

Pursuant to the authority vested in the 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 engines and emission control systems produced by the manufacturer as described below are certified for use in on-road motor vehicles with a manufacturer's Gross Vehicle Weight Rating (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 Family | Combustion Cycle | Fuel Operation | Fuel Type(s) | Intended Vehicle Service Class | Intended GHG Vehicle Type |
|------------|---------------|------------------|----------------|--------------|--------------------------------|---------------------------|
| 2024 | RDDXH14.8TCC | Diesel | Dedicated | Diesel | Heavy Heavy-Duty | Vocational and Tractor |

| Emission Control Systems (ECS) | Special Features |
|--|------------------|
| [1]: Electronic Direct Injection (DDI), Charge Air Cooler (CAC), Exhaust Gas Recirculation (EGR), Electronic Control Module (ECM), Turbocharger (TC), Oxidation Catalyst (OC), Periodic Trap Oxidizer (PTOX), Selective Catalyst Reduction - Urea (SCR-U), Ammonia Oxidation Catalyst (AMOX) | None |

The certified engine models are attached.

The listed engine models comply with the following: 1) emission standard limits (STD) as demonstrated on the Federal Test Procedure (FTP) and Supplemental Emission Test (SET) test cycles, and on the Low-Load Cycle (LLC) test cycle, as applicable, and 2) Not-To-Exceed limits (NTE) as demonstrated using the Not-To-Exceed test cycle, as applicable, for exhaust criteria pollutants non-methane hydrocarbons (NMHC), nitrogen oxides (NOx), carbon monoxide (CO), and particulate matter (PM), and exhaust greenhouse gas (GHG) pollutants carbon dioxide (CO2) for vocational (VOCV) and tractor (TRAC) vehicles, methane (CH4), and nitrous oxide (N2O) as set forth in 13 CCR 1956.8 and the applicable California test procedures for heavy-duty diesel cycle engines, and 3) family emission limits (FEL) and family certification levels (FCL) declared by the manufacturer as allowed by the applicable California test procedures, stated in units of gram per brake horsepower-hour (g/bhp-hr), except as noted, or designated as not applicable (*).

| Applicable Standard | | Criteria | | | | GHG | | | |
|---|----------------|----------|-------|------|-------|----------|----------|------|------|
| | | NMHC | NOx | CO | PM | CO2 VOCV | CO2 TRAC | CH4 | N2O |
| Heavy-Duty Diesel Cycle Optional Standard – below 525 bhp Clean Idle 30g Alternate Phase 2 CO2 Standard Heavy Heavy-Duty Vocational and Tractor | STD: FTP / SET | 0.14 | 0.050 | 15.5 | 0.005 | 510 | 442 | 0.10 | 0.10 |
| | STD: LLC | * | * | * | * | * | * | * | * |
| | FEL: FTP / SET | * | 0.15 | * | * | 516-520 | 451-453 | 0.10 | 0.10 |
| | FEL: LLC | * | * | * | * | * | * | * | * |
| | NTE | 0.21 | 0.22 | 19.4 | 0.008 | * | * | * | * |

BE IT FURTHER RESOLVED: Any declared FEL or FCL is the emission limit to which all engines must comply in lieu of the standard limit for certification purposes, subject to the restrictions of averaging, banking, or trading (ABT) programs allowed by the applicable California test procedures.

BE IT FURTHER RESOLVED: For the listed engine models, the manufacturer has submitted 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).

BE IT FURTHER RESOLVED: That the listed engine family is certified to the optional standard for engines below 525 brake horsepower as specified in 13 CCR 1956.8(a)(2)(C)3 and section 11.B.5.3.5 of the applicable California test procedures.

BE IT FURTHER RESOLVED: That the listed engine family is certified on an interim basis pending CARB's submission of the proposed amendments to the California Heavy-Duty Engine and Vehicle Omnibus regulation to the Office of Administrative Law (OAL), and OAL's approval of such amendments. Upon OAL approval of such amendments this Executive Order becomes final.

BE IT FURTHER RESOLVED: For engines in this engine family certified under 13 CCR 1956.8(a)(6)(C) [30 g/hr NOx] and section 35.B.4 of the applicable California test procedures, except those in vehicle applications exempted per 13 CCR 1956.8(a)(6)(B), the engine manufacturer shall provide an approved "Certified Clean Idle" label to be affixed to the vehicle into which the engine is installed.

BE IT FURTHER RESOLVED: That the listed engine family is subdivided into subfamilies for CO2 emissions, and that for each subfamily the manufacturer has declared a separate FCL and associated FEL, and has submitted materials to demonstrate compliance with the applicable California test procedures.

BE IT FURTHER RESOLVED: The listed engine models are certified in accordance with 13 CCR Section 1971.1(k) (deficiency and fines provisions for certification of heavy-duty on-board diagnostic (HD OBD) systems with identified deficiencies) and Health and Safety Code Section 43154.

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

Executed on this 26th day of December 2023.



