Item and Method of Inspection	Reject If
1. Air Compressor	**Truck** |✓| Trailer | | **Bus** |✓|
NOTE: Inspect Air System at normal operating pressure, minimum of 90 psi. **OEM Vehicle Gauge Accuracy** – The gauges on a vehicle's instrument panel showing pressure in the airbrake system are required to be accurate within plus or minus 7% of the compressor cut-out pressure. **Use Accurate Test Gauge** – When there is any doubt about any test or inspection results obtained, use of a gauge accurate to +/- 2% to confirm pressure values is recommended.	
a) operation	a) inoperative
b) belt	**NOTE: Inspect drive belt according to Section 1. Power Train, Item 10. Engine or Accessory Drive Belt.**
c) mounting	c) broken, cracked, loose or bolts missing
d) air filter	d) contaminated sufficiently to restrict air flow, missing
e) pulley	e) bent, broken, cracked, damaged, loose, out of alignment
	OUT OF SERVICE **i) Belt or pulley is in a condition where an imminent failure appears likely.** **ii) Compressor mounting or mounting bolt is broken, cracked, insecure, or loose, or compressor is shifted from its normal position.** **iii) Any oil leakage from air compressor that could make contact with an ignition source.**

All inspection procedures are visual unless additional inspection procedures are indicated or where applied force is necessary to verify tightness and/or component security.

Item and Method of Inspection	Reject If
2. Air Supply System	**Truck** |✓| Trailer | | **Bus** |✓|
Additional Inspection Procedure(s): Test either "a) air build up time" or "b) air pressure build-up/loss rate" as described below.	
a) air-build time Inspection Procedure(s): With spring brakes released and wheels chocked, reduce pressure in system until pressure gauge indicator is less than 350 kPa (50 psi). Run engine at 1,200 rpm and record time required to raise air pressure from 350 to 620 kPa (50 to 90 psi) on gauge.	a) exceeds three minutes
b) air pressure build-up/loss rate Inspection Procedure(s): With air pressure at 552 kPa (80 psi) or less, spring brakes released and service brakes fully applied and released, allow the engine to run at idle speed and observe the air pressure gauge to confirm air pressure rises.	b) air compressor is unable to cause pressure to rise during test
c) governor Additional Inspection Procedure(s): Determine the governor cut-in and cut-out pressure values.	c) inoperative, missing or loose. – air leak evident at governor or connecting air lines – governor cut-in pressure is below 690 kPa (100 psi) – governor cut-out pressure is below 828 kPa (120 psi) or above 1,000 kPa (145 psi)
d) low pressure warning Additional Inspection Procedure(s): Test the operation of the low air pressure warning device(s). **NOTE: A visible warning device is mandatory (lamp or wig-wag). An audible warning device (buzzer or alarm) is optional, but must remain functional when OEM installed.**	d) visible warning is inoperative or missing – visible warning is not clearly identified, lamp lens is missing – audible warning is inoperative or missing – warning device fails to activate or operate continuously when air pressure is lowered below 414 kPa (60 psi)
e) air pressure gauge	e) gauge is inoperative or has inaccurate reading

All inspection procedures are visual unless additional inspection procedures are indicated or where applied force is necessary to verify tightness and/or component security.

Item and Method of Inspection	Reject If
f) pressure drop/reserve Additional Inspection Procedure(s): Observe air pressure gauges while making a full service brake application with engine off.	f) pressure drops more than 138 kPa (20 psi) when a full service brake application is made
g) air leakage Additional Inspection Procedure(s): Monitor the system for leaks during the inspection by listening for leaks.	g) pressure drops more than 7 kPa (1 psi) per minute – detectable leak at any location
	OUT OF SERVICE **i) Brake system air pressure cannot be maintained between 560 and 620 kPa (80 and 90 psi), with service brakes applied or released and engine idling, during air pressure build-up/loss rate test.** **ii) Air pressure drops more than 20 kPa (3 psi) per minute during air leakage test.** **iii) Inoperative or inaccurate air pressure gauge.** **iv) Low air pressure warning (visual or audible) is inoperative or fails to operate continuously when ignition is on and air pressure is below 380 kPa (55 psi).**
3. Air System Leakage on a Trailer	Truck | | **Trailer |✓|** Bus | |
a) air leakage Additional Inspection Procedure(s): Monitor the system for leaks during the inspection by listening for leaks.	a) detectable leak at any location

All inspection procedures are visual unless additional inspection procedures are indicated or where applied force is necessary to verify tightness and/or component security.

Item and Method of Inspection	Reject If
b) air loss rate Additional Inspection Procedure(s): **Step 1.** Fill the supply circuit to normal operating pressure. Shut off the air supply and seal the circuit while monitoring air pressure. **Step 2.** While keeping the supply circuit filled, also fill the service circuit to the same pressure. Shut off the air supply and seal the circuits while monitoring air pressure. **Step 3.** Supply air to all other air systems and/or accessory devices. Shut off the air supply and seal the circuits while monitoring air pressure.	b) trailer is attached to a towing vehicle and total leakage exceeds 28 kPa (4 psi) in one minute – trailer is connected to non-vehicle air source and total leakage exceeds 20 kPa (3 psi) in one minute
c) manually disconnect trailer emergency glad hand	c) emergency brakes do not apply
	OUT OF SERVICE **i) Air pressure drops more than 40 kPa +/- 5 kPa (6 psi) per minute during air leakage test.**
4. Air Tank	**Truck | ✓ | Trailer | ✓ | Bus | ✓ |**
a) contamination Additional Inspection Procedure(s): Open the drain valve on each tank and drain all fluid. **NOTE: Record excessive water on the inspection report, but do not reject the vehicle for this condition alone.**	a) The quantity of oil or sludge, (i.e.: oil and water mixture) expelled from an air tank exceeds manufacturer service recommendations. – the quantity of water expelled from an air tank exceeds manufacturer service recommendations
b) air tank condition	b) corroded or damaged to the extent that structural integrity is compromised, leaking or loose – welding other than original factory weld on air tank – tank does not meet OEM standard
c) air tank bracket and/or strap	c) broken, cracked or missing – does not meet OEM standard
d) air tank drain valve	d) inoperative, leaking, loose or missing – does not meet OEM standard
e) moisture ejector	e) inoperative, leaking

All inspection procedures are visual unless additional inspection procedures are indicated or where applied force is necessary to verify tightness and/or component security.

