

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-02-003; and

Pursuant to the December 15, 1998 Settlement Agreement between the Air Resources Board and the manufacturer, and any modifications thereof to the Settlement Agreement;

IT IS ORDERED AND RESOLVED: That 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 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 | ENGINE SIZE (liter) | FUEL TYPE (CNG/LNG=compressed/liquefied natural gas; LPG=liquefied petroleum gas) | STANDARDS & TEST PROCEDURE | INTENDED SERVICE CLASS (L/M/H HDD=light/medium/heavy heavy-duty [HD] diesel; UB=urban bus; HDO=HD Otto) |
|--|---------------|--|--|----------------------------|--|
| 2002 | 2CEXH0912XAG | 14.9 | Diesel | Diesel | HHDD |
| SPECIAL FEATURES & EMISSION CONTROL SYSTEMS | | ENGINE MODELS / CODES (rated power in horsepower, hp) | | | |
| DDI, EGR, TC, CAC, PCM | | See Attachments | | | |
| TWC/OC=three-way/oxidizing catalyst WU (prefix)=warm-up cat. O2S=oxygen sensor HO2S=heated O2S TBI=throttle body fuel injection MFI=multi port fuel injection SFI=sequentialMFI DDI/IDI=direct /indirect diesel injection TC/SC=turbo/super charger CAC=charge air cooler EGR=exhaust gas recirculation AIR=secondary air injection PAIR=pulsed AIR SPL=smoke puff limiter ECM/PCM=engine /powertrain control module EM=engine modification 2 (prefix)=parallel (2) (suffix)=in series | | | | | |

The following are the exhaust emission standards (STD), or family emission limit(s) (FEL) as applicable, and certification levels (CERT) in grams per brake horsepower-hour (g/bhp-hr) for this engine family for hydrocarbon (HC) or non-methane HC (NMHC), oxides of nitrogen (NOx), or NMHC+NOx, carbon monoxide (CO) [except that "diesel" CO certification compliance may have been demonstrated pursuant to Code of Federal Regulations, Title 40, Part 86, Subpart A, Section 86.091-23(c)(2)(i) in lieu of testing], particulate matter (PM), and formaldehyde (HCHO) under the "Federal Test Procedure" (FTP) (Title 13, California Code of Regulations, (13 CCR) Section 1956.1 (urban bus) or 1956.8 (other than urban bus)), and under the "Euro III Test Procedure" (EURO) in the Settlement Agreement, including a EURO's "Not-to-Exceed" NOx standard: (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 Section 1956.1 or 1956.8 are in parentheses.)

| * = not applicable | HC | | NMHC | | NOx | | NMHC+NOx | | CO | | PM | | HCHO | |
|--------------------|-----|------|------|------|-----|------|----------|------|------|------|------|------|------|------|
| | FTP | EURO | FTP | EURO | FTP | EURO | FTP | EURO | FTP | EURO | FTP | EURO | FTP | EURO |
| (DIRECT) STD | 1.3 | 1.3 | * | * | * | * | * | * | 15.5 | 15.5 | 0.10 | 0.10 | * | * |
| AVERAGE STD | * | * | * | * | 4.0 | * | * | * | * | * | * | * | * | * |
| FEL | * | * | * | * | 2.5 | 2.5 | * | * | * | * | * | * | * | * |
| CERT | 0.2 | 0.1 | * | * | 2.1 | 1.9 | * | * | 1.0 | 0.5 | 0.08 | 0.07 | * | * |

BE IT FURTHER RESOLVED: That certification to the FEL(s) listed above, as applicable, is subject to the following terms, limitations and conditions. The FEL(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.

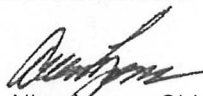
BE IT FURTHER RESOLVED: That for the listed engine models, the manufacturer has submitted the materials to demonstrate certification compliance with 13 CCR Sections 1965 (emission control labels), and 2035 et seq. (emission control warranty).

