

**D7e****Part 1**

Issued: 08/03/18

## Application for Certification

Model Year: 2019

Durability Group: KJLXEENVNTZA  
 Evaporative Family: Not applicable  
 Test Group: KJLXT00.0TZA  
 Summary Sheet No: CSI-KJLXT00.0TZA

Durability Group Description: Not applicable

Test Group Description: Electric, BEV

Applicable Standards: Federal LDT2 – Tier 3 Bin 0  
 California LDT2 – ZEV

Carline Covered: 10: Jaguar I-PACE

Vehicles Tested:	EDV	Config	Test	Test Number
Exhaust	F60490	01	FTP	KJLX10056202 (EPA)
			HWY	KJLX10056203 (EPA)

EPA Response Requested By: August 13th, 2018

For questions, Contact: Vahakn Varjabedian (201) 818 – 8139  
 Martin Haggett (+44) 24 7656 6678  
 Mark Osborne (+44) 24 7656 5311



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**5. Test Group Description**

- |        |                                      |  |
|--------|--------------------------------------|--|
| 5.1.   | Test Group name                      | KJLXT00.0TZA                               |
| 5.2.   | Summary Sheet number                 | CSI-KJLXT00.0TZA                           |
| 5.3.   | Engine displacement                  | Not applicable                             |
| 5.4.   | Arrangement and number of cylinders: |  |
| 5.4.1. | Arrangement of cylinders:            | Not applicable                             |
| 5.4.2. | Number of cylinders:                 | Not applicable                             |
| 5.5.   | Emission standards                   |  |
| 5.5.1. | Vehicle class covered                | Federal – LDT2<br>California – LDT2        |
| 5.5.2. | Participation in NLEV                | Not applicable                             |
| 5.5.3. | Emission standards class             | Federal – Tier 3 Bin 0<br>California – ZEV |
| 5.5.4. | Applicable emission standards        | Refer to Enclosure 1 of Section 7.         |



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**6. Test Vehicle Description**

**6.1. Test Vehicles**

Carline	Test Vehicle No.	Cfg. No.	Engine Displ. (cm <sup>3</sup> )	Emission Control System	Engine Code	Trans	ETW	Axle Ratio	Remarks
10	F60490	00	NA	NA	0.0D7E-19	Fixed	5000	9.04	FEDV
10	F60490	01	NA	NA	0.0D7E-19	Fixed	5250	9.04	EDV & FEDV

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



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## 6.1.1. Test Vehicle Description

Test Vehicle Information Details

**Information Process Code : C****EPA Manufacturer Code : JLX****Vehicle Identification Text : F60490****Vehicle Configuration Number : 0**

Vehicle Configuration Details

Vehicle Description Details

**Manufacturer Vehicle Configuration Number : 0****Test Group Name : KJLXT00.0TZA****Model Year : 2019****Actual Test Vehicle Make Text : Jaguar****Actual Test Vehicle Model Text : I-PACE**

Drive Source Details

**Drive Source Identifier : E****Fuel Identifier : EL****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 : K****Engine Code Text : 0.0D7E-19****Engine Rated Horsepower Value : 400****Engine Displacement Value : 0.01**

Air Aspiration Details

**Air Aspiration Method Identifier : NA****Air Aspiration Device Count : 0****Charge Air Cooler Identifier : N****Emissions Control Device Comments Text : As this is a battery electric, it has no emission control components. Update to dyno set terms 08/03/2018 MRH. Trans type changed to auto to align with label request requirement 09/21/2018 MRH.**

Vehicle Specifications Details

**Curb Weight Value : 4782****Equivalent Test Weight Value : 5000****Gross Vehicle Weight Rating Value : 5886****NV Ratio Value : 104.2****Axle Ratio Value : 9.04**

Transmission Specifications Details

REVISED: 10/09/2018



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**Light Duty Transmission Type Identifier** : A  
**Light Duty Transmission Type Other Text** : Fixed single speed  
**Transmission Lockup Indicator** : Y  
**Transmission Creeper Gear Indicator** : N  
**Transmission Gear Count** : 1

Target Set Coefficient Details

**Test Procedure Dynamometer Coefficients Category** : US06

**Target CoefficientA Value** : 32.550

**Target CoefficientB Value** : 0.75123

**Target CoefficientC Value** : 0.017701

**Set CoefficientA Value** : -13.983

**Set CoefficientB Value** : 0.28220

**Set CoefficientC Value** : 0.018457

Target Set Coefficient Details

**Test Procedure Dynamometer Coefficients Category** : C-H-E

**Target CoefficientA Value** : 32.550

**Target CoefficientB Value** : 0.75123

**Target CoefficientC Value** : 0.017701

**Set CoefficientA Value** : -13.983

**Set CoefficientB Value** : 0.28220

**Set CoefficientC Value** : 0.018457

Target Set Coefficient Details

**Test Procedure Dynamometer Coefficients Category** : Cold-CO

**Target CoefficientA Value** : 35.805

**Target CoefficientB Value** : 0.82636

**Target CoefficientC Value** : 0.019471

**Set CoefficientA Value** : -13.983

**Set CoefficientB Value** : 0.28220

**Set CoefficientC Value** : 0.018457

**Manufacturer Comment Text** : This is a full battery electric vehicle.

EPA Generated Test Vehicle Details

**Original Receipt Date** : 20180921

**Hybrid Vehicle Indicator** : N

**Adjusted Loaded Vehicle Weight Value** : 5334

**Loaded Vehicle Weight Value** : 5082

**Total Road Load Horsepower Value** : 15.2

Transaction Status Details

Transaction Status Identifier : ACCEPTED



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## 6.1.2. Test Vehicle Description

Test Vehicle Information Details

**Information Process Code** : C**EPA Manufacturer Code** : JLX**Vehicle Identification Text** : F60490**Vehicle Configuration Number** : 0

Vehicle Configuration Details

Vehicle Description Details

**Manufacturer Vehicle Configuration Number** : 1**Test Group Name** : KJLXT00.0TZA**Model Year** : 2019**Actual Test Vehicle Make Text** : Jaguar**Actual Test Vehicle Model Text** : I-PACE SE

Drive Source Details

**Drive Source Identifier** : E**Fuel Identifier** : EL**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** : K**Engine Code Text** : 0.0D7E-19**Engine Rated Horsepower Value** : 400**Engine Displacement Value** : 0.01

Air Aspiration Details

**Air Aspiration Method Identifier** : NA**Air Aspiration Device Count** : 0**Charge Air Cooler Identifier** : N**Emissions Control Device Comments Text** : As this is a battery electric, it has no emission control components. Update to dyno set terms 08/03/2018 MRH.

Vehicle Specifications Details

**Curb Weight Value** : 4816**Equivalent Test Weight Value** : 5250**Gross Vehicle Weight Rating Value** : 5886**NV Ratio Value** : 103.8**Axle Ratio Value** : 9.04

Transmission Specifications Details

REVISED: 10/09/2018



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**Light Duty Transmission Type Identifier** : OT  
**Light Duty Transmission Type Other Text** : Fixed single speed  
**Transmission Lockup Indicator** : Y  
**Transmission Creeper Gear Indicator** : N  
**Transmission Gear Count** : 1

Target Set Coefficient Details

**Test Procedure Dynamometer Coefficients Category** : C-H-E

**Target CoefficientA Value** : 38.881

**Target CoefficientB Value** : 0.64016

**Target CoefficientC Value** : 0.018981

**Set CoefficientA Value** : -3.709

**Set CoefficientB Value** : 0.11360

**Set CoefficientC Value** : 0.019715

Target Set Coefficient Details

**Test Procedure Dynamometer Coefficients Category** : US06

**Target CoefficientA Value** : 38.881

**Target CoefficientB Value** : 0.64016

**Target CoefficientC Value** : 0.018981

**Set CoefficientA Value** : -3.709

**Set CoefficientB Value** : 0.11360

**Set CoefficientC Value** : 0.019715

Target Set Coefficient Details

**Test Procedure Dynamometer Coefficients Category** : Cold-CO

**Target CoefficientA Value** : 42.769

**Target CoefficientB Value** : 0.70418

**Target CoefficientC Value** : 0.02088

**Set CoefficientA Value** : -3.709

**Set CoefficientB Value** : 0.11360

**Set CoefficientC Value** : 0.019715

**Manufacturer Comment Text** : This is a full battery electric vehicle.

EPA Generated Test Vehicle Details

**Original Receipt Date** : 20180803

**Hybrid Vehicle Indicator** : N

**Adjusted Loaded Vehicle Weight Value** : 5351

**Loaded Vehicle Weight Value** : 5116

**Total Road Load Horsepower Value** : 15.8

Transaction Status Details

**Transaction Status Identifier** : ACCEPTED





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**6.2. EDV Selection**

All the vehicle configurations certified are covered by data from the above EDV.

**6.3. VERIFY Test Numbers**

<u><b>EDV</b></u>	<u><b>Type of Test</b></u>	<u><b>Test No.</b></u>
F60490-00	FTP	KJLX10056029 (CO result added)
F60490-01	HWY	KJLX10055282
	FTP	KJLX10056202 (EPA)
	HWY	KJLX10056203 (EPA)



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**7. Test Results (Cover page)**

Refer to the enclosed Certification Summary Information Report processed by the EPA VERIFY system.

