Application for Emissions Certification

Model Year:	2027
Durability Group:	VJLXGPGNNHTS
Evaporative Family:	VJLXR0175P1B
Test Group:	VJLXT03.0HTS
Summary Sheet No:	CSI-VJLXT03.0HTS-VJLXR0175P1B
Durability Group Description:	I6, Otto Cycle Premium Only Gasoline Fuelled MHEV Sequential Fuel Injection Ceramic Monolith Pd/Rh Catalyst
Test Group Description:	3.0 litre I6 Turbocharged MHEV
Applicable Standards:	Federal LDT4 – Interim Tier 4 Bin 30 California LDT2 – LEV IV SULEV30
Carline Covered:	314: Defender 130 Outbound MHEV 316: Defender 110 Trophy MHEV

EPA Response Requested By: July 20th 2026

For questions, Contact:
Vahakn Varjabedian (201) 818 – 8139
Amy Brambill abrambil@jaguarlandrover.com

Table of contents

Section	Contents	Reference, Applicability
1	Correspondence and Communications	Common Section, Section 1
2	Durability Group Description	Common Section, Section 2
3	Evaporative/Refueling Family Description	Common Section, Section 3
4	Durability Procedure Description	Common Section, Section 4
5	Test Group Description	
6	Test Vehicle Description	
7	Test Results	
8	Emission Testing Waiver Statement	
9	OBD System Description	CBI Version Only
10	Description of Alternate-Fueled Vehicles	Not applicable
11	AECD Descriptions	Common Section, Section 11
12	Description of Vehicles Covered by Certificate and Test Parameters	
13	Projected Sales	Common Section, Section 13
14	Request for Certification	Common Section, Section 14
15	Other Information	
16	Confidential Information	Common Section, Section 16
17	California ARB Information	
18	Revisions	

5. Test Group Description

5.1.	Test Group name	VJLXT03.0HTS
5.2.	Summary Sheet number	CSI-VJLXT03.0HTS – VJLXR0175P1B
5.3.	Engine displacement	2996 cm³
5.4.	Arrangement and number of cylinders:	
5.4.1.	Arrangement of cylinders:	In-line Configuration.
5.4.2.	Number of cylinders:	6
5.5.	Emission standards	
5.5.1.	Vehicle class covered	Federal – LDT4 California – LDT2
5.5.2.	Participation in NLEV	Not applicable
5.5.3.	Emission standards class	Federal – Interim Tier 4 Bin 30 California – LEV IV SULEV30
5.5.4.	Applicable emission standards	Refer to Enclosure 1 of Section 7.

6. Test Vehicle Description

6.1. Test Vehicles

Carline	Test Vehicle No.	Cfg. No.	Engine Displ. (cm^3)	Emission Control System	Engine Code	Trans	ETW	Axle Ratio	Remarks
316	3ETVOL005	00	2996	WR-H02S/GPF/TWC/HO2S(2)/DFI/TC/SCE/CAC	3.0AJMH-19	S8	6000	3.55	Defender 130 Trophy EDV
316	3ETVOL005	01	2996	WR-H02S/GPF/TWC/HO2S(2)/DFI/TC/SCE/CAC	3.0AJMH-19	S8	6000	3.55	Defender 130 Trophy FEDV
314	3ETVOL005	02	2996	WR-H02S/GPF/TWC/HO2S(2)/DFI/TC/SCE/CAC	3.0AJMH-19	S8	6000	3.55	Defender 130 Outbound FEDV
312	3KMVP032	00	4395	2WR-HO2S/2TWC/2HO2S/DFI/2TC/2CAC	4.4NC10-22	S8	6500	3.31	Evaps EDV

For complete vehicle descriptions, refer to Vehicle Information submitted to the EPA Central Data Exchange (CDX) EV-CIS System, or to the Summary Sheet enclosed in Section 7 of this application.

6.1.1. Test Vehicle Description (EV-CIS VI outputs)
Information Process Code : N
EPA Manufacturer Code : JLX
Vehicle Identification Text : 3ETVOL005
Vehicle Configuration Number : 0
Vehicle Configuration Details

Vehicle Description Details

Manufacturer Vehicle Configuration Number : 0
Test Group Name : TJLXT03.0HTS
Evaporative Refueling Family Name : TJLXR0175P1B
Model Year : 2026
Actual Test Vehicle Make Text : Land Rover
Actual Test Vehicle Model Text : Defender 130 Trophy MHEV

Drive Source Details

Drive Source Identifier : E
Fuel Identifier : EL

Drive Source Details

Drive Source Identifier : C
Fuel Identifier : G

Fuel Cell Indicator : N
Rechargeable Energy Storage System Indicator : Y
Rechargeable Energy Storage Device Identifier : B
Off Board Charge Capability Indicator : Y
Test Drive Code : 4
Shift Indicator Light Usage Identifier : 1
Aged Component Usage Identifier : 4
Odometer Correction Details

Correction Initial Value : 0
Correction Factor Value : 1.00
Correction Sign Identifier : -
Correction Units Code : M

Engine Code Text : 3.0AJMH-19
Engine Rated Horsepower Value : 400

Engine Displacement Value : 3.0
Air Aspiration Details

Air Aspiration Method Identifier : TS
Air Aspiration Device Count : 2
Air Aspiration Configuration Identifier : PS

Charge Air Cooler Identifier : L
Vehicle Specifications Details

Curb Weight Value : 5520
Equivalent Test Weight Value : 6000
Gross Vehicle Weight Rating Value : 6978
NV Ratio Value : 24.5
Axle Ratio Value : 3.55

Transmission Specifications Details

Light Duty Transmission Type Identifier : SA
Transmission Lockup Indicator : Y
Transmission Creeper Gear Indicator : N
Transmission Gear Count : 8

Target Set Coefficient Details

Test Procedure Dynamometer Coefficients Category : C-H-E
Target CoefficientA Value : 60.1
Target CoefficientB Value : 0.197
Target CoefficientC Value : 0.04588
Set CoefficientA Value : -6.839
Set CoefficientB Value : -0.11451
Set CoefficientC Value : 0.043727

Target Set Coefficient Details

Test Procedure Dynamometer Coefficients Category : US06
Target CoefficientA Value : 60.1
Target CoefficientB Value : 0.197
Target CoefficientC Value : 0.04588
Set CoefficientA Value : -6.839
Set CoefficientB Value : -0.11451
Set CoefficientC Value : 0.043727

Target Set Coefficient Details

Test Procedure Dynamometer Coefficients Category : Cold-CO
Target CoefficientA Value : 66.13
Target CoefficientB Value : 0.217
Target CoefficientC Value : 0.05046
Set CoefficientA Value : -6.839
Set CoefficientB Value : -0.11451
Set CoefficientC Value : 0.043727

Manufacturer Comment Text : Land Rover Defender 130 Trophy 3.0L MHEV EDV. 255/60R20 Goodyear Wrangler Tires.

