California Environmental Protection Agency

⊘ Air Resources Board

FORD MOTOR COMPANY

Executive Order: A-010-1940

New Passenger Cars, Light-Duty Trucks and Medium-Duty Vehicles

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Pursuant to the authority vested in the Air Resources Board by Health and Safety Code (HSC), Division 26, Part 5, Chapter 2; and pursuant to the authority vested in the undersigned by HSC Sections 39515 and 39516 and Executive Order G-14-012;

IT IS ORDERED AND RESOLVED: The following exhaust and evaporative emission control systems produced by the manufacturer are certified as described below. Production vehicles shall be in all material respects the same as those for which certification is granted.

						•	TEST GRO	UP I	NFC	RMATION						
MODE YEAI		TEST G	ROUP		VEH	HICLE	CLASS(E	S)		FUEL C	ATE	GORY		FUEL TYPE		
201	6	GFMXT02	2.73JJ			LDT3	, LDT4		DEDICATED SINGLE FUEL VEHICLE			GASOLINE				
	USEF	UL LIFE	(miles)		V	/EHIC	LE EMISS	ION	CAT	EGORY	IN	ITERIM / IN	TERM	EDIA	TE IN-USE STD	
EXI	1/ORV	R	EVAP			FT	Р		5	SFTP		FTP		SFTP		
1!	50000		15000	0	LE	eva u	LEV70	LEV	7 3	COMPOSITE		NMOG+NOX	ζ		NMOG+NOX	
SPE	CIAL	FEATUF		KHAUS STEMS		SION	CONTRO	L		OBDS	TAT	US	EN	GINE	DISPLACEMENT (L)	
1	27	TWC, 2W	R-HO2S	, 2но2	2S, 2T	c, c	AC, DFI			FULL		*				
*				*						PARTIAL		*			2.7	
*				*					PA	ARTIAL WITH FINES	AL	L MODELS				
-			E	VAPOF	RATIVE	& RE	FUELING	(EV	AP/C	RVR) FAMIL	/ INF	ORMATION				
EVA	AP / OF	RVR FAI	MILY	EVAF	PORAT	IVE S	TD CATE	GOR'	RY EVAP EMISSION STD VEHICLE CLASS			SF	ECIA	L FEATURES		
1	GFMXR	0160AB	2			LEV	2		LDT3			*				
ı	GFMXR	0235NB	2			LEV	2		LDT3			*				
			-			EM	IISSION CI	REDI	T IN	FORMATION						
		ALLOW	ANCE F	OR TE	ST GR	OUP				OG CREDIT FO		NMOG CR	EDIT	FOR	OPTIONAL EXH. STD FOR WORK	
BAS	ELINE	PZEV	A.	T PZEV	'		TZEV	IN	OIN-I	ZEV ZERU-E	VAP		JK		TRUCKS	
	*			*			*			N		1	1		N	
					NM	OG A	ND FLEET	AVI	ERA	GE INFORMA	TION	I				
NMOG	RAF	CH4 R	AF FT		NMOG/NMHC HCHO/NMHC		1 '		O PC+LDT	NMOG+NOX FLEET STD PC+LDT (0-3750 LVW) (g/mi)		L	NMOG+NOX FLEET STD LDT (3751 LVW-8500 GVWR) + MDPV (g/mi)			
+	t	*		1.	10			*			0.0	93			0.110	

See the Attachment for Vehicle Models, Evaporative Family, Engine Displacement, Emission Control Systems, Phase-In Standards, OBD Compliance, Emission Standards and Certification Levels, and Abbreviations.

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BE IT FURTHER RESOLVED:

The exhaust and evaporative emission standards and the certification emission levels for the listed vehicles are as listed on the Attachment. Compliance with the 50° Fahrenheit testing requirement may have been met based on the manufacturer's submitted compliance plan in lieu of testing. Any debit in the manufacturer's NMOG+NOx and greenhouse gas Fleet Average (PC or LDT or MDPV) or "Vehicle Equivalent Credit" (MDV) compliance plan shall be equalized as required.

BE IT FURTHER RESOLVED:

For the listed vehicle models, the manufacturer has attested to compliance with Title 13, California Code of Regulations, (13 CCR) Sections 1965 [emission control labels], 1968.2 [on-board diagnostic, full or partial compliance], 2035 et seq. [emission control warranty], 2235 [fuel tank fill pipes and openings] (gasoline and alcohol fueled vehicles only), and "High-Altitude Requirements" and "Inspection and Maintenance Emission Standards" (California 2015 and Subsequent Model Criteria Pollutant Exhaust Emission Standards and Test Procedures and 2017 and Subsequent Model Greenhouse Gas Exhaust Emission Standards and Test Procedures for PC, LDT and MDV).

