied position. The vehicle will be rejected if the parking brake will not hold. The service brakes will be tested at a speed of between four and eight MPH. Service brakes must be reasonably equalized so that the vehicle does not pull noticeably to either side when applied. A test with the brake meter shall be made at a speed of 15 to 25 MPH in all questionable cases. Service and parking brakes shall be adequate to stop the vehicle from a speed of 20 MPH in not more than the following distances

Service (foot) Brake	Pleasure Vehicles	30 feet
	Trucks and Buses	40 feet
Parking (hand) Brake	All Vehicles	80 feet

3. Brake Drums or Rotors.
 - a. With any external crack or cracks that open upon brake application (do not confuse short hairline heat check cracks with flexural cracks).
 - b. Any portion of the drum or rotor missing or in danger of falling away.
4. Brake Hose.
 - a. Hose with any damage extending through the outer reinforcement ply. (Rubber impregnated fabric cover is not a reinforcement ply.)
(Thermoplastic nylon may have braid reinforcement or color difference between cover and inner tube. Exposure of second color is cause for rejection.)
 - b. Bulge or swelling when air pressure is applied.

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- c. Any audible leaks.
 - d. Two hoses improperly joined (such as a splice made by sliding the hose ends over a piece of tubing and clamping the hose to the tube).
 - e. Air hose cracked, broken or crimped.
 - 5. Brake Tubing.
 - a. Any audible leak.
 - b. Tubing cracked, damaged by heat, broken or crimped.
 - 6. Low Pressure Warning Device missing, inoperative, or does not operate at 55 PSI and below, or ½ the governor cutout pressure, whichever is less.
 - 7. Tractor Protection Valve. Inoperable or missing tractor protection valve(s) on power unit.
 - 8. Air Compressor.
 - a. Compressor drive belts in condition of impending or probable failure.
 - b. Loose compressor mounting bolts.
 - c. Cracked, broken or loose pulley.
 - d. Cracked or broken mounting brackets, braces or adapters.
 - 9. Electric Brakes.
 - a. Absence of braking action on any wheel required to have brakes.
 - b. Missing or inoperative breakaway braking device.
 - 10. Hydraulic Brakes. (Including Power Assist Over Hydraulic and Engine Drive Hydraulic Booster).
 - a. Master cylinder less than ¼ full.
 - b. No pedal reserve with engine running except by pumping pedal.
 - c. Power assist unit fails to operate.
 - d. Seeping or swelling brake hose(s) under application of pressure.
 - e. Missing or inoperative check valve.
 - f. Has any visually observed leaking hydraulic fluid in the brake system.
 - g. Has hydraulic hose(s) abraded (chafed) through outer cover to fabric layer.
 - h. Fluid lines or connections leaking, restricted, crimped, cracked or broken.
 - i. Brake failure or low fluid warning light on and/or inoperative.
 - 11. Vacuum Systems. Any vacuum system which:
 - a. Has insufficient vacuum reserve to permit one full brake application after engine is shut off.
 - b. Has vacuum hose(s) or line(s) restricted, abraded (chafed) through outer cover to cord ply, crimped, cracked, broken or has collapse of vacuum hose(s) when vacuum is applied.
 - c. Lacks an operative low-vacuum warning device as required.
- (c) Coupling Devices.
- 1. Fifth Wheels.
 - a. Mounting to Frame.
 - i. Any fasteners missing or ineffective.
 - ii. Any movement between mounting components.
 - iii. Any mounting angle iron cracked or broken.
 - b. Mounting Plates and Pivot Brackets.
 - i. Any fasteners missing or effective.
 - ii. Any welds or parent metal cracked.
 - iii. More than ⅜ inch horizontal movement between pivot bracket pin and bracket.
 - iv. Pivot bracket pin missing or not secured.
 - c. Sliders.
 - i. Any latching fasteners missing or ineffective.
 - ii. Any fore or aft stop missing or not securely attached.
 - iii. Movement more than ⅜ inch between slider bracket and slider base.
 - iv. Any slider component cracked in parent metal or weld.
 - d. Lower Coupler.
 - i. Horizontal movement between the upper and lower fifth wheel halves exceeds ½ inch.
 - ii. Operating handle not in closed or locked position.
 - iii. Kingpin not properly engaged.

