

FORD MOTOR COMPANY

EXECUTIVE ORDER A-010-2383 New On-Road Heavy-Duty Engines Page 1 of 2

Pursuant to the authority vested in California Air Resources Board by Health and Safety Code Division 26, Part 5, Chapter 2; and pursuant to the authority vested in the undersigned by Health and Safety Code Sections 39515 and 39516 and Executive Order G-19-095;

IT IS ORDERED AND RESOLVED: The engine and emission control systems produced by the manufacturer are certified as described below for use in on-road motor vehicles with a manufacturer's GVWR over 14,000 pounds. Production engines shall be in all material respects the same as those for which certification is granted.

| MODEL YEAR | ENGINE FAM | ENGINE FAMILY | | FUEL TYPE ¹ | STANDARDS & TEST PROCEDURE | INTENDED SERVICE CLASS ² | ECS & SPECIAL FEATURES ³ | DIAGNOSTIC ⁶ | | | | | | |
|---------------|---------------------------------------------------------|------------------------------------------------------|--------------------------------------------|--------------------------------------------|----------------------------------|-------------------------------------------|-------------------------------------|-------------------------|--|--|--|--|--|--|
| 2022 | NFMXE07.3 | NFMXE07.3BX4 | | Flexible Fuel: Ethanol (E85) / Gasoline | Otto | HDO | TWC, SFI, HO2S, WR-HO2S | OBD(P) | | | | | | |
| | PRIMARY ENGINE'S IDLE EMISSIONS CONTROL ⁵ | | ADDITIONAL IDLE EMISSIONS CONTROL 5 | | | | | | | | | | | |
| | N/A | | N/A | | | | | | | | | | | |
| ENGINE (| L) | | ENGINE MODELS / CODES (rated power, in hp) | | | | | | | | | | | |
| 7.3 | | E-Series / NTE4J0NJ, NTE4J0NK (350 for all codes) | | | | | | | | | | | | |

*=not applicable; **GVWR**=gross vehicle weight rating; **13 CCR xyz**=Title 13, California Code of Regulations, Section xyz; **40 CFR 86.abc**=Title 40, Code of Federal Regulations, Section 86.abc; **L**=liter; **hp**=horsepower; **kw**=kilowatt; **hr**=hour;

Following are: 1) the FTP exhaust emission standards, or family emission limit(s) as applicable, under 13 CCR 1956.8; 2) the SET and NTE limits under the applicable California exhaust emission standards and test procedures for heavy-duty diesel engines and vehicles (Test Procedures); and 3) the corresponding certification levels, for this engine family. "Diesel" CO, SET and NTE certification compliance may have been demonstrated by the manufacturer as provided under the applicable Test Procedures in lieu of testing. (For flexible- and dual-fueled engines, the CERT values in brackets [] are those when tested on conventional test fuel. For multi-fueled engines, the STD and CERT values for default operation permitted in 13 CCR 1956.8 are in parentheses.). 4

| in | NMHC | | NO | NOx N | | C+NOx | CO | | PM | | нсно | |
|----------|----------------|-----|----------------|-------|-----|-------|----------------|-----|-----------------|-----|------------------|-----|
| g/bhp-hr | FTP | SET | FTP | SET | FTP | SET | FTP | SET | FTP | SET | FTP | SET |
| STD | 0.14 [0.14] | * | 0.20 [0.20] | * | * | * | 14.4 [14.4] | * | 0.01 [0.01] | * | 0.01 [0.01] | * |
| CERT | 0.11 [0.09] | * | 0.07 [0.06] | * | * | * | 2.4 [5.5] | * | 0.004 [0.01] | * | 0.002 [0.001] | * |
| NTE | * | | * | | * | | * | | * | | * | |

g/bhp-hr=grams per brake horsepower-hour; FTP=Federal Test Procedure; SET=Supplemental emissions testing; NTE=Not-to-Exceed; STD=standard or emission test cap; CERT=certification level; NMHC/HC=non-methane/hydrocarbon; NOx=oxides of nitrogen; CO=carbon monoxide: PM=particulate matter:

BE IT FURTHER RESOLVED: The manufacturer has demonstrated compliance with the Greenhouse Gas Emission Standards as specified in Title 13 CCR 1956.8 and the incorporated "California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy Duty Otto Cycle Engines and Vehicles" (HDOE Test Procedures) adopted December 27, 2000, as last amended December 19, 2018.

