## STATE OF CALIFORNIA CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY CALIFORNIA AIR RESOURCES BOARD MOBILE SOURCES CERTIFICATION AND COMPLIANCE FEE PAYMENT FORM FOR ON-ROAD MODEL YEAR 2023 APPLICATIONS; CALENDAR YEAR 2022 APPLICATIONS ONLY ECCDINVEPB-010 (NEW. 03/2022) WORKSHEET 1 OF 1

#### CARB USE ONLY

Invoice Name:	MSFI210147
Invoice Date:	June 2, 2022
	COMPANY INFORMATION

COMIT ANT THE CIVILATIO

Company Name:	Ford Motor Compay
Street Address:	1 American Road
City, State, Zip:	Dearborn, MI, 48126-2798
Country:	United States
Contact Name:	Tina Oliver
Contact Telephone Number:	1-313-3238938
Contact E-mail:	toliver@ford.com
FI\$Cal Account Number:	CCAM000031

#### PRODUCT INFORMATION

			PRODUCT INFORMATION			
Payment Row Number	Product Description or file name	Model Year/Calendar Year	Unique Application Identifier: Test Group, Engine Family, Trailer Family name, Vehicle Family, 2F Family, if applicable (ID listed in payment row must match the unique identifier given to the certification application)	Category Type (drop down)	Fee Type (drop down)	Amount
1	23_CBI_ PFMXT01.52X1_APPIPT1	Model Year 2023	PFMXT01.52X1	A.1 Light-duty vehicle test group and medium-duty vehicle test group	Base	\$23,255
	23 CBI			A.1 Light-duty vehicle test group and medium-duty vehicle		
2	PFMXT02.52F1_APPIPT1	Model Year 2023	PFMXT02.52F1	test group  A.1 Light-duty vehicle test group and	Base	\$23,255
3	23_CBI_ PFMXT02.52P1_APPIPT1	Model Year 2023	PFMXT02.52P1	medium-duty vehicle test group A.1 Light-duty vehicle	Base	\$23,255
4	23_CBI_ PFMXT02.02Y1_APPIPT1	Model Year 2023	PFMXT02.02Y1	test group and medium-duty vehicle test group	Base	\$23,255
	23 CBI	Wodel Teal 2023	FTWA102.0211	A.1 Light-duty vehicle test group and medium-duty vehicle	Dase	φ23,233
5	PFMXT02.53CE_APPIPT1	Model Year 2023	PFMXT02.53CE	test group  A.1 Light-duty vehicle test group and	Base	\$23,255
6	OPCARRYOVER_23_CBI_ PFMXT01.52X2_APPIPT1	Model Year 2023	PFMXT01.52X2	medium-duty vehicle test group A.1 Light-duty vehicle	Partial Carry-Over	\$11,627
7	23_CBI_ PFMXT02.0S7B_APPIPT1	Model Year 2023	PFMXT02.0S7B	test group and medium-duty vehicle test group A.1 Light-duty vehicle	Base	\$23,255
8	OPCARRYOVER_23_CBI_ PFMXT02.52B2_APPIPT1	Model Year 2023	PFMXT02.52B2	test group and medium-duty vehicle test group A.1 Light-duty vehicle	Partial Carry-Over	\$11,627
9	OPCARRYOVER_23_CBI_ PFMXT02.73JK_APPIPT1	Model Year 2023	PFMXT02.73JK	test group and medium-duty vehicle test group A.1 Light-duty vehicle	Partial Carry-Over	\$11,627
10	OPCARRYOVER_23_CBI_ PFMXT03.54JK_APPIPT1	Model Year 2023	PFMXT03.54JK	test group and medium-duty vehicle test group	Partial Carry-Over	\$11,627
11	OPCARRYOVER_23_CBI_ PFMXT03.51F1_APPIPT1	Model Year 2023	PFMXT03.51F1	A.1 Light-duty vehicle test group and medium-duty vehicle test group A.1 Light-duty vehicle	Partial Carry-Over	\$11,627
12	OPCARRYOVER_23_CBI_ PFMXT03.54JM_APPIPT1	Model Year 2023	PFMXT03.54JM	test group and medium-duty vehicle test group	Partial Carry-Over	\$11,627
13	OPCARRYOVER_23_CBI_ PFMXT03.57AT_APPIPT1	Model Year 2023	PFMXT03.57AT	A.1 Light-duty vehicle test group and medium-duty vehicle test group	Partial Carry-Over	\$11,627
14	OPCARRYOVER_23_CBI_ PFMXT05.03DP_APPIPT1	Model Year 2023	PFMXT05.03DP	A.1 Light-duty vehicle test group and medium-duty vehicle test group	Partial Carry-Over	\$11,627
15	PCARRYOVER_23_CBI_ PFMXT00.0BG2_APPIPT1	Model Year 2023	PFMXT00.0BG2	A.1 Light-duty vehicle test group and medium-duty vehicle test group	Zero-Emission	\$11,627
16	23_CBI_ PFMXT05.2AHS_APPIPT1	Model Year 2023	PFMXT05.2AHS	A.1 Light-duty vehicle test group and medium-duty vehicle test group	Base	\$23,255
	OPCARRYOVER_23_CBI_			A.1 Light-duty vehicle test group and medium-duty vehicle		
17	PFMXT02.02NP_APPIPT1  OPCARRYOVER_23_CBI_	Model Year 2023	PFMXT02.02NP	test group  A.1 Light-duty vehicle test group and medium-duty vehicle	Partial Carry-Over	\$11,627
18	PFMXT02.02JU_APPIPT1  OPCARRYOVER 23 CBI	Model Year 2023	PFMXT02.02JU	test group  A.1 Light-duty vehicle test group and medium-duty vehicle	Partial Carry-Over	\$11,627
19	PFMXT02.72JQ_APPIPT1	Model Year 2023	PFMXT02.72JQ	test group  A.1 Light-duty vehicle test group and	Partial Carry-Over	\$11,627
20	PCARRYOVER_23_CBI_ PFMXT00.0BG1_APPIPT1	Model Year 2023	PFMXT00.0BG1	medium-duty vehicle test group	Zero-Emission	\$11,627

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Total Due \$313,936

I, X Wade Witte
Responsible Party Signature Here

, attest that any information provided is true, accurate, and complete.