Item and Method of Inspection	Reject If
	OUT OF SERVICE **i) Air tank is loose, allowing movement of more than 25 mm in any direction.**
5. Air Tank Check Valves	**Truck** |✓| Trailer | | **Bus** |✓|
Additional Inspection Procedure(s): Test as outlined below, the operation of air tank check valves on each vehicle using a supply (wet) tank and primary/ secondary tank arrangement. Inspect a vehicle using an integral-type air dryer (and having no supply {wet} tank) according to manufacturer service instructions. **NOTE: A "CMVSS/ FMVSS '121'system" is one with a dual circuit brake system generally manufactured after 1976. A vehicle with single circuit brake system is to be inspected according to manufacturer service instructions.** Additional Inspection Procedure(s): For a vehicle with a "CMVSS/ FMVSS '121'system". This inspection is to ensure proper function of the check valves which isolate the circuits and provide service and emergency braking in the case of a failure in one of the circuits. Inspect for proper operation as follows: **Step 1** – Begin with air system at normal operating pressure. Completely open the drain valve on the supply (wet) tank.	
a) one-way check valve (between supply (wet) tank and service tanks)	a) air pressure drops in either the primary or secondary air tank
Step 2 – Completely open the drain valve on either the primary or secondary service tank.	
b) two-way check valve (between service tanks and brake system control valves)	b) air pressure drops on both the primary and secondary air tanks
Step 3 – Close all drain valves and increase air system to normal operating pressure. Completely open the drain valve on the remaining service tank (primary or secondary) that was not drained in Step 2.	
c) two-way check valve (between service tanks and brake system control valves)	c) air pressure drops on both the primary and secondary air tanks

All inspection procedures are visual unless additional inspection procedures are indicated or where applied force is necessary to verify tightness and/or component security.

Item and Method of Inspection	Reject If
	OUT OF SERVICE **i) Air tank check-valve is inoperative or missing.**
6. Brake Pedal/Actuator	**Truck | ✓ |** Trailer | | **Bus | ✓ |**
a) pedal	a) broken, cracked, loose, missing or abnormally worn welded or repaired in a way that does not meet OEM standard
b) mount	b) deteriorated or weakened by corrosion, or insecure
c) anti-slip feature	c) ineffective, loose or missing
	OUT OF SERVICE **i) Pedal is loose or missing, or an imminent failure appears likely.**
7. Treadle Valve and Trailer Hand Valve	**Truck | ✓ |** Trailer | | **Bus | ✓ |**
a) operation Additional Inspection Procedure(s): Test the operation of the treadle valve and trailer hand valve by fully applying and then releasing the service brakes.	a) inoperative – pivot or plunger is binding or seized (fails to fully release brakes)
b) condition	b) cracked, insecure or loose – mounting, mounting bracket or mounting fastener damaged, missing or stripped
8. Brake Valves and Controls	**Truck | ✓ | Trailer | ✓ | Bus | ✓ |**
a) operation Additional Inspection Procedure(s): Test the operation of all valves and controls.	a) any valve is inoperative
b) condition Additional Inspection Procedure(s): Check the condition and security of all air brake system components.	b) broken, damaged, repaired in a way that does not meet OEM standard – loose, insecure mounting, mounting bracket or mounting fastener damaged, stripped or missing

All inspection procedures are visual unless additional inspection procedures are indicated or where applied force is necessary to verify tightness and/or component security.

Item and Method of Inspection	Reject If
c) quick release valve, relay valve **NOTE: It is important that any repair or replacement of a brake valve retains brake functionality according to original OEM design.** Additional Inspection Procedure(s): Apply and release the service brakes and check system operation. Check for signs of improper installation or replacement of the wrong type of valve. **NOTE: It is important that the inspector be familiar with the design and operating requirements of the vehicle being inspected. This is a visual inspection only.**	c) inoperative, air is not released quickly through exhaust port when brakes are released – air leaks from valve back into the system – an improper valve is visually identified
d) air system or accessory device, (e.g.: suspension, tire inflation system, pintle hook damper, tail gate, landing gear, tarp system, etc.) **NOTE: The pressure protection valve must be installed so that it prevents a failure in such a system or accessory from depleting all of the pressure from the brake system.**	d) any system or accessory device that draws air from the air brake system is not equipped with a functioning pressure protection valve
	OUT OF SERVICE **i) Quick release valve or relay valve is inoperative or missing.**
9. Proportioning, Inversion or Modulating Valve	**Truck** |✓| Trailer | | **Bus** |✓|
a) type of limiting or proportioning valve	a) improper valve is used for vehicle type **NOTE: For example: a tractor converted to a straight truck or vice versa, is not properly configured for current vehicle use.**
b) operation	b) inoperative or missing
c) mounting	c) broken bracket, insecure or loose

All inspection procedures are visual unless additional inspection procedures are indicated or where applied force is necessary to verify tightness and/or component security.