## Certification Summary Information Report

<b>Manufacturer</b>	Jaguar Land Rover Limited	<b>Manufacturer Code</b>	JLX
<b>Test Group</b>	KJLXT00.0TZA	<b>Evaporative/Refueling Family</b>	--
<b>Certificate Number</b>	--	<b>CARB Executive Order #</b>	--
<b>Certificate Issue Date</b>	--	<b>Certificate Revision Date</b>	--
<b>Certificate Effective Date</b>	--	<b>Conditional Certificate</b>	--
<b>CSI Revision #</b>	--	<b>CSI Submission/Revision Date</b>	10/05/2018 09:01:32 AM
<b>Model Year</b>	2019		

**Test Group Information**

<b>CSI Type</b>	Update for Correction	<b>Running Change Reference Number</b>	--
<b>GHG Exempt Status</b>	Not Exempt		

**Drive Sources and Fuel(s)**

**Drive Source #1:** Electric Motor

Fuel	Basic Fuel Metering System	Lean Burn Strategy Indicator
Electricity	--	--

<b>Hybrid Indicator</b>	No		
<b>Multiple Fuel Storage</b>	--	<b>Rechargeable Energy Storage System Indicator</b>	Yes
<b>Multiple Fuel Combustion</b>	--	<b>Off-board Charge Capable Indicator</b>	Yes
<b>Fuel Cell Indicator</b>	No	<b>EPA Vehicle Class</b>	LDT2
<b>Federal Clean Fuel Vehicle</b>	Yes	<b>Federal Clean Fuel Vehicle Standard</b>	ZEV
<b>Federal Clean Fuel Vehicle ILEV</b>	No	<b>California Partial Zero Emissions Vehicle Indicator</b>	No
<b>Durability Group Name</b>	KJLXEEVNNTZA	<b>Durability Group Equivalency Factor</b>	1
<b>Reduced Fee Test Group</b>	No	<b>Certification Region Code(s)</b>	FA, CA
<b>Complies with HD GHG 2b/3 regulations?</b>	No		
<b>Introduction into Commerce Date</b>	08/20/2018	<b>CAP2000 Conditional Certificate?</b>	N/A
<b>Independent Commercial Importer?</b>	--	<b>Alternative Fuel Converter Certificate?</b>	--
<b>SFTP Federal Composite Compliance Identifier</b>	Not Applicable	<b>SFTP Tier 2 Composite CO Option</b>	No
<b>SFTP LEV-III Composite Compliance Indicator</b>	No		
<b>OBD Compliance Type</b>	CARB	<b>OBD Demonstration Vehicle Test Group</b>	KJLXT00.0TZA
<b>Test Group OBD Compliance Level</b>	Full - no deficiencies	<b>Number of Test Group OBD Deficiencies</b>	0
<b>OBD Deficiencies Comments</b>	No OBD required for battery electric vehicles		
<b>Mfr Test Group Comments</b>	Jaguar I-PACE BEV		
<b>Mfr Exhaust / Evap Standards Comments</b>	--		

**Certification Summary Information Report**

<b>Test Group</b>		KJLXT00.0TZA			<b>Evaporative/Refueling Family</b>			--		
<b>Models Covered by this Certificate</b>										
<b>Carline Manufacturer</b>	<b>Division</b>	<b>Carline</b>	<b>Certification Region Code(s)</b>		<b>Drive System</b>	<b>Trans - Type</b>	<b>- # of Gears</b>	<b>Trans - Lockup</b>		
Jaguar Land Rover Limited	3 - Jaguar	10 - I-PACE	Federal		4-Wheel Drive	Automatic	1	Yes		
<b>Engine Description</b>										
<b>Hybrid Type</b>				<b>Hybrid Description</b>				--		
<b>Engine Type</b>				<b>Mfr Engine Description</b>				--		
<b>Engine Block Arrangement</b>				<b>Mfr Engine Block Arrangement Description</b>				--		
<b>Camless Valvetrain Indicator</b>				<b>Oil Viscosity/Classification</b>				--		
<b>Number of Cylinders/Rotors</b>				<b>Mechanically Variable Compression Ratio Indicator</b>				--		
<b>After Treatment Device(s) (ATD)</b>										
<b>Mfr After Treatment Device (ATD) Comments</b>				--						
<b>Direct Ozone Reduction (DOR) Device</b>				--						
<b>Mfr Emission Control Device Comments</b>				--						
<b>Official Test Numbers</b>										
<b>Test Group Fuel</b>	<b>FTP</b>	<b>US06</b>	<b>SC03</b>	<b>Cold CO</b>	<b>Highway</b>	<b>EPA City Litmus Value</b>	<b>EPA City Litmus Threshold</b>	<b>EPA Highway Litmus Value</b>	<b>EPA Highway Litmus Threshold</b>	<b>CREE Weighting Factor</b>
Electricity	--	--	--	--	--	--	--	--	--	--
<b>SFTP LEV-III Official Test Numbers</b>										
<b>Test Group Fuel</b>	<b>FTP</b>		<b>US06</b>			<b>SC03</b>				
Electricity	--		--			--				
<b>Official Charge Depleting Test Numbers</b>										
<b>Test Group Fuel</b>	<b>UDDS</b>				<b>Highway</b>					
Electricity	KJLX10056202				KJLX10056203					

## Certification Summary Information Report

Test Group	KJLXT00.0TZA	Evaporative/Refueling Family	--
<b>Hybrid Electric Vehicle And Fuel Cell Information</b>			
Rechargeable Energy Storage System	Battery(s)	Rechargeable Energy Storage System, if Other	--
Battery Type	Lithium Ion	Number of Battery Packs	1
Total Voltage of Battery Packs	388	Battery Energy Capacity	222.9
Battery Specific Energy	143.4	Battery Charger Type	On-Board
Number of Capacitors	--	Capacitor Rating (In Farads)	--
Mfr Capacitor Comments	--		
Hydraulic System Description	--		
Regenerative Braking Type	Electrical Regen Brake		
Regenerative Braking Source	Both	Driver Controlled Regenerative Braking	No
Mfr Regenerative Braking Description	--		
Drive Motor(s)/Generator(s)	2		
Motor/Generator Type 1	AC perm magnet synchronous	Rated Motor/Generator Power	147
Motor/Generator Type 2	AC perm magnet synchronous	Rated Motor/Generator Power	147
Mfr Fuel Cell Description	--		
Fuel Cell On-Board H2 Storage Capacity (kg)	--	Usable H2 Fill Capacity (kg)	--
Mfr Hybrid Electric/ Electric Vehicle Comments	There are two electric motors, each rated at 147 kW, one for each axle. These are permanent magnet synchronous motors driven with a three-phase Alternating Current. Number of Drive Motor/Generator(s) corrected to 2 and additional type added - M R Haggett September 28th, 2018		



## Certification Summary Information Report

Test Group		KJLXT00.0TZA			Evaporative/Refueling Family			--
<b>Dynamometer Coefficients:</b>								
		Target Coefficients			Set Coefficients			EPA Calculated Total Road Load Horse Power for City/Highway/Evap Coefficients
Coefficient Category	A (lbf)	B (lbf/mph)	C (lbf/mph**2)	A (lbf)	B (lbf/mph)	C (lbf/mph**2)		
City/Highway/Evap	32.55	0.75123	0.017701	-13.983	0.2822	0.018457	15.2	
Cold CO	35.805	0.82636	0.019471	-13.983	0.2822	0.018457	N/A	
US06	32.55	0.75123	0.017701	-13.983	0.2822	0.018457	N/A	
<b>Emission Control Device Comments</b>	As this is a battery electric, it has no emission control components. Update to dyno set terms 08/03/2018 MRH. Trans type changed to auto to align with label request requirement 09/21/2018 MRH.							
<b>Manufacturer Test Vehicle Comments</b>	This is a full battery electric vehicle.							

## Certification Summary Information Report

Test Group	KJLXT00.0TZA	Evaporative/Refueling Family	--
<b>Test #</b>	<b>KJLX10055282</b>	<b>Test Procedure</b>	<b>84 - Charge Depleting Highway</b>
<b>Exhaust Test # for this Evap Test</b>	--	<b>Test Fuel Type</b>	62 - Electricity
<b>Test Date</b>	07/30/2018	<b>Fuel</b>	Electricity
<b>Fuel Batch ID</b>	--	<b>Fuel Calibration Number</b>	--
<b>Vehicle Class</b>	LDT2 (LVW 3751-5750, GVW 0-6000)	<b>DF Type</b>	Mfr. Assigned
<b>Verify Test Lab ID</b>	JLR Whitley Emission Test Lab		
<b>E10 Evaporative Test Measurement Method</b>	--		
<b>Test Start Odometer Reading</b>	2870	<b>Odometer Units</b>	M
<b>4WD Test Dyno</b>	Yes	<b>Diesel Adjustment Factor Usage</b>	--
<b>State of Charge Delta</b>	Yes		
<b>Drive Cycle Speed Tolerance Criteria</b>	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	<b>Road Speed Fan Usage</b>	Yes
<b>PHEV/EV TEST INFO</b>			
<b>Recharge Event Voltage</b>	240	<b>Recharge Event Energy (kiloWatt-hours)</b>	103.977
<b>Charge Depleting Range (Calculated miles)</b>	319.71	<b>Charge Depleting Range (Actual miles)</b>	319.71
<b>Equivalent All Electric Range (miles)</b>	319.71		
<b>Number of Charge Depleting Bags/Phases Conducted</b>	1		
<b>Charge Depleting Bag/Phase</b>			
Charge Depleting Bag/Phase #	Test Result/Emission Name	Unrounded Test Result	
1	Actual Distance Driven (miles)	319.71	
2	Average System Voltage	401	
3	Carbon Monoxide	0	
4	Carbon-Related Exhaust Emissions	0	
5	Drive Trace Absolute Speed Change Rating	99.99	
6	Drive Trace Energy Economy Rating	99.99	
7	Drive Trace Inertia Work Ratio Rating	99.99	
8	Integrated Amp-hours	214.1	
9	Manufacturer Fuel Economy	103.6375	
10	Non-methane organic gas	0	
11	System End State of Charge Watt-hours	0	
12	System Start State of Charge Watt-hours	100	
<b>Manufacturer Test Comments</b>	Internal test results for Jaguar I-PACE S. Range determined using SAE J1634 Multi-cycle test procedure; Calculated Highway values; MFR FE is in units of MPGe (un-adjusted, un-rounded); Result is also 32.5220 kWhr/100 mi (un-adjusted, un-rounded), with NMOG Test results. MCT DC wh/mi is attached with EPA application.		



