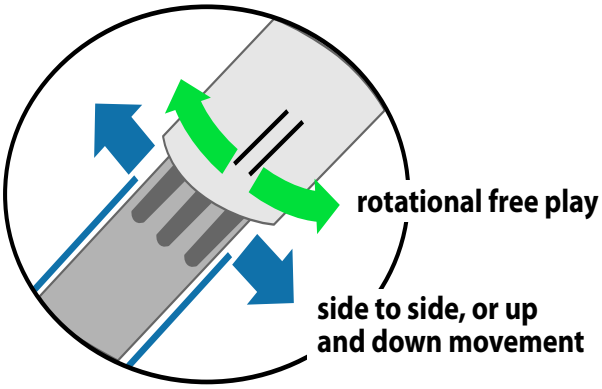
Item and Method of Inspection	Reject If
1. Steering Control and Linkage	**Truck | ✓ | Trailer | ✓ | Bus | ✓ |**
Additional Inspection Procedure(s): Check the steering components listed below using tools and methods according to manufacturer service instructions.	
a) steering box or rack and pinion unit	a) loose or insecure mounting, mounting bolt loose or missing – housing broken, cracked, or level 2 leak of oil or fluid
b) bellow, clamp and boot	b) insecure, missing, split or torn – bulging, swollen or discoloured due to oil leak from internal end seal – clamp missing
c) tie rod	c) bent, broken, cracked or welded, or repaired in a way that does not meet OEM standard
d) tie rod end, drag link and ball and socket joint	d) bent, insecure, loose or worn – threads stripped or repaired – ball and socket joint is worn beyond manufacturer specifications – damaged, welded or repaired in a way that does not meet OEM standard – part is used that does not meet OEM standard
e) pitman arm	e) bent, damaged, insecure or loose on spline – repaired by welding
f) ball-joint in upper or lower control arm	f) loose in knuckle or control arm – wear exceeds limit shown by wear-indicator, OEM standard limit or industry standard limit, or is injected with repair materia – insecure or loose – improper or loose retainer
g) cotter pin or similar retaining device	g) missing, or deficient part is used that does not meet OEM standard

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
h) steering dampener	h) inoperative or missing – level 2 leak of dampener fluid
i) steering column	i) insecure mounting or loose – mounting fastener loose or missing
j) telescopic/tilt steering Additional Inspection Procedure(s): Check the operation of locking device(s). With unit locked, grasp the steering column and attempt to move it horizontally and vertically on its mounts.	j) movement exceeds manufacturer specification, or when specification is not available, is greater than 6 mm
k) steering shaft universal joint and yoke	k) binding, loose, seized, welded or repaired in a way that does not meet OEM standard – clamp bolt loose or missing, or spline loose or stripped
l) steering column slip joint Additional Inspection Procedure(s): Grasp the sections of the slip joint and check rotational free play by twisting in opposite directions. Then check the total side to side, or up and down movement of the slip joint perpendicular to the line of rotation.	l) rotational free play between splines exceeds 1.0 mm – total side to side, or up and down movement exceeds 6 mm 
m) adjusting sleeve	m) bent, loose or welded or repaired in a way that does not meet OEM standard – tightening bolt is in a position that interferes with normal steering

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
n) remote (right hand) steering control	**NOTE: Inspect as described in Section 5 – Instruments and Auxiliary Equipment**
	OUT OF SERVICE **i) Any crack, modification or other condition that interferes with free movement of any steering component, or repair that does not meet OEM standard.** **Steering Box or Rack & Pinion Unit** **ii) Cracked, loose or insecure mounting, mounting bolt loose or missing or has been repaired in way, (e.g.: welded) that does not meet OEM standard.** **Steering Linkage** **iii) Any ball and socket joint has looseness in line with the shank or neck of the ball greater than manufacturer specification, or when specification is not available, greater than 3.0 mm.** **iv) The socket of a ball and socket joint is injected with any repair material, or a ball and socket joint has been repaired in way (e.g.: welded) that does not meet OEM standard.** **v) Pitman arm is loose on steering gear output shaft spline or has been repaired in way (e.g.: welded) that does not meet OEM standard.** **vi) Any nut is loose or missing.** **vii) Loose clamp, clamp bolt or nut on tie rod, drag link, pitman arm, or steering arm.** **viii) Any looseness in any threaded joint.**