EPA Generated Test Vehicle Details

Original Receipt Date : 20250610
Hybrid Vehicle Indicator : Y
Adjusted Loaded Vehicle Weight Value : 6249
Loaded Vehicle Weight Value : 5820
Total Road Load Horsepower Value : 24.6

Transaction Status Details

Transaction Status Identifier : ACCEPTED

Information Process Code : N
EPA Manufacturer Code : JLX
Vehicle Identification Text : 3KMVP032
Vehicle Configuration Number : 0
Vehicle Configuration Details
Vehicle Description Details
Manufacturer Vehicle Configuration Number : 0
Test Group Name : NJLXT04.4GTE
Evaporative Refueling Family Name : NJLXR0175P1B
Model Year : 2022
Actual Test Vehicle Make Text : LAND ROVER
Actual Test Vehicle Model Text : New Range Rover

Drive Source Details
Drive Source Identifier : C
Fuel Identifier : G

Fuel Cell Indicator : N
Rechargeable Energy Storage System Indicator : N
Test Drive Code : 4
Shift Indicator Light Usage Identifier : 1
Aged Component Usage Identifier : 4
Odometer Correction Details
Correction Initial Value : 0
Correction Factor Value : 1.00
Correction Sign Identifier : -
Correction Units Code : M

Engine Code Text : 4.4NC10-22
Engine Rated Horsepower Value : 530
Engine Displacement Value : 4.4
Air Aspiration Details
Air Aspiration Method Identifier : TC
Air Aspiration Device Count : 2
Air Aspiration Configuration Identifier : P

Charge Air Cooler Identifier : L
Vehicle Specifications Details
Curb Weight Value : 5705
Equivalent Test Weight Value : 6000
Gross Vehicle Weight Rating Value : 7385
NV Ratio Value : 22.9
Axle Ratio Value : 3.31

Transmission Specifications Details
Light Duty Transmission Type Identifier : SA
Transmission Lockup Indicator : Y
Transmission Creeper Gear Indicator : N
Transmission Gear Count : 8

Target Set Coefficient Details

Test Procedure Dynamometer Coefficients Category : US06
Target CoefficientA Value : 46.948
Target CoefficientB Value : -0.11133
Target CoefficientC Value : 0.034230
Set CoefficientA Value : 50.874
Set CoefficientB Value : -0.11143
Set CoefficientC Value : 0.034206

Target Set Coefficient Details
Test Procedure Dynamometer Coefficients Category : C-H-E
Target CoefficientA Value : 46.948
Target CoefficientB Value : -0.11133
Target CoefficientC Value : 0.034230
Set CoefficientA Value : 50.874
Set CoefficientB Value : -0.11143
Set CoefficientC Value : 0.034206

Target Set Coefficient Details
Test Procedure Dynamometer Coefficients Category : Cold-CO
Target CoefficientA Value : 51.643
Target CoefficientB Value : -0.12246
Target CoefficientC Value : 0.037653
Set CoefficientA Value : 50.874
Set CoefficientB Value : -0.11143
Set CoefficientC Value : 0.034206

Manufacturer Comment Text : New Range Rover NC10 4.4 V8 Turbocharged LWB. 285/45R22 Tires. Evaps EDV.

EPA Generated Test Vehicle Details
Original Receipt Date : 20211110
Hybrid Vehicle Indicator : N
Adjusted Loaded Vehicle Weight Value : 6545
Loaded Vehicle Weight Value : 6005
Total Road Load Horsepower Value : 16.9

Transaction Status Details
Transaction Status Identifier : ACCEPTED

6.2 EDV Selection

According to 86.1828-01 the Defender 110 Trophy with 255/60R20 Goodyear Wrangler tires is expected to be worst-case for exhaust emission compliance within this test group. All vehicles within the test group have an ETW of 6000 lbs. The selected tire is considered worst case having the highest coefficient of rolling resistance and giving the heighted road load horse power at 50mph. The EDV and DDV were tested in the worst-case driver mode for all test cycles. The worst-case driver mode for this test group is normal drive mode, with sport mode selected by the transmission shifter. Driver modes are described in section 12.3.

6.3 EV-CIS Test Numbers

Vehicle-ID	Config.	Type of Test	Test Number
3ETVOL005	00	FTP	TJLX10091257
		HWY	TJLX10091258
		US06	TJLX10091259
		SC03	TJLX10091260
		FTP20	TJLX10091261
		FTP50	TJLX10091262
3KMVP032	00	3-diurnal Set A	NJLX10072639
		3-diurnal Set B	NJLX10072640
		Running Loss Set A	NJLX10072654
		Running Loss Set B	NJLX10072656
		ORVR Set A	NJLX10072655
		ORVR Set B	NJLX10072657
		Canister Bleed	NJLX10073373

7. Test Results (Cover page)

Refer to the enclosed Certification Summary Information Report processed by the EPA EV-CIS system.

8. Emission Testing Waiver Statements

High Altitude Testing

Based on an engineering evaluation of appropriate high-altitude emission testing Jaguar Land Rover state that light-duty vehicles included in this application comply with the applicable emission standards at high altitude.
According to 40 CFR §86.1829-01(b)(1)(ii)(B) Jaguar Land Rover waive high altitude emissions data submittal on the basis of this statement.

Data submittal waiver for Idle CO Testing

Based on an engineering evaluation of appropriate Idle CO emissions Jaguar Land Rover state that light-duty vehicles included in this application comply with all applicable idle CO emission standards.
According to 40 CFR §86.1829-01(b)(5)(ii) Jaguar Land Rover waive Idle CO emissions data submittal on the basis of this statement.