## Certification Summary Information Report

Test Group		KJLXT00.0TZA				Evaporative/Refueling Family				--		
Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	RAF	NMOG/NM HC Ratio	Diesel Adjustment Factor	Add DF	Mult DF	Certification Level	Standard	Pass/Fail
Fed	150,000 miles	Federal Tier 3 Bin 0	CO	0.0	--	--	--	--	1	0	0	Pass
Fed	150,000 miles	Federal Tier 3 Bin 0	CREE	0	--	--	--	--	1	0	--	--
Fed	150,000 miles	Federal Tier 3 Bin 0	NMOG	0.0000	--	--	--	--	1	0.000	999.999	Pass
CA	150,000 miles	California ZEV	CO	0.0	--	--	--	--	1	0	0	Pass
CA	150,000 miles	California ZEV	CREE	0	--	--	--	--	1	0	--	--
CA	150,000 miles	California ZEV	NMOG	0.0000	--	--	--	--	1	0.000	999.999	Pass

## Certification Summary Information Report

Test Group	KJLXT00.0TZA	Evaporative/Refueling Family	--
<b>Test #</b>	<b>KJLX10056029</b>	<b>Test Procedure</b>	<b>81 - Charge Depleting UDDS</b>
<b>Exhaust Test # for this Evap Test</b>	--	<b>Test Fuel Type</b>	62 - Electricity
<b>Test Date</b>	07/30/2018	<b>Fuel</b>	Electricity
<b>Fuel Batch ID</b>	--	<b>Fuel Calibration Number</b>	--
<b>Vehicle Class</b>	LDT2 (LVW 3751-5750, GVW 0-6000)	<b>DF Type</b>	Mfr. Assigned
<b>Verify Test Lab ID</b>	JLR Whitley Emission Test Lab		
<b>E10 Evaporative Test Measurement Method</b>	--		
<b>Test Start Odometer Reading</b>	2870	<b>Odometer Units</b>	M
<b>4WD Test Dyno</b>	Yes	<b>Diesel Adjustment Factor Usage</b>	--
<b>State of Charge Delta</b>	Yes		
<b>Drive Cycle Speed Tolerance Criteria</b>	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	<b>Road Speed Fan Usage</b>	Yes
<b>PHEV/EV TEST INFO</b>			
<b>Recharge Event Voltage</b>	240	<b>Recharge Event Energy (kiloWatt-hours)</b>	103.977
<b>Charge Depleting Range (Calculated miles)</b>	354.45	<b>Charge Depleting Range (Actual miles)</b>	354.45
<b>Equivalent All Electric Range (miles)</b>	354.45		
<b>Number of Charge Depleting Bags/Phases Conducted</b>	1		
<b>Charge Depleting Bag/Phase</b>			
Charge Depleting Bag/Phase #	Test Result/Emission Name	Unrounded Test Result	
1	Actual Distance Driven (miles)	354.45	
2	Average System Voltage	401	
3	Carbon Monoxide	0	
4	Carbon-Related Exhaust Emissions	0	
5	Drive Trace Absolute Speed Change Rating	99.99	
6	Drive Trace Energy Economy Rating	99.99	
7	Drive Trace Inertia Work Ratio Rating	99.99	
8	Integrated Amp-hours	214.1	
9	Manufacturer Fuel Economy	114.8977	
10	Non-methane organic gas	0	
11	System End State of Charge Watt-hours	0	
12	System Start State of Charge Watt-hours	100	
<b>Manufacturer Test Comments</b>	Internal test results for Jaguar I-PACE S. Range determined using SAE J1634 Multi-cycle test procedure; Calculated UDDS values; MFR FE is in units of MPGe (un-adjusted, un-rounded); Result is also 29.3348 kWhr/100 mi (un-adjusted, un-rounded), with NMOG Test results. MCT DC wh/mi is attached with EPA application.		

## Certification Summary Information Report

Test Group		KJLXT00.0TZA				Evaporative/Refueling Family				--		
Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	RAF	NMOG/NM HC Ratio	Diesel Adjustment Factor	Add DF	Mult DF	Certification Level	Standard	Pass/Fail
Fed	150,000 miles	Federal Tier 3 Bin 0	CO	0.0	--	--	--	--	1	0	0	Pass
Fed	150,000 miles	Federal Tier 3 Bin 0	CREE	0	--	--	--	--	1	0	--	--
Fed	150,000 miles	Federal Tier 3 Bin 0	NMOG	0.0000	--	--	--	--	1	0.000	999.999	Pass
CA	150,000 miles	California ZEV	CO	0.0	--	--	--	--	1	0	0	Pass
CA	150,000 miles	California ZEV	CREE	0	--	--	--	--	1	0	--	--
CA	150,000 miles	California ZEV	NMOG	0.0000	--	--	--	--	1	0.000	999.999	Pass



## Certification Summary Information Report

Test Group		KJLXT00.0TZA			Evaporative/Refueling Family			--
<b>Dynamometer Coefficients:</b>								
		Target Coefficients			Set Coefficients			EPA Calculated Total Road Load Horse Power for City/Highway/Evap Coefficients
Coefficient Category	A (lbf)	B (lbf/mph)	C (lbf/mph**2)	A (lbf)	B (lbf/mph)	C (lbf/mph**2)		
City/Highway/Evap	38.88	0.64016	0.018991	-4.384	0.19899	0.01947	15.8	
Cold CO	42.768	0.70418	0.02089	-4.384	0.19899	0.01947	N/A	
US06	38.88	0.64016	0.018991	-4.384	0.19899	0.01947	N/A	
<b>Emission Control Device Comments</b>	As this is a battery electric, it has no emission control components.							
<b>Manufacturer Test Vehicle Comments</b>	This is a full battery electric vehicle.							

## Certification Summary Information Report

Test Group	KJLXT00.0TZA	Evaporative/Refueling Family	--
<b>Test #</b>	<b>KJLX10056202</b>	<b>Test Procedure</b>	<b>81 - Charge Depleting UDDS</b>
<b>Exhaust Test # for this Evap Test</b>	--	<b>Test Fuel Type</b>	62 - Electricity
<b>Test Date</b>	09/20/2018	<b>Fuel</b>	Electricity
<b>Fuel Batch ID</b>	--	<b>Fuel Calibration Number</b>	--
<b>Vehicle Class</b>	LDT2 (LVW 3751-5750, GVW 0-6000)	<b>DF Type</b>	Mfr. Assigned
<b>Verify Test Lab ID</b>	JLR Whitley Emission Test Lab		
<b>E10 Evaporative Test Measurement Method</b>	--		
<b>Test Start Odometer Reading</b>	3641	<b>Odometer Units</b>	M
<b>4WD Test Dyno</b>	Yes	<b>Diesel Adjustment Factor Usage</b>	--
<b>State of Charge Delta</b>	Yes		
<b>Drive Cycle Speed Tolerance Criteria</b>	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	<b>Road Speed Fan Usage</b>	Yes
<b>PHEV/EV TEST INFO</b>			
<b>Recharge Event Voltage</b>	238.4	<b>Recharge Event Energy (kiloWatt-hours)</b>	100.618
<b>Charge Depleting Range (Calculated miles)</b>	340.18	<b>Charge Depleting Range (Actual miles)</b>	340.18
<b>Equivalent All Electric Range (miles)</b>	340.18		
<b>Number of Charge Depleting Bags/Phases Conducted</b>	1		
<b>Charge Depleting Bag/Phase</b>			
Charge Depleting Bag/Phase #	Test Result/Emission Name	Unrounded Test Result	
1	Actual Distance Driven (miles)	340.18	
2	Average System Voltage	400.3	
3	Carbon Monoxide	0	
4	Carbon-Related Exhaust Emissions	0	
5	Drive Trace Absolute Speed Change Rating	99.99	
6	Drive Trace Energy Economy Rating	99.99	
7	Drive Trace Inertia Work Ratio Rating	99.99	
8	Integrated Amp-hours	215.4	
9	Manufacturer Fuel Economy	113.9537	
10	Non-methane organic gas	0	
11	System End State of Charge Watt-hours	0	
12	System Start State of Charge Watt-hours	100	
<b>Manufacturer Test Comments</b>	EPA confirmatory test #20180283001 results for Jaguar I-PACE SE. Range determined using SAE J1634 Multi-cycle test procedure; Calculated UDDS values; MFR FE is in units of MPGe (un-adjusted, un-rounded); Result is also 29.5778 kWhr/100 mi (un-adjusted, un-rounded), with NMOG and CO test results. As not EPA entering the data, the test location is incorrect. Updated with City MFR FE and kWhr/100 mi ilo of combined numbers.		

