VIRM: In-service certification amendment

1 October 2021 VIRM amendment

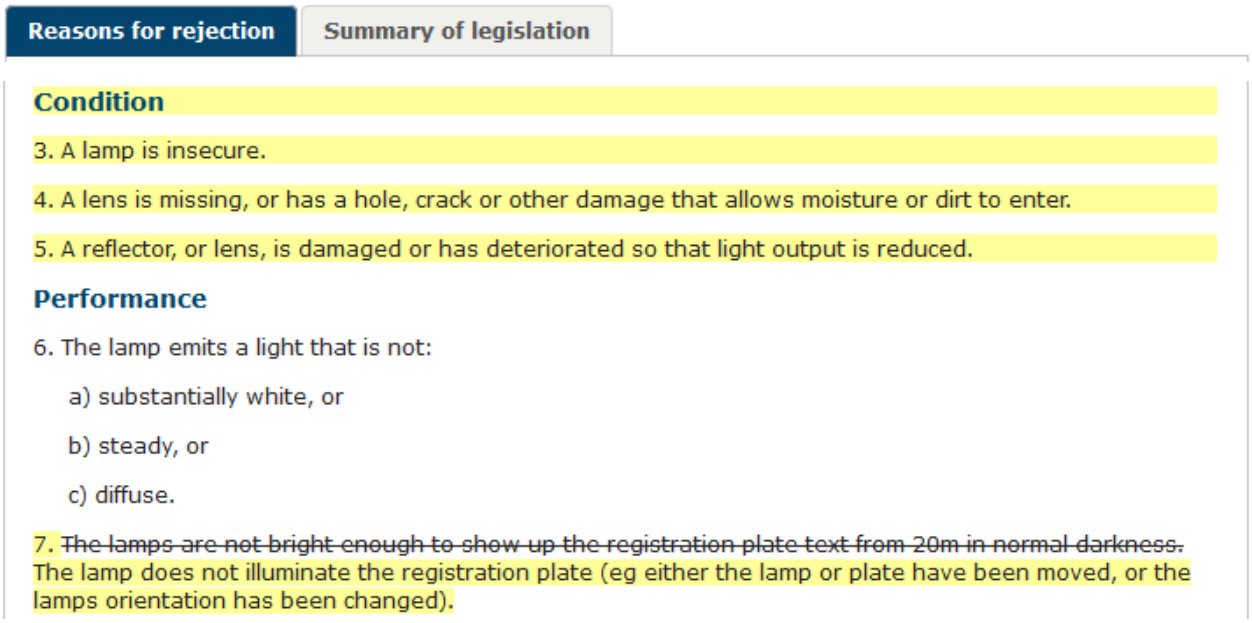
14 September 2021

General vehicles

4-12 Rear-registration plate illumination lamps

The requirement for a lamp to illuminate a registration plate's text so that it is visible from 20m in 'normal darkness' is not readily inspectable. Waka Kotahi has replaced the 20m reason for rejection with a more inspectable performance and condition requirements that give a clearer inspection procedure and outcome.

Note: this change also occurs in the heavy vehicles, light PSVs, heavy PSVs, motorcycles, forklifts, tractors and unclassified vehicles sections.



Reasons for rejection | Summary of legislation

Condition

3. A lamp is insecure.

4. A lens is missing, or has a hole, crack or other damage that allows moisture or dirt to enter.

5. A reflector, or lens, is damaged or has deteriorated so that light output is reduced.

Performance

6. The lamp emits a light that is not:

a) substantially white, or

b) steady, or

c) diffuse.

7. ~~The lamps are not bright enough to show up the registration plate text from 20m in normal darkness.~~ The lamp does not illuminate the registration plate (eg either the lamp or plate have been moved, or the lamps orientation has been changed).

5-1 Glazing

Waka Kotahi will remove the standards inspection requirement on glazing that is not flat glass or the windscreen. This would mean glazing on side windows, rear windows, sunroofs and interior glass would not need to be inspected unless it was flat.

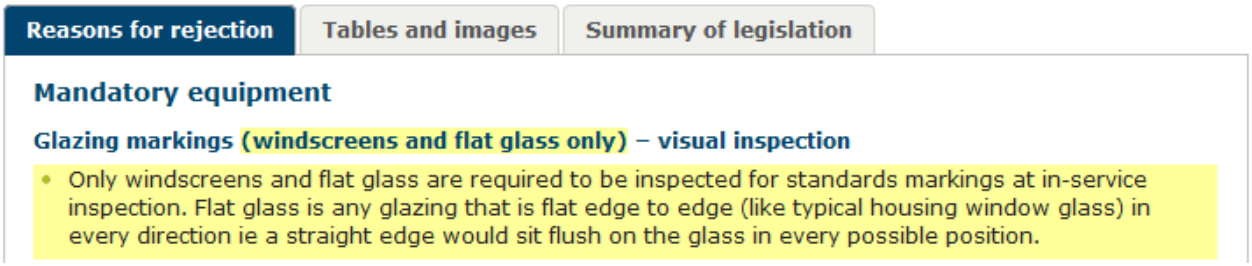
Flat glass is glass like you would find in a house window where it is unshaped, and a straight edge would sit flat on the glass on every angle. Flat glass is to continue to be required to be inspected for markings as flat sheets of glass are readily available in types that are not suitable and unsafe for automotive applications.