Signed by: wwitte





#### FORD MOTOR COMPANY

#### **APPLICATION FOR CERTIFICATION – PART 1**

2023 Model Year

**Test Group:** PFMXT00.0BG1 **Durability Group:** PFMXEEVNNG1G

**Evap. Family:** N/A

**Test Group Description**: LDT4

**Durability Group Description:** Battery Electric

**Application Standards:** Federal: Tier 3 Bin 0

California: ZEV

**Car Line Covered** F-150 LIGHTNING (Standard Range)

#### **Vehicle Tested:**

Range Test Vehicle NFD1-0.0-J-554 Config. 0		
Charge Depleting UDDS TN:	NFMX10071664	
Charge Depleting Highway TN:	NFMX10071665	

**Application Release Date: November 14, 2022** 

For Questions, Contact: Ever Diaz, ediaz48@ford.com (+52-662-461-7079)



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- 3.2 Battery and Vehicle Pre-Conditioning Procedures

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#### 18. Application Revisions

#### 3. Facilities, Equipment and Test Procedures

The facilities and equipment comply with the related regulations, including 40 CFR Subpart B, §86.108-00(b)(2) [Oct. 22, 1996]

Equipment: 48 inch, single roll electric dynamometer

Regenerative Braking: Enabled

Vehicle & Battery break in Period: 2600 mile accumulated on this vehicle / battery

before test.

Tested according to "California Exhaust

Range Test Procedure:

Emission Standards and Test Procedures for 2009 and Subsequent Model Zero-Emission

Vehicles, and 2001 and Subsequent Model
Hybrid Electric Vehicles, in the Passenger Car,
Light Duty Truck and Medium-Duty Vehicle
Classes", which was adopted on December 17,

2008.

Test Procedure Used:

Tested using the Multi Cycle Test (MCT)

sequence as stated in SAE International's "Surface Vehicle Recommended Practice"

J1634 Oct. 2012.

#### 3.1 Procedure to Determine Mass Emissions of Fuel Fired Heater

Not applicable since Fuel Fired Heater not offered for this vehicle by Ford.

#### 3.2 Battery and Vehicle Pre-Conditioning Procedures

The HV battery and vehicle does not require any pre-conditioning to enable the vehicle system. However, Ford decided to have the test vehicle accumulated 2600 miles on proving ground track prior to testing.

1

Test Group: PFMXT00.0BG1

Issued: 07/05/2022

#### 4 Reserved

Test Group: PFMXT00.0BG1

Issued: 07/05/2022

Revised:

#### 5 Reserved

Test Group: PFMXT00.0BG1

Issued: 07/05/2022

Revised:

#### 6 Maintenance

#### **6.1 Test Vehicle Scheduled Maintenance**

Not applicable (same as "Recommended Customer Maintenance Schedule" found in next section).

#### **6.2 Recommended Customer Maintenance Schedule**

Ford's recommended maintenance schedule can be found in the owners guide.

Test Group: PFMXT00.0BG1

Issued: 07/05/2022

Revised:

#### 7 Labels

#### 7.1 Label Locations and Labels

The Vehicle Emissions Control Information label (VECI) is located on the underside of the hood. See attachment for this vehicle's VECI label.

The Fuel Economy Label is installed on the passenger side front door. The Monroney Label now includes the EPA/DOT Fuel Economy and Environment Section (GHG, Smog Rating) based on the template published by EPA in May 2011. See attachment for label template to be used for this vehicle (The real FE label for this vehicle is not available at this time). The California Environmental Performance Label will be included on the vehicle. Please see section 17.2.3 for values.

#### 7.2 Statement of Compliance

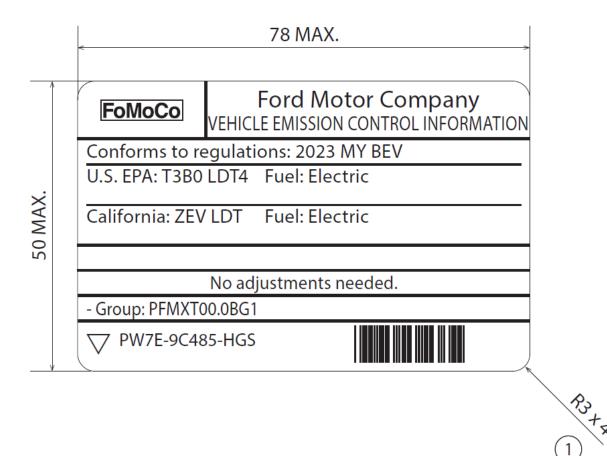
This vehicle conforms to US EPA Tier 3 Bin 0 vehicle regulations applicable to 2023 model year new motor vehicles and to California regulations applicable to 2023 model year new ZEV light-duty vehicles.

Test Group: PFMXT00.0BG1 1 Section 7

Issued: 07/05/2022

# PFMXT00.0BG1 50 State VECI LABEL

Ford Battery Electric Vehicle



Test Group: PFMXT00.0BG1

Issued: 07/11/2022

#### 9 Reserved

Test Group: PFMXT00.0BG1

1

Issued: 07/05/2022

#### 10 Reserved

Test Group: PFMXT00.0BG1

1

Issued: 07/05/2022

#### 11 Starting and Shifting Schedules

#### 11.1 Starting Procedure

Please refer to Owner's Guide for starting procedure.

#### 11.2 Shifting Schedule

This vehicle uses an automatic shifter as in a conventional automatic transmission vehicle (move lever to "D" for Drive or "R" for Reverse) and since the vehicle uses a single ratio gearbox, there is no shift schedule.