Item and Method of Inspection	Reject If
d) Spring Brake Modulating Valve Spring Brake Modulator Valve Test Procedure: With the parking brakes released: i) exhaust all air from Primary tank (0 psi); ii) with secondary tank at governor cut-out pressure; iii) perform a full pressure service brake application;the modulator valve should exhaust air pressure from the spring parking brake circuit; iv) release the service brake application;air from the secondary circuit should return the spring parking brakes to an off position; v) repeat until all the air from the secondary circuit is lost.	
	OUT OF SERVICE **i) Improper valve is used for vehicle type, (e.g.: bobtail system is used on a straight truck.** **ii) Required valve is inoperative or missing.**
10. Towing Vehicle (Tractor) Protection System	**Truck |✓|** Trailer | | **Bus |✓|**
a) towing vehicle (tractor) protection valve operation Additional Inspection Procedure(s): Ensure that the trailer supply valve is closed (pulled out). Place the trailer service line where it can be observed. Make a service brake application and inspect for air exhausting out of the trailer service line.	a) air flows out of the trailer service line during the test

All inspection procedures are visual unless additional inspection procedures are indicated or where applied force is necessary to verify tightness and/or component security.

Item and Method of Inspection	Reject If
b) trailer supply valve operation Additional Inspection Procedure(s): **Stage 1** – Connect trailer supply line to suitable closure, open (push in) the trailer supply valve and make a service brake application. Air will exhaust rapidly out of the trailer service line and air pressure will drop. Monitor the air pressure gauges and note the pressure when the trailer supply valve automatically closes. **Stage 2** – Increase air system to normal operating pressure, open (push in) the trailer supply valve and allow air to vent quickly from trailer supply line by removing it from the closure. Monitor the air pressure gauges and note the pressure when the trailer supply valve automatically closes.	b) both air pressure gauges are not between 140 and 300 kPa (20 and 45 psi) when the trailer supply valve closes during Stage 1 **NOTE: In a case where the trailer supply valve closes with pressure above 300 kPa (45 psi), record it on the inspection report, but do not reject the vehicle for this condition alone.** – the trailer supply valve fails to close automatically during Stage 2 **NOTE: Most valves will close with only a small drop in pressure during Stage 2. Others may allow pressure to drop to around 414 kPa (60 psi) before closing. Check manufacturer specifications if pressure drops below 414 kPa 60 psi.**
	OUT OF SERVICE **i) Towing vehicle (tractor) protection system is missing or fails to operate as intended.**
11. Parking Brake and Emergency Application on Truck or Bus	**Truck |✓|** Trailer | | **Bus |✓|**
a) parking brake application Additional Inspection Procedure(s): Actuate the parking brake control as necessary. Check parking brake function at each wheel. b) parking brake release c) manual application Additional Inspection Procedure(s): Apply the parking (spring) brakes by closing the parking (spring) brake control valve.	a) brake does not apply on any wheel required to have parking brake b) parking brake releases slowly, hangs or drags c) parking (spring) brakes do not immediately apply automatically
	OUT OF SERVICE **i) Parking brake does not operate as intended.**

All inspection procedures are visual unless additional inspection procedures are indicated or where applied force is necessary to verify tightness and/or component security.

Item and Method of Inspection	Reject If
12. Parking Brake and Emergency Application on Trailer	Truck | | **Trailer |✓|** Bus | |
a) parking brake application Additional Inspection Procedure(s): Actuate the parking brake control as required. Check parking brake function at each wheel.	a) brake does not apply on any wheel required to have parking brake
b) parking brake release	b) parking brake releases slowly, hangs or drags
c) emergency application Additional Inspection Procedure(s): Actuate emergency application of the parking brakes by exhausting the trailer supply/emergency line, using the trailer supply valve, by removing the glad-hand, or by using a suitable test device.	c) parking brakes do not immediately apply automatically – time required for air pressure in the chambers to fall to atmospheric pressure is more than 3 seconds **NOTE: For this test, atmospheric pressure is considered 21 kPa (3 psi) or less.**
	OUT OF SERVICE **i) Parking brake does not operate as intended.**
13. Spring-Applied Air-Released (SAAR) Parking Brake	**Truck |✓|** Trailer | | **Bus |✓|**
NOTE: A spring-applied air-released (SAAR) Parking Brake System uses a mechanical spring to apply the parking brake. Compressed air is used to compress the spring and release the parking brake. The parking brake control is similar to the valve used in an air brake system.	

All inspection procedures are visual unless additional inspection procedures are indicated or where applied force is necessary to verify tightness and/or component security.

Item and Method of Inspection	Reject If
a) operation Additional Inspection Procedure(s): Refer to manufacturer service instructions for test procedure. When such instruction is not available, test as described below. **With a manual transmission** – Apply the parking brakes and place the transmission in the second or third lowest gear. Engage the clutch slowly without applying the throttle. Vehicle may rock and shake, but it should not roll, and engine may stall. **With an automatic transmission** – Apply the parking brake and place the transmission in forward gear. Raise engine speed to no more than 800 rpm. Vehicle may shift due to torqueing of the suspension, but it should not roll forward or backward. **NOTE: Some vehicles with automatic transmissions use an interlock that prevents a vehicle from being placed into gear when the parking brake is applied. Inspect such a vehicle according to the test method provided by the manufacturer.** **NOTE: SAAR systems include a low air pressure warning and air pressure gauge. The air system components are not subject to CMVSS 121 and must be inspected according to manufacturer service instructions.**	a) parking brake does not hold as required
b) indicator lamp	b) parking brake indicator lamp does not activate when control is placed in the applied position
c) air line, connection and fitting	c) fitting, line or repair method does not meet OEM standard tubing or hose is defective as defined in the chart on Appendix B – fitting or connection is broken, cracked, flattened or leaking – damaged in a way (such as: melting, flattening, deformation or kinking) that can restrict air flow
d) air tank	d) tank does not meet OEM standard – tank is damaged, loose, welded other than factory weld, or corroded to the extent that structural integrity is compromised

All inspection procedures are visual unless additional inspection procedures are indicated or where applied force is necessary to verify tightness and/or component security.

