

THE NETHERLANDS

TEST REPORT

Concerning the prevention of fire risks in accordance with
Part I of ECE Regulation number 34.03 Supplement 3

Test report number : **RDW-34R-0141805**

0.1. Make : Renault / Mercedes-Benz / Nissan

0.2. Type : XFKT

0.3. Category of vehicle : M1 (SH)

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

Applicability : All results in this report relate only to the tested system, that is assessed as representative for the vehicle type to be approved.
See documentation: "XFKT-2018/858-00116" dated 11 October 2024, 124 pages

Statement of conformity : The test(s) has (have) been carried out in accordance with the requirements laid down in the above-mentioned Regulations and have been supervised by RDW as a category B technical service.

The tested system complies with the stated requirements of the above-mentioned Regulations.

Test(s) supervised on : 10 June 2024

Test(s) supervised by : R.T.F.W. Callaars

On behalf of the head of RDW
Technical Service, authorized by:



R.T.F.W. Callaars RDW

Type approval inspector
Zoetermeer (NL), 11 October 2024



List of contents	Page
Reason for testing	3
Explanation of modification(s)	3
Worst case description	3
General information of representative test object	3
General test information	3
Used test equipment	3
Remarks	3
Requirements for the installation of liquid fuel tanks	4
Fuel installation	4
Electrical installation	4
Appendix 1	5
Requirements for liquid fuel tanks	5
Tests of liquid fuel tanks	7
Hydraulic test	7
Overturn test	7
Testing of fuel tanks made of a plastic material	7

List of attached diagrams	Page
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Test report number: RDW-34R-0141805

Reason for testing

1st Stage vehicle modified to wheelchair accessible vehicle (cat. SH)

Explanation of modification(s)

The base vehicle has been modified to a wheelchair accessible vehicle with a lowered floor, therefore a new fuel tank is fitted.

Worst case description

New fuel tanks for stage 2 modification to a wheelchair accessible vehicle (cat. SH).

General information of representative test object

Make and type of the vehicle : Renault / Mercedes-Benz / Nissan XFKT
Vehicle category : M1 (SH)
Vehicle Identification Number : VF1RFK00X67910688 (L1)
VF1RFK00572953883 (L2)
Component Approval Number of the fuel tank : N/A
Fuel tank made of material : Stainless steel

General test information

Test performed by/ at : OEM
Place : Tripod Mobility B.V.
Collseweg 10
5674 TR Nuenen
The Netherlands
Date : 10 June 2024
Supervised by : R.T.F.W. Callaars

Used test equipment

Item	Required accuracy	Identification
Length	Class II	Rmb03BID
Time	± 1 second	N/A
Volume	± 3%	N/A
Pressure	± 0.05 Bar	N/A
Rotation angle	± 5°	N/A
Scale (for leakage)	± 3 gram	N/A

All used equipment meets the requirements laid down in ISO 17025:2017 and critical equipment has been subject to functional checks, in accordance with the RDW-policy set forth in document AI 3-001 1.

Remarks

For the transportation of persons in a wheelchair the vehicle has been modified with a lowered floor, therefore 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>
Renault	RFK	E2*34R03/??*20388*.. (L1) E2*34R03/??*22275*.. (L2)
Mercedes-Benz	MFK	E2*34R03/??*20389*.. (L1) E2*34R03/??*22276*.. (L2)
Nissan	NFK	E2*34R03/??*20390*.. (L2) E2*34R03/??*22277*.. (L2)

Test results for L1 variants are carry-over from previous issued test report RDW-34R-0123073 (including corrections), dated 28 November 2022

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
TR R034.03 Sup.3 Part I Fuel tank vehicle TLI v1.0 RvA

Appendix 1

5. Requirements for liquid fuel tanks

- 5.1. The fuel tank shall be made of a corrosion resistant material : pass (stainless steel)
 In case of a steel fuel tank, anti corroding treatment
 - inside : N/A
 - outside : N/A
- 5.2. Tanks shall satisfy ⁽²⁾, the leakage tests at a relative internal pressure equal to double the working overpressure, but in any event not less than an overpressure of 30 kPa : pass
 Tanks made of a plastic material are considered as meeting this requirement if they have passed the mechanical strength test : 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.) pass
- 5.4. The vents shall be designed in such a way as to prevent any fire risk : pass
 Any fuel, which may leak when the tank(s) is (are) being filled shall not be able to fall on the exhaust system : pass
- 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) ⁽³⁾ : 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 approval
- 5.9. The fuel shall not escape through the tank cap or through the devices provided to compensate excess pressure during the foreseeable course of operation of the vehicle ⁽⁴⁾
- 5.9.1. The fuel filler cap shall be fixed to the filler pipe
- 5.9.1.1 The requirements of item 5.9.1. shall 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 opening 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 ⁽⁵⁾ : see 1st stage



⁽²⁾ Equipped with all accessories, which are normally attached to them.

