### California Environmental Protection Agency

# **OB** Air Resources Board

FORD MOTOR COMPANY

Executive Order: A-010-2099

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 GR      | OUP IN | FORMAT                                    | ION                |      |           |          |      |  |  |
|------------|------------|----------|----------------------------------|--------------------------------|--------------|--------|---|--------------------|------|-----------|----------|------|--|--|
| MODE       |            | EST G    | ROUP                             | VEH                            | ICLE CLASS(I | ES)    |   | FUEL CA            | TEG  | ORY       |          | FU   | EL TYPE  |  |
| 2018       | JE         | MXD 0 6  | .27BC                            |                                | MDV5         |        | F   | LEX-FUE<br>(F      | L VE | HICLE     | 85% E    | THAI | NOL, GASOLINE                                  |  |
|            | USEFUL     | LIFE     | (miles)                          | V                              | EHICLE EMIS  | SION C | ATEGOR                                    | Y                  | INT  | ERIM / IN | TERME    | CAIC | E IN-USE STD                                   |  |
| EXH        | I/ORVR     |          | EVAP                             |                                | FTP          |        | SFTP                                      |                    |      | FTP       |          |      | SFTP   |  |
| 15         | 0000       |          | 150000                           | LEV                            | 73 ULEV270   | UC (I  | EV3 ULE<br>(HOT143:<br>A92), S<br>TEST CY | c03,               | NMO  | g+nox an  | D PM NMO |      | G+NOX AND PM                                   |  |
| SPE        | CIAL FE    | EATUR    |                                  | IAUST EMIS                     | SION CONTRO  | DL     |   | OBD ST             | ATU  | S         | ENGI     | NE   | DISPLACEMENT<br>(L)                            |  |
| 1          |            | 2TW      | C, 2WR-E                         | 102S, 2HO2                     | S, SFI       |        | FUL                                       | L                  |      | *         |          |      |  |  |
| *          |            |          |                                  | *                              |              |        | PART                                      | IAL                | ALL  | MODELS    | 11       |      | 6.2  |  |
| *          |            |          |                                  | *                              |              |        | PARTIAI<br>FINI                           |                    | -    | *         |          |      |  |  |
|            |            |          | EV                               | APORATIVE                      | & REFUELING  | G (EVA | P/ORVR)                                   | FAMILY             | INFO | RMATION   |          |      |  |  |
| EVA        | P / ORV    | R FAN    | MLY                              | EVAPORAT                       | IVE STD CATE | GORY   |   | AP EMIS<br>/EHICLE |      |           | SPE      | CIAI | FEATURES                                       |  |
| į.         | JFMXF03    | 315NBS   | 3                                |                                | LEV 2        |        |   | MD                 | 75   |           |          |      | * .  |  |
|            | JFMXF02    | 250NBS   | 3                                |                                | LEV 2        |        |   | MD                 | 75   |           |          |      | *  |  |
|            | JFMXR02    | 250NBS   | 3                                |                                | LEV 2        | •      |   | MD                 | 75   |           |          |      | *  |  |
| J          | JFMXR03    | 315NBS   | 3                                |                                | LEV 2        |        |   | MD7                | 7Š   |           |          |      | *  |  |
|            |            |          |                                  |                                | EMISSION C   | REDIT  | INFORM                                    | ATION              |      |           |          |      |  |  |
|            | A          | LLOW     | ANCE FO                          | R TEST GRO                     | OUP          |        | IMOG CR                                   |                    |      | NMOG CR   |          | OR   | OPTIONAL EXH                                   |  |
| BASE       | ELINE P    | ZEV      | AT                               | PZEV                           | TZEV         | NO     | N-PZEV 2                                  | ZERO-EV            | AP   | D         | OR       |      | TRUCKS   |  |
|            | *          |          |                                  | *                              | *            |        | 1   | 1                  |      | N N       |          |      | N  |  |
|            |            |          |                                  | NM                             | OG AND FLEE  | TAVE   | RAGE IN                                   | FORMAT             | ION  |           |          |      |  |  |
| MOG<br>RAF | CH4<br>RAF | NMO<br>R | FTP<br>G/NMHC<br>ATIO<br>SOLINE) | HCHO/NMH<br>RATIO<br>(GASOLINE | LDT (3751 I  |        | 500 GVW)                                  |                    |      | 0000 GVW  |          | DV   | NOX FLEET STD<br>(10,001-14,000<br>/WR) (g/mi) |  |
| *          | *          |          | 1.10                             | *                              |              | *      |   |                    | 4    | ,         |          |      | * '  |  |

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 for PC, LDT and MDV).