Item and Method of Inspection	Reject If
e) leakage Additional Inspection Procedure(s): Monitor system for leaks.	e) air leak at any location
f) friction material Additional Inspection Procedure(s): Inspecting the condition of the parking brake friction material is necessary in cases when shoes are visually accessible, or the brake is disassembled.	f) thickness is less than 3.2 mm (1/8 in.) on riveted lining or less than 1.6 mm (1/16 in.) on bonded lining – worn to minimum as indicated by component manufacturer over 1.6 mm – contaminate
	OUT OF SERVICE **i) Brake is inoperative or fails to operate as intended.** **ii) Vehicle rolls forward or backward with little or no resistance when parking brake is applied.**
14. Air System Components	**Truck | ✓ | Trailer | ✓ | Bus | ✓ |**
a) glad-hand	a) corroded or insecure mounting, cracked or damaged – seal damaged or missing
b) glad-hand screen	b) on a trailer, required screens are missing – plugged or ruptured
c) air line, connection and fitting Additional Inspection Procedure(s): Check for improper installations, modifications or repairs. **NOTE: Improper installation, repairs and modifications can negatively affect brake operation, and particularly brake timing. Improper use of fittings, additional elbows, and replacing an air line with one that is too small, are examples of improper procedures.**	c) fitting, line, repair method, installation or modification does not meet industry standard or OEM standard – tubing or hose is defective as defined in the chart in Appendix B – fitting or connection is broken, cracked, flattened or leaking – damaged in a way (such as: melting, flattening, deformation or kinking) that can restrict air flow
d) air system or accessory device, (e.g. suspension, tire inflation system, pintle hook damper, tail gate, landing gear, tarp system) Additional Inspection Procedure(s): Visually inspect for presence of correct type of valve.	d) any system or accessory device that draws air from the air brake system is not equipped with a functioning pressure protection valve

All inspection procedures are visual unless additional inspection procedures are indicated or where applied force is necessary to verify tightness and/or component security.

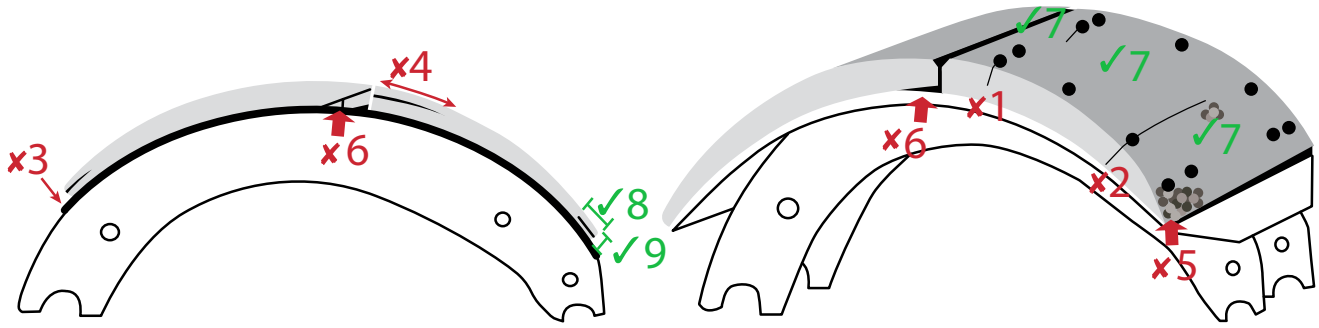
Item and Method of Inspection	Reject If
e) leakage Additional Inspection Procedure(s): Monitor system for leaks.	e) an air leak at any location
	OUT OF SERVICE **i) An air line bulges under pressure.** **ii) Air line modification or repair does not meet industry standard or OEM standard.** **iii) Air line has damage extending through the outer reinforcement ply.** **iv) An inner layer of an air line is exposed due to abrasion or rubbing.** **v) Air leak at other than a proper connection.** **vi) Air line is damaged by heat, broken, or crimped in such a manner as to restrict airflow.**
15. Brake Chamber	**Truck | ✓ | Trailer | ✓ | Bus | ✓ |**
a) brake chamber **NOTE: Includes DD3 chamber on a bus.**	a) improper type or size brake chamber is used – corroded, cracked, damaged, insecure mounting – loose, missing, or leaking drain hole is not directed downward or is plugged – mixed long-stroke and standard stroke chambers on an axle – mismatched chamber size on an axle – piston return spring is broken or binding
b) spring brake chamber	b) park brake-apply spring is caged by caging bolt or made inoperative by other mechanical means – chamber caging plate is misaligned or hung up preventing installation of caging bolt – park brake-apply spring is broken
c) chamber mounting bracket	c) broken, cracked, deformed, loose or missing

All inspection procedures are visual unless additional inspection procedures are indicated or where applied force is necessary to verify tightness and/or component security.