CNG/LNG=compressed/liquefied natural gas; LPG=liquefied petroleum gas; E85=85% ethanol fuel; MF=multi fuel a.k.a. BF=bi fuel; DF=dual fuel; FF=flexible fuel;

L/M/H HDD=light/medium/heavy heavy-duty diesel; UB=urban bus; HDO=heavy duty Otto;

^{**} ECS=emission control system; TWC/IOS=three-way/oxidizing catalyst; NaCS=NOx adsorption catalyst; SCR-U / SCR-N=selective catalytic reduction – urea / – ammonia; WU (prefix)=warm-up catalyst; DPF=diesel particulate filter; PTOX=periodic trap oxidizer; HO2S/O2S=heated/oxygen sensor; HAFS/AFS=heated/air-fuel-ratio sensor (a.k.a., universal or linear oxygen sensor); TBI=throttle body fuel injection; SFI/MFI=sequential/multi port fuel injection; DGI=direct gasoline injection; GCAP=gaseous carburetor; IDI/DDI=indirect/direct diesel injection; TC/SC=turbo/super charger; CAC>charge air cooler; EGR / EGR-C=exhaust gas recirculation / cooled EGR; PAIR/AIR=pulsed/secondary air injection; SPI_smoke puff limiter; ECM/PCM=engine/powertrain control module; EM=engine modification; AMOX=Ammonia Oxidation Catalyst; NOXS=NOx sensor; 2 (prefix)=parallel; (2) (suffix)=in series;

⁵ ESS=engine shutdown system (per 13 CCR 1956.8(a)(6)(A)(1); 30g=30 g/hr NOx (per 13 CCR 1956.8(a)(6)(C); APS =internal combustion auxiliary power system; ALT=alternative method (per 13 CCR 1956.8(a)(6)(D); Exempt=exempted per 13 CCR 1956.8(a)(6)(B) or for CNG/LNG fuel systems; N/A=not applicable (e.g., Otto engines and vehicles);

EMD=engine manufacturer diagnostic system (13 CCR 1971); OBD(F) / (P) / (\$)=full / partial / partial with a fine / on-board diagnostic;);



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| | PRIMARY INTENDED SERVICE CLASS: Vocational | | | | | | | | | | | |
|----------|--------------------------------------------|----------------|----------------|----------------|--|--|--|--|--|--|--|--|
| In | С | O ₂ | ou. | | | | | | | | | |
| g/bhp-hr | FTP | SET | CH₄ | N₂O | | | | | | | | |
| STD | 627 [627] | * | 0.10 [0.10] | 0.10 [0.10] | | | | | | | | |
| FCL | 627 [627] | * | * | * | | | | | | | | |
| FEL | 646 [646] | * | 0.10 [0.10] | 0.10 [0.10] | | | | | | | | |
| CERT | 605 [618] | * | 0.06 [0.04] | 0.02 [0.02] | | | | | | | | |

d g/bhp-hr=grams per brake horsepower-hour; FTP=Federal Test Procedure; SET=Supplemental emissions testing; FCL=family certification level; CERT=certification level; CO₂=carbon dioxide; CH₄=methane; N₂O=nitrous oxide; STD = standard or emission test cap; FEL=family emission limit; VOCATIONAL=vocational engine; TRACTOR=tractor engine

BE IT FURTHER RESOLVED: Certification to the FEL(s) / FCL(s) listed above, as applicable, is subject to the following

terms, limitations and conditions. The FEL(s) / FCL(s) is the emission level declared by the manufacturer and serves in lieu of an emission standard for certification purposes in any averaging, banking, or trading (ABT) programs. It will be used for determining compliance of any engine in this family and compliance with such ABT programs.

BE IT FURTHER RESOLVED: For the listed engine models the manufacturer has submitted the materials to demonstrate certification compliance with 13 CCR 1965 (emission control labels), 13 CCR 1971.1 (on-board diagnostic, full or partial compliance) and 13 CCR 2035 et seq. (emission control warranty).

Engines certified under this Executive Order must conform to all applicable California emission regulations.

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

Executed on this 14th day of December 2021.

Allen Lyons, Chief

Emissions Certification and Compliance Division

Attachment: Engine Models EO #: A-010-2383 Family: NFMXE07.3BX4 Attachment Last Revised: 10/21/2021

| | | | | | Displacement - | | Peak Power - | Peak Power - | Peak Power - | Peak Power - Fue | el | Peak Torque - | Peak Torque - | Peak Torque - | Peak Torque - | | | | |
|----------|----------|------|--------|--------------|----------------|------------|--------------|--------------|--------------|------------------|-------------|---------------|---------------|---------------|---------------|----------|------------|---------|----------|
| Model | Code | Trim | Config | Displacement | Units | Peak Power | Units | Speed (rpm) | Fueling | Units | Peak Torque | Units | Speed (rpm) | Fuel | Fuel Units | OBD (\$) | GHG | Special | Notes |
| | | | | | | | | | | | | | | | | | | | SFI/WR- |
| E-Series | NTE4J0NJ | N/A | V8 | 7.3 | Liters | 350 | horsepower | 3900 | 105.0 | mm3/stroke | 468 | lb-ft | 3900 | 98 | mm3/stroke | Full | Vocational | N/A | H02S/H02 |
| | | | | | | | | | | | | | | | | | | | S/TWC |
| | | | | | | | | | | | | | | | | | | | SFI/WR- |
| E-Series | NTE4J0NK | N/A | V8 | 7.3 | Liters | 350 | horsepower | 3900 | 105.0 | mm3/stroke | 468 | lb-ft | 3900 | 98 | mm3/stroke | Full | Vocational | N/A | H02S/H02 |
| | | | | | | | | | | | | | | | | | | | S/TWC |