Data submittal for 2-Day Evaporative Testing

Based on an engineering evaluation of appropriate evaporative emission testing, Jaguar Land Rover state that all vehicles in evaporative/refuelling family VJLXR0175P1B comply with the applicable two-day evaporative emission standard.
Jaguar Land Rover therefore waive 2-Diurnal Evaporative emissions data submittal on this basis.

Data submittal waiver for Formaldehyde (HCHO) Measurement

Based on an engineering evaluation, Jaguar Land Rover states that light-duty vehicles included in this application comply with all applicable HCHO standards.

Data submittal waiver for Non-Methane Organic Gas (NMOG) Measurement

Based on test data from engineering programmes Jaguar Land Rover use the following NMOG:NMHC ratios in order to express NMOG emissions:

Cold and Hot Start tests, E0 fuels: NMOG = NMHC x 1.03

Cold Start tests, E10 fuels: NMOG = NMHC x 1.10

Hot Start tests, E10 fuels: NMOG = NMHC x 1.03

Data submittal waiver for Spit-Back testing

All Jaguar Land Rover Gasoline fuelled vehicles are certified to the refuelling emissions standards in §86.1811-04(e), and inherently meet the fuel dispensing spitback standards as part of compliance with the refuelling emissions requirements.

Compliance with the applicable standards is for the Full Useful life of the vehicle.

Fuel dispensing spitback testing of Jaguar Land Rover vehicles is therefore waived in accordance with §86.1810-01(l).

Evaporative Leak Detection

JLR OBD system conforms to current OBD requirements covered in Section 1968.2 of Title 13, CCR.
JLR OBD system is capable of detecting 0.020” inch diameter orifice leakage in the evaporative emissions system.

SC03 Test Procedures

Jaguar Land Rover attests that NMOG+NOx and CO exhaust emissions for vehicles tested using the SC03 test procedures incorporated in the “California 2026 and Subsequent Model Year Criteria Pollutant Exhaust Emission Standards and Test Procedures for Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles”, comply with the standards in 13 CCR 1961.4.(d)(4).

Quick Drive-away

Vehicles in this test group are not part of JLR's phase in for Quick drive-away as set forth in 13 CCR 1964.1(d)(2)(C)1(a))

Partial Soak

Vehicles in this test group are not part of JLR's phase in for Partial Soak as set forth in 13 CCR 1964.1(d)(2)(B)1)

9. OBD Compliance Statement

Jaguar Land Rover states that the OBD system for this test group meets the full intent of the clean air act as amended in 1970 section 202(m), and the applicable federal OBD regulations, contained in 40 CFR §86.005-17 and 40 CFR §86.1806-01. Furthermore, Jaguar Land Rover states that the OBD system complies with all the requirements of Title 13 CCR 1968.2.

12. Description of Vehicles Covered by Certificate and Test Parameters

12.1. Description of Vehicle

Carline	Model Name	Vehicle Class Fed/CAL	Emission Control System Description						Engine Code	Nº Valves/ Cyl	Sales Area	Trans & Over-drive	Standard Tire Size (optional sizes)	N/V Ratio	ETW - lb.	Fuel Tank Volume - gal
			Type	Catalyst Config	EGR	Air Pump	Fuel System Type	Intake Air Aspiration Method								
314	Defender 130 Outbound	LDT4/ LDT2	Catalyst	TWC	N/A	N/A	DFI	Turbocharged and E-Supercharged	3.0AJMH-19	4	50-state	S8	255/60R20	24.5	6000	23.8
316	Defender 110 Trophy	LDT4/ LDT2	Catalyst	TWC	N/A	N/A	DFI	Turbocharged and E-Supercharged	3.0AJMH-19	4	50-state	S8	255/60R20	24.5	6000	23.8

12.2. Test Parameters

12.2.1. Engine Starting Procedure

Position transmission gear selector in P or N. Switch on ignition and operate starter. Release starter switch as soon as the engine starts.

12.2.2. Shift Schedules

Shifting

Automatic Transmission Summary

A/T code	Class	No. of fwd gears	Overdrive	Gear ratios
8HP76	automatic	8	yes	5.500
				3.520
				2.200
				1.720
				1.317
				1.000
				0.823
				0.640

General Description

The 8HP76 is an electronically controlled, fully automatic, synchronous 8 speed overdrive transmission with input through a three phase, single stage torque converter. The torque converter incorporates an internal friction clutch which transmits engine torque mechanically when applied in either locked or controlled slip phase.
The shift points and converter clutch application are functions of throttle pedal position and vehicle speed. Each transmission calibration contains the individual shift points for the corresponding transmission application.

Special Features:
The torque converter lock up clutch does not have a torsional damper but has a controlled slip function; this calibrated amount of slip allows lock up to be applied at lower engine speeds without causing NVH problems.
The automatic transmission fluid is a fill for life oil and does not require service. There is no dipstick tube.
The gear selector allows the selection of Park, Reverse, Neutral, Drive and Drive (S) ranges.
A manual sequential shift option is included. Sequential manual gear selection is selected by moving the transmission gear selector to the "S" (Sequential shift) position. Upshifts and downshifts may then be made by operating steering wheel mounted shift paddles.

Manual Transmission Summary

Manual transmissions are not available.

Shifting/Special Testing

Shifting instruction

Gear-shift interlock
A brake pedal/gear-shift interlock is incorporated in the gear selector mechanism. The gear selector lever may only be moved from the Park position if the ignition is "on" and footbrake is pressed.

Single mode
During normal forward operation of the vehicle the transmission shifts automatically when the transmission selector is positioned in "Drive".

User Selectable modes
Jaguar Land Rover has developed a range of driver selectable modes. Not all modes are available on all products and not all modes are considered to be on-road modes.These driver selectable modes change driveability and transmissions calibratable comfort functions. The driveability functions which are modified are the comfort filters to provide a balance of control, response and comfort to suit the selected mode. The relationship between the physical driver pedal position and the ECU pedal position is changed, effectively making the vehicle feel more or less responsive. The functionality of emissions control strategies is not altered.In Dynamic Drive mode, The PCM applies a scalar to make the accelerator pedal more sensitive. The transmission applies the same shiftpoints as in Normal drive mode. The PCM applies a scalar to make the accelerator pedal more sensitive.