## Certification Summary Information Report

Test Group		KJLXT00.0TZA			Evaporative/Refueling Family					--		
Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	RAF	NMOG/NM HC Ratio	Diesel Adjustment Factor	Add DF	Mult DF	Certification Level	Standard	Pass/Fail
Fed	150,000 miles	Federal Tier 3 Bin 0	CO	0.0	--	--	--	--	1	0	0	Pass
Fed	150,000 miles	Federal Tier 3 Bin 0	CREE	0	--	--	--	--	1	0	--	--
Fed	150,000 miles	Federal Tier 3 Bin 0	NMOG	0.0000	--	--	--	--	1	0.000	999.999	Pass
CA	150,000 miles	California ZEV	CO	0.0	--	--	--	--	1	0	0	Pass
CA	150,000 miles	California ZEV	CREE	0	--	--	--	--	1	0	--	--
CA	150,000 miles	California ZEV	NMOG	0.0000	--	--	--	--	1	0.000	999.999	Pass

## Certification Summary Information Report

<b>Test Group</b>	KJLXT00.0TZA	<b>Evaporative/Refueling Family</b>	--
<b>Test #</b>	<b>KJLX10056203</b>	<b>Test Procedure</b>	<b>84 - Charge Depleting Highway</b>
<b>Exhaust Test # for this Evap Test</b>	--	<b>Test Fuel Type</b>	62 - Electricity
<b>Test Date</b>	09/20/2018	<b>Fuel</b>	Electricity
<b>Fuel Batch ID</b>	--	<b>Fuel Calibration Number</b>	--
<b>Vehicle Class</b>	LDT2 (LVW 3751-5750, GVW 0-6000)	<b>DF Type</b>	Mfr. Assigned
<b>Verify Test Lab ID</b>	JLR Whitley Emission Test Lab		
<b>E10 Evaporative Test Measurement Method</b>	--		
<b>Test Start Odometer Reading</b>	3641	<b>Odometer Units</b>	M
<b>4WD Test Dyno</b>	Yes	<b>Diesel Adjustment Factor Usage</b>	--
<b>State of Charge Delta</b>	Yes		
<b>Drive Cycle Speed Tolerance Criteria</b>	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	<b>Road Speed Fan Usage</b>	Yes

**PHEV/EV TEST INFO**

<b>Recharge Event Voltage</b>	238.4	<b>Recharge Event Energy (kiloWatt-hours)</b>	100.618
<b>Charge Depleting Range (Calculated miles)</b>	309.08	<b>Charge Depleting Range (Actual miles)</b>	309.08
<b>Equivalent All Electric Range (miles)</b>	309.08		
<b>Number of Charge Depleting Bags/Phases Conducted</b>	1		

**Charge Depleting Bag/Phase**

Charge Depleting Bag/Phase #	Test Result/Emission Name	Unrounded Test Result
1	Actual Distance Driven (miles)	309.08
2	Average System Voltage	400.3
3	Carbon Monoxide	0
4	Carbon-Related Exhaust Emissions	0
5	Drive Trace Absolute Speed Change Rating	99.99
6	Drive Trace Energy Economy Rating	99.99
7	Drive Trace Inertia Work Ratio Rating	99.99
8	Integrated Amp-hours	215.4
9	Manufacturer Fuel Economy	103.5355
10	Non-methane organic gas	0
11	System End State of Charge Watt-hours	0
12	System Start State of Charge Watt-hours	100

**Manufacturer Test Comments**

EPA confirmatory test #20180283001 results for Jaguar I-PACE SE. Range determined using SAE J1634 Multi-cycle test procedure; Calculated Highway values; MFR FE is in units of MPGe (un-adjusted, un-rounded); Result is also 32.5541 kWhr/100 mi (un-adjusted, un-rounded), with NMOG and CO test results. As not EPA, couldn't enter the correct test location.



## Certification Summary Information Report

Test Group		KJLXT00.0TZA			Evaporative/Refueling Family					--		
Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	RAF	NMOG/NM HC Ratio	Diesel Adjustment Factor	Add DF	Mult DF	Certification Level	Standard	Pass/Fail
Fed	150,000 miles	Federal Tier 3 Bin 0	CO	0.0	--	--	--	--	1	0	0	Pass
Fed	150,000 miles	Federal Tier 3 Bin 0	CREE	0	--	--	--	--	1	0	--	--
Fed	150,000 miles	Federal Tier 3 Bin 0	NMOG	0.0000	--	--	--	--	1	0.000	999.999	Pass
CA	150,000 miles	California ZEV	CO	0.0	--	--	--	--	1	0	0	Pass
CA	150,000 miles	California ZEV	CREE	0	--	--	--	--	1	0	--	--
CA	150,000 miles	California ZEV	NMOG	0.0000	--	--	--	--	1	0.000	999.999	Pass
<b>Fuel Properties</b>												

### Certification Summary Information Report

<b>Test Group</b>	KJLXT00.0TZA	<b>Evaporative/Refueling Family</b>	--
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#### Consolidated List of Standards

**Exhaust Standards**

<b>Cert Region</b>	California + CAA Section 177 states	<b>Cert/In-Use Code</b>	Cert
<b>Vehicle Class</b>	LDT2 (LVW 3751-5750, GVW 0-6000)	<b>Standard Level</b>	California ZEV
<b>Fuel</b>	Electricity	<b>Test Procedure</b>	Charge Depleting UDDS

Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std
150,000 miles	CO	--	--	--	--	--	1	--	0
150,000 miles	CREE	--	--	--	--	--	1	--	0
150,000 miles	NMOG	--	--	--	--	--	1	--	999.999

<b>Cert Region</b>	Federal	<b>Cert/In-Use Code</b>	Cert
<b>Vehicle Class</b>	LDT2 (LVW 3751-5750, GVW 0-6000)	<b>Standard Level</b>	Federal Tier 3 Bin 0
<b>Fuel</b>	Electricity	<b>Test Procedure</b>	Charge Depleting Highway

Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std
150,000 miles	CO	--	--	--	--	--	1	--	0
150,000 miles	CREE	--	--	--	--	--	1	--	0
150,000 miles	NMOG	--	--	--	--	--	1	--	999.999

<b>Cert Region</b>	California + CAA Section 177 states	<b>Cert/In-Use Code</b>	Cert
<b>Vehicle Class</b>	LDT2 (LVW 3751-5750, GVW 0-6000)	<b>Standard Level</b>	California ZEV
<b>Fuel</b>	Electricity	<b>Test Procedure</b>	Charge Depleting Highway

Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std
150,000 miles	CO	--	--	--	--	--	1	--	0
150,000 miles	CREE	--	--	--	--	--	1	--	0
150,000 miles	NMOG	--	--	--	--	--	1	--	999.999

## Certification Summary Information Report

<b>Test Group</b>	KJLXT00.0TZA		<b>Evaporative/Refueling Family</b>			--			
<b>Cert Region</b>	Federal		<b>Cert/In-Use Code</b>			Cert			
<b>Vehicle Class</b>	LDT2 (LVW 3751-5750, GVW 0-6000)		<b>Standard Level</b>			Federal Tier 3 Bin 0			
<b>Fuel</b>	Electricity		<b>Test Procedure</b>			Charge Depleting UDDS			
<b>Useful Life</b>	<b>Emission Name</b>	<b>Rounded Result</b>	<b>RAF</b>	<b>NMOG / NMHC</b>	<b>Upward Diesel Adjustment Factor</b>	<b>Downward Diesel Adjustment Factor</b>	<b>Mult DF</b>	<b>Add DF</b>	<b>Std</b>
150,000 miles	CO	--	--	--	--	--	1	--	0
150,000 miles	CREE	--	--	--	--	--	1	--	0
150,000 miles	NMOG	--	--	--	--	--	1	--	999.999
<b>Cert Region</b>	Federal		<b>Cert/In-Use Code</b>			Cert			
<b>Vehicle Class</b>	LDT2 (LVW 3751-5750, GVW 0-6000)		<b>Standard Level</b>			Federal Tier 3 Bin 0			
<b>Fuel</b>	Electricity		<b>Test Procedure</b>			Federal fuel 2-day exhaust (w/can load)			
<b>Useful Life</b>	<b>Emission Name</b>	<b>Rounded Result</b>	<b>RAF</b>	<b>NMOG / NMHC</b>	<b>Upward Diesel Adjustment Factor</b>	<b>Downward Diesel Adjustment Factor</b>	<b>Mult DF</b>	<b>Add DF</b>	<b>Std</b>
150,000 miles	CO	--	--	--	--	--	1	--	0

## Certification Summary Information Report

Test Group	KJLXT00.0TZA	Evaporative/Refueling Family	--
<b>Glossary</b>			
<b>Useful Life</b>			
4	4,000 miles	120	120,000 miles
50	50,000 miles	150	150,000 miles
100	100,000 miles		
<b>Emission Name</b>			
HC-TOTAL	Total Hydrocarbon	METHANOL	CH3OH - Methanol
CO	Carbon Monoxide	N2O	Nitrous Oxide
CO2	Carbon dioxide	SPITBACK	Spitback Hydrocarbon in grams
CREE	Carbon-Related Exhaust Emissions	AMP-HRS	Integrated Amp-hours
OPT-CREE	Optional Carbon-Related Exhaust Emissions	START-SOC	System Start State of Charge Watt-hours
NOX	Nitrogen Oxide	END-SOC	System End State of Charge Watt-hours
PM	Particulate Matter	ACT-DISTANCE	Actual Distance Driven (miles)
PM-COMP	SFTP Composite Particulate Matter	AS-VOLT	Average System Voltage
HC-NM	Non-methane Hydrocarbon	CO2 BAG 1	Bag 1 Carbon Dioxide
OMHCE	Organic material Hydrocarbon Equivalent	CO2 BAG 2	Bag 2 Carbon Dioxide
OMNMHCE	Organic material non-methane HC equivalent	CO2 BAG 3	Bag 3 Carbon Dioxide
NMOG	Non-methane organic gas	CO2 BAG 4	Bag 4 Carbon Dioxide
HCHO	Formaldehyde	NMOG+NOX	Non-methane organic gases plus Nitrogen Oxides
H3C2HO	Acetaldehyde	NMOG+NOX-COMP	SFTP Composite Non-methane Organic Gases + Nitrogen Oxides
HC-NM+NOX	SFTP Non-methane Hydrocarbon + Nitrogen Oxides for US06 or SC03	DT-IWRR	Drive Trace Inertia Work Ratio Rating
HC-NM+NOX-COMP	SFTP Composite Non-methane Hydrocarbon + Nitrogen Oxides	DT-ASCR	Drive Trace Absolute Speed Change Rating
CO-COMP	SFTP Composite Carbon Monoxide	DT-EER	Drive Trace Energy Economy Rating
ETHANOL	C2H5OH - Ethanol	COMB-CREE	Combined Carbon-Related Exhaust Emissions
FE BAG 1	Bag 1 Fuel Economy	COMB-OPT-CREE	Combined Optional Carbon-Related Exhaust Emissions
FE BAG 2	Bag 2 Fuel Economy	HC-TOTAL-EQUIV	Total Hydrocarbon equivalent - Evap only
FE BAG 3	Bag 3 Fuel Economy	METHANE-COMB	Combined CH4 for HD 2b/3 vehicles only
FE BAG 4	Bag 4 Fuel Economy	N2O-COMB	Combined Nitrous Oxide for HD 2b/3 vehicles only
MFR FE	Manufacturer Fuel Economy	LEAK-DIA	Effective Leak Diameter (inches)
HC	Hydrocarbon for Running Loss and ORVR	LEAK-GAS CAP	Gas Cap Leakage (cc/min)
METHANE	CH4 - Methane	CO2-COMB	Combined Carbon Dioxide for HD 2b/3 Vehicles Only
<b>Certification Region</b>			
CA	California + CAA Section 177 states	FA	Federal
<b>Exhaust Emission Standard Level</b>			
B1	Federal Tier 2 Bin 1	L3ULEV340	California LEV-III ULEV340
B2	Federal Tier 2 Bin 2	L3ULEV250	California LEV-III ULEV250
B3	Federal Tier 2 Bin 3	L3ULEV200	California LEV-III ULEV200
B4	Federal Tier 2 Bin 4	L3SULEV170	California LEV-III SULEV170
B5	Federal Tier 2 Bin 5	L3SULEV150	California LEV-III SULEV150