Item and Method of Inspection	Reject If
d) type DD3 chamber Additional Inspection Procedure(s): Apply the parking brake and deplete system pressure starting with the supply (wet) tank.	d) brake fails to remain fully applied at any wheel with Type DD3 chamber
	OUT OF SERVICE **i) Air leak at a chamber.** **ii) Caging plate in a chamber is out of position or "hung up.'** **iii) Non-manufactured hole or crack in a chamber.** **iv) Insecure, loose or missing chamber.** **v) Mismatched chamber type or size on active or passive steer axle.** **vi) Improper type or size brake chamber is used on a steer axle.**
16. Drum Brake System Components	**Truck | ✓ | Trailer | ✓ | Bus | ✓ |**
NOTE: Drums must be removed only when the camshaft rotation travel is 100 degrees or more. a) brake operation	a) a required brake is missing – a brake is inoperative

All inspection procedures are visual unless additional inspection procedures are indicated or where applied force is necessary to verify tightness and/or component security.

Item and Method of Inspection	Reject If
b) brake shoe lining condition (service brakes) **NOTE: Cracks in the surface of the lining, surface erosion and minor spalling of the contact face of the lining are normal.** Also inspect lining for damage caused by "rust-jacking." This includes lining material cracking, lifting or separating from backing metal, due to rust build- up.	b) A crack extending partially through, or completely through the lining from the friction surface to the metal backing, passing from any rivet hole to the edge. – A crack in the edge of the lining that is wider than 1 mm or longer than 38 mm. – A piece of the lining is broken off exposing a rivet or bolt. – Lining is distorted or separating from shoe, (e.g.: an object 1 mm thick can be inserted more than 10 mm between the lining and the backing metal). – Lining is contaminated by oil or grease (Also see section 9 item 5 for wheel seal leaks). – Lining protrudes outside of drum more than 3 mm. – Lining or any lining fastener is loose. – Shim is used between lining and shoe. – Shoe or lining is installed incorrectly (such as primary and secondary shoes reversed).



All inspection procedures are visual unless additional inspection procedures are indicated or where applied force is necessary to verify tightness and/or component security.

Item and Method of Inspection	Reject If
	Examples of Brake Shoe Lining Pass and Reject Conditions: Reject condition 1 – a partial crack in the lining, extending from a rivet hole to the edge Reject condition 2 – a crack completely through the lining, extending from a rivet hole to the edge Reject condition 3 – a crack in the edge of the lining wider than 1 mm Reject condition 4 – a crack in the edge of the lining longer than 38 mm Reject condition 5 – a piece of the lining is broken off exposing a rivet Reject condition 6 – lining is distorted or separating from shoe Pass condition 7 – minor crack or spalling of the lining material Pass condition 8 – crack in edge of lining shorter than 38 mm Pass condition 9 – crack in edge of lining less than 1 mm wide
c) brake shoe lining thickness Additional Inspection Procedure(s): Lining thickness must be measured at each inspection and the measurement must be recorded on the inspection report. **NOTE: For the purposes of recording lining thickness on the inspection report, lining thickness measurements are taken at the edge of the lining, near the centre of the brake shoe. The measurement must be taken of the thinner brake shoe lining, when there is a difference in thickness.**	c) front or rear brake lining thickness is 8 mm (5/16 in.) or less at centre of shoe – worn to wear indicator if lining is so marked or worn to 1.6 mm (1/16 in.) above rivet when wheels and drum removed

All inspection procedures are visual unless additional inspection procedures are indicated or where applied force is necessary to verify tightness and/or component security.

Item and Method of Inspection	Reject If
d) brake drum condition **NOTE: Heat checks and some surface cracks on the friction surface are normal. A heat check has a width less than 0.5 mm and a depth less than 0.5 mm. A surface crack is at least 0.5 mm wide and 0.5 mm deep. Any surface crack, groove or worn area that is deeper than the drum wear limit is a structural weakness.**	d) surface crack longer than 75% of the width of the friction surface – surface crack within 25 mm of the open edge – surface crack, groove or worn area that is a structural weakness – external crack – friction surface is abnormally worn, or is hardened and blackened due to overheating ("marten site") – friction surface is contaminated by grease or oil (Also see section 9 item 5 for wheel seal leaks)
e) brake drum diameter (wear) **NOTE: Drum diameter measurements must be taken using a suitable tool and with the level of accuracy defined by the measurement tolerance.**	e) has one or more grooves worn so that measurement in groove exceeds wear limit – out of round more than 0.25 mm (0.01 in.) on drums 280 mm (11 in.) diameter and smaller – out of round more than 0.63 mm (0.025 in.) on drums greater than 280 mm (11 in.) diameter – drum diameter exceeds manufacturer's limits as indicated on the brake drum, or if limit is not indicated – 2.3 mm (3/32 in.) over original drum diameter of 350 mm (14 in.) or less – 3 mm (1/8 in.) over original drum diameter of greater than 350 mm (14 in.)
f) wheel seal	f) level 2 leak of bearing lubricant
g) return spring	g) missing, broken or stretched (fails to hold both rollers against cam)
h) spider	h) bent, broken, loose, welded or repaired in a way that does not meet OEM standard – mounting bolt missing

All inspection procedures are visual unless additional inspection procedures are indicated or where applied force is necessary to verify tightness and/or component security.