Windscreens are to be inspected as these are high replacement items that there could be commercial incentive to provide cheaper non-approved and unsafe glass. The windscreen is also the most safety critical piece of glazing in a vehicle.

Other types of shaped glass, such as side and rear windows are rarely broken and not readily available in non-compliant options. There is very little risk in not inspecting these pieces of glazing.

Note that **none of the reasons for rejection are being removed as these all still need to be applied to windscreens and any flat glass** fitted to a vehicle.

Note: this change also occurs in the light PSVs section, and is referenced in the heavy vehicles and heavy PSVs sections.



9-1 Steering and suspension

- In the interest of clarity and supporting vehicle inspectors arriving at safe outcomes this page has been rewritten to remove duplication of reasons for rejection for shorter, more encompassing ones.
- A new Rfr 4 (e) has been added to ensure that a vehicle with a technical fault in the power steering system is not permitted to continue operation on the road.

Note: in the changes shown below, **only the new Rfr 4(e) is highlighted**. The current version of the page is available at: https://vehicleinspection.nzta.govt.nz/virms/in-service-wof-and-cof/general/steering-and-suspension/steering-and-suspension-systems

Mandatory equipment

1. A vehicle capable of **exceeding a speed of 50km/h** and equipped with a steering system (**Note 1**) with no direct mechanical connection between the driver's means of control and the wheels, or other means of changing the vehicle's direction, does not have at least one additional means of steering.

2. A LHD vehicle is operated in a transport service, rental service or otherwise for commercial purposes or for hire or reward (**Note 2**)**.**

Condition

3. The **steering wheel**:

a) is insecurely attached to the steering shaft, or

b) shows excessive movement indicating unacceptable wear or looseness in the steering box or rack or steering column bearings, or

c) has a rim covering which is insecure so that the directional control of the vehicle is affected.

4. The **power steering** system, either hydraulic or electric:

a) has been disconnected, or

b) does not operate correctly, requiring unreasonable force to steer the vehicle, is unreasonably light, or

c) has a hose, pump drive, drive belt or pump mounting that is insecure, damaged or has significantly deteriorated, or

d) has a significant fluid leak.

e) has a warning lamp or self-check system that indicates a defect in the power steering system

5. Any **steering component**, including but not limited to linkages, joints, steering columns, arms, shafts, steering box or rack (**Note 3**)

a) is insecure, or

b) is damaged, significantly corroded, distorted or cracked, or

c) shows signs of welding or heating after original manufacture, or

d) has play beyond manufacturer's specifications, or

e) does not operate smoothly without roughness or stiffness, or

f) has an excessive fluid leak, or

g) is fouling on the vehicle structure, wheel tyre or brake system component, or

h) shows signs of plastic injection.

6. A **steering rack boot** is missing, insecure or split.

7. A **suspension component** including shock absorbers, springs, upper or lower arms, sway bars, air suspension and kingpins (**Note 3**):

a) is insecure or missing, or

b) is damaged, significantly corroded, distorted or cracked, or

c) shows signs of welding or heating after original manufacture, or

d) has play beyond manufacturer's specifications, or

e) does not operate smoothly without roughness or stiffness, or

f) has excessive leakage of damping fluid or air (**Technical bulletin 9**), or

g) shows excessive play, roughness or stiffness in a strut upper support bearing, or

h) has a replacement urethane suspension bush that is not voided or shaped to allow for similar movement to an OE bush, or

i) has a flexible bush that is significantly cracked, damaged or perished.

8. A **lock stop** is loose, damaged or missing.

9. **Air bag bellows** has obvious external damage – protruding or worn cords.

Note: Assessment to be conducted:

- At standard ride height (air bellows inflated)
- Normal air pressure
- Soap & water for leakage test is acceptable.

10. A **steering** or **suspension component mounting point**:

a) is insecure, or

b) has corrosion damage (**Note 1**), buckling or fractures within 150mm of a mounting point (**Figure 9-1-1**).

Performance

11. During operation:

a) the vehicle veers significantly to one side, or

b) the vehicle requires unreasonable force to steer, or

c) the steering is unreasonably stiff, rough or light, or

d) the vehicle does not handle safely under normal conditions of road use, e.g. the suspension is excessively hard or soft, or there is excessive body roll, or

e) the vehicle does not self-centre.