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- iv. Separation between upper and lower coupler allowing light to show through from side to side.
 - v. Cracks in the fifth wheel plate, excepting cracks in fifth wheel approach ramps and casting shrinkage cracks in the ribs of the body of a cast fifth wheel.
 - vi. Locking mechanism parts missing, broken, or deformed to the extent the kingpin is not securely held.
2. Pintle Hooks.
 - a. Mounting to Frame.
 - i. Any missing or ineffective fasteners (a fastener is not considered missing if there is an empty hole in the device but no corresponding hole in the frame or vice versa).
 - ii. Mounting surface cracks extending from point of attachment (*e.g.*, cracks in the frame at mounting bolt holes).
 - iii. Loose mounting.
 - iv. Frame cross member providing pintle hook attachment cracked.
 - b. Integrity.
 - i. Cracks anywhere in pintle hook assembly.
 - ii. Any welded repairs to the pintle hook.
 - iii. Any part of the horn section reduced by more than 20%.
 - iv. Latch insecure.
 3. Drawbar/Towbar Eye.
 - a. Mounting.
 - i. Any cracks in attachment welds.
 - ii. Any missing or ineffective fasteners.
 - b. Integrity.
 - i. Any cracks.
 - ii. Any part of the eye reduced by more than 20%.
 4. Drawbar/Towbar Tongue.
 - a. Slider (power or manual).
 - i. Ineffective latching mechanism.
 - ii. Missing or ineffective stop.
 - iii. Movement of more than ¼ inch between slider and housing.
 - iv. Any leaking, air or hydraulic cylinders, hoses, or chambers (other than slight oil weeping normal with hydraulic seals).
 - b. Integrity.
 - i. Any cracks.
 - ii. Movement of ¼ inch between subframe and drawbar at point of attachment.
 5. Safety Devices.
 - a. Safety devices missing.
 - b. Unattached or incapable of secure attachment.
 - c. Chains and hooks.
 - i. Worn to the extent of a measurable reduction in link cross section.
 - ii. Improper repairs including welding, wire, small bolts, rope and tape.
 - d. Cable.
 - i. Kinked or broken cable strands.
 - ii. Improper clamps or clamping.
 6. Saddle-mounts.
 - a. Method of Attachment.
 - i. Any missing or ineffective fasteners.
 - ii. Loose mountings.
 - iii. Any cracks or breaks in a stress or load bearing member.
 - iv. Horizontal movement between upper and lower saddle-mount halves exceeds ¼ inch.
- (d) Exhaust System.
1. Any exhaust system determined to be leaking at a point forward of or directly below the driver/sleeper compartment.
 2. A bus exhaust system leaking or discharging to the atmosphere:
 - a. Gasoline Powered. In excess of six inches forward of the rearmost part of the bus. *See 540 CMR 7.00: Minimum Standards for Construction and Equipment of School Buses.*

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- b. Other than Gasoline Powered. In excess of 15 inches forward of the rear most part of the bus. *See 540 CMR 7.00: Minimum Standards for Construction and Equipment of School Buses.*
- c. Other than gasoline powered forward of a door or window designed to be opened, excepting emergency exits.
- 3. No part of the exhaust system of any motor vehicle shall be so located as would be likely to result in burning, charring, or damaging the electrical wiring, the fuel supply, or any combustible part of the motor vehicle.
- 4. The exhaust system, exhaust manifold(s), exhaust pipe(s), muffler(s), and tailpipe(s), if designed to be so equipped, shall be tight and free of leaks. System components shall be securely fastened with fasteners in place and undamaged.
- 5. A gas or diesel vehicle will be rejected if, at normal operating temperature, and at any constant speed over 15 MPH (approximately 1,000 to 1200 RPM's), visible black or blue exhaust emissions are evident.
- (e) Fuel System and Fluid Leaks.
 - 1. A fuel system with a visible leak at any point.
 - 2. A fuel tank filler cap that is missing, defective or does not properly fit the vehicle.
 - 3. A fuel tank not securely attached to the motor vehicle by reason of loose, broken or missing mounting bolts or brackets (some fuel tanks use springs or rubber bushings to permit movement).
 - 4. Any fluid leaks on the engine or driveline that would affect the safe operation of the vehicle, or constitute a fire hazard.
- (f) Lighting Devices. All lighting devices and reflectors required by Section 393 shall be operable (*see Part 393 in Reference Section*).
- (g) Safe Loading.
 - 1. Part(s) of vehicle or condition of loading such that the spare tire or any part of the load or dunnage can fall into the roadway.
 - 2. Protection against Shifting Cargo. Any vehicle without a front-end structure or equivalent device as required.
- (h) Steering Mechanism.
 - 1. Steering Wheel Free Play. The engine must be running on vehicles equipped with power steering.