## Certification Summary Information Report

Test Group	KJLXT00.0TZA	Evaporative/Refueling Family	--
B6	Federal Tier 2 Bin 6	L3LEV630	California LEV-III LEV630
B7	Federal Tier 2 Bin 7	L3ULEV570	California LEV-III ULEV570
B8	Federal Tier 2 Bin 8	L3ULEV400	California LEV-III ULEV400
B9	Federal Tier 2 Bin 9	L3ULEV270	California LEV-III ULEV270
B10	Federal Tier 2 Bin 10	L3SULEV230	California LEV-III SULEV230
B11	Federal Tier 2 Bin 11	L3SULEV200	California LEV-III SULEV200
HDV1	HDV1 (Federal HD chassis Class 2b GVW 8501-10000)	T3B160	Federal Tier 3 Bin 160
HDV2	HDV2 (Federal HD chassis Class 3 GVW 10001-14000)	T3B125	Federal Tier 3 Bin 125
L2	California LEV-II LEV	T3B110	Federal Tier 3 Transitional Bin 110
L2OP	California LEV-II LEV Optional	T3B85	Federal Tier 3 Transitional Bin 85
U2	California LEV-II ULEV	T3SULEV30	Federal Tier 3 Transitional LEV-II SULEV30 Carryover
S2	California LEV-II SULEV	T3B70	Federal Tier 3 Bin 70
ZEV	California ZEV	T3B50	Federal Tier 3 Bin 50
OT	Other	T3B30	Federal Tier 3 Bin 30
T1	Federal Tier 1	T3B20	Federal Tier 3 Bin 20
PZEV	California PZEV	T3B0	Federal Tier 3 Bin 0
L2LEV160	California LEV-II LEV160	HDV2B395	Federal Tier 3 HD Class 2b Transitional Bin 395
L2ULEV125	California LEV-II ULEV125	HDV2B340	Federal Tier 3 HD Class 2b Transitional Bin 340
L2SULEV30	California LEV-II SULEV30	HDV2B250	Federal Tier 3 HD Class 2b Bin 250
L2LEV395	California LEV-II LEV395	HDV2B200	Federal Tier 3 HD Class 2b Bin 200
L2ULEV340	California LEV-II ULEV340	HDV2B170	Federal Tier 3 HD Class 2b Bin 170
L2LEV630	California LEV-II LEV630	HDV2B150	Federal Tier 3 HD Class 2b Bin 150
L2ULEV570	California LEV-II ULEV570	HDV2B0	Federal Tier 3 HD Class 2b Bin 0
L3LEV160	California LEV-III LEV160	HDV3B630	Federal Tier 3 HD Class 3 Transitional Bin 630
L3ULEV125	California LEV-III ULEV125	HDV3B570	Federal Tier 3 HD Class 3 Transitional Bin 570
L3ULEV70	California LEV-III ULEV70	HDV3B400	Federal Tier 3 HD Class 3 Bin 400
L3ULEV50	California LEV-III ULEV50	HDV3B270	Federal Tier 3 HD Class 3 Bin 270
L3SULEV30	California LEV-III SULEV30	HDV3B230	Federal Tier 3 HD Class 3 Bin 230
L3SULEV20	California LEV-III SULEV20	HDV3B200	Federal Tier 3 HD Class 3 Bin 200
L3LEV395	California LEV-III LEV395	HDV3B0	Federal Tier 3 HD Class 3 Bin 0
<b>Transmission Type Code</b>			
AMS	Automated Manual- Selectable (e.g. Automated Manual with paddles)	M	Manual
A	Automatic	OT	Other
AM	Automated Manual	SA	Semi-Automatic
CVT	Continuously Variable	SCV	Selectable Continuously Variable (e.g. CVT with paddles)
<b>Drive System Code</b>			
4	4-Wheel Drive	P	Part-time 4-Wheel Drive
F	2-Wheel Drive, Front	A	All Wheel Drive
R	2-Wheel Drive, Rear		

## Certification Summary Information Report

Test Group	KJLXT00.0TZA	Evaporative/Refueling Family	--
<b>Additional Terms and Acronyms</b>			
AFC	Alternative Fuel Converter	ICI	Independent Commercial Importer
CSI	Certificate Summary Information	ORVR	Onboard Refueling Vapor Recovery
DF	Deterioration Factor	SIL	Shift Indicator Light
Evap	Evaporation, Evaporative	Trans	Transmission



D7e

Part 1

Issued: 08/03/18

EPA EV Multicycle Calculator – Jaguar I-PACE S

UDDS test number corrected, test now includes CO.

EPA EV Multicycle Calculator (SAE J1634 Oct 2012)

**Manufacturer:** Jaguar Land Rover As used by EPA laboratory  
**Carline:** Jaguar I-PACE S  
**Model Year:** 2019 D.Good March 8, 2016  
**Vehicle:** F60490-00  
**Test Number:** UDDS: KJLX10056029, HWY: KJLX10055282  
**Comments:** Tested in "Normal" Mode (EPA raw data)  
**Lab:** JLR, Whitley  
**Test Date:** July 30th, 2018

Cycle	Energy (Wh)	Distance (mi)	ECdc_cyc	Kuwgt	Kwgt	Recharge AC WattHrs
UDDS1	1920	7.426	258.51	64.63	5.66	103977
UDDS2	1836	7.423	247.29	61.82	80.62	
UDDS3	1853	7.478	247.84	61.96	80.80	
UDDS4	1834	7.470	245.55	61.39	80.06	
HWY1	2837	10.229	277.31	138.65		
HWY2	2780	10.269	270.70	135.35		
SS1	56724	165.253				
SS2	17819	50.074				
<b>TOTAL</b>	<b>87601.80</b>	<b>265.621</b>				

K-Factors	UDDS1	UDDS2	UDDS3	UDDS4	HWY1	HWY2
Unweighted	0.250	0.250	0.250	0.250	0.500	0.500
Weighted	0.022	0.326	0.326	0.326	NA	NA

Results	Range (mi)	AC Wh/mi	MPGe	kWh/100mi
UDDSu	350.69	296.49		
UDDSw	354.45	293.35	114.8977	29.3348
HWY	319.71	325.22	103.6375	32.5220
Combined		307.69	109.5419	30.7690

EPA version
kWh/100mi
29.33479
32.52201

Note:

1. Fill in yellow shaded areas to compute range and AC wh/mi results
2. Weighted results based on SAE J1634 calculations
3. Final values in green shaded area should be rounded to appropriate significant digits



D7e

Part 1

Issued: 08/03/18

EPA EV Multicycle Calculator – Jaguar I-PACE SE

Results from confirmatory test at EPA:

EPA EV Multicycle Calculator (SAE J1634 Oct 2012)

**Manufacturer:** Jaguar Land Rover As used by EPA laboratory  
**Carline:** Jaguar I-PACE SE  
**Model Year:** 2019 D.Good March 8, 2016  
**Vehicle:** F60490\_01  
**Test Number:**  
**Comments:** Tested in "Normal" Mode (EPA raw data)  
**Lab:** EPA  
**Test Date:** September 20th, 2018

Cycle	Energy (Wh)	Distance (mi)	ECdc_cyc	Kuwt	Kwt	Recharge AC WattHrs
UDDS1	1998.94	7.421	269.36	67.34	6.31	100618
UDDS2	1935.23	7.437	260.22	65.05	84.71	
UDDS3	1821.00	7.451	244.40	61.10	79.56	
UDDS4	1840.80	7.471	246.39	61.60	80.21	
HWY1	2891.59	10.250	282.11	141.05		
HWY2	2783.20	10.311	269.93	134.96		
SS1	56852.55	165.828				
SS2	15187.60	44.478				
<b>TOTAL</b>	<b>85310.91</b>	<b>260.647</b>				

K-Factors	UDDS1	UDDS2	UDDS3	UDDS4	HWY1	HWY2
Unweighted	0.250	0.250	0.250	0.250	0.500	0.500
Weighted	0.023	0.326	0.326	0.326	NA	NA

Results	Range (mi)	AC Wh/mi	MPGe	kWh/100mi
UDDSu	334.43	300.86		
UDDSw	340.18	295.78	113.9537	29.5778
HWY	309.08	325.54	103.5355	32.5541
Combined	326.19	309.17	109.0173	30.9171

EPA version
kWh/100mi
29.57781
32.55406

Note:

1. Fill in yellow shaded areas to compute range and AC wh/mi results
2. Weighted results based on SAE J1634 calculations
3. Final values in green shaded area should be rounded to appropriate significant digits





## **8. Emission Testing Waiver Statements**

### **EPA Regulations**

#### **Certification Short Test (CST), High Altitude Testing and Idle CO Testing**

Based on Jaguar Land Rover's engineering judgment and to the best of Jaguar Land Rover's information and belief, all vehicles contained within engine test group KJLXT00.0TZA conform with the following emissions standards under 40CFR86 Subpart S for which emissions data are not provided, as allowed under 40CFR86.1829.15(f) for electric vehicles, as tailpipe emissions of regulated pollutants from vehicles powered solely by electricity are deemed to be zero.



