



Pursuant to the authority vested in the 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-02-003;

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 FAMILY | ENGINE SIZES (L) | FUEL TYPE ¹ | | STANDARDS & TEST PROCEDURE | INTENDED SERVICE CLASS ² | ECS & SPECIAL FEATURES ³ |
|--|----------------|------------------|------------------------|--|----------------------------|-------------------------------------|-------------------------------------|
| | | | Diesel | | | | |
| 2006 | 6CEXH0661MAT | 10.8 | Diesel | | Diesel | HHDD | PCM, EGR, DDI, TC, CAC |
| ENGINE (L) | | | | | | | |
| ENGINE MODELS / CODES (rated power, in hp) | | | | | | | |
| 10.8 | See Attachment | | | | | | |
| * | * | | | | | | |
| * | * | | | | | | |
| * | * | | | | | | |

¹ =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;
² 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;
³ L/M/H HDD=light/medium/heavy heavy-duty diesel; UB=urban bus; HDO=heavy duty Otto;
ECS=emission control system; TWC/OC=three-way/oxidizing catalyst; WU (prefix) =warm-up catalyst; DPF=diesel particulate filter; 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; SF/IMFI=sequential/multi port fuel injection; DGI=direct gasoline injection; GCARB=gaseous carburetor; IDI/DDI=indirect/direct diesel injection; TC/SC=turbo/super charger; CAC=charge air cooler; EGR=exhaust gas recirculation; PAIR/AIR=pulsed/secondary air injection; SPL=smoke puff limiter; ECM/PCM=engine/powertrain control module; EM=engine modification; 2 (prefix)=parallel; (2) (suffix)=in series; (2004may26)

Following are: 1) the FTP exhaust emission standards, or family emission limit(s) as applicable, under 13 CCR 1956.1 (urban bus) or 13 CCR 1956.8 (other than urban bus); 2) the EURO 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, in g/bhp-hr, for this engine family. "Diesel" CO, EURO 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 1956.1 or 13 CCR 1956.8 are in parentheses.)

| | NMHC | | NOx | | NMHC+NOx | | CO | | PM | | HCHO | |
|------|-------|------|-----|------|----------|------|--------|------|-------|------|------|------|
| | FTP | EURO | FTP | EURO | FTP | EURO | FTP | EURO | FTP | EURO | FTP | EURO |
| STD | 0.5 | 0.5 | * | * | * | * | 15.5 | 15.5 | 0.10 | 0.10 | * | * |
| FEL | * | * | * | * | 2.4 | 2.4 | * | * | * | * | * | * |
| CERT | 0.2 | 0.1 | * | * | 2.0 | 2.2 | 0.6 | 0.4 | 0.10 | 0.08 | * | * |
| NTE | 0.625 | | * | | 3.0 | | 19.375 | | 0.125 | | * | |

⁴ g/bhp-hr=grams per brake horsepower-hour; FTP=Federal Test Procedure; EURO=Euro III European Steady-State Cycle; NTE=Not-to-Exceed; STD=standard or emission test cap; FEL=family emission limit; CERT=certification level; NMHC/HC=non-methane/hydrocarbon; NOx=oxides of nitrogen; CO=carbon monoxide; PM=particulate matter; HCHO=formaldehyde;

BE IT FURTHER RESOLVED: 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: For the listed engine models the manufacturer has submitted the materials to demonstrate certification compliance with 13 CCR 1965 (emission control labels) 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 at El Monte, California on this 12th day of December 2005.

Allen Lyons, Chief
Mobile Source Operations Division

Engine Model Summary Form

Attachment to the EO 4-021-0400

Manufacturer: **Cummins Inc.**
 Engine category: **On-highway HDDE**
 EPA Engine Family: **6CEXH0661MAT**
 Mfr Family Name: **353T**
 Process Code: **New Submission**