BE IT FURTHER RESOLVED:

The listed vehicle models are conditionally certified in accordance with 13 CCR Section 1968.2(k) (deficiency and fines provisions for certification of malfunction and diagnostic system) because the on-board diagnostic II (OBD) system of the listed vehicle models has been determined to have fourteen deficiencies. The listed vehicle models are approved subject to the manufacturer paying a fine of \$450 per vehicle for the third through fourteenth deficiencies for vehicles in the listed test group that are produced and delivered for sale in California. On a quarterly basis, the manufacturer shall submit to the Air Resources Board reports of the number of vehicles produced and delivered for sale in California and pay the full fine owed for that quarter pursuant to this conditional certification. Payment shall be made payable to the State Treasurer for deposit in the Air Pollution Control Fund no later than thirty (30) days after the end of each calendar quarter during the 2016 model-year production period. Failure to pay the quarterly fine, in full, in the time provided, may be cause for the Executive Officer to rescind this conditional certification, effective from the start of the quarter in question, in which case all vehicles covered under this conditional certification for that quarter and all future quarters would be deemed uncertified and subject to a civil penalty of up to \$5000 per vehicle pursuant to HSC Section 43154.

Vehicles certified under this Executive Order shall conform to all applicable California emission regulations.

The Bureau of Automotive Repair will be notified by copy of this Executive Order.

Executed at El Monte, California on this ___

Annette Hebert, Chief

Emissions Compliance, Automotive Regulations and Science Division

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ATTACHMENT

EXHAUST AND EVAPORATIVE EMISSION STANDARDS AND CERTIFICATION LEVELS

EXHAUST EMISSION STANDARDS AND CERTIFICATION LEVELS	(FTP	, HWFET, 50	F, 20°F)
---	------	-------------	----------

CH4: methane; NMOG: non-CH4 organic gas; HC: hydrocarbon; NMHC: non-CH4 HC; CO: carbon monoxide; NOx: oxides of nitrogen; HCHO: formaldehyde; PM: particulate matter; RAF: reactivity adjustment factor; 2DHS/3DHS [g HC/test]: 2/3 days diurnal+hot-soak; RL [g HC/mi]: running loss; ORVR [g HC/gallon dispensed]: on-board refueling vapor recovery; g: gram; mg: milligram; mi: mile; K: 1000 miles; F: degrees Fahrenheit; FTP: federal test procedure; SFTP: supplemental FTP

FUEL TYPE

		NMOG+NOx (g/mi)		CO (g/mi)		NOx (g/mi)		HCHO (mg/mi)		PM (g/mi)	
		CERT	STD	CERT	STD	CERT	STD	CERT	STD	CERT	STD
FTP@50K	*	*	*	*	*	*	*	*	*	*	*
FTP@UL	GASOLINE- LEV3 E10	0.0523	0.070	0.71	1.7	*	*	*	4	*	0.01
50°F @4K	GASOLINE- LEV3 E10	0.0787	0.140	0.65	1.7	*	*	1.2	16		-

	FUEL TYPE	NMOG+N	lOx (g/mi)	CO (g/mi)		
April 1	FUEL TYPE	CERT	STD	CERT	STD	
HWFET @ 50K	*	*	*			
HWFET @ UL	GASOLINE-LEV3 E10	0.021	0.070			
20°F @ 50K	GASOLINE-COLD CO LOW OCTANE			1.65	12.5	

SFTP EXHAUST EMISSION STANDARDS AND CERTIFICATION LEVELS

in the second				US06		SC03	3	COMPOSITE		
	FUEL TYPE		NMOG+NOx (g/mi)	CO (g/mi)	PM (mg/mi)	NMOG+NOx (g/mi)	CO (g/mi)	NMOG+NOx (g/mi)	CO (g/mi)	PM (mg/mi)
0.414		CERT	*	*		*	*	- T		
@ 4K	*	STD	*	*		*	*	E 1540		-
		CERT	*	*	*	*	*	0.058	0.81	*
@ UL	GASOLINE- LEV3 E10	STD	*	*	*	*	*	0.110	4.2	*
	TEA2 FIG	BIN	E I Velvel		P.	*=	le ji	0.100		

WHOLE VEHICLE EVAPORATIVE EMISSION STANDARDS AND CERTIFICATION LEVELS

			WHOLE '						
EVAPORATIVE FAMILY	FUEL TYPE	3DH	S (g/test) (@ UL	2DI	HS (g/test) (@ UL	RL (g/n	ni) @ UL
		CERT	STD	FEL	CERT	STD	FEL	CERT	STD
GFMXR0160ABC	GASOLINE - TIER 2 UNLEADED	0.334	0.90	*	0.658	1.15	*	0.000	0.05
GFMXR0235NBC	GASOLINE - TIER 2 UNLEADED	0.290	0.90	*	0.699	1.15	*	0.000	0.05

