



Frontal impact and intercoolers

As well as inspecting vehicles for corrosion or damage, Warrant of Fitness Inspectors should also assess vehicles for any frontal impact modifications.

As outlined under section 3.1 of the VIRM, different frontal impact requirements are in place depending on the vehicle's age and vehicle class. While LVVTA recommends that Inspectors become familiar with the wording of the VIRM, the brief overview is that if a light vehicle has been modified in such a way that its frontal impact occupant protection system may have been affected (including by adding or removing an object, fitting or component), the vehicle may require LVV Certification.

As the wording of the VIRM can be very complex, for the sake of clarity in this article, we will focus specifically on front mount intercoolers in passenger (Class MA) vehicles.

Permissible modifications

Under the wording of the Tables and Images tab of the VIRM, fitting of an aftermarket front mount intercooler does not constitute a WoF failure, if:

- *the front structure of the vehicle has not been modified, and*
- *the front bumper structure is unaltered (cosmetic changes are permitted), and*
- *the components do not present any forward-facing external projections, and*
- *none of the frontal impact components have been removed where the vehicle is required to comply with a frontal impact occupant protection standard.*



Class MA vehicles produced after 1 March 1999 that are fitted with aftermarket intercoolers should be assessed during a Warrant of Fitness inspection to ensure that the structure of the vehicle has not been modified. Vehicles with modified structure should be referred for LVV Certification.

Frontal Impact Occupant Protection Standards

The reference to vehicles which are required to comply with a frontal impact occupant protection standard refers to MA class vehicles produced after 1 March 1999, or Class MA motor vehicles that were less than 20 years old when they were first registered in New Zealand on or after 1 April 2002, or Class MB and MC vehicles manufactured on or after 1 October 2003.

Any modification made to the structure of these vehicles, such as those made to allow for a larger than factory intercooler, will require the vehicle to be LVV Certified. As part of the Certifier's inspection, they will assess what impacts, if any, the modifications will have on the vehicle's airbag system. As the pulse timing of these systems (the time the system between the system detecting a collision and deploying the airbags or

other safety systems) is critical in most cases, no modifications can be performed if the owner wishes for the vehicle to remain road legal.

It's important to note that the bumper fascia (bumper cover) is not part of the bumper structure. It is the bumper reinforcement (also known as the bumper beam or crash bar) that is the actual bumper bar for inspection purposes.

Class MA Vehicles produced before March 1999 are not required to meet frontal impact standards, so may feature minor modifications to allow for the fitment of intercoolers. However, if unsure of a vehicle undergoing WoF inspection requires LVV Certification, WoF inspectors are encouraged to contact the LVVTA Tech Team on 04 238 4343 or tech@lvvta.org.nz or refer the vehicle owner to their nearest LVV Certifier.