Driver mode	On/Off-road
Normal mode	On-road
Dynamic mode	On-road
Grass - Gravel - Snow mode	Off-road
Dynamic mode	Off-road
Mud & Ruts mode	Off-road
Sand mode	Off-road
Low Range	Off-road

Chassis Dynamometer Operation
If the vehicle is going to be operated on a chassis dynamometer, disable the traction control facility immediately after selecting drive.

Shift Schedules
As defined in EV-CIS

Special testing procedures
Cooling fans

For all emissions/fuel economy test cycles, a single fan, placed in the 'down' position, is required for engine cooling purposes.

12.2.3 EPA Shift Schedule: FTA / HWA

12.2.4 Dynamometer Loading Information (LVW):

Model	ETW (lbs)	Tyre size	Target Coefficients			Set Coefficients*			TRLHP@50
			A	B	C	a	b	c	
Defender 130 Outbound	6000	255/60R20	68.2	0.197	0.03664	1.236	0.197	0.03664	22.6
Defender 110 Trophy	6000	255/60R20	60.1	0.197	0.04588	-6.839	-0.11451	0.043727	24.6

* 4WD Dynamometer

12.2.5. Evaporative/Refuelling Data

12.2.5.1. Evaporative Testing Parameters

Canister Loading rate – 15 g/hr.

Fuel Tank Parameters

Fuel Tank Volumes

Carline	Evaporative Code	Nominal Capacity (USG)	Useable 40% Fill	Vapor volume at 40% Fill
Defender 130 Outbound	D7u-20	23.8	9.5	19.8

FTTP Codes

Carline	Evaporative Code	FTTP Code
Defender 130 Outbound	D7u-20	FTTP130663

Time (s)	RR Fuel	RR Vapor	RRS Fuel	RRS Vapor
1	104.0	105.1	103.9	110.4
60	103.5	104.5	104.8	109.5
120	103.4	104.8	105.6	109.7
180	101.0	104.9	105.7	110.1
240	101.5	103.8	106.6	110.5
300	102.5	104.6	107.0	111.0
360	102.9	105.5	107.5	111.8
420	102.0	104.7	107.7	111.9
480	102.6	105.2	108.0	111.8
540	102.8	106.0	108.6	112.0
600	103.4	106.5	109.0	112.3
660	103.1	105.8	109.0	112.9
720	103.5	107.0	109.5	113.0
780	103.7	106.9	110.0	112.2
840	104.2	108.5	110.0	112.9
900	104.4	108.9	110.2	113.3
960	104.6	110.1	110.3	113.8
1020	104.9	110.3	110.9	114.3
1080	104.9	108.8	111.3	114.9
1140	105.3	110.2	111.6	114.9
1200	106.1	110.5	111.5	115.2
1260	106.1	111.3	111.7	115.5
1320	106.2	111.4	111.8	115.9
1380	106.5	110.9	112.7	117.0
1440	107.0	112.2	113.4	118.4
1500	107.2	113.3	113.9	118.9
1560	107.0	112.0	114.3	119.2
1620	108.6	111.6	115.0	119.0
1680	109.0	112.7	115.7	119.5
1740	108.8	112.4	115.8	118.6
1800	109.0	112.7	116.4	119.9
1860	108.7	113.8	117.0	120.2
1920	109.0	114.5	117.5	120.7
1980	109.7	115.5	117.7	120.7
2040	109.5	114.6	117.3	120.2
2100	110.2	115.7	117.1	120.6
2160	109.8	114.8	117.3	121.6
2220	111.3	114.0	117.9	121.5

2280	111.8	115.4	118.4	123.0
2340	111.7	114.8	118.9	122.1
2400	112.2	115.0	120.2	124.2
2460	112.6	115.9	121.1	124.9
2520	112.1	116.6	121.6	126.3
2580	113.7	118.5	121.9	126.1
2640	112.9	117.4	122.8	126.2
2700	114.6	119.1	123.0	127.6
2760	114.0	120.5	123.2	128.3
2820	114.5	120.1	123.6	129.2
2880	114.2	119.6	124.3	128.9
2940	114.6	119.8	124.8	129.4
3000	115.2	118.5	124.0	128.5
3060	116.1	119.4	124.3	128.6
3120	117.1	121.0	125.0	129.8
3180	115.7	121.4	125.1	129.8
3240	116.2	118.9	125.1	129.3
3300	116.6	119.5	125.3	129.4
3360	117.2	119.6	126.5	130.2
3420	117.0	120.6	127.2	131.7
3480	116.3	121.0	127.7	132.2
3540	117.1	120.4	128.3	132.6
3600	116.9	120.9	128.6	132.0
3660	118.2	121.9	128.4	132.5
3720	118.0	122.3	128.8	133.0
3780	118.8	122.9	129.6	134.4
3840	118.4	122.5	129.8	134.7
3900	118.8	122.8	130.3	134.9
3960	118.8	123.4	130.1	134.3
4020	119.1	122.8	130.2	134.2
4080	119.1	122.8	130.6	134.0
4140	119.5	123.7	131.0	134.9
4200	119.8	124.5	131.7	135.9
4260	120.6	126.2	131.9	137.1
4307	121.1	127.0	132.4	137.6

12.2.5.2. Fuel Tank Temperature Profile Report
(Land Rover FP9.8 & Ford CETP 00.00-L-414)

Compiled By: Lee Dunn Date: June 2023

Subject
Fuel tank temperature profile for Range Sport & Range Rover to EPA standard.

Summary
Vehicle tests were conducted to determine a fuel tank temperature profile for the Range Rover & Range Rover Sport.

Conclusion
The fuel tank temperature profile determined by this test complies with Environmental Protection Agency procedure detailed in 40CFR 86.129.94.