BE IT FURTHER RESOLVED: That the listed engine models are conditionally certified subject to the following conditions: (1) The Settlement Agreement is in effect; and, (2) The manufacturer is in compliance with all applicable certification requirements of the Settlement Agreement and any modifications thereof.

Engines certified under this Executive Order shall conform to all applicable California emission regulations and all requirements under the Settlement Agreement and any modifications thereof.

The Bureau of Automotive Repair will be notified by copy of this Executive Order. This Executive Order hereby supersedes Executive Order A-021-0341-2 dated July 11, 2002. This Executive Order is not valid for engines produced on or after October 1, 2002.

Executed at El Monte, California on this 16TH day of September 2002.


 Alleg Lyons, Chief
 Mobile Source Operations Division

Engine Model Summary Form

Manufacturer: **Cummins Inc.**
 Engine category: **On-highway HDDE**
 EPA Engine Family: **2CEXH0912XAG**
 Mfr Family Name: **103G**
 Process Code: **Running Change**

Attachment 1 of 2

A-021-0341-3

| 1.Engine Code | 2.Engine Model | 3.BHP@RPM (SAE Gross) | 4.Fuel Rate: mm/stroke @ peak HP (for diesel only) | 5.Fuel Rate: (lbs/hr) @ peak HP (for diesels only) | 6.Torque @ RPM (SEA Gross) | 7.Fuel Rate: mm/stroke@peak torque | 8.Fuel Rate: (lbs/hr)@peak torque | 9.Emission Control Device Per SAE J1930 |
|---------------|----------------|--------------------------|--|--|-------------------------------|--|--------------------------------------|--|
| 8281;FR10481 | ISX 500 | 525@1800 | 325 | 197 | 1850@1200 | 371 | 150 | PCM, EGR, TC, |
| 8281;FR10480 | ISX 500 | 525@1800 | 325 | 197 | 1650@1200 | 320 | 129 | PCM, EGR, TC, |
| 8281;FR10482 | ISX 500ST | 525@1800 | 325 | 197 | 1650@1200 | 320 | 129 | PCM, EGR, TC, |
| 8281;FR10485 | ISX 525 | 525@1800 | 325 | 197 | 1650@1200 | 320 | 129 | PCM, EGR, TC, |
| 8281;FR10486 | ISX 525 | 525@1800 | 325 | 197 | 1650@1200 | 320 | 129 | PCM, EGR, TC, |
| 8281;FR10478 | ISX 475 | 500@1800 | 304 | 185 | 1850@1200 | 371 | 150 | PCM, EGR, TC, |
| 8281;FR10477 | ISX 475 | 500@1800 | 304 | 185 | 1650@1200 | 320 | 129 | PCM, EGR, TC, |
| 8281;FR10479 | ISX 475ST | 500@1800 | 304 | 185 | 1650@1200 | 320 | 129 | PCM, EGR, TC, |
| 8281;FR10475 | ISX 450 | 464@1800 | 266 | 162 | 1650@1200 | 320 | 129 | PCM, EGR, TC, |
| 8281;FR10474 | ISX 450 | 464@1800 | 266 | 162 | 1550@1200 | 291 | 118 | PCM, EGR, TC, |
| 8281;FR10471 | ISX 400 | 425@1800 | 241 | 146 | 1650@1200 | 320 | 129 | PCM, EGR, TC, |
| 8281;FR10470 | ISX 400 | 425@1800 | 241 | 146 | 1550@1200 | 291 | 118 | PCM, EGR, TC, |
| 8281;FR10469 | ISX 400 | 425@1800 | 241 | 146 | 1450@1200 | 273 | 110 | PCM, EGR, TC, |
| FEDERAL | | | | | | | | |
| 8282;FR10481 | ISX 500 | 525@1800 | 325 | 197 | 1850@1200 | 371 | 150 | PCM, EGR, TC, |
| 8282;FR10480 | ISX 500 | 525@1800 | 325 | 197 | 1650@1200 | 320 | 129 | PCM, EGR, TC, |
| 8282;FR10482 | ISX 500ST | 525@1800 | 325 | 197 | 1650@1200 | 320 | 129 | PCM, EGR, TC, |
| 8282;FR10485 | ISX 525 | 525@1800 | 325 | 197 | 1650@1200 | 320 | 129 | PCM, EGR, TC, |
| 8282;FR10486 | ISX 525 | 525@1800 | 325 | 197 | 1650@1200 | 320 | 129 | PCM, EGR, TC, |
| 8282;FR10478 | ISX 475 | 500@1800 | 304 | 185 | 1850@1200 | 371 | 150 | PCM, EGR, TC, |
| 8282;FR10477 | ISX 475 | 500@1800 | 304 | 185 | 1650@1200 | 320 | 129 | PCM, EGR, TC, |
| 8282;FR10479 | ISX 475ST | 500@1800 | 304 | 185 | 1650@1200 | 320 | 129 | PCM, EGR, TC, |
| 8282;FR10475 | ISX 450 | 464@1800 | 266 | 162 | 1650@1200 | 320 | 129 | PCM, EGR, TC, |
| 8282;FR10474 | ISX 450 | 464@1800 | 266 | 162 | 1550@1200 | 291 | 118 | PCM, EGR, TC, |
| 8282;FR10471 | ISX 400 | 425@1800 | 241 | 146 | 1650@1200 | 320 | 129 | PCM, EGR, TC, |
| 8282;FR10470 | ISX 400 | 425@1800 | 241 | 146 | 1550@1200 | 291 | 118 | PCM, EGR, TC, |

