Item and Method of Inspection	Reject If
1. Steering Lash Tests	
a) With front wheels in the straight ahead position turn the steering wheel until turning motion can be observed at the front wheels. Mark the rim of the steering wheel and using a pointer, turn the steering wheel in the opposite direction until motion can be observed at the front wheels. Measure the distance between the mark and pointer.	a) A total movement greater than shown in the following table is encountered at the steering wheel rim before the front wheels indicate movement. Power – 50 mm (2 in.) Manual – 75 mm (3 in.) Rack & Pinion – 12 mm (1/2 in.) On vehicles equipped with power steering, the engine must be running and the fluid level, belt tension and condition must be adequate before testing (as per Section 4, Item 7).
2. Travel	
Turn the steering wheel through a full right and left turn. Manually inspect:	
a) operation	a) binding or jamming is observed during cycle
b) clearance	b) less than 25 mm (1 in.) between tire and frame, fender or other parts
c) steering stops	c) missing, bent, not adjusted properly on applicable vehicles
3. Steering Linkage	
With vehicle on level floor and with engine shut off, rock the steering wheel left and then right and observe movement in steering components. If movement is observed, grasp the tie rod and attempt to move it in the direction of the ball stud. Do not use a pry bar for leverage.	
a) tie rod	a) bent, welded, reinforced
b) tie rod ends	b) wear is evident, worn, bent, welded, injected, attaching nut loose, threads stripped or repaired in nut or on shank, does not meet OEM specifications
c) drag link	c) wear is evident, worn, bent, welded, injected, attaching nut loose, threads stripped or repaired in nut or on shank, does not meet OEM specifications
d) pitman arm	d) loose, welded, injected, attaching nut loose, threads stripped or repaired in nut or on shank, does not meet OEM specifications – not properly aligned on output shaft

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) steering box	e) loose, insecurely mounted, bolts missing or loose; active leak
f) idler arm	f) worn, loose, welded
g) cotter pin	g) missing, inferior substitute
h) steering column and wheel	h) loose, mounted insecurely, collapsed – "pot joint" or "rag joint" is badly misaligned or deteriorated, oil contaminated – clamp, bolt, nut or locking roll pin is loose or missing – steering wheel is broken or the lesser of 330 mm (13 in.) in diameter or dimension stated by the vehicle manufacturer – does not meet OEM specifications
i) steering shaft universal joint (if equipped)	i) loose, welded, binds
j) steering shaft yoke (if equipped)	j) loose, welded, clamping bolt loose
k) slip joint (if equipped)	k) free play between splines exceeds 1.5 mm (1/16 in.) – horizontal play exceeds 6 mm (1/4 in.)
l) adjusting sleeve	l) loose, bent, tightening bolt in a position so as steering can be jammed or contacted
	OUT OF SERVICE **i) Steering column and wheel** **– Any bolts are loose or missing or any positioning parts allow movement from its normal position.** **– Any universal joints are welded.** **– Steering wheel not secure.** **ii) Steering box** **– Any mounting bolts are loose or missing.** **– Any frame or mounting bracket is loose.** **iii) Pitman arm** **– Loose on steering gear output shaft spline or welded.** **iv) Ball and sockets** **– Any linkage shows looseness in alignment with the shank or neck of the ball in excess of 6 mm (1/4 in.).** **– Nuts loose on tie rod ends, adjusting sleeve, pitman arm, drag link or steering arm.**