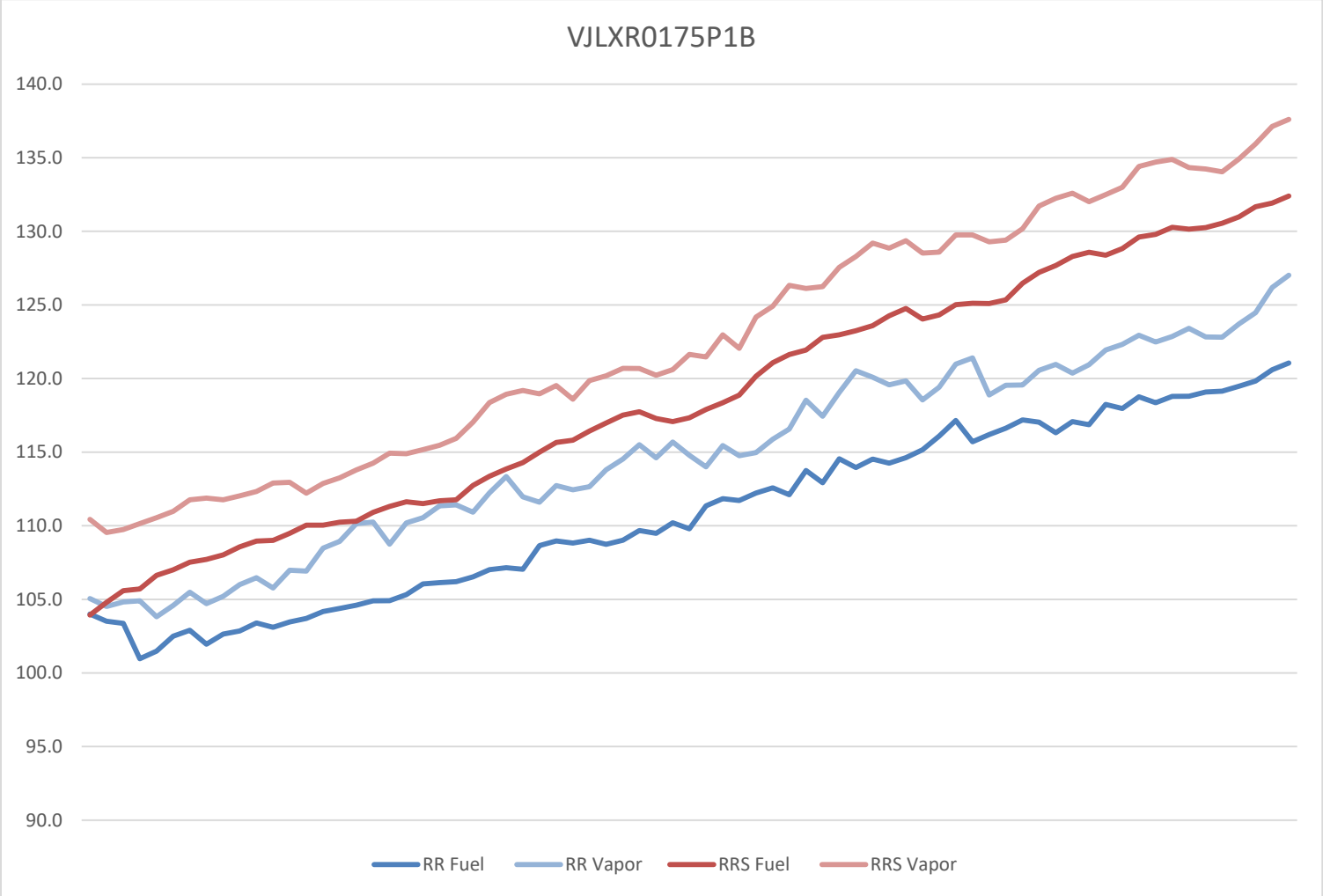
Test Vehicle Specification

FTTP Code:	MLA-22
Model:	Range Rover LWB
Transmission:	8 speed automatic
Fleet identity:	3KRVB059
Test Weight:	6000lbs

FTTP Code:	MLA-22
Model:	Range Rover Sport
Transmission:	8 speed automatic
Fleet identity:	3PNTT005
Test Weight:	5500lbs

Test Location

Exponent Phoenix, AZ
USA


VJLXR0175P1B
140.0
135.0
130.0
125.0
120.0
115.0
110.0
105.0
100.0
95.0
90.0
RR Fuel
RR Vapor
RRS Fuel
RRS Vapor

14 Request for Certification

14.1 Statement of Compliance

Refer to Common Section, Section 14.

14.2. Request for certificate

Based on Jaguar Land Rover's good engineering judgment, all the vehicles described in this Application for Certification comply with all applicable intermediate and full useful life standards.

Therefore, Jaguar Land Rover herewith applies for a federal Certificate of Conformity and a California ARB Executive Order for Test Group VJLXT03.0HTS.

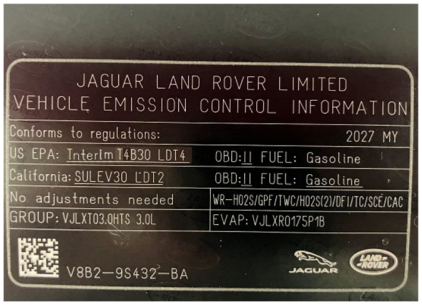
This Test Group complies with all applicable regulations contained in Title 40, Code of Federal Regulations, Part 86 and the California Code of Regulations.

Ian Munden
Manager
Emissions Certification
Jaguar Land Rover

15. Other Information

15.1. Label according to 40 CFR § 86.1807-01 and according to California Motor Vehicle Emission Control Label (VECI Label) Specifications.

15.1.1 .



15.1.2. Label Location: Under-bonnet.

15.2 Fee Filing Form

See attached page

15.3. OBD System Approval Letter

See attached page

Adjustable Parameters

There are no parameters present on any vehicle covered by this application that can be considered adjustable within the context of 40CFR Part 86.1833-01.

Fuel Specifications

Fuels Recommended to the Owner

Full statements concerning fuel recommendations are contained in the Vehicle Owners Handbooks.

Test and Service Accumulation Fuel

All test and service accumulation fuels relating to this Application for Certification are equivalent to those specified in 40CFR Part 86, Subpart S, and the California Exhaust Emission Standards and Test Procedures for 2001 and Subsequent Model Passenger Cars, Light -Duty Trucks, and Medium-Duty Vehicles. Specifications and/or analyses will be supplied on request.