Item and Method of Inspection	Reject If
	OUT OF SERVICE **i) Any part is binding, broken, missing, seized, or mounted incorrectly.** **ii) A brake drum is in a condition where an imminent failure appears likely.** **iii) A brake is inoperative.** **iv) Bonded or riveted continuous strip brake shoe lining thickness is less than 5 mm at centre of shoe.** **v) Bolted or riveted block type brake shoe lining thickness is less than 7 mm, at centre of shoe.** **vi) Brake shoe lining is less than 1 mm at any point.** **vii) A piece of the lining is broken off exposing a rivet or bolt.** **viii) A crack in the edge of the lining wider than 1 mm.** **ix) A crack in the edge of the lining longer than 38 mm.** **x) Broken or missing return spring, anchor pin, or spider.** **xi) Brake lining or drum friction surface is contaminated by grease or oil.** **xii) Mismatch of brake chamber size.** **NOTE: Also see Section 9, Item 5 for wheel seal leaks 5 mm = 0.2 (3/16) in., 7 mm = 0.25 in. (1/4) in.**

All inspection procedures are visual unless additional inspection procedures are indicated or where applied force is necessary to verify tightness and/or component security.

Item and Method of Inspection	Reject If
17. S-Cam Drum Brake System	**Truck | ✓ | Trailer | ✓ | Bus | ✓ |**
DUST SHIELDS MUST BE REMOVED. **NOTE: Also applies to T-Cam brake system.** Additional Inspection Procedure(s): Measure and record the applied push rod stroke of each brake with 620 to 690 kPa (90 to 100 psi) in the air tanks, the spring brakes released, the engine shut off and service brakes fully applied. Push-rod measurements must be recorded on the inspection form prior to commencing camshaft rotation" See "brake adjustment" below. Back off the slack adjuster until movement is noticed in the brake chamber push rod. The roller will now be in the bottom position of the S-cam. Brake S-cam bushings should be inspected at this time. Mark the slack adjuster in relation to the camshaft with chalk. (Adjust the brakes to lock the wheel.) Ensure the brakes properly adjusted after test. **NOTE: this test is not required when drums are removed from the vehicle.**	
a) travel In the event brake drums are suspected of being oversized, the wheels and drums must be removed and the drums measured, OR The drums may be measured by an alternate type of measuring device, using another method, provided the device/method measures drum wear accurately. – All measurements must be recorded on the inspection form.	a) difference between marks is more than 120° or 1/3 of camshaft travel – overcammed, inoperative, binds, sticking
b) camshaft condition Additional Inspection Procedure(s): Check the condition and mounting of each brake camshaft, and check for movement in the bushings.	b) camshaft is bent, twisted, repaired by welding, incorrectly installed or incorrect type – movement of camshaft in bushing exceeds 2.0 mm
c) camshaft mounting	c) mounting bracket broken or loose

All inspection procedures are visual unless additional inspection procedures are indicated or where applied force is necessary to verify tightness and/or component security.

Item and Method of Inspection	Reject If
d) pushrod, clevis yoke, clevis pin and locking device **NOTE: Brake pushrod stroke indicators are required by CMVSS 121 on vehicles manufactured on and after May 31, 1996. These indicators normally consist of markings on the brake chamber pushrod, but can also be mounted on, or adjacent to, the brake linkage. They must be capable of showing an over-stroke condition.**	d) bent, binding, broken, cracked, missing, welded or repaired in a way that does not meet OEM standard – clevis yoke lock nut is loose – linkage is misaligned to slack adjuster or brake chamber does not form correct angle with slack adjuster when brakes are applied – brake stroke indicator is missing
e) brake adjuster **NOTE: Self-adjusting brake adjusters are required by CMVSS 121 on vehicles manufactured on and after May 31, 1996. They cannot be replaced with manual brake adjusters.**	e) not equipped with self-adjuster as required – adjuster is inoperative or improperly installed – improper type or size brake adjuster is used – any part is bent, broken or abnormally worn – the self-locking sleeve on a manual slack adjuster is seized or fails to lock
f) slack adjuster effective length	f) the distance from the centre of a camshaft to the centre of the clevis pin is not the same on all brakes of an axle
g) brake shoe roller	g) flat spots, missing, wrong size
h) brake shoe anchor pin	h) missing, wear allows the lining to protrude beyond outside edge of brake drum
i) brake stroke With the applied push rod stroke of each brake with 620 to 690 kPa (90 to 100 psi) in the air tanks, the spring brakes released, the engine shut off and service brakes fully applied.	i) stroke is at or beyond the limit of the brake chamber as shown in the chart below – difference between stroke measurements is greater than 6 mm on an axle

All inspection procedures are visual unless additional inspection procedures are indicated or where applied force is necessary to verify tightness and/or component security.

Item and Method of Inspection	Reject If
j) push rod stroke	j) any brake is at or beyond the adjustment limit of the brake chamber – not within 6.5 mm (1/4 in.) for brakes on the same axle
k) angle between push rod and slack adjuster suggested angle; not all manufacturers obtain this angle. Please refer to manufacturer's specifications.	

Adjustment Limits for

Size/Type	Adjustment Limit
6	1 1/4" (31.75 mm)
9	1 3/8" (34.93 mm)
12	1 3/8" (34.93 mm)
12LS	1 3/4" (44.45 mm)
16	1 3/4" (44.45 mm)
16LS	2" (50.8 mm)
20	1 3/4" (44.45 mm)
20LS	2" (50.8 mm)

Clamp-Type Brake Chambers

Size/Type	Adjustment Limit
24	1 3/4" (44.45 mm)
24L	2" (50.8 mm)
24LS	2 1/2" (63.5mm)
30	2" (50.8 mm)
30LS	2 1/2" (63.5 mm)
30DD3	2 1/4" (57.15 mm)
36	2 1/4" (57.15 mm)

OUT OF SERVICE

i) Cam travel exceeds 120°.

ii) Cam is inoperative.

iii) Camshaft is incorrectly installed, incorrect type, or mounting is insecure.

iv) Improper type or size camshaft roller is used.

v) Improper type or size brake adjuster is used on a steer axle.

vi) Broken or missing cam roller, camshaft, pushrod, yoke, clevis pin, clevis pin retainer, (e.g., cotter pin).

vii) Stroke of any brake is beyond the limit of the brake chamber as shown in the chart below.

