

TEST REPORT

Relating to the Liquid fuel tanks of motor vehicles in accordance with Part I of ECE Regulation number 34.03 up to and including supplement 02.

Test report number : **RDW-34R-0101892**

0.1. Make : Tripod

0.2. Type : SKT
(Caddy)

0.4. Category of vehicle : M1 (SH)

0.5. Name and address of the manufacturer : Tripod Mobility B.V.
Collseweg 10
5674 TR Nuenen
The Netherlands

General : The liquid fuel tanks and the installation of it complies with the requirements laid down in:
- Part I of the above-mentioned Regulation.
See documentation: SKT-2018/858-00044 dated 16 July 2021

Tests : The tests have been carried out in accordance with:
- Part I of the above mentioned Regulation.
See page 2 to 5.

Conclusion : The type of vehicle complies with the requirements of the above mentioned Part I of Regulation 34. There are no objections to granting the approval under the above mentioned Regulation.

Tests conducted on : 1 February 2021

By : D.F.J. Jansen, C.A.M. Konings

Zoetermeer, 16 July 2021,
The test engineer,



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Reason for testing

New fuel tank for stage 2 modification: SH (wheelchair accessible vehicle).

Worst case selection

Single specification according to the requirement.

General information of the test

Test conducted by	: D.F.J. Jansen, C.A.M. Konings
Place	: Nuenen (NL)
Date	: 1 February 2021
Vehicle category	: M1 (SH)
Sort of vehicle	: AC

Used test equipment

Item	Identification number (make and type)	Calibration papers available
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Remarks

For the transportation of persons in a wheelchair the vehicle has been modified with a lowered floor, therefor the stage 1 fuel tank has to be replaced.

Relevant data and approval(s) valid for donor vehicle and completed vehicle if applicable:

<u>Make</u>	<u>Type</u>	<u>Approval</u>
Volkswagen, VW	SK	e13*2018/858*00002*??



8. Requirements for the installation of liquid fuel tanks

8.1. *Fuel installation*

- 8.1.1. The vehicle shall be approved according to either Part I or IV of this Regulation : see appendix 1
- 8.1.2. The components of the fuel installation shall be adequately protected by parts of the frame or bodywork against contact with possible obstacles on the ground ⁽¹⁾ : pass
- 8.1.3. The pipes and all other parts of the fuel installation shall be accommodated on the vehicle at sites protected to the fullest possible extent : pass
Twisting and bending movements, and vibrations of the vehicle's structure or drive unit, shall not subject the components of the fuel installation to friction, compression or any other abnormal stress : pass
- 8.1.4. The connections of pliable or flexible pipes with rigid parts of components of the fuel installation shall be so designed and constructed as to remain leak-proof under the various conditions of use of the vehicle, despite twisting and bending movements and despite vibrations of the vehicle's structure or drive unit : pass
- 8.1.5. If the filler hole is situated on the side of the vehicle, the filler cap shall not, when closed, project beyond the adjacent surfaces of the bodywork : see 1st stage

8.2. *Electrical installation*

- 8.2.1. Electric wires other than wires accommodated in hollow components shall be attached to the vehicle's structure or walls or partitions near which they lead : see 1st stage
The points at which they pass through walls or partitions shall be satisfactorily protected to prevent cutting of the insulation : see 1st stage
- 8.2.2. The electrical installation shall be so designed, constructed and fitted that its components are able to resist the corrosion phenomena to which they are exposed : see 1st stage

⁽¹⁾ Such protection shall not be required if the components beneath the vehicle are further from the ground than the part of the frame or bodywork in front of them



Appendix 1 (UNECE R34.03 Part I)

