

Critical Defect – Enhanced License Plate Removal Criteria

ELPR candidates can be identified in two separate ways:

1. Any vehicles meeting the required conditions and/or percentage of defects listed in items 1-6 will qualify for ELPR.
2. Notwithstanding items 1-6, any individual vehicle will also be an ELPR candidate if it is found to have cumulative CVSA Out of Service defects present indicating poor maintenance practices and an equal safety concern. Any individual vehicle meeting the conditions listed in item 7 will qualify for ELPR.

1. Air Brakes

A vehicle will be deemed to have critical defects if more than 50% of an individual vehicle's required brakes meet any of the following criteria:

- any required brake is inoperative upon application of the service brake treadle valve due to mechanical failure,
- a shoe, shoe lining, pad or pad lining is missing or worn to the extent that metal to metal contact is occurring,
- a drum or rotor is cracked, broken or missing (cracked rotor/drum is to be interpreted as per current CVSA OOS Criteria), or
- the push rod travel out of a service brake chamber is more than 6.3 mm. (1/4") beyond the measurement listed in Column 2 of Schedule 1 for the type of chamber listed in Column 1 of Schedule 1 if the brake is cam or disc type. (*See below for vehicles in combination*)

For the purpose of brake adjustment only, a combination of vehicles will be deemed to have critical defects if more than 50% of every vehicle's required brakes in the combination meet the following criteria:

- the push rod travel out of the service brake chamber is more than 6.3 mm. (1/4") beyond the measurement listed in Column 2 of Schedule 1 for the type of chamber listed in Column 1 of Schedule 1 if the brake is cam or disc type.

The measurement of travel of a service brake chamber push rod shall be taken with the vehicle engine turned off, the air system pressure between 90 and 100 psi (620-690kPa), the park brake released and the service brake fully applied.

2. Hydraulic Brakes

A vehicle will be deemed to have critical defects if the required hydraulic brakes meet one of the following criteria:

- when activated, the brake pedal fails to have any reserve capacity remaining – pedal reaches any mechanical stop when fully depressed,
- brake fluid can be seen coming out of any location in the system upon full brake application with the vehicle engine turned on and the depth of hydraulic brake fluid in any reservoir of the master cylinder is less than 6.3mm. (1/4”) at its deepest point, or
- over 50% of the drums or rotors are cracked, broken or missing (cracked rotor/drum is to be interpreted as per current CVSA OOS Criteria).

3. Steering

A vehicle will be deemed to have critical defects if either of the following steering defects is present:

- Steering wheel lash: With the wheels of the steering axle on the ground in the straight ahead position and the engine turned on, the circumference of the steering wheel moves in excess of the measurements contained in Column 2 for the applicable diameter shown in Column 1 of Schedule 2, with no accompanying movement of the left front wheel, or
- with the vehicle stopped and the wheels of the steering axle on the ground in the straight ahead position, using hand force alone, a steering linkage ball and socket joint moves, other than rotational, by more than 6.3 mm. (1/4”).

4. Wheels/Rims

A vehicle is deemed to have critical defects if two or more of the wheel/rims have either of the following defects:

- more than 30% of the fasteners are broken, missing or loose, or
- more than three cracks extending between any two stud, hand or center holes are present on any wheel.

5. Tires on Steering Axles

A vehicle is deemed to have critical defects if any of the following defects are present on all tires on the steering axle(s):

- less than 0.8 mm. (1/32”) of tread remaining across 75% or more of the width of the tire at more than one location on the tire,
- has visually exposed cords in the sidewall or in excess of 13 sq. cm. (2 sq. in.) of exposed plies in the tread area,
- tire inflation pressure is less than 50% of maximum inflation pressure marked on sidewall, or

- tire is contacting a vehicle component, with the vehicle stopped in the straight ahead position (Note: The vehicle component must be substantial enough to cause possible tire damage, for example a suspension component or body part but not a lighting wire or air line).

6. Tires on Non-Steering Axles

A vehicle is deemed to have critical defects if more than 50% of the tires on the vehicle have any of the following defects:

- tire is contacting a vehicle component, other than a tire, with the vehicle stopped in the straight ahead position (Note: The vehicle component must be substantial enough to cause possible tire damage, for example a suspension component or body part but not a lighting wire or air line),
- less than 0.8 mm. (1/32 in.) of tread remaining across 75% or more of the width of the tire at more than three locations on the tire,
- has exposed cords, breaker strip or casing ply in the tread area or sidewall in excess of 26 sq.cm. (4.0 sq. in.),
- tire is void of air pressure, or
- 75% or more of the tread width is loose or missing in excess of 30 cm. (12") in circumference.

7. Cumulative Defects:

A vehicle with a combination of CVSA Out of Service defects may be subject to the Enhanced License Plate Removal Program if the cumulative effects cause the same safety concerns as critical defects. A vehicle will be considered as having critical defects if it exhibits CVSA out-of-service items from four or more of the following categories.

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|-----------------------|-----------------------|
| 1) Brake system | 8) Suspension |
| 2) Coupling devices | 9) Tires |
| 3) Exhaust system | 10) Wheels |
| 4) Frames | 11) Rims |
| 5) Fuel system | 12) Hubs |
| 6) Lighting devices | 13) Windshield Wipers |
| 7) Steering mechanism | |

Following are examples of cumulative out-of-service criteria from different categories:

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|-------------------------------------|----|--|
| 1) Flat tire, | | 1) No turn signal on rear, |
| 2) No rear brake lights, | OR | 2) Active fuel leak, |
| 3) Inoperative low air warning, and | | 3) 4 loose wheel fasteners (One wheel end) |
| 4) Broken suspension main leaf. | | 4) Loose steering box. |

Out-of-service items shall not be stacked. For example, trailer lights not working on the rear due to an unplugged light cord is considered one out-of-service critical defect for the Enhanced License Plate Removal Program, not four. Similarly, if a vehicle has multiple out-of-service brake violations, they are considered one critical defect for brakes.