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Item and Method of Inspection	Reject If
18. Brake Shoe Travel (Wedge Brakes)	**Truck | ✓ | Trailer | ✓ | Bus | ✓ |**
a) brake shoe movement Additional Inspection Procedure(s): Inspect wedge brakes according to item 16 above and then check brake operation and measure shoe movement. Brake shoe movement must be measured and measurements must be recorded on the inspection report.	a) brakes fail to operate, shoes do not move or shoe movement exceeds 2 mm
	OUT OF SERVICE **i) Shoe movement is greater than 2 mm.** **ii) Any wedge brake is inoperative.**
19. Disc Brake System Components	**Truck | ✓ | Trailer | ✓ | Bus | ✓ |**
a) brake operation	a) a required brake is missing – a brake is inoperative
b) disc (rotor) condition **NOTE: Heat checks and some surface cracks on the friction surface are normal. A heat check has a width less than 0.5 mm and a depth less than 1 mm. A surface cracks is at least 0.5 mm wide and 1 mm deep.** **NOTE: Lateral run-out and parallelism only need to be checked only where there is evidence of a problem.**	b) section is broken off or missing – crack extends from the friction surface through to the cooling vent – any surface crack is longer than 75% of the radial width, within the friction surface – any surface crack extends to an outer edge – groove or pitted area in rotor that reduces rotor thickness below minimum allowable value – contact pattern of the pad on solid rotor material, (i.e.: not rusted) is less than 75% of the radial width, around the entire rotor, on one side – lateral run-out-of-parallelism exceeds 0.3 mm – friction surface of the rotor is contaminated by grease or oil (also see section 9 item 5 for wheel seal leaks) 0.3 mm = 0.01 mm
c) disc (rotor) thickness Additional Inspection Procedure(s): Disc (rotor) thickness must be measured. Measurements must be recorded on inspection report.	c) two or more grooves worn beyond 2.3 mm (3/32 in.) (0.090 in.), hot spots are present that cannot be removed by machining – lateral run-out exceeds 0.25 mm (0.01 in.) – wear exceeds manufacturer's limit indicated on disc

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Item and Method of Inspection	Reject If
d) caliper	d) any part is binding, broken, seized, missing, or mounted incorrectly or inferior attaching bolt is used – slide pin/slider or pad slider is binding, damaged, seized, mounted insecurely, or not equivalent to OEM standard – caliper movement within the anchor plate exceeds manufacturer specification, guide is welded or repaired in a way that does not meet OEM standard – pad retainer is bent, damaged, insecure or missing. – boot or bellows is cracked or deteriorated, damaged, or missing
e) anchor plate	e) loose or bolt is missing
f) pad condition	f) broken, cracked, damaged, or abnormally worn – friction material is contaminated by oil or grease (Also see section 9 item 5 for wheel seal leaks.) – rivet loose on pad, pad loose on bonded lining, pad is missing, or pad is installed incorrectly
g) pad (friction material) thickness Additional Inspection Procedure(s): Pad (friction material) thickness of both inboard and outboard pad must be measured and measurement of the thinnest pad must be recorded on the inspection report. **NOTE: Pad (friction material) thickness can be determined by measuring the friction material itself or by measuring the combined thickness of the friction material and pad backing plate, then deducting the thickness of the backing plate. Always record the thickness of the friction material only.**	g) worn to 3.2 mm (1/8 in.) or less thickness on bonded pads – worn to 4.8 mm (3/16 in.) or less thickness on riveted pads
h) clearance between pads and rotor (caliper adjustment)	h) does not meet manufacturer specifications

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Item and Method of Inspection	Reject If
	OUT OF SERVICE **i) Any part is binding, broken, missing, seized, or mounted incorrectly.** **ii) A rotor (disc) friction surface shows metal to metal contact with brake pad or severe rusting.** **iii) A rotor (disc) has a crack that extends to the hub or through to the vented section.** **iv) Caliper movement within the anchor plate exceeds 3 mm.** **v) Any brake component is in a condition where an imminent failure appears likely.** **vi) A brake is inoperative.** **vii) Brake pad friction material worn to less than 2 mm or a portion of the friction material is missing.** **viii) Loose or missing brake chamber or caliper mounting bolt.** **ix) Friction material of the pad or friction surface of the rotor is contaminated by grease or oil.** **x) Mismatched chamber size.** **NOTE: Also see section 9 item 5 for wheel seal leaks.** **2 mm = 0.08 in., 3 mm = 0.12 (1/8) in.**
20. Anti-Lock Brake System (ABS) on Truck and Bus	**Truck | ✓ |** Trailer | | **Bus | ✓ |**
NOTE: Every truck and truck-tractor with air brakes manufactured on or after April 1, 2000 must be equipped with ABS. Every towing vehicle with air brakes manufactured on or after March 1, 2001 must be capable of PLC communication with any towed trailer. **Every vehicle equipped with ABS that was not mandatory for the vehicle when it was manufactured must have ABS in good working order.**	
a) indicator lamp Additional Inspection Procedure(s): Cycle the ignition off and on while monitoring the ABS indicator lamp.	a) inoperative or missing – fails to turn on during bulb-check cycle when ignition is turned on – indicates the presence of an active malfunction by staying on after the bulb-check cycle – any visual evidence that the system has been tampered with or defeated