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.

Annette Hebert, Chief

Emissions Compliance, Automotive Regulations and Science Division

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# **ATTACHMENT**

## **EXHAUST AND EVAPORATIVE EMISSION STANDARDS AND CERTIFICATION LEVELS**

| <b>EXHAUST EMISSION STANDARDS</b> | 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**

| - 1      |  |               |                  |           |           |            |       |           |          |       |          |
|----------|--|---------------|------------------|-----------|-----------|------------|-------|-----------|----------|-------|----------|
| n=1      |  |               | S+NOx<br>mi)     | (g/i      | O<br>mi)  | NO<br>(g/i |       | HC<br>(mg |          | 1     | M<br>mi) |
|          |  | CERT          | STD              | CERT      | STD       | CERT       | STD   | CERT      | STD      | CERT  | STD      |
| FTP@50K  | . *  | *             | *                | *         | *         | *          | *     | *         | *        | *     | *        |
| FTP@UL   | E85-EPA<br>(TIER 3 E10<br>REGULAR<br>GASOLINE (9<br>RVP @LOW<br>ALT.)) | 0.244 (0.241) | 0.270<br>(0.270) | 2.8 (3.5) | 4.2 (4.2) | (*)        | * (*) | 2 (*)     | 6<br>(6) | 0.000 | 0.010    |
| 50°F @4K | E85-EPA  | 0.221         | 0.675            | 0.8       | 4.2       | *          | *     | 3         | 20 .     |       | 200      |

| 9 13        | 5.15. T/55  | NMOG+N           | lOx (g/mi)       | , co (g | y/mi) |
|-------------|---|------------------|------------------|---------|-------|
|             | FUEL TYPE   | CERT             | STD              | CERT    | STD   |
| HWFET @ 50K | *   | *                | *                |         |       |
| HWFET @ UL  | E85-EPA<br>(TIER 3 E10 REGULAR GASOLINE (9 RVP @LOW<br>ALT.)) | 0.162<br>(0.195) | 0.270<br>(0.270) |         |       |
| 20°F @ 50K  | *   | 6                |                  | *       | *     |

## SFTP EXHAUST EMISSION STANDARDS AND CERTIFICATION LEVELS

|          |   |      |                    | US06         |               | SC03               |              | COM                | POSITE       |               |
|----------|---|------|--------------------|--------------|---------------|--------------------|--------------|--------------------|--------------|---------------|
|          | FUEL TYPE   |      | NMOG+NOx<br>(g/mi) | CO<br>(g/mi) | PM<br>(mg/mi) | NMOG+NOx<br>(g/mi) | CO<br>(g/mi) | NMOG+NOx<br>(g/mi) | CO<br>(g/mi) | PM<br>(mg/mi) |
| @ 4K     | *   | CERT | *                  | *            |               | *                  | *            |                    |              |               |
| <b>©</b> |   | STD  | *                  | *            |               | *                  | *            |                    |              |               |
|          |   | CERT | *                  | *            | *             | . *                | *            | 0.276              | 2.5          | 2             |
| @ UL     | E85-EPA   | STD  | *                  | *            | *             | *                  | *            | 0.550              | 6.0          | 7             |
|          |   | BIN  |                    | 5.7.4        |               |                    |              | *                  |              |               |
|          |   | CERT | *                  | *            | *             | *                  | *            | 0.243              | 3.8          | 1             |
| @ UL     | TIER 3 E10<br>REGULAR<br>GASOLINE (9<br>RVP @LOW<br>ALT.) | STD  | *                  | *            | *             | *                  | *            | 0.550              | 6.0          | 7             |
|          |   | BIN  |                    |              | -             |                    | 1 -          | *                  | -            | 1             |