⁽³⁾ The partition may contain apertures (e.g. to accommodate cables) provided they are so arranged that fuel cannot flow freely from the tank(s) into the occupant compartment or other compartment integral with it during normal conditions of use.

⁽⁴⁾ In the case of overturning of the vehicle, a drip may be tolerated provided that it does not exceed 30 g/min; this requirement shall be verified during the test prescribed in item 6.2..

⁽⁵⁾ 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.

Test report number: RDW-34R-0141805

- 5.9.2. The seal between the cap and the filler pipe shall be retained securely in place : see 1st stage
The cap shall latch securely in place against the seal and filler pipe when closed : see 1st stage
- 5.10. Tanks shall be installed in such a way as to be protected from the consequences of a collision to the front or the rear of the vehicle : pass
There shall be no protruding parts, sharp edges, etc., near the tank : pass
- 5.11. The fuel tank and its accessory parts shall be designed and installed in the vehicle in such a way that any ignition hazard due to static electricity shall be avoided⁽⁶⁾ : pass
- 5.12. The fuel tank(s) shall be made of a fire-resistant metallic material : pass
It (they) may be made of a plastic material provided the requirements of Annex 5 are complied with : N/A



⁽⁶⁾ If necessary, measure(s) for charge dissipation shall be provided. However, no charge dissipation system is required for fuel tanks designed for containing a fuel with a flash point of at least 55 °C as referred to in item 5.1. of the communication form in Annex 1, Appendix 2. Determination of the flash point shall be in accordance with ISO 2719:2002.

6. Tests of liquid fuel tanks

6.1. Hydraulic test

The tank shall be subjected to a hydraulic internal pressure test which shall be carried out on an isolated unit complete with all its accessories : pass

The tank shall be completely filled with a non-flammable liquid ⁽⁷⁾ : water

After all communication with the outside has been cut off, the pressure shall be gradually increased, through the pipe connection through which fuel is fed to the engine, to a relative internal pressure equal to double the working pressure used and in any case to not less than an excess pressure of 30 kPa (0.3) bar, which shall be maintained for one minute : pass

During this time the tank shell shall not crack or leak; however, it may be permanently deformed : 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

6.2.2. The test fixture shall rotate about an axis lying parallel to the longitudinal vehicle axis : pass

6.2.3./6.2.4. test results (L1)



Fuel tank 30 % filled with liquid ⁽⁷⁾				
	turned 90° to the right	turned 180° to the right	turned 90° to the left	turned 180° to the left
Time hold in position ⁽⁸⁾ [min]	5	5	5	5
measured leakage [g/min]	1.0	0.4	0.0	1.2
Limit [g/min]	30	30	30	30

Fuel tank 90 % filled with liquid ⁽⁷⁾				
	turned 90° to the right	turned 180° to the right	turned 90° to the left	turned 180° to the left
Time hold in position ⁽⁸⁾ [min]	5	5	5	5
measured leakage [g/min]	3.2	0.0	0.0	1.8
Limit [g/min]	30	30	30	30

test results (L2)

Fuel tank 30 % filled with liquid ⁽⁷⁾				
	turned 90° to the right	turned 180° to the right	turned 90° to the left	turned 180° to the left
Time hold in position ⁽⁷⁾ [min]	5	5	5	5
measured leakage [g/min]	18.4	9.6	0.0	0.0
Limit [g/min]	30	30	30	30

Fuel tank 90 % filled with liquid ⁽⁷⁾				
	turned 90° to the right	turned 180° to the right	turned 90° to the left	turned 180° to the left
Time hold in position ⁽⁸⁾ [min]	5	5	5	5
measured leakage [g/min]	19.2	12.8	8.6	6.2
Limit [g/min]	30	30	30	30

Annex 5 Testing of fuel tanks made of a plastic material : N/A

⁽⁷⁾ For example water can be used.

⁽⁸⁾ The tank shall remain in this position for at least five minutes.