Requirements for liquid fuel tanks

- 5.1. The fuel tank shall be made of a corrosion resistant material : pass
In case of a steel fuel tank, anti corroding treatment inside : N/A
outside : N/A
- 5.2. Tanks shall satisfy, when equipped with all accessories, which are normally attached to them, the leakage tests carried out according to paragraph 6.1 at a relative internal pressure equal to double the working overpressure, but in any event not less than an overpressure of 0,3 bar. : pass
- Tanks made of a plastic material are considered as meeting this requirement if they have passed the test described in Annex 5, paragraph 2. : N/A
- 5.3. Any excess pressure or any pressure exceeding the working pressure shall be compensated automatically by suitable devices (vents, safety valves, etc.) : see 1st stage
- 5.4. The vents shall be designed in such a way as to prevent any fire risk. In particular, any fuel, which may leak when the tank(s) is (are) being filled shall not be able to fall on the exhaust system. : see 1st stage
- 5.5. The tank(s) shall not be situated in, or form, a surface of the occupant compartment or other compartment integral with it. : pass
- 5.6. A partition shall be provided to separate the occupant compartment from the tank(s). : pass
- 5.7. Every tank shall be securely fixed and so placed as to ensure that any fuel leaking from the tank or its accessories will escape to the ground and not into the occupant compartment during normal conditions of use. : pass
- 5.8. The filler hole shall not be situated in the occupant compartment, in the luggage compartment or in the engine compartment. : see 1st stage
- 5.9.1. The fuel filler cap shall be fixed to the filler pipe (see below) : see 1st stage
- 5.9.1.1 The requirements of paragraph 5.9.1. will be deemed to be satisfied if provision is made to prevent excess evaporative emissions and fuel spillage caused by a missing fuel filler cap.
This may be achieved using one of the following:
- 5.9.1.1.1 An automatically open and closing, non-removable fuel filler cap : see 1st stage
- 5.9.1.1.2 Design features which avoid excess evaporative emissions and fuel spillage in the case of a missing fuel filler cap : see 1st stage



- 5.9.1.1.3 Any other provision which has the same effect. Examples may include, but are not limited to, a tether filler cap, a chained filler cap or one utilising the same locking key for the filler cap and for the vehicle's ignition. In this case, the key shall be removable from the filler cap only in the locked condition. However, the use of tethered or chained filler cap by itself is not sufficient for vehicles other than those of categories M1 and N1. : see 1st stage
- 5.10. The fuel tank shall be installed in such a way as to be protected from the consequences of an impact to the front or to the rear of the vehicle; there shall be no protruding parts or sharp edges near the fuel tank : pass
- 5.11. The fuel tank and its accessory parts shall be designed and installed in the vehicle in such a way that an ignition hazard due to static electricity shall be avoided : pass
- If necessary, measures for charge dissipation shall be provided : N/A
- 5.12 The fuel tank shall be made of a fire-resistant metallic material. It may be made of a plastic material that meets the requirements of Annex 5. : pass
6. **Tests of liquid fuel tanks**
- 6.1. **Hydraulic test**
- (See also paragraph 6.3.2. in case of fuel tank made of plastic material)
- Fuel tank filled with non-flammable liquid (i.e. water) : yes, water
 - All accessories must be mounted on the tank : pass
 - The pressure shall be applied through the pipe that feeds the engine : pass
 - The tank shell shall not crack or leak after a minute, when a pressure has been applied to the fuel tank of double the working pressure and in any case not less than an excess pressure of 30 kPa (0.3 Bar) : pass
- 6.2. **Overturn test**
- 6.2.1. All accessories shall be mounted on the tank : pass
- Tank in normal position as mounted in the vehicle : pass
- 6.2.3./ Fuel tank 90 % filled with liquid (water is acceptable) : yes, 44.1 litres
- 6.2.4. (*requirement: a maximum leakage of 30 g/min is allowed*)
- turned 90 ° to the right and remain in this position for 5 min : 7.8 g/min
 - turned 90 ° further and remain in this position for 5 min : 6.0 g/min
 - Turn fuel tank back to its normal position : 0.0 g/min
 - turned 90 ° to the left and remain in this position for 5 min : 0.0 g/min
 - turned 90 ° further and remain in this position for 5 min : 6.0 g/min
- 6.2.3./ Fuel tank 30 % filled with liquid (water is acceptable) : yes, 14.7 litres
- 6.2.4. (*requirement: a maximum leakage of 30 g/min is allowed*)
- turned 90 ° to the right and remain in this position for 5 min : 7.4 g/min
 - turned 90 ° further and remain in this position for 5 min : 0.4 g/min
 - Turn fuel tank back to its normal position : 0.0 g/min
 - turned 90 ° to the left and remain in this position for 5 min : 0.4 g/min
 - turned 90 ° further and remain in this position for 5 min : 0.4 g/min
 - Rotation rate for all successive increments of 90 ° : [1-3 minutes]