Steering Wheel Diameter	Manual Steering System	Power Steering System
16 inches	2 inches	4½ inches
18 inches	2¼ inches	4¾ inches
20 inches	2½ inches	5¼ inches
22 inches	2¾ inches	5¾ inches

- 2. Steering Column.
 - a. Any absence or looseness of U-bolt(s) or positioning part(s).
 - b. Worn, faulty or obviously repair welded universal joint(s).
 - c. Steering wheel not properly secured.
- 3. Front Axle Beam and All Steering Components Other than Steering Column.
 - a. Any crack(s) in gear box or mounting brackets.
 - b. Any obvious weld or repair(s).
- 4. Steering Gear Box.
 - a. Any mounting bolts lose or missing.
 - b. Any crack(s) in gear box or mounting brackets.
- 5. Pitman Arm. Any looseness of the pitman arm on the steering gear output shaft.
- 6. Power Steering. Auxiliary power assist cylinder loose.
- 7. Ball and Socket Joints.
 - a. Any movement under steering load of a stud nut.
 - b. Any motion, other than rotational between any linkage member and its attachment point of more than 1/8 inch.

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8. Tie Rods and Drag Links.
 - a. Loose clamp(s) or clamp bolt(s) on tie rods or drag links.
 - b. Any looseness in any threaded joint.
9. Nuts. Nut(s) loose or missing on tie rods, pitman arm, drag link, steering arm or tie rod arm.
10. Steering System. Any modification or other condition that interferes with free movement of any steering component.
11. Kingpin. Reject vehicle if measured movement at top or bottom of tire is greater than:

Wheel Size:	16 inches or less..... $\frac{1}{4}$ inch (6.5mm)
	17 to 18 inches..... $\frac{3}{8}$ inch (9.5mm)
	Over 18 inches..... $\frac{1}{2}$ inch (13mm)

KINGPIN PLAY PROCEDURE: Relative to vehicles equipped with Kingpins. MVMA recommended procedures as noted in 540 CMR 4.05(13)(h)11.

Be sure wheel bearing movement is eliminated by applying service brake during checking procedure.

Procedure: First eliminate all wheel bearing movement by applying service brake.

With front end lifted, as illustrated for inspecting wheel bearings, grasp the tire at the top and bottom and attempt to move in and out to detect looseness. A pry bar may be necessary on heavy wheels.

Measure the movement at the top or bottom of the tire at the outer circumference.

Reject vehicle if measured movement at top or bottom of tire is greater than the distances described below:

Wheel size:	16 inches or less..... $\frac{1}{4}$ inch (6.5mm)
	17 to 18 inches..... $\frac{3}{8}$ inch (9.5mm)
	Over 18 inches..... $\frac{1}{2}$ inch (13mm)