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**D7e**

**Part 1**

**Issued: 08/03/18**

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**9. OBD Compliance Statement**

Not applicable.



D7e

Part 1

Issued: 08/03/18

## 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	N° Valves/ Cyl	Sales Area	Trans & Over-drive	SIL	Tire Size	N/V Ratio	ETW - lb.	Fuel Tank Volume - gal
			Type	Catalyst Config'n	EGR	Air Pump	Fuel System Type	Intake Air Aspiration Method	Other									
10	I-PACE	LDT2/ LDT2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0D7E-19	N/A	50-state	Fixed	No	235/65R18	104.2	5000	N/A
10	I-PACE	LDT2/ LDT2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0D7E-19	N/A	50-state	Fixed	No	235/55R20	103.8	5250	N/A



## 12.2. Test Parameters

### 12.2.1. Engine Starting Procedure

Whilst the vehicles in this test group are driven by electric motors with no starting requirement, a process is in place that is similar to that for Jaguar's internal combustion engine vehicles, but with some additional safety features to prevent inadvertent movement of the vehicle.

The key must be present within the vehicle.

With the brake pedal depressed, push the "Engine Start" button.

With the brake pedal depressed, push the D or R button on the centre console.

Note that if the "Engine Start" button is pressed without depressing the brake pedal, D or N cannot then be selected without switching off and pushing the "Engine Start" button again, with the brake pedal depressed.

Note that the park brake does not auto release when the gas pedal is pressed with D or R selected.



### 12.2.2. Shift Schedules

#### Transmission Summary

The vehicles in this test group have a fixed speed transmission, with the drive motors permanently attached to the wheel via a 9.04:1 reduction gear and a differential.

Conventionally labelled transmission controls are provided as follows:

P – Park – “Locks” the motor, preventing vehicle movement

R – Reverse – Allows the vehicle to be driven in reverse

N – Neutral – Puts the motors into a zero torque state, allowing the vehicle to be pushed or towed and also permitting coast-down testing or chassis dynamometer setting

D – Drive – Allows the vehicle to be driven in a forward direction



### 12.3. User Selectable Modes

The driver may select:

#### Level of Regenerative Braking

Regenerative braking occurs when the vehicle is moving and the gas pedal is released. During regenerative braking, the electric motor slows the vehicle by recovering energy into the vehicle's battery to increase vehicle range. The amount of regenerated energy increases up to a maximum level, as the brake pedal is applied. For higher requested levels of braking, the vehicle's foundation brakes are also applied.

The maximum level of regenerated energy may be temporarily reduced in certain events. For example, when the high voltage battery is fully charged or driving the vehicle in very high or low ambient temperatures. Any reduction in regenerative braking capability is indicated via a derate marker displayed in the power gauge.

The default level of regenerative braking, experienced when the gas pedal is released, can be configured between a low and a high setting, as follows:

1. Touch the **settings** icon from the **MY ELECTRIC VEHICLE** menu screen to display the **SETTINGS** pop-up screen.
2. Touch the **My EV** settings soft key to display the **MY EV SETTINGS** screen.
3. Select the required **Low** or **High** soft key from the **Regenerative Braking** menu options.

The low setting provides a level of deceleration that is similar to the gradual braking effect experienced when driving vehicles with a combustion engine. Compared to the high setting, the low setting results in the vehicle traveling a greater distance before stopping, with the gas pedal released.

The high setting provides a higher level of deceleration, compared to the low setting, due to an increase in the regenerative braking applied. With the high setting selected, the vehicle deceleration control is increased when partially releasing the gas pedal. The high setting can result in a reduction of the alternating operation of the brake and gas pedals while driving.

Switch the vehicle creep feature off to allow the vehicle to decelerate to a complete stop, with the gas pedal released.

#### Creep

With the vehicle creep feature switched on, the vehicle automatically moves from a standstill when the brake pedal is released, with **D** (Drive) or **R** (Reverse) selected.

With the vehicle creep feature switched off, the vehicle does not automatically move from a standstill with **D** or **R** selected. The gas pedal must be pressed to move the vehicle.

Selecting the high regenerative braking setting and switching off the vehicle creep feature can reduce the frequent alternating operation between the brake and gas pedals.

The vehicle creep feature can be switched on or off, as follows:

1. With the vehicle stationary, select **P** (Park).
2. Touch the settings icon from the **ENERGY** menu screen to display the **SETTINGS** pop-up screen.
3. Touch the **My EV** settings soft key to display the **My EV SETTINGS** screen.
4. Select the required **Off** or **On** soft key from the **Vehicle creep** menu options.

The selected status is retained even after the vehicle's electrical system is switched off and on again.

**Low Power Mode**

The low power mode feature reduces energy consumption, and can be used when there is a risk of insufficient driving range before reaching a charging station. When the low power mode is activated, non-essential features automatically switch off or adjust to extend the vehicle's current driving range.

Using the ECO driving mode is recommended for extending the vehicle's driving range in normal driving conditions.

To manually select or deselect the low power mode feature, touch the **low power mode** icon, from the **ENERGY** menu screen.

The vehicle automatically activates the low power mode feature when the charge level for the high voltage battery is very low. The low power mode remains active until the battery is sufficiently charged and the predicted driving range displays greater than 0 miles.

The instrument panel displays a confirmation message and the **low power mode** icon, to confirm selection. The instrument panel extinguishes the **low power mode** icon to confirm deselection.

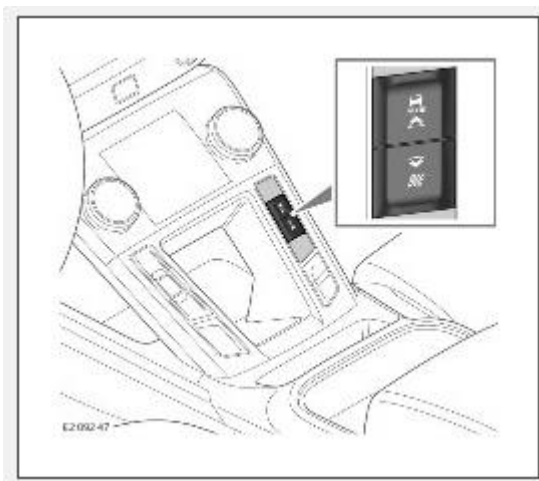
**Driving Modes**

Changing between the driving modes alters various vehicle settings. For example, the adaptive dynamics suspension and the steering system may feel heavier or lighter. The setting changes are not dramatic but are noticeable.

The comfort driving mode is automatically selected each time the ignition is switched on. The previous driving mode selection is not retained when the ignition is switched off.

Selecting a driving mode coordinates the vehicle's systems to suit the prevailing driving conditions or the current driving style.

Make sure that the correct driving mode is selected for the current driving conditions or the required driving style. The Dynamic Stability Control (DSC) system operation is automatically adapted to suit the current driving mode selection





Use the buttons, located on the center console, to move through the different driving modes.

The instrument panel displays the relevant driving mode icon to confirm selection. A temporary confirmation message also displays.

Information and guidance for the currently selected driving mode can be viewed on the touchscreen. Select the **All Surface Information** feature from the **ASI Suite** extra feature

#### Comfort

Select the comfort driving mode to return all of the vehicle's systems to the normal settings.

The comfort driving mode should be selected once the need for any other driving mode selection has passed.

#### Eco

Select the **ECO** driving mode to modify the vehicle's settings to help reduce energy consumption and increase the driving range. For example, the energy consumption of the climate and comfort features is reduced and the gas pedal response is adjusted.

Selecting the **ECO** driving mode may automatically change some of the settings for the climate and comfort features. Deselecting the **ECO** driving mode and the normal operation of each feature, cancels the automatic changes.

The possible automatic changes are as follows:

- The heated seats are switched off.
- The climate seats are switched off.
- The heated steering wheel is switched off.
- The heated windshield does not automatically switch on, if configured to switch on via the **CLIMATE SETTINGS**.
- The auto blower speed is set to low, if currently set to a high speed.

#### Rain Ice Snow

The rain ice snow driving mode helps the vehicle to perform in a gentle and controlled manner, helping to avoid skidding and improve progress in adverse weather conditions. For example, in icy or rainy conditions and on surfaces such as grass, gravel, or snow.

Winter tires and all-season tires also help to further enhance the vehicle's stability in adverse weather conditions.

#### Dynamic

Select the dynamic driving mode to coordinate the vehicle's control systems to contribute to a more dynamic driving experience.

#### Adaptive Surface Response (AdSR)

The AdSR driving mode detects different surfaces and helps to enhance the vehicle's progress and stability. For example, when driving on low grip, medium grip, and soft surfaces.

Select the AdSR driving mode when driving in adverse weather and driving conditions. For example, in icy or rainy conditions and on surfaces such as grass, mud, gravel, deep sand, or deep snow.

The AdSR driving mode helps the vehicle to perform in a gentle and controlled manner, helping to avoid skidding and improve progress in adverse conditions.

The low friction launch feature can also help to further enhance low speed manoeuvring and pulling away from a standstill in adverse conditions.