1

Test Group: PFMXT00.0BG1

Issued: 07/05/2022

#### 12 Description of Vehicles Covered by Certificate

#### 12.1 Calibration Parts List

Cert. Level	Calibrations	PCM	HPCM	BECM	BCCM	ABS	Date
Cert. Level	Calibrations	-12A650-	-7P120-	-10B687-	-10B689-	-2C219-	Date
	PTFDC0NA05	PPL3A-BB	PNL38-AVH	NL38-BG	PNL38-FH	PL38-AA	04/07/2022
	PTFDC0NB05	PPL3A-KB	PNL38-AUH	NL38-BG	PNL38-FH	PL38-AA	04/07/2022
	PTFDC0NC05	PPL3A-FB	PNL38-AVH	NL38-BG	PNL38-FH	PL38-AA	04/07/2022
Initial	PTFDC0ND05	PPL3A-EB	PNL38-AUH	NL38-BG	PNL38-FH	PL38-AA	04/07/2022
Application	PTFDC0NA06	PPL3A-BC	PNL38-AVH	NL38-BG	PNL38-FH	PL38-AA	05/18/2022
	PTFDC0NB06	PPL3A-KC	PNL38-AUH	NL38-BG	PNL38-FH	PL38-AA	05/18/2022
	PTFDC0NC06	PPL3A-FC	PNL38-AVH	NL38-BG	PNL38-FH	PL38-AA	05/18/2022
	PTFDC0ND06	PPL3A-EC	PNL38-AUH	NL38-BG	PNL38-FH	PL38-AA	05/18/2022

HV Battery Assembly: NL38-10B759-EA

PDU (Primary Drive Unit): NL38-7P500-AA

Secondary Drive Unit (SDU): NL38-7B000-AA

Note:

#### 12.2 Vehicle Description Report

See page attached.

Test Group: PFMXT00.0BG1

Issued: 08/11/2022

## Ford Motor Company North American Compliance Suite

#### **Vehicle Description Report**

Application: 50ST

Test Group: PFMXT00.0BG1

ID Number	5030882	5030883	5030884	5030886
Displacement	0.0	0.0	0.0	0.0
Calibration	PTFDC0NA05	PTFDC0NB05	PTFDC0NC05	PTFDC0ND05
Fuel Tank(s)				
Carline	F150 PICKUP LIGHTNING 4WD	F150 PICKUP LIGHTNING 4WD	F150 PICKUP LIGHTNING 4WD	F150 PICKUP LIGHTNING 4WD
Wheel Configuration	Standard	Standard	Standard	Standard
Body Style	Super Crew	Super Crew	Super Crew	Super Crew
Wheelbase	145.0	145.0	145.0	145.0
Transcode Combo	AA	AA	AA	AA
Curb Weight	6264	6264	6264	6264
ETW	6500	6500	6500	6500
Loaded Weight LVW	6564	6564	6564	6564
ALVW-ETW	7500	7500	7500	7500
Adj. Loaded Weight	7257	7257	7257	7257
GVWR	8250	8250	8250	8250
Min Axle Ratio	9.72	9.72	9.72	9.72
Max Axle Ratio	9.72	9.72	9.72	9.72
Min N/V Ratio	105.2	105.2	102.3	102.3
Max N/V Ratio	105.2	105.2	102.3	102.3
Emission Vehicle Class	LDT4	LDT4	LDT4	LDT4
Drive Code	All Wheel Drive	All Wheel Drive	All Wheel Drive	All Wheel Drive
Trans Type	Automatic	Automatic	Automatic	Automatic
Calibration Application	50ST	50ST	50ST	50ST
Min Tire Size	275/65R18 - 105	275/65R18 - 105	275/60R20 - 102	275/60R20 - 102
Max Tire Size	275/65R18 - 105	275/65R18 - 105	275/60R20 - 102	275/60R20 - 102
Alt Tire 1				
Alt Tire 2				
Alt Tire 3				
Alt Tire 4				
Alt Tire 5				
Alt Tire 6				
Alt Tire 7				
DAW Full Tank	3063	3063	3063	3063
DAW Empty Tank	3063	3063	3063	3063

Record Type : Confidential

#### Ford Motor Company North American Compliance Suite

#### **Vehicle Description Report**

Application: 50ST

Test Group: PFMXT00.0BG1

ID Number	5033275	5033276	5033277	5033279
Displacement	0.0	0.0	0.0	0.0
Calibration	PTFDC0NA06	PTFDC0NB06	PTFDC0NC06	PTFDC0ND06
Fuel Tank(s)				
Carline	F150 PICKUP LIGHTNING 4WD	F150 PICKUP LIGHTNING 4WD	F150 PICKUP LIGHTNING 4WD	F150 PICKUP LIGHTNING 4WD
Wheel Configuration	Standard	Standard	Standard	Standard
Body Style	Super Crew	Super Crew	Super Crew	Super Crew
Wheelbase	145.0	145.0	145.0	145.0
Transcode Combo	AA	AA	AA	AA
Curb Weight	6264	6264	6264	6264
ETW	6500	6500	6500	6500
Loaded Weight LVW	6564	6564	6564	6564
ALVW-ETW	7500	7500	7500	7500
Adj. Loaded Weight	7257	7257	7257	7257
GVWR	8250	8250	8250	8250
Min Axle Ratio	9.72	9.72	9.72	9.72
Max Axle Ratio	9.72	9.72	9.72	9.72
Min N/V Ratio	105.2	105.2	102.3	102.3
Max N/V Ratio	105.2	105.2	102.3	102.3
Emission Vehicle Class	LDT4	LDT4	LDT4	LDT4
Drive Code	All Wheel Drive	All Wheel Drive	All Wheel Drive	All Wheel Drive
Trans Type	Automatic	Automatic	Automatic	Automatic
Calibration Application	50ST	50ST	50ST	50ST
Min Tire Size	275/65R18 - 105	275/65R18 - 105	275/60R20 - 102	275/60R20 - 102
Max Tire Size	275/65R18 - 105	275/65R18 - 105	275/60R20 - 102	275/60R20 - 102
Alt Tire 1				
Alt Tire 2				
Alt Tire 3				
Alt Tire 4				
Alt Tire 5				
Alt Tire 6				
Alt Tire 7				
DAW Full Tank	3063	3063	3063	3063
DAW Empty Tank	3063	3063	3063	3063

Time: 11:08 AM

#### 13 Reserved

Test Group: PFMXT00.0BG1

Issued: 07/08/2022

Revised:

#### 14 **Request for Certificate**

Test Group: PFMXT00.0BG1 Issued: 07/11/2022

Revised:



### Vehicle Environmental Engineering Ford Motor Company

Allen Park Test Laboratory 1500 Enterprise Drive, Suite 3W-200 Allen Park, Michigan 48101-2053

Aug 15th, 2022

Mr. Robert Peavyhouse Certification Division Mobile Source Pollution Control U. S. Environmental Protection Agency 2000 Traverwood Drive Ann Arbor, Michigan 48105

Dear Mr. Peavyhouse:

Ford Motor Company (Ford) herewith submits its Part I Application for Certification for 2023 model year battery electric-powered light-duty trucks (LDT4) contained in Ford's 50 states test group PFMXT00.0BG1.