Lubricant specifications

Engine

	Factory fill	Recommended to ultimate purchaser	To be used in test vehicles
Generic type	Hydrocarbon	Hydrocarbon	Hydrocarbon
Service designation	CASTROL LG4 BOT942	CASTROL LG4 BOT942	CASTROL LG4 BOT942
Viscosity	SAE 0W20	SAE 0W20	SAE 0W20

Automatic Transmissions

The transmissions are sealed for life and the factory fill materials are listed below. All lubricants are hydrocarbon based and contain no friction modifiers.

ZF 8HP70 8 Speed Transmission: ZF Lifeguard

Drive Axle and Differential

The differentials are sealed for life and the factory fill materials are listed below. All lubricants are hydrocarbon based and contain no friction modifiers.

All Test Groups: Castrol BOT750B

Litmus Result

This test group is certified using EPA Tier 3 E10 Regular Gasoline, for which City and Highway Litmus thresholds and test values are not calculated in the EPA EV-CIS system.

For this Test Group Litmus Values and Thresholds have been calculated off-line, using tests carried out using EPA Tier 2 Low Sulphur Gasoline.

For this test group the litmus test indicates that modified 5-cycle fuel economy testing is required.

3ETVOL005_4 bag Litmus and FE - 2025

EDV/FEDV input data:		
Normal temperature FTP75:		
CDC6 2025-05-14 17		
UDDS Bag 1_{75} FE	18.3130	4dp
UDDS Bag 2_{75} FE	20.7160	4dp
UDDS Bag 3_{75} FE	21.3530	4dp
UDDS Bag 4_{75} FE	21.1480	4dp
FE total Unrounded	20.4510	4dp
FE RND (EPA)	20.5	1dp
Cold Temperature FTP20:		
CDC3 2025-06-06 02		
UDDS Bag 1_{20} FE	13.8640	4dp
UDDS Bag 2_{20} FE	16.6460	4dp
UDDS Bag 3_{20} FE	18.2160	4dp
		4dp
FE RND (EPA)	16.4	1dp
Highway Fuel Economy Test:		
CDC6 2025-05-14 18		
HFET FE Unrnd	27.5070	4dp
FE RND (EPA)	27.5	1dp
Supplemental FTP:		
US06		
CCDC6 2025-05-14 19		
US06 City FE	12.0	1dp
US06 Highway FE	19.3	1dp
US06 FE RND	17.0	1dp
SC03		
CDC6 2025-05-15 01		
SC03 FE RND	16.3	1dp
Start Fuel:		
Start $Fuel_{75}$	0.031832767	
Start $Fuel_{20}$	0.0620369	

Vehicle-Specific 5-Cycle FE: §600.114-12		Litmus threshold §600.115-11
5-Cycle City Label:		
Start FC (City)	0.0031456	
Running FC (City)	0.0542543	
5-cycle City FE Adj/Unrnd	15.7666	
5-cycle City Litmus value	15.8	15.7
City Label	16	
5-Cycle Highway Label:		
Start FC (Highway)	0.0002149	
Running FC (Highway)	0.0497106	
5-cycle Highway FE Adj/Unrnd	18.1270	
5-cycle Highway Litmus value	18.1	18.9
Highway Label	18	

Derived 5-Cycle FE: (MPG-Approach) §600.210-12	
MPG-Approach City Label:	
City Intercept	0.004091
City Slope	1.1601
5-cycle City FE Adj/Unrnd	16.4428
5-cycle City FE Adj/Rnd	16.4
City Label	16
MPG-Approach Highway Label:	
Highway Intercept	0.003191
Highway Slope	1.2945
5-cycle Highway FE Adj/Unrnd	19.8998
5-cycle Highway FE Adj/Rnd	19.9
Highway Label	20

MPG Approach City value in band

FEDV US06 testing required

FEDV US06 testing required	
Start FC (Highway)	0.0002293
Running FC (Highway)	0.0496636
3-cycle Highway FE	18

3-cycle calcs:
0.0002293
0.0496636
18.1389

Combined Numbers	Rounded Adjusted	Unrounded Adjusted
2-Cycle Combined	18	17.8372
3-Cycle Combined	17	17.1651
5-Cycle Combined	17	16.7480

17. California ARB Information

17.1. Statements

Vehicles covered by this application are not fitted with defeat devices.
All AECDs used on vehicles covered by this application are declared and described in section 16 of the application.
Test and production vehicles covered by this application do not use multiple maps in the engine management system. Modes used during on-road operation are identical to those used in testing.
Vehicles covered by this application do not use transmission calibrations which interact with the engine management or emission control systems in order to assist engine or catalyst warm-up.
The transmission calibration does not include different modes for on-road and dynamometer operation. Transmission behaviour is identical in both cases. Also refer to Common Section, Section 17.

17.2 Fill Pipe Specification

Refer to Common Section, Section 17

17.3 Projected Sales

Refer to Common Section, Section 16, Confidential Information

17.4 Evaporative Emission Deterioration

17.4.3 Selection of Emission Data Vehicle for Evaporative Emissions testing

17.4.3.1. Worst Case Selection

Worst Case selection is carried out according to the provisions in 40 CFR § 86.1828-01 (b)(3). Using good engineering judgment, JLR believe carry-across data are representative of a worst case vehicle. The worst-case vehicle selection is highlighted in yellow in the table on the next page.
Canister size, canister material, fuel tank material, purge strategy and flow rates and refueling characteristics are common between all vehicles within the evaporative family.

The driver mode for evaporative testing was “Normal mode – D”.