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Item and Method of Inspection	Reject If
b) wiring Additional Inspection Procedure(s): Visually inspect accessible portions of the wiring. Inspect all repairs and damaged areas. **NOTE: Also see requirement for towing vehicle to supply constant power to trailer for trailer ABS. See Section 7, Item 3.**	b) insecure mounting, missing, or connector corroded – conductor is exposed due to damage, improper repair or other condition of wire – connection or repair does not meet OEM standard
c) electronic control unit (ECU)	c) missing, insecure mounting, connectors corroded
d) relay/ABS modulating valve	d) missing, leaking, insecure mounting to ECU, abnormal corrosion
e) wheel speed sensor **NOTE: Different configurations of sensors and modulators are permitted by CMVSS. Be sure to confirm the OEM configuration of the ABS before rejecting a vehicle due to missing wheel speed sensors**	e) missing, insecure mounting, inoperative, connectors corroded
f) PLC communication Additional Inspection Procedure(s): Connect the vehicle to a suitable test device or a trailer that has an active ABS malfunction to confirm PLC communication.	f) PLC signal from trailer or test device fails to activate the trailer – ABS indicator lamp on instrument panel
	OUT OF SERVICE **i) Any malfunction of the ABS system that prevents normal brake operation.**
21. Anti-Lock Brake System (ABS) on Trailer	Truck | | **Trailer |✓|** Bus | |
NOTE: Every trailer with air brakes manufactured on or after April 1, 2000 must be equipped with ABS. *(see exceptions below) **Every vehicle equipped with ABS that was not mandatory for the vehicle when it was manufactured including those listed in the exceptions below must have ABS in good working order.**	

All inspection procedures are visual unless additional inspection procedures are indicated or where applied force is necessary to verify tightness and/or component security.

Item and Method of Inspection	Reject If
a) indicator lamp (trailer-mounted) Additional Inspection Procedure(s): Proper operation of the ABS must be confirmed using one of the methods listed below: **Test Method #1**. Connect to towing vehicle manufactured after March 1, 2001 that has been verified to have a properly functioning ABS. **Test Method #2.** Using suitable test equipment, confirm that trailer ABS control module sends required signal to operate dash mounted ABS lamp in towing vehicle. * **Exceptions for ABS** ABS is not required by CMVSS 121 for: trailers with width greater than 2.6 m, and that have a GVWR greater than 54,332 kg –"heavy hauler trailer".	a) missing, not amber in colour – is not marked "ABS" on the lamp itself, or not marked "ABS" within 150 mm of the lamp – is not between 150 mm and 600 mm away from the left rear red side marker lamp – fails to turn on during bulb-check cycle when power is supplied to auxiliary circuit (centre pin, blue wire) – indicates the presence of an active malfunction by staying on after the bulb-check cycle – any visual evidence that the system has been tampered with or defeated
b) wiring Additional Inspection Procedure(s): Visually inspect accessible portions of the wiring. Inspect all repairs and damaged areas.	b) insecure mounting, missing, or connector corroded – conductor is exposed due to damage, improper repair or other condition of wire – connection or repair does not meet OEM standard
c) electronic control unit (ECU)	c) missing, insecure mounting, connectors corroded
d) relay/ABS modulating valve	d) missing, leaking, insecure mounting to ECU, abnormal corrosion
e) wheel speed sensor **NOTE: Different configurations of sensors and modulators are permitted by CMVSS. Be sure to confirm the OEM configuration of the ABS before rejecting a vehicle due to missing wheel speed sensors.**	e) missing, insecure mounting, inoperative, connectors corroded
f) PLC Signal to towing vehicle **NOTE: Power Line Carrier (PLC) communication is required for all trailers built on or after March 1, 2001.**	f) PLC signal is not transmitted by trailer ABS **NOTE: When using Test Method 1 for the indicator lamp (trailer-mounted) above, PLC communication from the trailer is verified when the dash-mounted trailer ABS lamp in the towing vehicle turns on during bulb-check, and then turns off or stays on, to show the presence of a malfunction in conjunction with the trailer-mounted indicator lamp. (A malfunction may be described as a Fault, Diagnostic Fault Code, or Diagnostic Trouble Code.)**

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Item and Method of Inspection	Reject If
	OUT OF SERVICE **i) Any malfunction of the ABS system that prevents normal brake operation.**
22. Stability Control System on Truck or Bus	**Truck | ✓ |** Trailer | | **Bus | ✓ |**
Additional Inspection Procedure(s): Check the ECU for indication of any fault or malfunction	
a) indicator lamp Additional Inspection Procedure(s): Cycle the ignition off and on while monitoring the indicator lamp.	a) fails to illuminate or lamp remains illuminated. – fault or malfunction is indicated **NOTE: Each of the conditions above are to be recorded on the inspection report. Do not reject the vehicle for this condition only.**
b) operation	b) any visual evidence that the system has been tampered with or defeated (see note below) **NOTE: The condition above is to be recorded on the inspection report. Do not reject the vehicle for this condition only.**
23. Stability Control System (Electronic Stability Control [ESC] or Roll Stability System [RSS] on Trailer	Truck | | **Trailer | ✓ |** Bus | |
Additional Inspection Procedure(s): Check the ECU for indication of any fault or malfunction in conjunction with inspection of the ABS as described in item 20 above.	
a) operation	a) there is evidence that the system has been tampered with or defeated – the system has an active fault (light or indicator) **NOTE: Each of the conditions above are to be recorded on the inspection report. Do not reject the vehicle for this condition only.**

All inspection procedures are visual unless additional inspection procedures are indicated or where applied force is necessary to verify tightness and/or component security.

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