This Test Group complies with EPA final Tier 3 Bin 0 certification and in-use exhaust emission standards. Evaporative emission is not applicable to BEV program.

Based on Ford Motor Company's good engineering judgment, all the vehicles described in this application are designed to comply with the applicable intermediate and full useful life standards. Please note that Ford is currently investigating its process for characterizing road load force specifications, and it is possible that road load specification information may be revised as a result of the investigation. As of the date of this signature, I certify that this document was prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the prepared information. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information contained in this document used in the development of the road load force specifications is, to the best of my knowledge and belief, true, accurate, and complete.

This Part I application for certification has been prepared in accordance with the standardized format recommended by EPA via its mail out # CD-14-19 (LDV/LDT/ICI/LIMO), subject: "Certification Application Reporting Guidance", dated November 24, 2014. Therefore, in accordance with the provisions of 40 CFR 86.1844-01(d)(14) including the provisions of 40 CFR Parts 85, 86 and 600, Ford requests that a Certificate of Conformity be issued for the LDV test group listed in this Application for Certification.

Please contact Ever Diaz at +52-662-461-7079 or ediaz48@ford.com, if you have any questions regarding this submission.

Sincerely,

—Docusigned by: Gretchen Jobel

Glen Heiser, Manager

Manager, Emissions Certification, Homologation & Compliance Vehicle Homologation & Compliance, SE&SE



## Vehicle Environmental Engineering Ford Motor Company

Allen Park Test Laboratory 1500 Enterprise Drive, Suite 3W200 Allen Park, Michigan 48101- 2053

Aug 15<sup>th</sup>, 2022

Ms. Robin U. Lang, Chief Emissions Compliance, Automotive Regulations and Science Division Air Resources Board 4001 Iowa Ave Riverside, CA 92507

Dear Ms. Robin U. Lang:

Ford Motor Company (Ford) herewith submits an Application for Certification for 2023 model year battery electric-powered light duty trucks (LDT) contained in Ford's 50 states test group PFMXT00.0BG1.

This Test Group complies with CARB ZEV emissions standards. Evaporative emission is not applicable to BEV program.

Based on Ford Motor Company's good engineering judgment, all the vehicles described in this application are designed to comply with the applicable intermediate and full useful life standards. Please note that Ford is currently investigating its process for characterizing road load force specifications, and it is possible that road load specification information may be revised as a result of the investigation. As of the date of this signature, I certify that this document was prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the prepared information. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information contained in this document used in the development of the road load force specifications is, to the best of my knowledge and belief, true, accurate, and complete.

This Part I application for certification has been prepared in accordance with the standardized format recommended by EPA via its mail out # CD-14-19 (LDV/LDT/ICI/LIMO), subject: "Certification Application Reporting Guidance", dated November 24, 2014. This Application has also been prepared in accordance with the California Air Resources Board, Final Regulation Order, Amendments to Sections 1960.1, 1960.5, 1961, and 1962 Title 13, California Code of Regulations (As Amended August 4, 2005). Therefore, in accordance with the provisions of 40 CFR 86.1844-01(d)(14) including the provisions of 40 CFR Parts 85, 86 and 600, Ford requests that an Executive Order be issued for the PC test group listed in this Application for Certification.

Additionally, Ford Motor Company is requesting the Air Resources Board approve the following Partial Carryover Application for PFMXT00.0BG1 based on Partial Carryover data from NFMXT00.0BG1 and Executive Order number A-010-2401. By signing this letter, Ford Motor Company is certifying that this model year's application package:

- 1. Includes no change of the emission standards/FELs, regulation requirements, emission characteristics of the engine, or test procedures requirements.
- 2. The 2023 application package differs from the 2022 application package only by:

oxtimes Mode	el year
	Group/Engine/Vehicle/Evaporative family name (typically the first
characte	er)
☐ Manu	rfacturer contact information
⊠ Proje	cted sales data
☐ Mode	el information (may only add models if the certification emission levels are
not chan	nged)
⊠ Part r	numbers (durable to full useful life and no impact on certification emission
levels)	·
☐ Fauin	oment types (i.e. crane, dozer, generator, etc.)
	, , , , , , , , , , , , , , , , , , ,

- 3. All other information in the 2023 application package is identical to the 2022 application package (incorporates all approved running changes to date).
- 4. The application package is complete and named correctly using the appropriate Document Management System (DMS) file and workflow naming conventions and submitted using the correct workflow process.

Please contact Ever Diaz at +52-662-4617079 or <a href="ediaz48@ford.com">ediaz48@ford.com</a>, if you have any questions regarding this submission.

Sincerely,

—Docusigned by: Gretchen Jobel

Gien Heißer, 19 anager

Manager, Emissions Certification, Homologation & Compliance Vehicle Homologation & Compliance, SE&SE

Cc S. Hada, M. Desai

#### 15 Other Information

15.1 Fee Filing Form

Test Group: PFMXT00.0BG1

Issued: 07/11/2022

Revised:

#### DocuSign Envelope ID: E4C6A4F3-76D6-4298-B764-FB43387B3530

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					(North	America)			TEL NO.	000147		
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Environm	ental Protect	ion Agency-MVI	ECP								Υ	
		nt Lockbox 9790	032					Supplier Code	CCAPS Plant Code	Due Date	Currency	Amount
The reque banking ir	stor is respo	SL-MO-C2-GL insible to ensure hether the paym SEMENT	e the suppl	ouis, MI 631 ier code ha ig by check	e corroct o	ompany name, nically by ACH.	remit to and/or	GXHSA	10	ASAP		312,895.0
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COMMENT	TS (Shown or	n Remittance Adv	ice/Not to in	clude PII)								
					T02.34K1, F	PFMXT02.34K2, P	PFMXV00.0B34, PF	MXT02.33MC, PFMX	T02.02Y1, PFMXT02.52	2B2, PFMXT00.0	BG1, PFMXT0	5.2AHS,
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YPE OF IN	NVOICE:			- - Check if	Price Va Supporte	lidation ed by invoice item is on	Corporate A	pproval Author	rities - Method of			
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reparer/Ro-	Bia	CDS ID TOLIVE	3.	Check if For Final	Price Va Supporte payment nce Appr	lidation ed by invoice item is on oval follow  Date 5/5/2022	Corporate A MANUAL PAYM CATEGORY (us with Alt+down a	pproval Author ENT REQUEST e drop down In Dow keyl: perations Appro- 324454DCB	Legal Matters Environ  the by:  Dividing Receipt of  History  Hist	mental Fees	À	Date 5/5/2022
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reparer/Ro questor nance .5+ Plant Control	S) ( U) Paymen	CDS ID  TOLIVE  TOLIVE	3.	Sign  Approv	Price Va Supports payment nce Appr als per C Receby:	Date 5/5/2022	Uses of Man  Corporate A  MANUAL PAYM  CATEGORY (us with Alt-down as  oroval Authori  Find Authori  Find Authori  Find Authori  September 1, 15 and 1	ual Payment Rec DPTOVAL Author ENT REQUEST of drop down IFOW keys igner oegations Approval -324454DCB ties - Method o Payment Item	rities - Method of Legal Matters - Environ d by:  oval - Receipt of USEB OF CASE AS	mental Fees  Service  Sign  anual Payment  Sign		5/5/2022
reparer/Requestor questor nance .5+ Plant Control limited	S) ( U) Paymen	CDS ID  TOLIVE  TOLIVE	3.	Sign  Approv	Price Va Supports payment nce Appr  als per C Recurbly: D5DAO	Date 5/5/2022 Date 5/5/2022 Date 0/5/5/2022	Uses of Man  Corporate Manual PAYM  CATEGORY (us with Alk-down a  Oroval Authori  Find California this 515/09/adjing this	puproval Author pproval Author pproval Author pproval Author por	Legal Matters Environ  I by:  Doval - Receipt of  CHESER  23E436  If Payment  is not on Uses of M	mental Fees  Service  Sign  anual Payment  Sign		5/5/2022
reparer/Requestor questor nance .5+ Plant Control limited	S) ( U) Paymen	CDS ID  TOLIVE  TOLIVE	3.	Sign  Approv	Price Va Supports payment nce Appr  als per C Resubly: D5DAO	Date 5/5/2022  Corporate App Date 5/5/2022  Corporate App Date 5/5/2022  Or poration and any effort must the service of the se	Uses of Man  Corporate A  MANUAL PAYM  CATEGORY (us with Alt-down as  oroval Authori  Find Authori  Find Authori  Find Authori  September 1, 15 and 1	part Payment Reproval Authorization Reproval Authorization Reproval Authorization Reproval Re	rities - Method of Legal Matters - Environ d by:  oval - Receipt of USEB OF CASE AS	mental Fees  Service  Sign  anual Payment  Sign		5/5/202

Engine Family / Evaporative Family / Test Group

#### **US EPA Fee Form**

Ever Diaz (+52) 662-461-7079

Help and EPA Instructions

Tracking information

\* Required Field

Pay.gov Tracking ID: 2701527E Agency Tracking ID: 76236891159

Date: 05/05/2022	
Process Code *	
Submit New Fee Filing Form	•
Manufacturer Code *	
FMX	
Manufacturer Name *	
Ford Motor Company	
Contact Name *	
Tina Oliver	
Contact Email Address *	Contact Phone *
toliver@ford.com	313-323-8938
Calendar Year complete application submitted to EPA *	
2022 \$	

\$28,445.00

Certificate Request Type (Industry Sector Code)
Certificate Request Type *
On-Highway LDV, LTD, MDVPV, HDV Chassis Cert (Federal) (A, B, D, J, T, V)
On-Highway HDE Dyno Cert (Federal) (E, H)
On-Highway LD ICI, MDPV ICI, HDV ICI (A, B, D, J, T, V)
On-Highway Motorcycle (C)
On-Highway HDV Evap (F)
On-Highway LDV, LTD, MDVPV, HDV Chassis Cert (California-Only) (A, B, D, J, T, V)
On-Highway HDE Dyno Cert (California-Only) (E, H)
○ Nonroad CI (L)
Nonroad SI (B, S)
Cocomotive (G, K)
All Nonroad Recreational, excluding Marine engines (X, Y)
All Marine (Including IMO) (M, N, W)
Component Certification for Evaporative Emissions (P)
IMO Name (Required for dual US/IMO Marine Only)
ICI VIN Number (Required for ICIs Only)
Do you qualify for a Reduced Fee? *
No \$
Payment Information
Amount Owed

Payment Type * DocuSign Envelope ID: E4C6A	A4F3-76D6-4298-B764-FB43387	B3530
Offline ACH		2000

Comments

EPA Form Number 3520-29 OMB Control No. 2060-0545 Approval expires 12/31/2022

The public reporting and recordkeeping burden for this collection of information is estimated to average 12 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.

The content of this document may contain Sensitive But Unclassified (SBU) data and/or Controlled Unclassified Information (CUI).

#### 16 Test Results

16.1 EPA Certification Summary Information Report (CSI)

Test Group: PFMXT00.0BG1

1

Issued: 07/11/2022

#### **Certification Summary Information Report**

**Lean Burn Strategy Indicator** 

No

Ford Motor Company	Manufacturer Code	FMX
PFMXT00.0BG1	Evaporative/Refueling Family	
	CARB Executive Order #	
	Certificate Revision Date	
	Conditional Certificate	
	CSI Submission/Revision Date	07/18/2022 01:10:09 PM
2023		
	PFMXT00.0BG1	PFMXT00.0BG1   CARB Executive Order #   Certificate Revision Date   Conditional Certificate   CSI Submission/Revision Date