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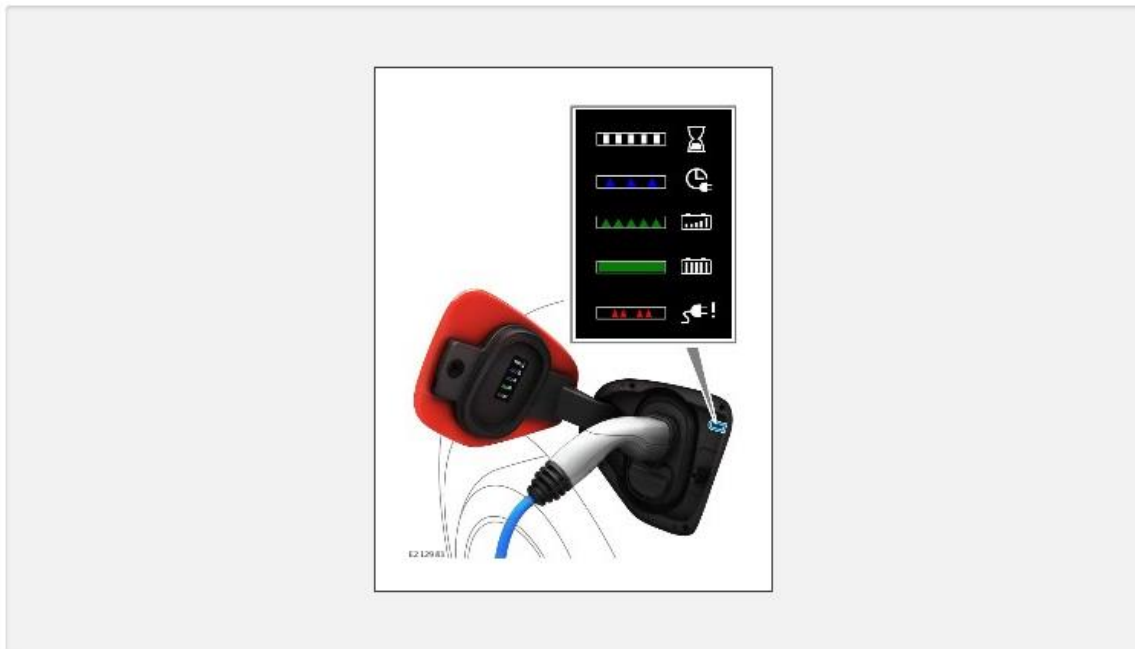


Winter tires and all-season tires can also help to further enhance the vehicle's stability in adverse weather conditions.

**Configurable Dynamics**

Some vehicles have the **Dynamic-i** extra feature, which displays information and allows the manual selection or deselection of the dynamic setting for some vehicle systems. Select **Dynamic-i** from the touchscreen's **EXTRA FEATURES** menu.

**Vehicle Charging**

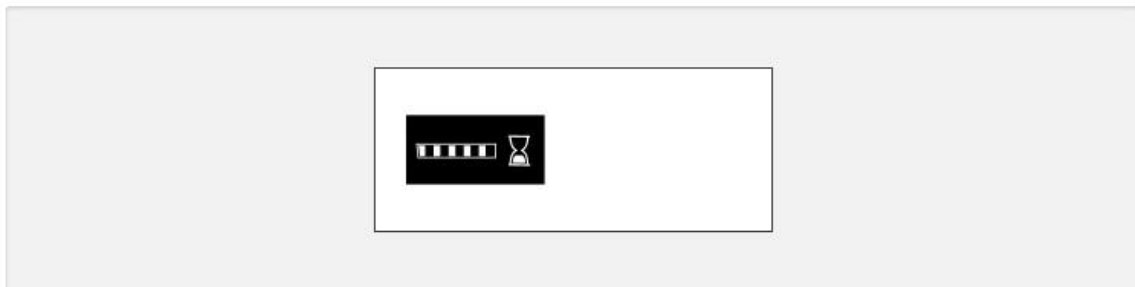


A label adjacent to the charging port provides a quick reference to the behavior of the charging indicator LED in relation to charging status. See [INSTRUMENT PANEL](#).

Charging status can also be viewed via the **MY EV** touchscreen menu. See [TOUCH SCREEN HOME MENU](#).

An LED on the side of the charging port also informs the user of charging status. Before connecting a charging cable, the LED on the side of the charging port illuminates white to aid connecting the cable in dark conditions.

Charging status is displayed as follows:

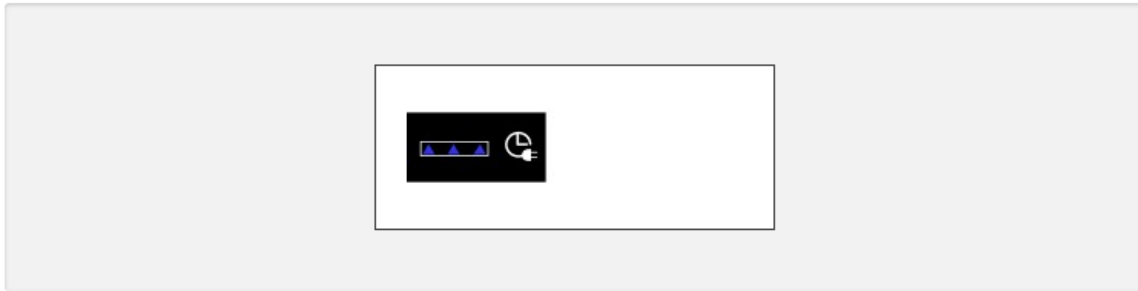


Flashes in the instrument panel to confirm vehicle charging has been initialized. The LED on the charging port flashes white.

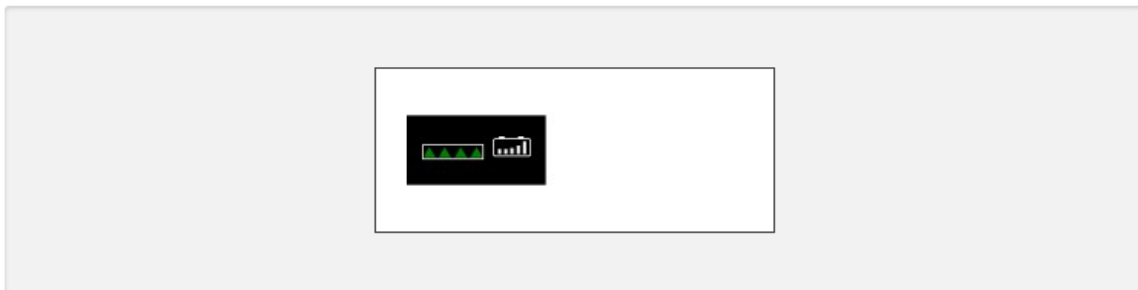
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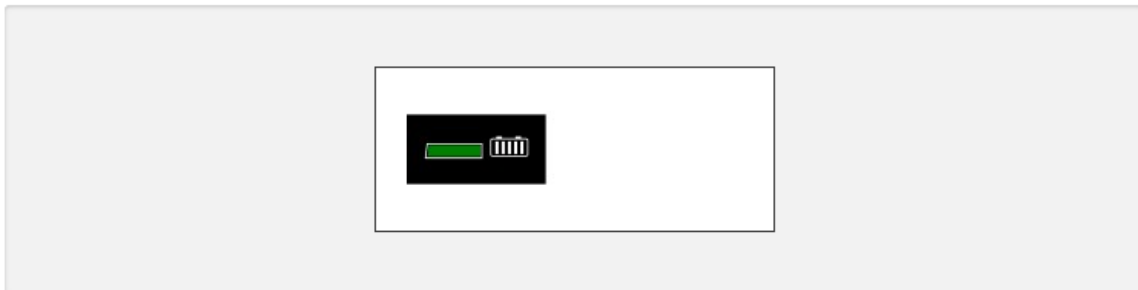
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Flashes in the instrument panel to indicate that a vehicle preconditioning process has been set. The LED on the charging port flashes blue. See [PRECONDITIONING SETTINGS](#).



Flashes in the instrument panel to indicate that charging is in progress. The LED on the charging port flashes green.



Illuminates continuously in the instrument panel to indicate that the charging process is complete. The LED on the charging port illuminates green continuously.



Flashes in the instrument panel to indicate a charging fault. The LED on the charging port flashes red. If charging faults persist, contact a retailer/authorized repairer.



### **Chassis Dynamometer Operation**

#### **Traction Control**

If the vehicle is to be operated on a chassis dynamometer, disable the traction control facility immediately after selecting drive. The procedure for this is:

With the car powered, but without the powertrain activated:

- Hold 100% gas pedal and 50% Brake Pedal, while pushing the DSC button for 5 seconds
- 2 DSC lights will display on right of main screen, confirming that traction control is off

In low light conditions, such as might exist in a test cell, the headlights may illuminate. They can be reset to daytime running lights by rotating the left hand column stalk clockwise.

When conducting a Multi-Cycle Test, do not use cruise control for the final Constant Speed Cycle, as it will disable at a low HV battery condition, causing the end of test point to be incorrectly determined.

#### **Driving Modes**

All dyno testing has been performed with creep turned off and regenerative braking set to low.

#### **Cooling Fans**

For all test cycles, a fan follow dyno has been used.



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**12.4. EPA Shift Schedule:**

Not applicable

**12.5. Dynamometer Loading Information (LVW):**

Model	ETW (lbs.)	Tyre size	Target Coefficients			Set Coefficients*		
			A	B	C	a	b	c
I-PACE S	5,000	235/65R18	32.550	0.75123	0.017701	-13.983	0.28220	0.018457
I-PACE SE & HSE	5.250	255/55R20	38.881	0.64016	0.018981	-3.709	0.11360	0.019715

\* 4WD Dynamometer



**14. Request for Certification**

**14.1. Statement of Compliance**

Refer to Common Section, Section 14.

**14.2. Request for Certificate**

Jaguar Land Rover herewith applies for a federal Certificate of Conformity and a California ARB Executive Order for Test Group KJLXT00.0TZA.

