

Tyre Track and Protrusion of Tyres Beyond Mudguards

Changes to In-service (WoF & CoF) Modification Thresholds

Introduction

NZTA has introduced a group of updates to the Warrant of Fitness and Certificate of Fitness (WoF & CoF) requirements contained in the Vehicle Inspection Requirements Manual (VIRM). Included in the updates are changes to the LVV Certification Threshold tables.

One update that will assist Authorised Vehicle Inspectors (AVIs) in carrying out their inspections, relates to the fitment of wider wheels and tyres. As well as clarifying the text to make the requirements easier to understand and apply, the change also recognises the growing trend in modifying utility vehicles (utes).

The new LVV Certification Threshold can be found under the *Tables and Images* tab of the *Tyres and Wheels* page (section 10-1) on the VIRM threshold page on NZTA's website, or on the *LVV Certification Threshold Guide* page at www.lvvtta.org.nz. A flow chart is provided on the last page of this information sheet to assist with determining compliance with the new requirements.

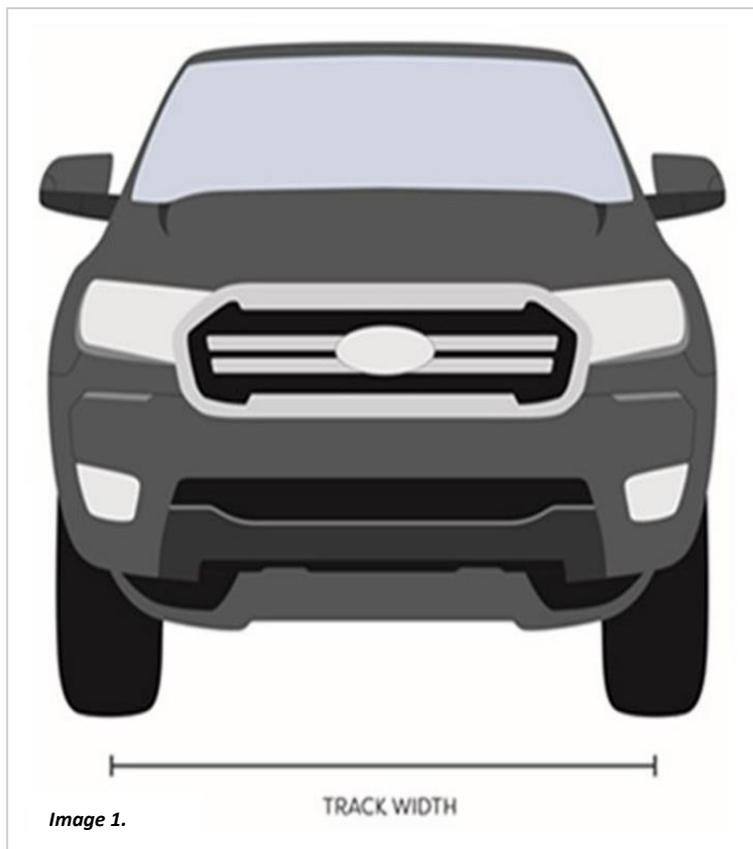
Previous Wording

The previous LVV Certification Threshold allowed wheels with a wider track to be fitted provided the tyre tread remained within the guards, or if the tyre tread was outside the guards, the track couldn't be more than 25mm greater than OE (12.5mm per side).

Track is measured between the centres of the tyre treads and may differ from front to rear on some vehicles (*Image 1*).

The 25mm measurement relied on the inspector being able to determine the original vehicle's track width, so this has typically not been well enforced.

Under the new wording some vehicles will be able to have wheels with a wider track than the previous requirement allowed, without the need to refer the vehicles for LVV certification.



The new wording is on the next page, followed by an example of how the tread is measured and some visual examples of increased wheel track that falls under and over the LVV Certification Threshold.

New Wording

The new LVV Certification Threshold wording for tread protrusion states that for aftermarket wheel and tyre fitments, LVV certification is not required provided that the tyre tread does not protrude beyond:

- *In the case of a vehicle that is not a class NA or class MC vehicle, the unmodified original body panels, or factory-fitted mudguard extension/flare.*
- *In the case of a class NA or class MC vehicle, 25mm outside of the unmodified original body panels, provided that a flare or wheel arch extension covers the full width of the tyre tread.*

The wording of the first part means that if the tyre tread is within the unmodified original body panels or factory-fitted (OE) mudguard extension/flare, then LVV certification is not required.

The term ‘unmodified original body panels’ means the original mudguard (steel on most vehicles) and doesn’t include any original (OE) or aftermarket plastic fender flares.

Flares fitted by a car dealer are aftermarket and not OE, even if the flares are fitted from new by an approved manufacturer’s main dealer. If an AVI is not sure about original model specifications, he or she should contact a franchise dealer for the specific brand of vehicle.

Some vehicles, such as many Mitsubishi Tritons, are factory-fitted with plastic fender flares that are covered on the underside, which can make it difficult to determine where the end of the OE steel guard is. If AVIs encounter this issue, they may contact LVVTA technical staff for advice.

NA and MC Class Vehicles

The second part of the new wording applies only to NA and MC class vehicles.

NA class is a light goods vehicle with a gross vehicle mass not exceeding 3.5 tonnes, which includes popular single and double cab utes such as the Ford Ranger and Toyota Hilux. MC class is a four-wheel-drive passenger vehicle designed with special features for off-road operation and no more than nine seats, which includes vehicles such as the Toyota Prado and Land Rover Discovery.

These vehicles may have tyre tread that extends up to 25mm outside of the vehicle’s original body panels, provided that a flare or wheel arch extension covers the full width of the tyre tread.