Modifications

12. A modification affects a steering or suspension component or system that directly or indirectly affects the directional control of the vehicle, and:

a) is not excluded from the requirements for LVV specialist certification (**Table 9-1-1**), and

b) is missing proof of LVV specialist certification, i.e.:

i. the vehicle is not fitted with a valid LVV certification plate, or

ii. the operator is not able to produce a valid modification declaration or authority card.

13. The LVV certified modified suspension ride height differs from the one listed on the LVV plate, when measured from the centre of the wheel to the underside of the wheel arch when the vehicle is unladen.

Note 1 Definitions

Modify means to change a vehicle from its original state by altering, substituting, adding or removing a structure, system, component or equipment, but does not include repair.

Repair means to restore a damaged or worn vehicle, its structure, systems, components or equipment to within safe tolerance of its condition when manufactured, including replacement with undamaged or new structures, systems, components or equipment.

Steering system means those components, parts and systems that connect the driver's controls to a vehicle's wheels or tracks by means of which the direction of motion of a vehicle is controlled.

Suspension system means a system that allows controlled and limited movement of an axle relative to the chassis or body of a vehicle; and includes a spring and damping system and any associated controls.

Corrosion damage means the metal has been eaten away, which is evident by pitting. The outward signs of such corrosion damage is typically displayed by the lifting or bubbling of paint. In extreme cases, the area affected by the corrosion damage will fall out and leave a hole.

Note 2

The following LHD vehicles are not prohibited from operation in a transport service or otherwise for commercial purposes or for hire or reward:

a) a Category C1 - C5 specialist vehicle, or
b) a vehicle operated by a diplomat, or
c) a vehicle exempt from registration and licensing, or
d) a vehicle that was formerly owned by the Crown.

Note 3

A damaged boot on a steering or suspension joint is not a ground for rejection; however, the vehicle's owner should be advised.

10-1 Tyres and wheels

- The VIRM does not require the measurement of tyre pressures at WoF as this is outside the scope of a non-invasive safety inspection. However, it is a reason for rejection if a tyre is “noticeably over or under inflated”. The triggering of a tyre pressure monitoring system (TPMS) warning is an indicator that a tyre is under-inflated.
  Incorrectly inflated tyres are a safety risk as they no longer provide the grip and stability required to maintain adequate control of a vehicle. They are also more likely to suffer catastrophic failure and increase vehicle emissions.
  Waka Kotahi is amending the VIRM (new Rfr and image) to include requirements guidance for the inspection of tyres and tyre pressure monitoring systems where the tyre pressure monitoring system is showing low tyre pressure.

Note: this change also occurs in the light PSVs section.

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19. A tyre pressure monitoring system (TPMS) warning is active, eg there is a warning lamp illuminated or a message on the dash (see **Figure 10-1-5**).

Figure 10-1-5. Tyre pressure warning symbol

13-5 Electric and hybrid fuel and electrical system

Electric and hybrid vehicles have high voltage electric systems that operate up to 800 Volts and can carry very large current. If these systems become exposed to the environment and are damaged, they pose both a fire and electric shock hazard. These systems need to be kept behind the manufacturers original protection shields.

Liquid battery cooling is a critical part in maintaining the safe operating temperature of modern lithium batteries, if the cooling is compromised the batteries safe operation will be compromised through over-heating. This poses a fire risk and at minimum a significant reduction in the operating life of a battery.

Electric vehicles are equipped with self-diagnostic systems that should be able to detect any damage to a battery pack, coolant systems or high voltage wiring systems. Any detection of errors in these systems will result in an error or warning light being displayed on the vehicles dash. A warning light on the dash for these systems should mean the vehicle does not pass an in-service inspection as the detected issue is likely to be safety related.

Note: this change also occurs in the heavy vehicles, light PSVs, heavy PSVs and motorcycles sections.

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3. **High voltage battery or wiring shields** are damaged or not in place.

4. A high voltage component's (eg battery) coolant system is leaking.

5. An electrical system warning lamp is illuminated. See **Table 13-5-2** for examples.

Table 13-5-2. Electrical system warning icons

General fault The vehicle may indicate exactly what the fault is. If the fault is not from an electrical system, or other safety critical system (eg brakes, steering, electrics, ESC etc.) the vehicle may pass the inspection.	
Vehicle electrical fault The vehicle should be referred to a repairer for diagnostics. If the fault is not from a safety critical system (eg brakes, steering, high voltage electrics, ESC etc.), the vehicle may pass the inspection.	
Limited power/Limp mode This is likely to do with a fault in the electric drive system. The vehicle should be referred to a repairer for diagnostics. The vehicle must **fail** the inspection.	
Serious electrical fault The vehicle should be referred to a repairer for diagnostics. The vehicle must **fail** the inspection.	
Master warning Could be a warning for any vehicle system and is likely to be serious. The vehicle should be referred to a repairer for diagnostics. The vehicle must **fail** the inspection.	
High battery temperature Remove the car from any indoor premises immediately and turn the vehicle off. The vehicle should be referred to a repairer for diagnostics. The vehicle must **fail** the inspection.