**Basic Fuel Metering System** 

**Test Group Information** 

CSI Type New Running Change Reference Number -

F-150 Lightning BEV - Standard Range

GHG Exempt Status Not Exempt

**Drive Sources and Fuel(s)** 

**OBD Deficiencies Comments** 

**Mfr Test Group Comments** 

Mfr Exhaust / Evap Standards Comments

**Drive Source #1:** Electric Motor

Fuel

Electricity

Hybrid Indicator	No		
Multiple Fuel Storage		Rechargeable Energy Storage System Indicator	Yes
<b>Multiple Fuel Combustion</b>		Off-board Charge Capable Indicator	Yes
Fuel Cell Indicator	No	EPA Vehicle Class	LDT4
Federal Clean Fuel Vehicle	No	Federal Clean Fuel Vehicle Standard	
Federal Clean Fuel Vehicle ILEV		California Partial Zero Emissions Vehicle Indicator	
<b>Durability Group Name</b>	PFMXEEVNNG1G	<b>Durability Group Equivalency Factor</b>	1.0
Reduced Fee Test Group	No	Certification Region Code(s)	FA, CA
Complies with HD GHG 2b/3 regulations?	No		
<b>Introduction into Commerce Date</b>		CAP2000 Conditional Certificate?	N/A
<b>Independent Commercial Importer?</b>		Alternative Fuel Converter Certificate?	
SFTP Federal Composite Compliance Identifier	Not Applicable	SFTP Tier 2 Composite CO Option	
SFTP LEV-III Composite Compliance Indicator	No		
<b>OBD</b> Compliance Type	CARB	<b>OBD Demonstration Vehicle Test Group</b>	MFMXT02.53CE
Test Group OBD Compliance Level	Full - no deficiencies	Number of Test Group OBD Deficiencies	0

This BEV program does not have OBD compliance requirements. Items filled in for the purpose of passing system validation because they are required fields.

#### **Certification Summary Information Report**

Test Group		PFMXT00.0BG1		Evaporative/Refueling	g Family				
<b>Models Covered by t</b>	this Certificate								
Carline Manufacturer	Division	Carline	Certification Region Code(s)	Drive System	Trans - T	уре	- # of Gears	Tran	s - Lockup
Ford Motor Company	1 - Ford	116 - F150 PICKU LIGHTNING 4W		All Wheel Drive	Automa	tic	1		No
Ford Motor Company	1 - Ford	116 - F150 PICKU LIGHTNING 4W		All Wheel Drive	Automa	tic	1		No
Engine Description									
Hybrid Type				<b>Hybrid Description</b>					
Engine Type				Mfr Engine Description	on				
Engine Block Arrangeme	ent			Mfr Engine Block Arr	angement Descr	ription			
Camless Valvetrain Indic	cator			Oil Viscosity/Classifica	ation				
Number of Cylinders/Ro	tors			Mechanically Variable	e Compression I	Ratio Indicato	r		
After Treatment Dev	vice(s) (ATD)								
Mfr After Treatment De Comments	evice (ATD)								
<b>Direct Ozone Reduction</b>	(DOR) Device								
Mfr Emission Control D	evice Comments								
Official Test Number	ers								
Test Group Fuel F	FTP	US06 SC	CO3 Cold CO	Highway	EPA City Litmus Value	EPA City Litmus Threshold	EPA Highway Litmus Value	EPA Highway Litmus Threshold	CREE Weighting Factor
Electricity									
9 1	Official Charge Depleting Test Numbers								
Test Grou	_		UDDS		Highway				
Electri	icity	NFN	MX10071664	NF	FMX10071665				

#### Certification Summary Information Report

Date: 07/18/2022 01:10:11 PM

Test Group	PFMXT00.0BG1	Evaporative/Refueling Family						
Hybrid Electric Vehicle And Fuel Cell Information								
Rechargable Energy Storage System	Battery(s)	Rechargable Energy Storage System, if Other						
Battery Type	Lithium Ion	Number of Battery Packs	1					
<b>Total Voltage of Battery Packs</b>	378	<b>Battery Energy Capacity</b>	328					
<b>Battery Specific Energy</b>	198	Battery Charger Type	On-Board					
Number of Capacitors		Capacitor Rating (In Farads)						
Mfr Capacitor Comments								
<b>Hydraulic System Description</b>								
Regenerative Braking Type	Electrical Regen Brake							
Regenerative Braking Source	Both	<b>Driver Controlled Regenerative Braking</b>	No					
Mfr Regenerative Braking Description								
Drive Motor(s)/Generator(s)	2							
Motor/Generator Type 1	AC permanent magnet synchronou	Rated Motor/Generator Power	358					
Motor/Generator Type 2	AC permanent magnet synchronou	Rated Motor/Generator Power	358					
Mfr Fuel Cell Description								
Fuel Cell On-Board H2 Storage Capacity (kg)		Usable H2 Fill Capacity (kg)						
Mfr Hybrid Electric/ Electric Vehicle Comments	This is a pure BEV vehicle. The Drive Motors a	are both AC permanent magnet synchronous machines.						

#### **Certification Summary Information Report**

Test Group	PFMXT00.0	BG1		Evaporative/R	efueling Family	
Emission Data Vehicle Informa	tion					
Vehicle ID / Configuration	NFD1-0.0-J	-554 / 0		Manufacturer	Vehicle Configurati	ion Number 0
Original Test Group Name	NFMXT00.0	OBG1			orative/Refueling Fa	
Original Test Vehicle Model Year	2022				_	
Vehicle Model						
Represented Test Vehicle Make	Ford			Represented T	est Vehicle Model	F-150 Lightning
Leak Family Details						
Leak Family Identifier				Leak Family N	ame	
Drive Sources and Fuel System	Details					
Drivo	Source and Fuel#		Dei	ve Source		Fuel
Drive	1			tric Motor		Electricity
	1		Elec	THE IMPOUNT	1	Licentity
Hybrid Indicator	No					
Multiple Fuel Storage				Multiple Fuel	Combustion	
Tuel Cell Indicator	No		Rechargeable Energy Storage System Indicator		tem Indicator Yes	
Rechargeable Energy Storage System	Battery(s)		Rechargeable Energy Storage System, if 'Other'		tem, if 'Other'	
Off-board charge Capable Indicator	Yes					
Odometer Correction Initial	0		<b>Odometer Correction Factor</b>		1.03	
Odometer Correction Sign	+ = System	Miles is equal to (	Test odometer re	ading * Correction	factor) + Initial syste	em miles
Odometer Correction Units	Miles					
Engine Code	NTFDAAN	A05		Rated Horsepo	wer	480
Displacement (liters)	0.001					
Air Aspiration Method	Naturally Aspirated			Air Aspiration	Method, if 'Other'	N/A - BEV
Number of Air Aspiration Devices				Air Aspiration	Device Configurati	ion
Charge Air Cooler Type	N/A			Drive Mode W	All Wheel Drive	
Shift Indicator Light Usage	Not eqipped	Not eqipped		<b>Aged Emission Components</b>		4,000 (mi)
Curb Weight (lbs)	6264			<b>Equivalent Test Weight (pounds)</b>		6500
GVWR (lbs)	8250			N/V Ratio		40.4
Axle Ratio	3.55					
Transmission Type	Electric Veh	icle		# of Transmission Gears		1
Transmission Lockup	No			Creeper Gear		No
Dynamometer Coefficients:						
	<b>Target Coefficients</b>			Set Coefficients		
Coefficient	_	C (lbf/mph**2)	A (lbf)	B (lbf/mph)	C (lbf/mph**2)	EPA Calculated Total Road Load Horse Power for City/Highway/Evap Coefficients
Category A (lbf)						