Engine Model Summary Form

Manufacturer: Cummins, Inc.
 Engine category: On-highway HDDE
 EPA Engine Family: 2CEXH0912XAG
 Mir Family Name: 103G
 Process Code: New Submission

| 1. Engine Code | 2. Engine Model | 3. BHP@RPM (SAE Gross) | 4. Fuel Rate: mm ³ /stroke @ peak IIP (for diesel only) | 5. Fuel Rate: (lbs/hr) @ peak IIP (for diesels only) | 6. Torque @ RPM (SEA Gross) | 7. Fuel Rate: mm ³ /stroke@peak torque | 8. Fuel Rate: (lbs/hr)@peak torque | 9. Emission Control Device Per SAE J1930 |
|----------------|-----------------|---------------------------|--|--|--------------------------------|---|---------------------------------------|---|
| 8125;FR10427 | ISX 500 | 525@1800 | 337 | 204 | 1850@1200 | 388 | 157 | DDI, PCM, EGR, TC, CAC |
| 8125;FR10433 | ISX 525 | 525@1800 | 337 | 204 | 1650@1200 | 337 | 137 | PCM, EGR, TC, |
| 8125;FR10426 | ISX 500ST2 | 525@1800 | 337 | 204 | 1650@1200 | 337 | 137 | PCM, EGR, TC, |
| 8125;FR10425 | ISX 500 | 525@1800 | 337 | 204 | 1650@1200 | 337 | 137 | PCM, EGR, TC, |
| 8125;FR10422 | ISX 475 | 500@1800 | 315 | 191 | 1650@1200 | 337 | 137 | PCM, EGR, TC, |
| 8125;FR10421 | ISX 450 | 464@1800 | 280 | 170 | 1650@1200 | 337 | 137 | PCM, EGR, TC, |
| 8125;FR10419 | ISX 450ST2 | 464@1800 | 280 | 170 | 1450@1200 | 296 | 120 | PCM, EGR, TC, |
| 8125;FR10418 | ISX 400 | 425@1800 | 254 | 154 | 1650@1200 | 337 | 137 | PCM, EGR, TC, |
| 8125;FR10416 | ISX 400ST2 | 425@1800 | 254 | 154 | 1450@1200 | 296 | 120 | PCM, EGR, TC, |
| 8125;FR10415 | ISX 400 | 425@1800 | 254 | 154 | 1450@1200 | 296 | 120 | PCM, EGR, TC, |
| 8127;FR10433 | ISX 525 | 525@1800 | 337 | 204 | 1650@1200 | 337 | 137 | PCM, EGR, TC, |

Attachment-2022 A-021-0341-3