

Helping New Zealanders Build & Modify Safe Vehicles



FUEL SYSTEMS

New LVV Standard, and NZ Car Construction Manual Chapter

► Introduction

LVVTA has developed a new LVV Standard 105-00(00) (Fuel Systems), and updated the New Zealand Car Construction Manual (NZCCM) Chapter 10 (Fuel Systems).

As detailed within *LVVTA Information Sheet # 02-2021 (Explanation of 'Next-generation' LVVTA Technical Documents)*, the main reason for the LVVTA technical document system overhaul is to create a clear distinction between the purpose of the LVV standards and the corresponding NZCCM chapters. While the LVV standards and NZCCM chapters will still be related, this distinction will reduce duplication, minimise the frequency of LVV standards amendments, and enable either the LVV standards or the NZCCM chapters to be amended independently of each other.

From the end user's perspective, the structure of the 'Next-generation' LVVTA technical documents reduces the function of the LVV standards to laying out the legal framework for vehicle modification and construction requirements, and uses the NZCCM chapters to show modifiers and builders how compliance with the LVV standards can be met in a practical and achievable manner.

► New LVV Standard 105-00(00) (Fuel Systems)

This is a freshly developed LVV standard; there are no highlighted amendments as the entire document is new.

LVV Standard 105-00(00) (Fuel Systems) provides:

- information that sets out which vehicles the standard applies to, and when the standard takes effect; and
- relevant General Safety Requirements reproduced from the NZ Transport Agency's associated Land Transport Rule 'Vehicle Equipment 2004'; and
- necessary procedural requirements from the LVV Code; and
- a series of overarching technical requirements which refer to the corresponding NZCCM Chapter 10 (Fuel Systems) which contains the actual technical requirements that the LVV Certifier inspects against.

► Update of NZCCM Chapter 10 (Fuel Systems)

With the introduction of the new LVV Standard 105-00(00) (Fuel Systems), NZCCM Chapter 10 (Fuel Systems) has been developed into a more user-friendly technical document which includes new information about modifications, components, and safety-related requirements which have arisen since the last update of Chapter 10.

There are a number of updates to NZCCM Chapter 10 (Fuel Systems); as usual, wording and format changes are indicated in **dark-grey shade**, and grey vertical strokes have been added where there are new or changed sections.

The more significant changes to NZCCM Chapter 10 (Fuel Systems) are listed below:

- General Safety Requirements that all vehicles must meet from the Land Transport Rule 'Vehicle Equipment 2004' have been added to the start of the chapter.
- References to plastic, fibreglass, or composite fuel tanks have been simplified to catch all types of construction materials not considered 'normal' and have been amended to: *'a material not listed in NZCCM Chapter 10 (Fuel Systems), paragraph 10.2.1'*.

- Paragraph 10.1.1: Surge tank requirements have been clarified; they are to be treated as fuel tanks, and must meet all the same requirements that fuel tanks do.
- Paragraph 10.2.1: The definition of an aftermarket or one-off fuel tank has been simplified; a fuel tank that is not sourced from an OE manufacturer is now a 'custom' fuel tank.
- Paragraph 10.2.5: Allows the possibility of subsequent modifications to a custom fuel tank made from a material other than the common materials listed in paragraph 10.2.1, if the modification is carried out by the person or company who built the tank originally. This has been introduced on the basis that the builder of the fuel tank is the most qualified person to modify or repair it, rather than disallowing all modifications altogether.
- Paragraph 10.3.3: A new paragraph has been added, specifying spacing requirements between fuel tanks and exhaust systems.
- Paragraph 10.5.1: A new paragraph has been added about fuel tank filling requirements, and the previous refilling requirements have been merged with this paragraph.
- Paragraph 10.7.1: Diagrams have been amended to clarify requirements regarding fuel tanks in passenger compartments, breather requirements, and spill containment.
- Paragraph 10.9.3: Clarification regarding heat shielding and spacing requirements for fuel pipes and hoses has been added.
- Paragraph 10.9.5(d): A new requirement aimed at avoiding siphoning of fuel into the passenger compartment from damaged fuel lines has been added.

► Finally

The new LVV Standard 105-00(00) (Fuel Systems) and the updated NZCCM Chapter 10 (Fuel Systems) are both available to download, free of charge, from <https://www.lvvta.org.nz/>.

If you have any questions or would like clarification on any of the changes, please contact your LVV Certifier, or a member of the LVVTA technical staff by emailing tech@lvvta.org.nz.



FOR FURTHER INFORMATION PLEASE CONTACT YOUR LVV CERTIFIER, OR LVVTA.