#### **Certification Summary Information Report**

Test Group	PFMXT00.0BG1	Evaporative/Refueling Family	
Manufacturer Test Vehicle Comments			
Test #	NFMX10071664	<b>Test Procedure</b>	81 - Charge Depleting UDDS
Exhaust Test # for this Evap Test		Test Fuel Type	62 - Electricity
Test Date	09/17/2021	Fuel	Electricity
Fuel Batch ID		Fuel Calibration Number	
Vehicle Class	LDV/Passenger Car	DF Type	Mfr. Assigned
Verify Test Lab ID	APTL		
E10 Evaporative Test Measurement Method			
Test Start Odometer Reading	2622	<b>Odometer Units</b>	M
4WD Test Dyno	Yes	Diesel Adjustment Factor Usage	
State of Charge Delta	Yes		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	Yes
PHEV/EV Charge Depleting Test Inf	formation		
Recharge Event Voltage	240	Recharge Event Energy (kiloWatt-hours)	114.5
Charge Depleting Range (Calculated miles)	367.4	<b>Charge Depleting Range (Actual miles)</b>	367.4
All Electric Range Unadjusted (miles)		Derived 5-Cycle Coefficient Model Year	
<b>Equivalent All Electric Range (miles)</b>	367.4		
Number of Charge Depleting Bags/Phases Conducted	1	Transition Bag/Phase Number	

#### **Charge Depleting Bag/Phase**

Charge Depleting Bag/Phase #	Test Result/Emission Name	Unrounded Test Result
1	Carbon-Related Exhaust Emissions	0
2	Drive Trace Absolute Speed Change Rating	2.83
3	Drive Trace Energy Economy Rating	1.31
4	Drive Trace Inertia Work Ratio Rating	4.84
5	Manufacturer Fuel Economy	108.1

#### **Manufacturer Test Comments**

Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	RAF	NMOG/NM HC Ratio	Adjustment Factor	Add DF	Mult DF	Certification Level	Standard	Pass/Fail
Fed	150,000 miles	Federal Tier 3 Bin 0	CREE	0				0		0		
CA	150,000 miles	California ZEV	CREE	0				0		0		

#### **Certification Summary Information Report**

Test Group	PFMXT00.0BG1	Evaporative/Refueling Family	
Test #	NFMX10071665	Test Procedure	84 - Charge Depleting Highway
Exhaust Test # for this Evap Test		Test Fuel Type	62 - Electricity
Test Date	09/17/2021	Fuel	Electricity
Fuel Batch ID		Fuel Calibration Number	
Vehicle Class	LDV/Passenger Car	DF Type	Mfr. Assigned
Verify Test Lab ID	APTL		
E10 Evaporative Test Measurement Method			
<b>Test Start Odometer Reading</b>	2622	<b>Odometer Units</b>	M
4WD Test Dyno	Yes	Diesel Adjustment Factor Usage	
State of Charge Delta	Yes		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	Yes
PHEV/EV Charge Depleting Test Int	formation		
Recharge Event Voltage	240	Recharge Event Energy (kiloWatt-hours)	114.5
Charge Depleting Range (Calculated miles)	289	Charge Depleting Range (Actual miles)	289
All Electric Range Unadjusted (miles)		Derived 5-Cycle Coefficient Model Year	
<b>Equivalent All Electric Range (miles)</b>	289		
Number of Charge Depleting Bags/Phases Conducted	1	Transition Bag/Phase Number	

#### **Charge Depleting Bag/Phase**

Charge Depleting Bag/Phase #	Test Result/Emission Name	Unrounded Test Result
1	Carbon-Related Exhaust Emissions	0
2	Drive Trace Absolute Speed Change Rating	2.83
3	Drive Trace Energy Economy Rating	1.31
4	Drive Trace Inertia Work Ratio Rating	4.84
5	Manufacturer Fuel Economy	85

Manufacturer Test Comments -

Certification				Rounded		NMOG/NM	Diesel Adjustment			Certification		
Region	Useful Life	Standard Level	Emission Name	Result	RAF	HC Ratio	Factor	Add DF	Mult DF	Level	Standard	Pass/Fail
Fed	150,000 miles	Federal Tier 3 Bin 0	CREE	0	1			0		0		
CA	150,000 miles	California ZEV	CREE	0				0		0		

#### **Fuel Properties**

#### **Certification Summary Information Report**

Test Group		PFMXT00.0BG1		Evapora	tive/Refueling Fam	ily			
			Consolid	ated List of St	andards				
Exhaust Standard	s								
Cert Region		California + CAA Section	n 177 states	Cert/In-	Use Code		Both	h	
Vehicle Class		LDV/Passenger Car	nger Car Standard Level				Cali	fornia ZEV	
Fuel		Electricity		Test Procedure		Cha	rge Depleting UE	DDS	
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	CREE							0	0
Cert Region		Federal		Cont/In 1	Use Code		Botl		
Vehicle Class		LDV/Passenger Car Standard Level						eral Tier 3 Bin 0	
venicie Class Fuel		Electricity	-				rge Depleting UE	פתו	
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	CREE							0	0
ie o,ooo iiiies	SILLE				1			· ·	,
Cert Region		California + CAA Section	n 177 states	Cert/In-	Use Code		Both	h	
Vehicle Class		LDV/Passenger Car		Standard	l Level		Cali	fornia ZEV	
Fuel		Electricity		Test Pro	cedure		Cole	d CO	
Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std
	CO CO				Factor			Add DF 0	0
150,000 miles	CO							0	1 0
Cert Region		California + CAA Section	n 177 states	Cert/In-	Use Code		Boti	h	
Vehicle Class		LDV/Passenger Car		Standard	l Level		Cali	fornia ZEV	
Fuel		Electricity		Test Pro	cedure		Cha	rge Depleting Hig	ghway
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	CREE							0	0