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|                    | WHOLE VEHIC | E EVAPO            | PRATIVE E | EMISSION | STANDAR              | DS AND CE   | RTIFICATIO | N LEVELS |          |
|--------------------|-------------|--------------------|-----------|----------|----------------------|-------------|------------|----------|----------|
|                    |             |                    | WHOLE     | VEHICLE  | EVAPORA <sup>7</sup> | TIVE TESTIN | 1G         |          |          |
| EVAPORATIVE FAMILY | FUEL TYPE   | 3DHS (g/test) @ UL |           |          | 2DHS (g/test) @ UL   |             |            | RL (g/m  | ii) @ UL |
|                    |             | CERT               | STD       | FEL      | CERT                 | STD         | FEL        | CERT     | STD      |
| JFMXF0250NBS       | E10-EPA     | 0.530              | 1.00      | *        | *                    | 1.25        | *          | 0.00     | 0.05     |
| JFMXF0315NBS       | E10-EPA     | 0.44               | 1.00      | *        | *                    | 1.25        | *.         | 0.00     | 0.05     |
| JFMXR0250NBS       | E10-EPA     | 0.530              | 1.00      | *        | *                    | 1.25        | *          | 0.00     | 0.05     |
| JFMXR0315NBS       | E10-EPA     | 0.44               | 1.00      | *        | *                    | 1.25        | *          | 0.00     | 0.05     |

#### ORVR / FUEL ONLY / CANISTER BLEED EVAPORATIVE EMISSION STANDARDS AND CERTIFICATION LEVELS

|                       |           |           |      |           | FUEL ( | NLY EVAI          | P & CANIS | TER BLEE | D    |                      |
|-----------------------|-----------|-----------|------|-----------|--------|-------------------|-----------|----------|------|----------------------|
| EVAPORATIVE<br>FAMILY | ORVR (g/g | gallon) @ | ) UL | FUEL TYPE |        | IG TEST<br>) @ UL |           | IG TEST  |      | ANISTER<br>est) @ 4K |
|                       | FUEL TYPE | CERT      | STD  |           | CERT   | STD               | CERT      | STD      | CERT | STD                  |
| JFMXF0250NBS          | E10-EPA   | *         | *    | *         | *      | *                 | *         | *        | *    | *                    |
| JFMXF0315NBS          | E10-EPA   | *         | *    | *         | *      | *                 | *         | *        | *    | *                    |
| JFMXR0250NBS          | E10-EPA   | 0.04      | 0.20 | *         | *      | *                 | *         | *        | *    | *                    |
| JFMXR0315NBS          | E10-EPA   | 0.04      | 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 véhicle; 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; ŽEV: 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; FFH: fuel fired heater; 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: semiautomatic transmission; CV: continuously variable transmission; SCV: selectable continuously variable transmission; AM: automated manual transmission; AMS: automated manual-selectable transmission; OT: other transmission

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# 2018 MODEL YEAR: VEHICLE MODELS INFORMATION

| MAKE | MODEL                      | VEH CLASS | ENGINE<br>(L) | TRANS TYPE | EVAPORATIVE FAMILY | EXH<br>ECS | OBD | PZEV TYPE |
|------|----------------------------|-----------|---------------|------------|--------------------|------------|-----|-----------|
| FORD | F350 2WD BED<br>DELETE FFV | MDV5      | 6.2           | SA6        | JFMXF0250NBS       | 1          | P   | .*        |
| FORD | F350 2WD BED<br>DELETE FFV | · MDV5    | 6.2           | SA6        | JFMXF0315NBS       | 1          | P   | *         |
| FORD | F350 4WD BED<br>DELETE FFV | MDV5      | 6.2           | SA6        | JFMXF0250NBS       | 1          | P   | *         |
| FORD | F350 4WD BED<br>DELETE FFV | MDV5      | 6.2           | SA6        | JFMXF0315NBS       | 1          | P   | *         |
| FORD | F350 PICKUP<br>2WD FFV     | MDV5      | 6.2           | SA6        | JFMXR0250NBS       | 1          | P   | *         |
| FORD | F350 PICKUP<br>2WD FFV     | MDV5      | 6.2           | SA6        | JFMXR0315NBS       | 1          | P   | *         |
| FORD | F350 PICKUP<br>4WD FFV     | MDV5      | 6.2           | SA6        | JFMXR0250NBS       | 1          | P   | *         |
| FORD | F350 PICKUP<br>4WD FFV     | MDV5      | 6.2           | SA6        | JFMXR0315NBS       | 1          | P   | *         |