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

Martin Haggett  
Principal Engineer  
Emissions Certification  
Jaguar Land Rover



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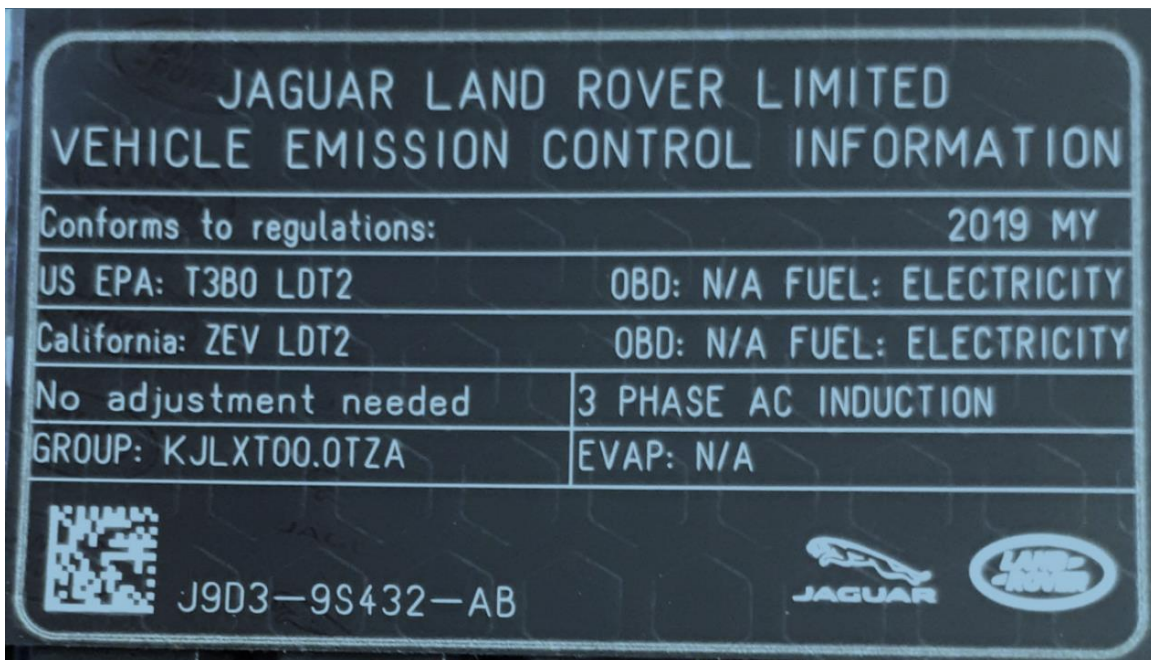
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**15. Other Information**

**15.1. VECI Label**

According to 40 CFR § 86.1807-01 and according to California Motor Vehicle Emission Control Label Specifications.

15.1.1.



15.1.2. Label Location: Under-bonnet.



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**15.2. Fee Filing Form**

See attached page

# US EPA Fee Form

## General Information

Date:

Process Code:

Manufacturer Code:

Manufacturer Name:

## Manufacturer Contact

Name:

Email Address:

Phone:

Calendar Year complete application submitted to EPA:

Engine Family / Evaporative Family / Test Group:

## Certificate Request Type (Industry Sector Code)

- On-Highway LDV, LTD, MDVPV, HDV Chassis Cert (Federal) (A, B, D, J, T, V)  Nonroad CI (L)
- On-Highway HDE Dyno Cert (Federal) (E, H)  Nonroad SI (B, S)
- On-Highway LD ICI, MDPV ICI, HDV ICI (A, B, D, J, T, V)  Locomotive (G, K)
- On-Highway Motorcycle (C)  All Nonroad Recreational, excluding Marine engines (X, Y)
- On-Highway HDV Evap (F)  All Marine (Including IMO) (M, N, W)
- On-Highway LDV, LTD, MDVPV, HDV Chassis Cert (California-Only) (A, B, D, J, T, V)  Component Certification for Evaporative Emissions (P)
- On-Highway HDE Dyno Cert (California-Only) (E, H)

IMO Name (Required for dual US/IMO Marine Only):

ICI VIN Number (Required for ICIs Only):

Do you qualify for a Reduced Fee (RF)?

What is the total number of vehicles, engines, or units covered?:

What is the aggregate total retail value of the vehicles, engines or units covered?:

## Payment Information

Amount Owed:

Payment Type:

## Comments:

Test Group KJLXT00.0TZA

EPA Form Number 3520-29

OMB Control No. 2060-0545

Approval expires 12/31/2019

The public reporting and recordkeeping burden for this collection of information is estimated to average 20 minutes per response. Send comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including through the use of automated collection techniques to the Director, Collection Strategies Division, U.S. Environmental Protection Agency (2822T), 1200 Pennsylvania Ave., NW, Washington, D.C. 20460. Include the OMB control number in any correspondence. Do not send the completed forms to this address.





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**15.3.** OBD System Approval Letter

Not applicable.



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**Other Information**

**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**

Not applicable

**Lubricant specifications**

**Electric Drive Unit**

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

FE75W/BOT 350 M3 75W



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15.4. OBD Summary Table

Not applicable.



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**17. California ARB Information**

17.1. Statements

Refer to Common Section, Section 17

17.2. Fill Pipe Specification

Not applicable

17.3. Projected Sales

Refer to Common Section, Section 16, Confidential Information

17.4. Evaporative Emission Deterioration

Not applicable



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17.5. Supplemental Data Sheets

17.5.1. Common

Manufacturer	Jaguar Land Rover Limited
Vehicle Model(s)	I-PACE
Test Group	KJLXT00.0TZA
Evaporative Family	Not applicable
Engine Type(s):	Electric motor
Litres (CID)	0.0 (0 in. <sup>3</sup> )
Drive System	Two electric motors, one per axle, four-wheel drive



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17.5.2. 2019 Air Resources Board Supplemental Data Sheet
Passenger Cars, Light Duty Truck and Medium Duty Vehicles

Manufacturer: Jaguar Land Rover Ltd. Exh Eng Fam: KJLXT00.0TZA Evap Fam: N/A
All Eng Codes in Engine Family: CA 49S 50S X AB965, ORVR: YES NO X
Exh Std: CA Tier-3 TLEV LEV ULEV SULEV ZEV X, US EPA Tier-3 Bin 0
Veh Class(es): PC LDT1 LDT2 X MDV1 MDV2 MDV3 MDV4 MDV5
Single Cert Std for Multi-Class Eng Fam: N/A
Fuel Type(s): Dedicated X Flex-Fuel Dual-Fuel Bi-Fuel Gasoline Diesel
CNG LNG LPG M85 Other X (Electricity)
Exh Emiss Test Fuel(s): Indo CBG CNG LPG M85 Other X (Electricity)
Diesel: 13 CRR 2282 40 CFR 86.113-90 40 CFR 86.113-94
Evaporative Emission Test Procedure: California Federal
Service Accum: Std AMA Mod AMA MFR ADP Other EPA SRC
NMOG Test Procedure: N/A X Std Equip R/L Test Proc: SHED Pt Source
Engine Configuration: Displacement: 0.0 Liters 0 Cubic Inches
Valves per Cylinder: Rated HP: 400 @ 4500 RPM
Engine: Front X Mid Rear X Drive: FWD RWD 4WD-FT X 4WD-PT
Exhaust ECS:

Table with 4 columns: Item Number, Description, Chapter Reference, and Chapter Reference. Lists items 1 through 20 and their corresponding sections.



Application for Certification

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21 Test Vehicle Information	Emission Data Vehicle
C/O or C/A	<u>NEW</u>
MY & ID	<u>19, F60490</u>
Vehicle Log Page(s)	<u>On request</u>
Zero Mile Book Page(s)	<u>On request</u>
Maint. Logs & Engr. Eval.	<u>On request</u>

2019 Model Year Certification Review Sheet  
Passenger Cars, Light Duty Truck and Medium Duty Vehicles

Manufacturer: Jaguar Land Rover Limited  
 Test Group: KJLXT00.0TZA  
 Evaporative Family: NA

Emission Data Vehicle ID <sup>(3)</sup>	Engine Code & Displ.	Test Loc.	Trans	ETW [ lb. ]	TRLHP <sub>50</sub> [ hp ]	CITY		HWY	
						MPGe	CO <sub>2</sub> (g/m)	MPGe	CO <sub>2</sub> (g/m)
F60490-00	0.0D7E-19, 0.0 litre	MAN	1	5000	15.2	114.8977	0	103.6375	0
						EPA Test No. KJLX10056029		KJLX10055282	
F60490-01	0.0D7E-19, 0.0 litre	EPA	1	5250	15.8	113.9537	0	103.5355	0
						EPA Test No. KJLX10056202		KJLX10056203	



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### 17.5.5. Environmental Performance Label for Test Group KJLXT00.0TZA

Greenhouse gas values are generated in accordance with the EPA Greenhouse gas rules.

#### Method for Calculation of CO<sub>2</sub> Equivalent Value & GHG score:

CO<sub>2</sub>- Equivalent Value = Zero (Battery electric, no fuel fired heater)

CO<sub>2</sub> equivalent emissions values calculated according to 3(a)(1)(A) of the CALIFORNIA ENVIRONMENTAL PERFORMANCE LABEL SPECIFICATIONS FOR 2009 AND SUBSEQUENT MODEL YEAR PASSENGER CARS, LIGHT-DUTY TRUCKS, AND MEDIUM-DUTY PASSENGER VEHICLES Adopted: May 2, 2008 and Title 13, California Code of Regulations, Section § 1961.1(a)(1)(B)

Global Warming Scores are selected from the table in 3(c) in the same section.

Smog score for Test Group KJLXT00.0TZA = 10 (ZEV)

Global warming score for Test Group KJLXT00.0TZA = 10

#### Environmental Performance Label

Jaguar Land Rover products for the 2019 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.

#### California ZEV Credits

ZEV Credit = (0.01) \* (UDDS range) + 0.50

Must have at least 50 miles range.  
Maximum of 4.0 credits per ZEV.

Vehicle	EPA Test Reference	UDDS Range (miles)	ZEV Credits
I-PACE S	KJLX10056029	354.45	4.00
I-PACE SE & HSE	KJLX10056202	340.18	3.90







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17.7. Exhaust and Evaporative Standards to which this test group is certified  
Applicable Standards: ZEV LDT2



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**18. Revision Log**

<u>Revision No.</u>	<u>Revision Date</u>	<u>Pages Affected</u>	<u>Description of Revision</u>
001	10/09/2018	1	Test numbers updated following EPA confirmatory test.
		5 - 8	Second vehicle configuration added.
		11 -12	5,000 lb MCT results UDSS test reference corrected. 5,250 lb MCT results updated with EPA data.
		9 & 34	Test numbers updated following EPA confirmatory test.
		35	ZEV credit updated following EPA test.

REVISED: 10/09/2018