#### **Certification Summary Information Report**

Test Group	PFM	IXT00.0BG1	BG1 Evaporative/Refueling Family						
Cert Region	Fed	eral	Cert/In-Use Code			Both			
Vehicle Class	LDV	//Passenger Car Standard Level			Fed	eral Tier 3 Bin 0			
Fuel	Elec	tricity		Test Proc	edure		Cha	rge Depleting Hig	hway
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	CREE							0	0
Cert Region	Fed	eral		Cert/In-U	Jse Code		Both		
Vehicle Class	LDV	//Passenger Car		Standard	Level		Federal Tier 3 Bin 0		
Fuel	Elec	tricity		Test Proc	edure		Col	d CO	
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	СО							0	0

#### **Certification Summary Information Report**

Test Group	PFMXT00.0BG1	Evaporative/Refueling	g Family
	Gl	ossary	
Useful Life			
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 gases	CO2 BAG 4	Bag 4 Carbon Dioxide
НСНО	Formaldehyde	NMOG+NOX	Non-methane organic gases plus Nitrogen Oxides
Н3С2НО	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)
НС	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
Certification Region			
CA	California + CAA Section 177 states	FA	Federal
Exhaust Emission Star	ndard Level		
B1	Federal Tier 2 Bin 1	L3ULEV340	California LEV-III ULEV340
B2	Federal Tier 2 Bin 2	L3ULEV250	California LEV-III ULEV250
В3	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

Page 9 of 11 CSI Submission/Revision Date: 07/18/2022 01:10:09 PM

#### **Certification Summary Information Report**

Test Group	PFMXT00.0BG1	Evaporative/Refuel	ling 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
Transmission Type Co	de		
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)
Drive System Code			
4	4-Wheel Drive	P	Part-time 4-Wheel Drive
F	2-Wheel Drive, Front	A	All Wheel Drive
R	2-Wheel Drive, Rear		

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Test Group	PFMXT00.0BG1	Evaporative/Refueling Family		
Additional Terms an	d Acronyms			
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	

#### 17 California Requirements

#### 17.1 Statement of Compliance

#### 17.1.1 General Statement

Ford Motor Company states that in regard to the vehicle control systems and all related parameters the production vehicles will be identical to the test vehicles which are used for certification testing.

#### 17.1.2 Drivability Statement

The 2023 model year Ford F-150 Lightning vehicles meet the typical drivability requirements that the United States market expects, including acceleration rates, braking performance and stability performance. Furthermore, this vehicle meets all applicable FMVSS standards.

#### 17.2 Supplemental Data and Certification Review Sheet

#### 17.2.1 Certification Review Sheet

See Attachment.

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## 2023 MY MODEL-YEAR AIR RESOURCES BOARD CERTIFICATION REVIEW SHEET ZEV-PASSENGER CARS, LIGHT-DUTY TRUCKS AND MEDIUM-DUTY VEHICLES

Manufacturer: Ford Motor Company Test Group: PFMXT00.0BG1

Range Test Res	sults							
		(check one)	(check one)			System	System	Vehicle
Vehicle ID	Trans	TW	DPA					DC (Wh/mi)
		ETW / GVWR	RLHP		Unadjusted Range	AC (Wh/mi)	DC (Wh/mi)	
			dyno coeff <u>. X</u>					
			F0 = 44.34	pp			315.63	
NFD1-0.0-J-	CVT	6500	F1 = 0.3345	Ford UDDS	007.40	311.76	275.13	270.99
554	CVI	6300	F2 = 0.03537	Original Test	367.42	311.70	263.57	270.99
			FZ = 0.03337	1631			271.06	
				Ford HWY Original	000.00	200.22	348.85	244.54
				Test	289.02	396.33	340.17	344.51

Battery Test Results: Specific Energy (Whr/kg) <u>198</u>

Vehicle Models	Trans type	Calibration	ETW (lb)	Tires	TRLHP
F-150 Lightning	CVT (single speed)	NTFDAANA05	6500	275/65R18	19.9

Fuel Fired Heater Test Results (emission	on results in grams/mile): NA	
NMHC CO NOx		
Remarks:		
	ARB USE ONLY Date:	
Reviewed by:	Date:	
Test Group: PFMXT00.0BG1 Issued: 07/18/2022	2	Section

#### 17.3 Reserved

#### 17.4 Credits

#### 17.4.1 Description of multi-manufacturer arrangements

Not applicable to this program. Ford is the sole manufacturer of this product.

#### 17.4.2 Credit Calculation

As per the California EPA ARB document: "California Exhaust Emissions Standards ... for 2018 and Subsequent Model Zero-Emission Vehicles...", which was adopted in California on Mar 22, 2012, the 2023 model year F-150 Lightning BEV will receive 4.00 ZEV Credits for each vehicle sold, according to the following formula:

ZEV Credit =

(0.01)\*(UDDS Range)+0.50 = (0.01)\*(367)+0.50 = 4.17 (4.00 Credits allowed).

#### 17.5 Vehicle Safety

#### 17.5.1 All Information for Safe Operation of Vehicle

Details on how to operate the vehicle can be found in the owners guide.

Note that the vehicle is started and driven in the same manner as a conventional I.C.E. vehicle.

#### 17.5.2 Information on Safe Handling of Battery System

The battery is to be serviced only by technicians that are authorized to do so by Ford. The detail will be available prior to production

#### 17.5.3 Description of Emergency Procedures

Emergency procedures are described in Owner's guide. Please refer to owner's guide for details.

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#### **APPLICATION REVISIONS**

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