GASOLINE

TIER 2

UNLEADED

GFMXR0235NBC

0.20

0.04

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ORVR / FUI	ORVR / FUEL ONLY / CANISTER BLEED EVAPORATIVE EMISSION STANDARDS AND CERTIFICATION LEVELS											
				FUEL ONLY EVAP & CANISTER BLEED								
EVAPORATIVE FAMILY	ORVR (g/gallon) @ UL			FUEL TYPE	3DHS RIG TEST (g/test) @ UL		2DHS RIG TEST (g/test) @ UL		BLEED CANISTER TEST (g/test) @ 4K			
	FUEL TYPE	CERT	STD		CERT	STD	CERT	STD	CERT	STD		
GFMXR0160ABC	GASOLINE - TIER 2 UNLEADED	0.051	0.20	*	*	*	*	*	*	*		

*: not applicable; #: pounds; UL: useful life; PC: passenger car; LDT: light-duty truck; LDT1: LDT<6000#GVWR,0-3750#LVW; LDT2: LDT<6000#GVWR,3751-5750#LVW; LDT3: LDT 6001-8500#GVWR,3751-5750#ALVW; LDT4: LDT 6001-8500#GVWR,5751-8500#ALVW; MDV: medium-duty vehicle; MDV4: MDV 8501-10000#GVWR; MDV5: MDV 10001-14000#GVWR; MDPV: mediumduty passenger vehicle; HDV; heavy-duty vehicle; ECS; emission control system; CERT; certification; STD; standard; FEL; family emission limit; GVWR: gross vehicle weight rating; LVW: loaded vehicle weight; ALVW: adjusted LVW; LEV: low emission vehicle; ULEV: ultra LEV; SULEV: super ULEV; ZEV: zero-emission vehicle; PZEV: partial ZEV; AT PZEV: advanced technology PZEV; TZEV: transitional ZEV; TWC/OC: 3-way/oxidizing catalyst; ADSTWC: adsorbing TWC; HAC: HC adsorbing catalyst; WU: warm-up catalyst; NAC: NOx adsorption catalyst; SCR-U or SCRC/SCR-N or SCRC-NH3: selective catalytic reduction-urea/ammonia; NH3OC: ammonia oxidation catalyst; CTOX/PTOX: continuous/periodic trap oxidizer; DPF: diesel particulate filter (active); GPF: PM filter for spark-ignited engine: HO2S/O2S: heated/oxygen sensor; WR-HO2S or AFS: wide range/linear/heated air-fuel ratio sensor; NOXS: NOx sensor; PMS: PM sensor; RDQS: reductant quality sensor; NH3S: ammonia sensor; EGR: exhaust gas recirculation; EGRC: EGR cooler; AIR/AIRE: secondary air injection (belt driven)/(electric driven); PAIR: pulsed AIR; SFI/MFI: sequential/multiport fuel injection; DFI/IFI: direct/indirect fuel injection; TC/SC: turbo/super charger; CAC: charge air cooler; F/P/\$: full/partial/partial with fines on-board diagnostic; DOR: direct ozone reducing; HCT: hydrocarbon trap; BCAN: bleed carbon canister; prefix 2: parallel; (2) suffix: series; CNG/LNG; compressed/liquefied natural gas; LPG: liquefied petroleum gas; E85: "85%" ethanol ("15%"gasoline) fuel; E10: "10%" ethanol ("90%"gasoline) fuel; A: automatic (with lockup); M: manual transmission; SA: semi-automatic transmission; CV continuously variable transmission; SCV: selectable continuously variable transmission; AM: automated manual transmission; AMS: automated manual-selectable transmission; OT: other transmission

2016 MODEL YEAR: VEHICLE MODELS INFORMATION

MAKE	MODEL	VEH CLASS	ENGINE (L)	TRANS TYPE	EVAPORATIVE FAMILY	EXH ECS	OBD	PZEV TYPE
FORD	F150 PICKUP 2WD	LDT3	2.7	SA6	GFMXR0160ABC	1	\$	*
FORD	F150 PICKUP 2WD	LDT3	2.7	SA6	GFMXR0235NBC	1	\$	*
FORD	F150 PICKUP 2WD	LDT4	2.7	SA6	GFMXR0160ABC	1	\$	*
FORD	F150 PICKUP 2WD	LDT4	2.7	SA6	GFMXR0235NBC	1	\$	*
FORD	F150 PICKUP 4WD	LDT3	2.7	SA6	GFMXR0160ABC	1	\$	*
FORD	F150 PICKUP 4WD	LDT3	2.7	SA6	GFMXR0235NBC	1	\$	*
FORD	F150 PICKUP 4WD	LDT4	2.7	SA6	GFMXR0160ABC	1	\$	*
FORD	F150 PICKUP 4WD	LDT4	2.7	SA6	GFMXR0235NBC	1	\$	*