							Fuel System (86.1821-01 (b) (3))							Fuel Evaporative Emissions Control System Components								
Test Group	Engine size	ETW	Carline	System configuration—number of canisters and method of connection (i.e., series, parallel).(86.1821-01 (b) (2) (ii))	Working Capacity (86.1821-01 (b) (2) (i))	Canister Geometry, Construction & Materials (86.1821-01 (b) (2) (iii))	Fuel tank	Fuel Pump	Fuel Lines	Fuel Injection Components	Fuel System Vents	Type of refueling emission control system (86.1821-01 (b) (4))	Fillpipe seal mechanism (mechanical, liquid trap, other) (86.1821-01 (b) (5))	Type of Vapor Storage Device (86.1821-01 (b) (1))	Vapour control system or method of controlling vapour flow through the vapour line to the canister (e.g. type of valve, vapour cotrol strategy) (86.1821-01 (b) (6))	Purge control system (e.g. type of valve, purge control strategy) (86.1821-01 (b) (7))	Vapour hose material (86.1821-01 (b) (8))	Fuel Tank Material (86.1821-01 (b) (9))	FEL for testing at low-altitude conditions (86.1821-01 (b) (10))	Fuel Tank Usable Volume (L)	FTTP Fuel Delta	FTTP Vapor Delta
VJLXT03.0HTV	3.0L	6000lbs	Range Rover	One Carbon Canister	175g	2.0L BAX 1500 + 0.8L BAX 1100 + Internal monolith	Underfloor Saddle Tank	In-tank turbine pump - Pulse width modulated (PWM) controlled. Electronic returnless fuel system (ERFS)	Multi-layer plastic	High pressure direct fuel injection	In-tank vent valves connected to charcoal canister	Integrated	Twin seal mechanic	Carbon Canister	Standard fuel tank roll over valve	PWM Controlled Solenoid Valve	Nylon multi-layer with PVDF barrier	HDPE plastic	0.500 g/test	90	17.1	21.9
VJLXT03.0HTV	3.0L	5500lbs	Range Rover Sport	One Carbon Canister	175g	2.0L BAX 1500 + 0.8L BAX 1100 + Internal monolith	Underfloor Saddle Tank	In-tank turbine pump - Pulse width modulated (PWM) controlled. Electronic returnless fuel system (ERFS)	Multi-layer plastic	High pressure direct fuel injection	In-tank vent valves connected to charcoal canister	Integrated	Twin seal mechanic	Carbon Canister	Standard fuel tank roll over valve	PWM Controlled Solenoid Valve	Nylon multi-layer with PVDF barrier	HDPE plastic	0.500 g/test	90	17.1	21.9
VJLXT05.0FSR	5.0L	5500lbs	Defender 90	One Carbon Canister	175g	2.0L BAX 1500 + 0.8L BAX 1100 + Internal monolith	Underfloor Saddle Tank	In-tank turbine pump - Pulse width modulated (PWM) controlled. Electronic returnless fuel system (ERFS)	Multi-layer plastic	High pressure direct fuel injection	In-tank vent valves connected to charcoal canister	Integrated	Twin seal mechanic	Carbon Canister	Standard fuel tank roll over valve	PWM Controlled Solenoid Valve	Nylon multi-layer with PVDF barrier	HDPE plastic	0.500 g/test	90	16.4	14.5
VJLXT05.0FSR	5.0L	6000lbs	Defender 110	One Carbon Canister	175g	2.0L BAX 1500 + 0.8L BAX 1100 + Internal monolith	Underfloor Saddle Tank	In-tank turbine pump - Pulse width modulated (PWM) controlled. Electronic returnless fuel system (ERFS)	Multi-layer plastic	High pressure direct fuel injection	In-tank vent valves connected to charcoal canister	Integrated	Twin seal mechanic	Carbon Canister	Standard fuel tank roll over valve	PWM Controlled Solenoid Valve	Nylon multi-layer with PVDF barrier	HDPE plastic	0.500 g/test	90	17.1	21.9
VJLXT05.0FSR	5.0L	6500lbs	Defender 130	One Carbon Canister	175g	2.0L BAX 1500 + 0.8L BAX 1100 + Internal monolith	Underfloor Saddle Tank	In-tank turbine pump - Pulse width modulated (PWM) controlled. Electronic returnless fuel system (ERFS)	Multi-layer plastic	High pressure direct fuel injection	In-tank vent valves connected to charcoal canister	Integrated	Twin seal mechanic	Carbon Canister	Standard fuel tank roll over valve	PWM Controlled Solenoid Valve	Nylon multi-layer with PVDF barrier	HDPE plastic	0.500 g/test	90	17.1	21.9
VJLXT03.0HTT	3.0L	5500lbs	Defender 90	One Carbon Canister	175g	2.0L BAX 1500 + 0.8L BAX 1100 + Internal monolith	Underfloor Saddle Tank	In-tank turbine pump - Pulse width modulated (PWM) controlled. Electronic returnless fuel system (ERFS)	Multi-layer plastic	High pressure direct fuel injection	In-tank vent valves connected to charcoal canister	Integrated	Twin seal mechanic	Carbon Canister	Standard fuel tank roll over valve	PWM Controlled Solenoid Valve	Nylon multi-layer with PVDF barrier	HDPE plastic	0.500 g/test	90	16.4	14.5
VJLXT03.0HTT	3.0L	6000lbs	Defender 110	One Carbon Canister	175g	2.0L BAX 1500 + 0.8L BAX 1100 + Internal monolith	Underfloor Saddle Tank	In-tank turbine pump - Pulse width modulated (PWM) controlled. Electronic returnless fuel system (ERFS)	Multi-layer plastic	High pressure direct fuel injection	In-tank vent valves connected to charcoal canister	Integrated	Twin seal mechanic	Carbon Canister	Standard fuel tank roll over valve	PWM Controlled Solenoid Valve	Nylon multi-layer with PVDF barrier	HDPE plastic	0.500 g/test	90	17.1	21.9
VJLXT03.0HTT	3.0L	6000lbs	Defender 130	One Carbon Canister	175g	2.0L BAX 1500 + 0.8L BAX 1100 + Internal monolith	Underfloor Saddle Tank	In-tank turbine pump - Pulse width modulated (PWM) controlled. Electronic returnless fuel system (ERFS)	Multi-layer plastic	High pressure direct fuel injection	In-tank vent valves connected to charcoal canister	Integrated	Twin seal mechanic	Carbon Canister	Standard fuel tank roll over valve	PWM Controlled Solenoid Valve	Nylon multi-layer with PVDF barrier	HDPE plastic	0.500 g/test	90	17.1	21.9
VJLXT03.0HTS	3.0L	6000lbs	Defender 130 Outbound	One Carbon Canister	175g	2.0L BAX 1500 + 0.8L BAX 1100 + Internal monolith	Underfloor Saddle Tank	In-tank turbine pump - Pulse width modulated (PWM) controlled. Electronic returnless fuel system (ERFS)	Multi-layer plastic	High pressure direct fuel injection	In-tank vent valves connected to charcoal canister	Integrated	Twin seal mechanic	Carbon Canister	Standard fuel tank roll over valve	PWM Controlled Solenoid Valve	Nylon multi-layer with PVDF barrier	HDPE plastic	0.500 g/test	90	17.1	21.9
TJLXT04.4GTG	4.4L	6500lbs	Range Rover	One Carbon Canister	175g	2.0L BAX 1500 + 0.8L BAX 1100 + Internal monolith	Underfloor Saddle Tank	In-tank turbine pump - Pulse width modulated (PWM) controlled. Electronic returnless fuel system (ERFS)	Multi-layer plastic	High pressure direct fuel injection	In-tank vent valves connected to charcoal canister	Integrated	Twin seal mechanic	Carbon Canister	Standard fuel tank roll over valve	PWM Controlled Solenoid Valve	Nylon multi-layer with PVDF barrier	HDPE plastic	0.500 g/test	90	17.1	21.9
TJLXT04.4GTG	4.4L	6000lbs	Range Rover Sport	One Carbon Canister	175g	2.0L BAX 1500 + 0.8L BAX 1100 + Internal monolith	Underfloor Saddle Tank	In-tank turbine pump - Pulse width modulated (PWM) controlled. Electronic returnless fuel system (ERFS)	Multi-layer plastic	High pressure direct fuel injection	In-tank vent valves connected to charcoal canister	Integrated	Twin seal mechanic	Carbon Canister	Standard fuel tank roll over valve	PWM Controlled Solenoid Valve	Nylon multi-layer with PVDF barrier	HDPE plastic	0.500 g/test	90	17.1	21.9
TJLXT04.4GTH	4.4L	6500lbs	Defender 110	One Carbon Canister	175g	2.0L BAX 1500 + 0.8L BAX 1100 + Internal monolith	Underfloor Saddle Tank	In-tank turbine pump - Pulse width modulated (PWM) controlled. Electronic returnless fuel system (ERFS)	Multi-layer plastic	High pressure direct fuel injection	In-tank vent valves connected to charcoal canister	Integrated	Twin seal mechanic	Carbon Canister	Standard fuel tank roll over valve	PWM Controlled Solenoid Valve	Nylon multi-layer with PVDF barrier	HDPE plastic	0.500 g/test	90	17.1	21.9
		6500lbs	Worst Case Selection:		175g																17.1	21.9