- (i) Suspension System.
 1. Any U-bolt(s), spring hanger(s), or other axle positioning part(s) cracked, broken, loose or missing resulting in shifting of an axle from its normal position. (After a turn, lateral axle displacement is normal with some suspensions. Forward or rearward operation in a straight line will cause the axle to return to alignment.)
 2. Spring Assembly.
 - a. Any leaves in a leaf spring assembly broken or missing.
 - b. Any broken main leaf in a leaf spring assembly, (include assembly with more than one main spring).
 - c. Coil spring broken.
 - d. Rubber spring missing.
 - e. One or more leaves displaced in a manner that could result in contact with a tire, rim, brake drum or frame.
 - f. Broken torsion bar spring in a torsion bar suspension.
 - g. Deflated air suspension, *i.e.*, system failure, leak, *etc.*
 3. Torque, Radius, or Tracking Components. Any part of a torque, radius or tracking component assembly or any part used for attaching the same to the vehicle frame or axle that is cracked, loose, broken or missing. (Does not apply to loose bushings in torque or track rods.)
 4. Shocks. Any broken, bent, missing shock absorbers or suspension springs.
- (j) Frame.
 1. Frame Members.
 - a. Any cracked, broken, loose, or sagging frame member.
 - b. Any loose or missing fasteners including fasteners attaching functional component such as engine, transmission, steering gear, suspension, body parts, and fifth wheel.
 2. Tire and Wheel Clearance. Any condition, including loading, that causes the body or frame to be in contact with a tire or any part of the wheel assemblies.
 3. Adjustable Axle Assemblies (Sliding Subframes). Adjustable axle assembly with locking pins missing or not engaged.

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(k) Tires.

1. Any tire on any steering axle of a power unit.
 - a. With less than $\frac{4}{32}$ inch tread when measured at any point on a major tread groove.
 - b. Has body ply or belt material exposed through the tread or sidewall.
 - c. Has any tread or sidewall separation.
 - d. Has a cut where the ply or belt material is exposed.
 - e. Is labeled "Not For Highway Use" or displaying other marking which would exclude use on steering axle (except for farm vehicles, implements of husbandry, and off-road equipment is used on highway at restricted speeds).
 - f. A tube-type radial tire without radial tube stem markings. These markings include a red band around the tube stem, the word "radial" embossed in metal stems, or the word "radial" molded in rubber stems.
 - g. Mixing bias and radial tires on the same axle
 - h. Tire flap protrudes through valve slot in rim and touches stem.
 - i. Regrooved tires on buses, trucks and truck tractors, except for trucks and truck tractors equipped with front tires with a load carrying capacity of less than that of 8.25-20 eight ply-rating tires.
 - j. Boot, blowout patch or other ply repair.
 - k. Weight carried exceeds tire load limit. This includes overloading tire resulting from low air pressure.
 - l. Tire is flat or has noticeable (*e.g.*, can be heard or felt) leak.
 - m. Any bus equipped with recapped or retreaded tire(s).
 - n. So mounted or inflated that it comes in contact with any part of the vehicle.
 - o. Tire size shall be the same on each side of the front and/or rear axle. Tire size may be different between front and rear axles as determined by vehicle manufacturer.
2. All tires other than those found on the steering axle of a power unit:
 - a. Weight carried exceeds tire load limit. This includes overloaded tire resulting from low pressure.
 - b. Tire flat or has noticeable (*e.g.*, can be heard or felt) leak.
 - c. Has body ply or belt material exposed through the tread or sidewall.
 - d. Has any tread or sidewall separation.
 - e. Has a cut where ply or belt material is exposed.
 - f. So mounted or inflated that it comes in contact with any part of the vehicle. (This includes a tire that contacts its mate.)
 - g. Is labeled "Not For Highway Use" or displaying other marking which would exclude use on steering axle (except for farm vehicles, implements of husbandry, and if off-road equipment is used on highway at restricted speeds).
 - h. With less than $\frac{2}{32}$ inch tread when measured at any point on a major tread groove.
 - i. Tire size shall be the same on each side of the front and/or rear axle. Tire size may be different between front and rear axles as determined by vehicle manufacturer.

(l) Wheels and Rims.