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
4. Rack and Pinion Steering	
With vehicle on a level floor and with engine shut down, rock the steering wheel left and then right and observe movement in steering components. If movement is observed, grasp the tie rod and attempt to move it in the direction of the ball stud.	
a) tie rods	a) bent, welded
b) tie rod ends/inner socket assembly	b) wear is evident, does not meet OEM specifications, worn, bent, welded, injected, nuts or shank threads stripped, nuts loose or missing, locking device for nut missing, inferior locking device used
c) bellows seal	c) leaking, split open, missing
d) clamps	d) missing, bent, welded, insecurely mounted
e) mounting bolts	e) threads stripped
f) mounting brackets	f) cracked
g) alignment (move body up and down)	g) steering wheel moves
h) mounting bushings	h) any movement noted
i) housing	i) leaking, cracked, broken
	OUT OF SERVICE **i) Steering rack** **– any mounting bolts are loose or missing.** **– any frame or mounting bracket is loose.** **ii) Ball and sockets** **– any linkage shows looseness in alignment with the shank or neck of the ball in excess of 6 mm (1/4 in.).** **– nuts loose on the tie rod ends.** **iii) Any positioning parts allow movement from its normal position.**

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Item and Method of Inspection	Reject If
5. Ball Joints	
For ball joints check as per original equipment manufacturer's methods. Check with dial indicator vertical and horizontal movement as required. Cracked or missing seals are not reason for rejection. Manually inspect:	
a) conditions	a) injected, loose in knuckle or control arm – wear exceeds manufacturer's specifications – improper or loose retainer
b) boot or seal	b) boot or seal torn, missing or damaged, lubrication is contaminated
c) ball joints with wear indicators (inspect with ball joints loaded)	c) surface flush with or inside cover surface – wear exceeds manufacturer's specifications
d) MacPherson Strut Joint Jack the vehicle so as to unload the strut joint. Inspect:	
i) horizontal movement	i) exceeds manufacturer's specifications
ii) vertical movement	ii) exceeds manufacturer's specifications
6. Kingpin Play	
Raise vehicle so as to unload kingpins (if equipped with brakes, they should be applied to eliminate wheel bearing looseness) and using a bar for leverage, inspect:	
a) horizontal movement. Attempt to rock in and out and observe movement at extreme top and bottom of tire.	a) in excess of 3 mm (1/8 in.) and/or OEM standards
b) vertical movement. Place a bar under the tire and by prying vertically check for vertical movement between spindle support and axle.	b) in excess of 2.5 mm (3/32 in.) and/or OEM standards
c) condition	c) binding, seized, thrust bearing seized or binding

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Item and Method of Inspection	Reject If
7. Power Steering	
Manually inspect:	
a) fluid level	a) low
b) belts	b) insufficient tension, frayed, cracked
c) hoses	c) cracked, leaking, rubbed through
d) pump	d) loose, active leaking
e) cylinders or box	e) loose, active leaking
f) mounting brackets	f) cracked, loose, broken, bolts missing or loose
g) assist	g) metal contamination present in oil
h) hose location	h) within 25 mm (1 in.) of exhaust system
	OUT OF SERVICE
	i) No assist is evident.
8. Wheel Alignment	
a) front wheels	
i) caster	i) not within manufacturer's tolerance
ii) camber	ii) not within manufacturer's tolerance
iii) toe	iii) not within manufacturer's tolerance
iv) SAI	iv) exceeds manufacturer's tolerance or the difference between right and left exceeds 0.5°
v) included angle	v) difference between right and left exceeds 0.5° or manufacturer's specifications
vi) total toe	vi) not within manufacturer's tolerance
vii) set back	vii) exceeds 0.5° or manufacturer's specifications
viii) turning angle	viii) exceeds 5° right to left or manufacturer's specifications

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Item and Method of Inspection	Reject If
b) rear wheels	
i) camber	i) not within manufacturer's tolerance
ii) toe	ii) not within manufacturer's tolerance
iii) total toe	iii) not within manufacturer's tolerance
iv) set back	iv) exceeds 0.5° or manufacturer's tolerance
v) thrust angle	v) exceeds 0.5° or manufacturer's tolerance
9. Telescope/Tilt Steering (applicable vehicles only)	
Mounting solid rather than repairing is permitted. Manually grasp steering column and attempt to move it horizontally and vertically on mounts. Inspect:	
a) controls	a) play is in excess of 6 mm (1/4 in.) OR does not comply with OEM standards for free play and security
	OUT OF SERVICE **i) Does not lock.**

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