



On-Track Plant Engineering Conformance Certificate

This certificate is issued in accordance with RIS-1530-PLT Issue 6

NAME OF VEHICLE ACCEPTANCE BODY

ACCREDITATION CODE

SNC-Lavalin Rail & Transit Verification Limited

21

Vehicle Class / Description

976/Aquarius/R2R 4x4 (Defender 130)/9C

Vehicle Owner

Aquarius Railroad Technologies Ltd

Issue Date

11 October, 2019

Expiry Date

13 September, 2026

Vehicle Number(s)

99709_976103-0

First Of Class

99709 976095-8 on Engineering Conformance Certificate 21/0442/17 against RIS-1530-PLT Issue 6.

Authorised by:

Alex McCristal

Alex McCristal
SNC-Lavalin Rail & Transit Verification Limited

OFFICIAL STAMP



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Reason for issue and Scope of Work

Certification of Land Rover Defender 130 RRV with Aquarius Rail Gear.

Chassis number SALLDKVP7FA461623, registration YE64 KCV.

Assessed for compliance with RIS-1530-PLT, Issue 6.

Expiry date conforms to RIS-1530-PLT.

Deviations associated with this certificate

None

Previous Certificate Number

No previous Engineering Conformance Certificate.

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Certificate Number: 21/0689/19



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Maintenance Plan Details

AQUARIUS RAILROAD TECHNOLOGIES

R2R 4x4 Operators handbook, Issue 1, 17/11/16. Including Land Rover Appendix R2R 4x4 Issue 1, 30/03/17.

Aquarius R2R4X4 Sub 3.5T HPV Maintenance Manual, Issue 3, Dated July 17.

Attachments SIV Maintenance Manual Issue 1, 20/10/16.

Limitations of Use

1. The vehicle shall only operate inside possessions.
 2. In travelling and working mode, the RRV has a gauge exceedance to the Plant gauge as defined by RIS-1530-PLT.
The road wheel tyres encroach into the area below rail head level by 5mm and extends 55mm outwards and 120mm inwards from the running edge of each rail.
Note - Prior to use, a site survey to assess the potential for damage to the infrastructure equipment and identify restrictions which take into account guardrails, checkrails, road tyres and cab doors.
 3. When working in conjunction with the SIV sampling rig exceeds lower gauge.
 4. The vehicle is not permitted to on/off track, travel or work on live conductor rail lines.
 5. The vehicle shall not on/off track if adjacent lines are open to traffic.
 6. The vehicle will not activate train operated points.
 7. Vehicle shall not travel or work on track with :
 - cants greater than 200mm, gradients greater than 1:25 and/or curves less than 80m.
 8. When operating in reverse, before moving, the driver shall ensure that he has adequate visibility of the track to the rear (including utilising the CCTV), otherwise the reverse movements shall be controlled by an assistant in the rear compartment and/or ground staff.
 9. The vehicle may only operate with the opening door adjacent to a cess or a line closed to all train movements or the safe system of work must take account of adequate safe clearances to adjacent lines. Vehicle door to adjacent line to be disabled (with ALO lock cover) and second person used to unlock the door when required.
When using sampling rig, attach R2R 4x4 Vortok mounting bracket to side of vehicle with adjacent line open to traffic.
 10. Vehicle shall not on/off track on track with cants greater than 150mm and/or gradients greater than 1:25.
 11. For on/off tracking, a site specific work plan shall be used taking account of the requirements in Network Rail Standard NR/PLANT/0200.
 12. The vehicle is suitable for use under live OLE (on/off track / travel / work) when used in conjunction with a safe system of work determined and authorised by taking guidance from the requirements of GE/RT8024. Except for the cab, access is prohibited onto any surfaces higher than 1.4m above rail level.
 13. Vehicle is permitted to tow or propel:
 - Up to three Aquarius Ultra Light (ULT) 1,000kg (GLW) trailer; maximum combined GLW 3,000kg. OR
 - One Aquarius R2R Trailer at 4,100kg (GLW) ; or two at a maximum combined GLW 7,000kg. OR
 - One or two Load Tray Extension (LTE) 550kg (GLW) trailers, maximum combined GLW 1,100kg.
- Note- The maximum towed and/or propelled weight may have to be reduced where the railhead conditions for adhesion and/or ruling gradient may affect the safe traction performance of the RRV.

Supplementary Information

1. Vehicle is an Aquarius Land Rover Defender 130 with Aquarius Rail Gear.
2. Vehicle chassis number SALLDKVP7FA461623. Vehicle Reg. No. YE64 KCV.
3. Vehicle is fitted with a trailer service brake control, working pressure 0-5.5 bar (maximum pressure 8 bar).
4. Vehicle operates in low ride only.
5. Tare weight- 2,450kg. Gross vehicle weight on rail- 3,900kg.
6. Sampling rig weight- 850kg.
7. When sampling rig fitted, a maximum payload of 600kg shall not be exceeded and shall be uniformly distributed permitting up to 5 persons in the cab (80kg/person) and/or equipment in the rear.
8. When personnel carrier fitted, a maximum payload of 930kg shall not be exceeded and shall be uniformly distributed permitting up to 5 persons in the cab (80kg/person) 6 persons (80kg/person) in the rear and/or

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equipment in the rear.

9. Maximum speeds (travel and working) on rail not to exceed:
20mph plain line; 5mph switches and crossings;
10mph towing/propelling; 5mph emergency recovery;
15mph reversing only when driver has unrestricted view to the rear of the vehicle, otherwise 3mph.

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