1. Lock or Side Ring. Bent, broken, cracked, improperly seated, sprung or mismatched ring(s).
2. Wheels and Rims. Cracked or broken or has elongated bolt holes.
3. Fasteners (both Spoke and Disc Wheels). Any loose, missing, broken, cracked, stripped or otherwise ineffective fasteners.
4. Welds.
 - a. Any cracks in welds attaching disc wheel disc to rim.
 - b. Any cracks in welds attaching tubeless demountable rim to adapter.
 - c. Any welded repair on aluminum wheel(s) on a steering axle.
 - d. Any welded repair other than disc to rim attachment on steel disc wheel(s) mounted on the steering axle.

(m) Glazing, Mirrors and Windshield Wiper(s).

1. All glazing originally equipped on the vehicle must be in place operate as originally designed.
2. Windshield Critical Viewing Area is the area covered by the sweep of the wiper(s) exclusive of the outer two inches within the perimeter of the wiper(s) sweep, provided by the vehicle manufacturer.

4.05: continued

3. Windshields having any of the following defects will be rejected:
 - a. Any broken glass with sharp or jagged edges inside or outside.
 - b. Any stone bruise, star break, or bulls eye, damage in excess of one inch in diameter within the critical viewing area or larger than two inches outside the critical viewing areas, or multiple such damage.
 - c. Single line cracks which extend more than three inches into the critical viewing area.
 - d. Multiple cracks, having one or more which extends into the critical viewing area.
 - e. Wiper scrape(s) in excess of ¼ inch wide within the critical viewing area.
 - f. Clouding extending more than three inches within the perimeter of the exposed glass.
 - g. No poster, sticker decal, *etc.* shall be attached to the windshield in such a manner so as to obstruct the vision of the operator.
 - h. Window Tinting.
 - i. Any tinting or reflective material applied by brush, spray, or adhesive which is below the uppermost six inches of the windshield or which may encroach upon the driver's direct forward viewing area. (All such tinting provided by the original manufacturer in compliance with applicable Federal Motor Vehicle Safety Standards is acceptable.)
 - ii. Aftermarket tinting or alterations that do not change the transparency beyond that of the standards set forth in 49 CFR Part 571.205 is acceptable on windows immediately adjacent to the operator and front passenger seat and the windows immediately to the rear of the operator and front passenger seat. The rear window may also be so tinted provided the vehicle is equipped with two outside rear view mirrors. The windshield may only be tinted down to the AS-1 line usually located in the uppermost six inches of the windshield.
 - iii. The use of advertising wrap or vehicle wrap material on any window is prohibited.
4. 540 CMR 4.05(14)(m)2.h. shall not apply to the following:
 - a. All window tinting as provided by the original manufacturer that is in compliance with applicable Federal Motor Vehicle Safety Standards.
 - b. Authorized vehicles used to transport K-9 teams.
 - c. Vehicles registered out of state.
 - d. Vehicles for which a medical exemption has been issued by the Registry of Motor Vehicles.
 - e. All windows to the rear of the operator's seat on vehicles used for public livery, except taxicabs.
- (n) Windshield Wipers.
 1. Any power unit that has an inoperative wiper, or missing or damaged parts that render it ineffective.
 2. Test for Proper Operation. If the vehicle was equipped with two wipers as furnished by the manufacturer, both must be maintained in good working order. Wiper blades must properly contact the windshield, be of the same length as those furnished as original equipment and the rubber elements must be free from damage or tears.
 3. If the vehicle was equipped with windshield cleaner equipment as furnished by the manufacturer, units must be maintained in good working order.
 4. Rearview Mirrors. Each motor vehicle shall be equipped with at least two mirrors so placed and adjusted as to afford the operator a clear, reflected view of the highway to the rear and both sides of the vehicle. All mirrors as furnished by the manufacturer must be in place and maintained in good working order. Check mirror(s) and reject if:
 - a. Mirror is cracked, broken, tarnished or reflective surface is peeled.
 - b. Mirror will not hold adjustment or is not mounted securely to prevent excessive vibration.
 - c. The mirror contains sharp edges or projections capable of producing injury.
- (o) Fuel Tank Cap Visual Check. The vehicle shall fail the gas cap visual check if the cap is missing, defective or does not properly fit the vehicle.