Test Vehicle Description

Vehicle Identification Number	3KMVP032
Evaporative Emission Code	MLA-22
Model	Range Rover
Emission Control System:	2WR-HO2S/2TWC/2HO2S/DFI/2TC/2CAC
Displacement	4395 cm³
Engine Code	4.4NC10-22
Evaporative Family	NJLXR0175P1B
Equivalent Test Weight	6500 lb.
Actual Vehicle Weight	
Curb Weight	5705 lb.
Drive Axle Weight	3505 lb.
Air Conditioning	Yes
Transmission Type	S8
Transmission Code	8HP76
Axle Ratio	3.31
N/V Ratio	22.9
Tire Manufacturer	Pirelli
Tire Size	285/45R22

17.4.5.2.2. EPA Fuel Tank Temperature Profile and Ambient Conditions

The temperature correction was performed in accordance with Federal Evaporative Emission Standards and Test Procedures using the following equation:

Ti ,profile = Ti - To

Ti is the series of observed liquid fuel temperature during the drive (°F) where i is the incremental measurement in time

To is the liquid fuel temperature observed at the start of the specified driving schedule (°F).

Ti ,profile is the series of temperatures that comprise the relative temperature profile for table of Ti refer to Enclosure 1 of Section 12.

17.4.6. Test Results for Evaporative Emissions

17.4.6.1 Enhanced Evaporative Emissions Test

17.4.6.1.1. Test Results of Durability Data Vehicle, Calculation of Evaporative Emission and Running Losses Deterioration Factor

Miles	**3 Day Evap.** (g/test)	**Running Losses** (g/mi.)	**Refueling** g/gal
4 000 (Set A)	0.251	0.000508	0.073
4 000 (Set B)	0.276	0.000524	0.004
150 000 (Set A)	0.256	0.000452	0.0263
150 000 (Set B)	0.229	0.000523	0.0171
Average Values			
4 000	0.2635	0.000516	0.0382
150 000	0.2425	0.0004875	0.0217
Deterioration factors	**0.000**	**0.00**	**0.00**

17.4.6.1.2. Test Results of Emission Data Vehicle

4K Evaporative Emission Test Data		Deterioration Factors	Compliance with Std.	Standard	Unit
Test Vehicle Model Test Vehicle id	Range Rover 3KMVP032		Test Data + DF		
3-Diurnal SHED Test	0.3095	0.000	0.3095	0.500	g
Running Loss Test	0.000516	0.00	0.000516	0.05	g/mi.
Refueling Test	0.0382	0.00	0.0382	0.2	g/gal

Environmental Performance Label

Jaguar Land Rover products for the 2027 Model Year will be fitted with labels which indicate the results obtained from the Federal Fuel Economy and Greenhouse Gas Emissions testing program in lieu of separate California labels.

Jaguar Land Rover Ltd hereby states that labels fitted to vehicles covered by this application comply with all relevant Federal specifications for Material, Color, and Label Format Requirements described in 40CFR Parts 85, 86 and 600, 49CFR Part 575, and related Manufacturer Guidance issued by the US Environmental Protection Agency and the National Highway Traffic Safety Administration.

17.6. Vehicle weights

17.6.1.	Curb weight:	5891 lb Defender 130 Outbound 5520 lb Defender 110 Trophy
17.6.2.	Gross vehicle weight rating:	7452 lb Defender 130 Outbound 6978 lb Defender 110 Trophy
17.6.3.	Equivalent Test Weight:	6000 lb Defender 130 Outbound 6000 lb Defender 110 Trophy

18. REVISION LOG

Revision No.	Revision Date	Pages Affected	Description of Revision