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
	<u>Steering Column and Related Parts</u> **ix) Adjusting sleeve is loose or insecure.** **x) Loose or insecure mounting, mounting bolt loose or missing.** **xi) Column fails to lock into position.** **xii) A universal joint has been repaired in way (e.g.: welded) that does not meet OEM standard.** **xiii) Any looseness of the yoke-coupling at the steering gear input shaft.**
2. Power Steering System (Hydraulic and Electric)	**Truck |✓|** Trailer | | **Bus |✓|**
Additional Inspection Procedure(s): Inspect the power steering components with the engine stopped. Then with engine running, turn wheels fully to the left and right and check system operation	
a) fluid	a) below indicated minimum level or fluid is contaminated
b) belt	**NOTE: Inspect drive belt according to Section 1. Power Train, Item 10. Engine or Accessory Drive Belt.**
c) hose	c) cracked, worn by or is in contact with moving parts – distance to exhaust system component is less than 25 mm – level 2 leak of power steering fluid
d) pump	d) inoperative, insecure mounting, or loose – level 2 leak of power steering fluid
e) cylinder	e) missing, inoperative, insecure mounting, or loose. – level 2 leak of power steering fluid.
f) mounting bracket	f) broken, cracked or loose – bolt 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
g) assist	g) does not operate as intended (i.e.: power-assist provided is noticeably reduced requiring more than normal steering effort to turn the wheels left or right)
	OUT OF SERVICE **i) Power steering does not operate as intended.** **ii) Any steering component is in a condition where imminent failure appears likely.** **iii) Level 3 leak of power steering fluid.** **iv) Auxiliary power assist cylinder is loose.**
3. Steering Operation (Active Steer Axle)	**Truck | ✓ | Trailer | ✓ | Bus | ✓ |**
NOTE: Trailers equipped with steering or other components not defined in this section must have those components inspected under applicable criteria in the Truck/Tractor section. **NOTE: An active steer axle is one that is directly controlled by the steering wheel. Check steering operation after inspecting steering control and linkage, and checking power steering as described above.**	
a) steering wheel	a) broken, damaged, loose on spline or modified – diameter is not OEM or equivalent
b) rotation and travel Additional Inspection Procedure(s): Turn wheels fully to the left and right and check system operation.	b) binds or jams during rotation – number of rotations from centre to full left does not equal the number of rotations from centre to full right, +/- ½ turn

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) steering lash or free-play Additional Inspection Procedure(s): Check vehicle having power steering with engine running. Measure lash or free-play beginning with wheels in straight-ahead position. Then turn steering wheel just until turning motion can be observed at the front wheels. Mark rim of steering wheel and turn the steering wheel in the opposite direction until motion can just be observed. Measure the distance of steering wheel rotation that does not cause turning of the wheels. **NOTE: Steering wheel measured from the outside.**	c) steering lash or free-play is greater than the distance shown below **MANUAL STEERING** **Wheel Diameter** — **Steering Lash** 508 mm (20 in.) and less — 89 mm (3.5 in.) Over 508 mm (20 in.) — 102 mm (4.0 in.) **POWER STEERING** **Wheel Diameter** — **Steering Lash** 508 mm (20. in.) and less — 76 mm (3.0 in.) Over 508 mm (20 in.) — 89 mm (3.5 in.) – visual inspection reveals excessive wear and/or looseness in any ball stud, end assembly pivot pointor mechanical linkage
d) tire clearance	d) space between tire and frame, fender or other vehicle part is less than 25 mm at any point in turn.
e) steering stop	e) improperly adjusted or missing
	OUT OF SERVICE **i) Steering binds or jams during rotation** **ii) Steering lash or free-play is greater than the distance shown below:** **MANUAL STEERING** **Wheel Diameter** — **Steering Lash** 508 mm (20 in.) and less — 140 mm (5.5 in.) Over 508 mm (20 in.) — 196 mm (7.75 in.) **POWER STEERING** **Wheel Diameter** — **Steering Lash** 508 mm (20 in.) and less — 89 mm (3.5 in.) Over 508 mm (20 in.) — 102 mm (4 in.)
4. Kingpin	**Truck | ✓ | Trailer | ✓ | Bus | ✓ |**

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
Additional Inspection Procedure(s): Raise the axle to unload the kingpin. Turn the wheels through a full right and left turn.	
a) lateral movement Additional Inspection Procedure(s): Rock the wheel in and out, by hand or using a bar, to check for kingpin movement. Measure lateral movement at the outer edge of the tire. Use a dial gauge if necessary.	a) not within manufacturer specification or when manufacturer specification is not available – for wheels under 20 in.: lateral movement is more than 3 mm – for wheels 20 in. or larger: lateral movement is more than 5 mm
b) vertical movement Additional Inspection Procedure(s): Place a bar under the tire and check for vertical movement between spindle support and axle. Use a dial gauge if necessary.	b) not within manufacturer specification or when manufacturer specification is not available, greater than 2.5 mm
c) condition	c) binding or jamming is detected while turning wheel
	OUT OF SERVICE **i) Binding or jamming caused by the kingpin or thrust bearings.**
5. Self-Steer and Controlled-Steer Axle	**Truck | ✓ | Trailer | ✓ | Bus | ✓ |**
NOTE: These are passive steer axles. A passive steer axle responds only to lateral force to turn wheels. The suspension components on a self-steer or controlled steer axle must be inspected according to Section 2, items 1-4. The steering components must be inspected according to items 1 and 4 above. Additional inspection procedure(s): Additional items may require inspection than those listed below. Refer to manufacturer service instructions related to the particular axle – for items in addition to those listed below – that are required to be inspected as part of a periodic safety inspection.	

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): Raise the vehicle and turn the wheels through a full right and left turn.	a) binding or jamming is detected while turning wheels
b) clearance	b) there is less than 25 mm between the tire and frame, fender or other vehicle part
c) steering stop	c) missing or not adjusted properly
d) air pressure regulator	d) inoperative or missing
e) pressure gauge	e) inaccurate, inoperative or missing – not equipped with legible instruction indicating the minimum centering force pressure requirement
f) operating instruction label	f) not equipped with legible instruction indicating safe operation (such as: stating the speed at which the axle locks)
	OUT OF SERVICE **i) Cracked, loose or insecure mounting, mounting bolt missing or loose, or has been repaired in way that does not meet OEM standard.** **ii) Inoperative or missing steering lock on a C-dolly.** **iii) Steering locks in any position except centred.** **NOTE: Also see Out of Service condition for items 1 to 4 in this section above.**
6. Wheel Alignment	
Wheel alignment required where visual evidence of misalignment.	Does not meet OEM specifications.

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