Schedule 1 Brake Adjustment

Column 1		Column 2		
Service Brake Chambers				
Clamp Type Brake Chamber Data				
Type	Outside Diameter		Push Rod Travel	
6	4- $\frac{1}{2}$ "	(114.3mm)	1- $\frac{1}{4}$ "	(31.75mm)
9	5- $\frac{1}{4}$ "	(133.35mm)	1- $\frac{3}{8}$ "	(34.93mm)
12	5- $\frac{11}{16}$ "	(144.46mm)	1- $\frac{3}{8}$ "	(34.93mm)
12 Long Stroke	5- $\frac{11}{16}$ "	(144.46mm)	1- $\frac{3}{4}$ "	(44.45mm)
16	6- $\frac{3}{8}$ "	(161.93mm)	1- $\frac{3}{4}$ "	(44.45mm)
16 Long Stroke	6- $\frac{3}{8}$ "	(161.93mm)	2"	(50.8mm)
20	6- $\frac{25}{32}$ "	(172.24mm)	1- $\frac{3}{4}$ "	(44.45mm)
20 Long (2 $\frac{1}{2}$ " Rated Stroke)	6- $\frac{25}{32}$ "	(172.24mm)	2"	(50.8mm)
20 Long (3" Rated Stroke)	6- $\frac{25}{32}$ "	(172.24mm)	2- $\frac{1}{2}$ "	(63.5mm)
24	7- $\frac{7}{32}$ "	(183.36mm)	1- $\frac{3}{4}$ "	(44.45mm)
24 Long Stroke (2 $\frac{1}{2}$ " rated Stroke)	7- $\frac{7}{32}$ "	(183.36mm)	2"	(50.8mm)
24 Long Stroke - Square Inlet Port or with Square Raised Embossment on Lid (3" Rated Stroke)	7- $\frac{7}{32}$ "	(183.36mm)	2- $\frac{1}{2}$ "	(63.5mm)
30	8- $\frac{3}{32}$ "	(205.58mm)	2"	(50.8mm)
30 Long Stroke - Square Inlet Port or with Square Raised Embossment on Lid	8- $\frac{3}{32}$ "	(205.58mm)	2- $\frac{1}{2}$ "	(63.5mm)
36	9"	(228.6mm)	2- $\frac{1}{4}$ "	(57.15mm)
Bolt Type Brake Chamber Data				
Type	Outside Diameter			
A	6- $\frac{15}{16}$ "	(176.21mm)	1- $\frac{3}{8}$ "	(34.93mm)
B	9- $\frac{3}{16}$ "	(233.36mm)	1- $\frac{3}{4}$ "	(44.45mm)
C	8- $\frac{1}{16}$ "	(204.79mm)	1- $\frac{3}{4}$ "	(44.45mm)
D	5- $\frac{1}{4}$ "	(133.35mm)	1- $\frac{1}{4}$ "	(31.75mm)
E	6- $\frac{3}{16}$ "	(157.16mm)	1- $\frac{3}{8}$ "	(34.93mm)
F	11"	(279.4mm)	2- $\frac{1}{4}$ "	(57.15mm)
G	9- $\frac{7}{8}$ "	(250.83mm)	2"	(50.8mm)
Rotochamber Type Brake Chamber Data				
Type	Outside Diameter			
9	4- $\frac{9}{32}$ "	(108.74mm)	1- $\frac{1}{2}$ "	(38.1mm)
12	4- $\frac{13}{16}$ "	(122.23mm)	1- $\frac{1}{2}$ "	(38.1mm)
16	5- $\frac{13}{32}$ "	(137.32mm)	2"	(50.8mm)
20	5- $\frac{15}{16}$ "	(150.81mm)	2"	(50.8mm)
24	6- $\frac{13}{32}$ "	(162.72mm)	2"	(50.8mm)
30	7- $\frac{1}{16}$ "	(179.39mm)	2- $\frac{1}{4}$ "	(57.15mm)
36	7- $\frac{5}{8}$ "	(193.68mm)	2- $\frac{3}{4}$ "	(69.85mm)
50	8- $\frac{7}{8}$ "	(225.43mm)	3"	(76.2mm)
Tie Rod Piston Type Brake Chamber Data				
Type	Outside Diameter			
30 Long Stroke with Square Inlet Port	6- $\frac{1}{2}$ "	(165.1mm)	2- $\frac{1}{2}$ "	(63.5mm)
DD-3 Type Brake Chamber Data				
Type	Outside Diameter			
30	8- $\frac{1}{8}$ "	(206.37mm)	2- $\frac{1}{4}$ "	(57.15mm)

Schedule 2 Steering Lash

Column 1	Column 1
Steering Wheel Diameter	Free Movement
Less than 16 inches (40.6cm)	8 inches (20.3cm)
16 inches (40.6cm) and larger but less than 18 inches (45.7cm)	9 inches (22.8cm)
18 inches (45.7cm) and larger but less than 19 inches (48.2cm)	10 inches (25.4cm)
19 inches (48.2cm) and larger but less than 20 inches (50.8cm)	11 inches (29.7cm)
20 inches (50.8cm) and larger but less than 21 inches (53.3cm)	12 inches (30.4cm)
21 inches (53.3cm) and larger but less than 22 inches (55.8cm)	13 inches (33cm)
22 inches (55.8cm) and larger	14 inches (35.5cm)