As noted above, ‘original body panels’ doesn’t include any original or aftermarket plastic fender flares.

Note that there are other requirements that also need to be met to avoid the need for LVV certification and these should not be overlooked. Common examples are:

- *Tyre circumference must not increase by more than 5%.*
- *Wheel spacers or adaptors must not be fitted.*
- *Tyres must be an appropriate width for the wheel rim.*

To assist with an inspection decision, refer to the flow chart on the last page of this information sheet.

How to Measure Mudguard to Tyre Tread



The new wording uses the OE body panel position as a datum point instead of the track so this can be more readily measured.

One method is shown in **Image 2**. A rule is placed on the tyre tread, vertically against the original body panel. The edge of the tread can be measured from the base of the rule.

On NA and MC vehicles, tyre tread that protrudes from the OE unmodified original body panels by less than 25mm can be accepted, if covered by an aftermarket flare.

Tyre tread is defined in the NZTA Vehicle Equipment Rule as the portion of a tyre that contacts the road. Visual examples of the requirements are given below.



Image 3. Standard vehicle - Wheels and tyres under the unmodified original guards: LVV certification is **not** required.



Image 4. Aftermarket wheels with aftermarket fender flares, however the tyre tread does not extend by more than 25mm outside of the unmodified original body panels: LVV certification is **not** required.



Image 5. Aftermarket wheels, tyres, and mudguard extensions. Tyre tread extends further than 25mm outside of the unmodified original body panels, or factory-fitted mudguard extensions: LVV certification **is** required.



Image 6. The Ford Ranger Raptor is factory-fitted with wide steel guards and plastic fender flares. The tyre tread is already 25mm outside of the unmodified original [steel] body panels. Any increase in the outside tread position on this vehicle means that: LVV certification **is** required.

Photos above supplied by Kallum Harris Photography. www.facebook.com/kallumharrisphotography/

Vehicles with Factory-optional Guard Flares

Some models of the Toyota Hilux Surf and Nissan Patrol/Safari were sold in two variants, standard body and wide body. The difference is solely due to the addition of factory-fitted guard flares.

An example of the Toyota Surf standard body shown in **Image 7** has a track 60mm narrower than the wide body shown in **Image 8**, along with narrower tyres which places the guard edge 15mm to 20mm outside the tyre edge. The wide body flares add 110mm to the vehicle width, but as it has wider track and wider tyres, the flare edge is still 15mm to 20mm outside the tyre edge.

This means that the standard body vehicle can have a wider track – the edge of the tyre tread can move out 40mm to 45mm on each side, almost as far as the wide body, without need for LVV certification.



Image 7.



Image 8.

As the wide body already has greater track width over the standard body, the outer edge of the tyre tread is more than 25mm outside of the metal guard, and it needs the OE flares to cover the tyres. Any increase of track width would trigger the need for LVV certification.



Image 9

Some models of Nissan Safari/Patrol are in the same situation as the Toyota Surf; the model without factory-fitted guard flares can have wider track and stay within the LVV Certification Threshold and not be subject to LVV certification.

However, any increase of track on the wider version does need to be LVV certified.

The Nissan Granroad version (**Image 9**) is an example of the wider vehicle with factory-fitted flares.

Note: Some MC class models such as the Toyota Surf Sports Runner were available in two-wheel-drive form.

These vehicles are MA class, not MC or NA class, and so to be under the LVV Certification Threshold, the tyre tread must not protrude beyond the unmodified original body panels, or factory-fitted mudguard extension/flare. The allowance to be up to 25mm beyond the factory-fitted guard does not apply to MA class vehicles.

Vehicles with Factory-fitted Plastic Guards



Image 10.

Some Jeep Wranglers do not have metal front guards, but are instead one-piece plastic moulded. These are the original guards and are not considered a guard flare, so measurement is taken from the outer edge as would be done for a metal guard (**Image 10**).



Image 11.

Some Jeeps have a two-piece guard made from metal and plastic, instead of the one-piece plastic design. This guard is not a wider version so measurement can be taken from its edge. This design could cause some confusion if the plastic part is substituted for a wider aftermarket version (**Image 11**).



Image 12.

The Jeep pictured above has aftermarket guards fitted in place of the originals. This makes it more difficult to assess the tread protrusion beyond the original panel, but in this and many other cases, it is easy to determine that the tyres exceed the 5% diameter LVV Certification Threshold, so this Jeep may be referred for LVV certification on that basis (**Image 12**).

Vehicles with Non-factory Fitted Guard Extensions

The Ford Ranger is commonly seen with guard flares, however the majority of these fitted to the 2009-2019 models are not factory-fitted, but are aftermarket parts.

Image 13 shows a Ford Ranger Wildtrak with no guard extensions, but with just the factory steel guard.

Flares fitted by a car dealership are not factory-fitted, even if fitted from new, but are a modification to the original vehicle.

Of the 2009-2019 Rangers, only the Raptor (**Image 14**), has factory-fitted guard flares. Some of the pre-2009 Ranger model (**Image 15**), also have factory-fitted guard flares.

Some aftermarket flares are painted to match the vehicle body colour as shown in **Image 16**. This makes it more difficult to distinguish them as aftermarket.

When the vehicle has aftermarket flares, measurement of tread protrusion is taken from the steel guard, not the aftermarket flares.



Image 13.



Image 14.



Image 15.



Image 16.

For any assistance with this information, contact the LVVTA technical staff: tech@lvvta.org.nz.

Flow-chart to Determine Tread Protrusion Inspection Outcome

