

Comments on Clearance of LNG Tanks

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The 200 mm ground clearance requirement limits the maximum fuel capacity, and therefore the attainable driving range. One particular application in which this can cause problems is haulage trucks for high volume freight, where the available space for fuel storage is quite limited and the required driving range is significant.

We propose that the LNG-tank shall be excluded from the ground clearance requirement, based on the following:

- LNG-tanks are generally manufactured from stainless steel, similar to diesel-tanks. A metal diesel tank that has been impact-tested and approved according to fuel tank regulation ECE R34 is not related to any minimum ground clearance requirement.
- An LNG-tank consists of an outer tank and an inner tank with insulation in between. This represents a redundant structure in terms of risk for external leakage.
- Damage to a stainless steel tank caused by external violence is easier to discover during a visual inspection, compared to a composite CNG-tank. The composite CNG-tank may appear to be intact when visually inspected, even though the fibres are broken in deeper layers.

The maximum pressure of an LNG-tank is significantly lower compared to a CNG-tank, generally around 15-20 bar compared to 200 bar.

With support from the arguments above we believe it is reasonable to include an extra section(18.4.3.2) as below:

18.4.3. When the vehicle is ready for use the fuel container and/or tank shall not be less than 200 mm above the road surface.

18.4.3.1. The provisions of paragraph 18.4.3. shall not apply if the container and/or tank is adequately protected, at the front and the sides and no part of the container is located lower than this protective structure.

**18.4.3.2. The provisions of paragraph 18.4.3. shall not apply for an LNG tank if the distance between the tank and the road surface is sufficient to allow deflated tires without getting contact between the tank and the road surface.**