Robin U. Lang, Chief
Emissions Certification and Compliance Division

ATTACHMENT: ENGINE MODELS

Family: RDDXH14.8TCC EO Number: A-290-0190 Date Applicable: 12/13/2023

| Model | Code | Trim | Config | Displacement | Peak Power | | | Peak Torque | | | ECS Num | GHG | Notes |
|---------|-------|--------------|--------|--------------|------------|-------|---------|-------------|-------|---------|---------|------|-------|
| | | | | | Power | Speed | Fueling | Torque | Speed | Fueling | | | |
| - | - | - | - | Liters | horsepower | rpm | lb/hr | lb-ft | rpm | lb/hr | - | - | - |
| DD15TCO | I | | I6 | 14.8 | 455 | 1550 | 137.2 | 1550 | 1000 | 83.8 | 1 | Both | |
| DD15TCO | II | | I6 | 14.8 | 455 | 1500 | 136.1 | 1650 | 1000 | 89.2 | 1 | Both | |
| DD15TCO | III | | I6 | 14.8 | 425 | 1500 | 126.9 | 1750 | 1000 | 94.8 | 1 | Both | |
| DD15TCO | XIV | Multi_Power | I6 | 14.8 | 455 | 1500 | 136.1 | 1750 | 1000 | 94.8 | 1 | Both | |
| DD15TCO | IV | | I6 | 14.8 | 425 | 1500 | 126.9 | 1850 | 1000 | 100.3 | 1 | Both | |
| DD15TCO | XV | Multi_Power | I6 | 14.8 | 455 | 1500 | 136.1 | 1850 | 1000 | 100.3 | 1 | Both | |
| DD15TCO | V | | I6 | 14.8 | 455 | 1550 | 137.2 | 1550 | 1000 | 83.8 | 1 | Both | |
| DD15TCO | XVI | Multi_Torque | I6 | 14.8 | 455 | 1500 | 136.1 | 1750 | 1000 | 94.8 | 1 | Both | |
| DD15TCO | VI | | I6 | 14.8 | 475 | 1525 | 142.7 | 1650 | 1000 | 89.2 | 1 | Both | |
| DD15TCO | VII | | I6 | 14.8 | 505 | 1525 | 152.5 | 1750 | 1000 | 94.8 | 1 | Both | |
| DD15TCO | VIII | | I6 | 14.8 | 505 | 1625 | 154.4 | 1850 | 1000 | 100.3 | 1 | Both | |
| DD15TCO | IX | | I6 | 14.8 | 505 | 1625 | 154.4 | 1650 | 1000 | 89.2 | 1 | Both | |
| DD15TCO | X | | I6 | 14.8 | 485 | 1625 | 148.2 | 1650 | 1000 | 89.2 | 1 | Both | |
| DD15TCO | XII | | I6 | 14.8 | 505 | 1625 | 154.4 | 1750 | 1000 | 94.8 | 1 | Both | |
| DD15TCO | XIII | | I6 | 14.8 | 505 | 1500 | 152.0 | 1850 | 1000 | 100.3 | 1 | Both | |
| DD15TCO | IA | | I6 | 14.8 | 455 | 1550 | 137.2 | 1550 | 1000 | 83.8 | 1 | Both | |
| DD15TCO | IIA | | I6 | 14.8 | 455 | 1500 | 136.1 | 1650 | 1000 | 89.2 | 1 | Both | |
| DD15TCO | IIIA | | I6 | 14.8 | 425 | 1500 | 126.9 | 1750 | 1000 | 94.8 | 1 | Both | |
| DD15TCO | XIVA | Multi_Power | I6 | 14.8 | 455 | 1500 | 136.1 | 1750 | 1000 | 94.8 | 1 | Both | |
| DD15TCO | IVA | | I6 | 14.8 | 425 | 1500 | 126.9 | 1850 | 1000 | 100.3 | 1 | Both | |
| DD15TCO | XVA | Multi_Power | I6 | 14.8 | 455 | 1500 | 136.1 | 1850 | 1000 | 100.3 | 1 | Both | |
| DD15TCO | VA | | I6 | 14.8 | 455 | 1550 | 137.2 | 1550 | 1000 | 83.8 | 1 | Both | |
| DD15TCO | XVIA | Multi_Torque | I6 | 14.8 | 455 | 1500 | 136.1 | 1750 | 1000 | 94.8 | 1 | Both | |
| DD15TCO | VIA | | I6 | 14.8 | 475 | 1525 | 142.7 | 1650 | 1000 | 89.2 | 1 | Both | |
| DD15TCO | VIIA | | I6 | 14.8 | 505 | 1525 | 152.5 | 1750 | 1000 | 94.8 | 1 | Both | |
| DD15TCO | VIIIA | | I6 | 14.8 | 505 | 1625 | 154.4 | 1850 | 1000 | 100.3 | 1 | Both | |
| DD15TCO | IXA | | I6 | 14.8 | 505 | 1625 | 154.4 | 1650 | 1000 | 89.2 | 1 | Both | |
| DD15TCO | XA | | I6 | 14.8 | 485 | 1625 | 148.2 | 1650 | 1000 | 89.2 | 1 | Both | |
| DD15TCO | XIIA | | I6 | 14.8 | 505 | 1625 | 154.4 | 1750 | 1000 | 94.8 | 1 | Both | |
| DD15TCO | XIIIA | | I6 | 14.8 | 505 | 1500 | 152.0 | 1850 | 1000 | 100.3 | 1 | Both | |