| 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 |
|----------------|-----------------|---------------------------|---|---|--------------------------------|---|---------------------------------------|---|
| 8271:FR2989 | ISM 450 | 450@1800 | 269 | 163 | 1450@1200 | 291 | 118 | PCM, EGR, TC, DDI |
| 8271:FR2964 | ISM 450 | 450@1800 | 269 | 163 | 1450@1200 | 291 | 118 | PCM, EGR, TC, CAC |
| 8271:FR2990 | ISM 400 | 400@1800 | 231 | 140 | 1450@1200 | 291 | 118 | PCM, EGR, TC, DDI |
| 8271:FR2983 | ISM 400 | 400@1800 | 231 | 140 | 1450@1200 | 291 | 118 | PCM, EGR, TC, DDI |
| 8271:FR2984 | ISM 400 | 400@1800 | 231 | 140 | 1350@1200 | 267 | 108 | PCM, EGR, TC, DDI |
| 8271:FR2986 | ISM 385 | 385@1800 | 224 | 136 | 1450@1200 | 291 | 118 | PCM, EGR, TC, DDI |
| 8271:FR2978 | ISM 385V | 385@1800 | 224 | 136 | 1450@1200 | 291 | 118 | PCM, EGR, TC, DDI |
| 8271:FR2979 | ISM 385V | 385@1800 | 224 | 136 | 1350@1200 | 267 | 108 | PCM, EGR, TC, DDI |
| 8271:FR2953 | ISM 370 | 385@1800 | 224 | 136 | 1450@1200 | 291 | 118 | PCM, EGR, TC, DDI |
| 8271:FR2972 | ISM 370 | 385@1800 | 224 | 136 | 1350@1200 | 267 | 108 | PCM, EGR, TC, DDI |
| 8271:FR2987 | ISM 365 | 365@1800 | 213 | 129 | 1350@1200 | 267 | 108 | PCM, EGR, TC, DDI |
| 8271:FR2991 | ISM 350 | 385@1800 | 224 | 136 | 1450@1200 | 291 | 118 | PCM, EGR, TC, DDI |
| 8271:FR9980 | ISM 350V | 350@1800 | 204 | 124 | 1450@1200 | 291 | 118 | PCM, EGR, TC, DDI |
| 8271:FR2963 | ISM 350V | 350@1800 | 204 | 136 | 1350@1200 | 267 | 108 | PCM, EGR, TC, DDI |
| 8271:FR2973 | ISM 350 | 365@1800 | 213 | 129 | 1350@1200 | 267 | 108 | PCM, EGR, TC, DDI |
| 8271:FR2974 | ISM 350ST | 385@1800 | 224 | 136 | 1350@1200 | 267 | 108 | PCM, EGR, TC, DDI |
| 8271:FR2988 | ISM 340 | 450@1800 | 269 | 163 | 1350@1200 | 267 | 108 | PCM, EGR, TC, DDI |
| 8271:FR2960 | ISM 330 | 340@1800 | 199 | 121 | 1350@1200 | 267 | 108 | PCM, EGR, TC, DDI |
| 8271:FR2992 | ISM 330ST | 370@1800 | 215 | 131 | 1350@1200 | 267 | 108 | PCM, EGR, TC, DDI |
| 8377:FR2993 | ISM 500 | 500@2000 | 270 | 182 | 1450@1300 | 285 | 125 | PCM, EGR, TC, DDI |
| 8377:FR2994 | ISM 500 | 500@2000 | 270 | 182 | 1450@1300 | 285 | 125 | PCM, EGR, TC, DDI |
| 8377:FR2009 | ISM 450 | 450@1900 | 255 | 163 | 1450@1300 | 285 | 125 | PCM, EGR, TC, DDI |
| 8377:FR20010 | ISM 430 | 450@1900 | 255 | 163 | 1450@1300 | 285 | 125 | PCM, EGR, TC, DDI |
| 8377:FR20011 | ISM 400 | 400@1800 | 241 | 146 | 1450@1300 | 285 | 125 | PCM, EGR, TC, DDI |
| 8377:FR20012 | ISM 450 | 450@1900 | 255 | 163 | 1450@1300 | 285 | 125 | PCM, EGR, TC, DDI |
| 8503:FR2989 | ISM 450 | 450@1800 | 269 | 163 | 1450@1200 | 291 | 118 | PCM, EGR, TC, DDI |
| 8503:FR2964 | ISM 450 | 450@1800 | 269 | 163 | 1450@1200 | 291 | 118 | PCM, EGR, TC, DDI |
| 8503:FR2990 | ISM 400 | 400@1800 | 231 | 140 | 1450@1200 | 291 | 118 | PCM, EGR, TC, DDI |

| | | | | | | | | |
|--------------|-----------|----------|-----|-----|-----------|-----|-----|---------------|
| 8503:FR2985 | ISM 4U | 400@1800 | 231 | 140 | 1450@1200 | 291 | 118 | PCM, EGR, TC, |
| 8503:FR2986 | ISM 400 | 400@1800 | 231 | 136 | 1350@1200 | 267 | 108 | PCM, EGR, TC, |
| 8503:FR2986 | ISM 385 | 385@1800 | 224 | 136 | 1450@1200 | 291 | 118 | PCM, EGR, TC, |
| 8503:FR2978 | ISM 385V | 385@1800 | 224 | 136 | 1450@1200 | 291 | 118 | PCM, EGR, TC, |
| 8503:FR2979 | ISM 385V | 385@1800 | 224 | 136 | 1350@1200 | 267 | 108 | PCM, EGR, TC, |
| 8503:FR2953 | ISM 370 | 385@1800 | 224 | 136 | 1450@1200 | 291 | 118 | PCM, EGR, TC, |
| 8503:FR2972 | ISM 370 | 385@1800 | 224 | 136 | 1350@1200 | 267 | 108 | PCM, EGR, TC, |
| 8503:FR2987 | ISM 365 | 365@1800 | 213 | 129 | 1350@1200 | 267 | 108 | PCM, EGR, TC, |
| 8503:FR2991 | ISM 350 | 385@1800 | 224 | 136 | 1450@1200 | 291 | 118 | PCM, EGR, TC, |
| 8503:FR9980 | ISM 350V | 350@1800 | 204 | 124 | 1450@1200 | 291 | 118 | PCM, EGR, TC, |
| 8503:FR2963 | ISM 350V | 350@1800 | 204 | 124 | 1350@1200 | 267 | 108 | PCM, EGR, TC, |
| 8503:FR2973 | ISM 350 | 365@1800 | 213 | 129 | 1350@1200 | 267 | 108 | PCM, EGR, TC, |
| 8503:FR2974 | ISM 350ST | 385@1800 | 224 | 136 | 1350@1200 | 267 | 108 | PCM, EGR, TC, |
| 8503:FR2988 | ISM 340 | 450@1800 | 269 | 163 | 1350@1200 | 267 | 108 | PCM, EGR, TC, |
| 8503:FR2960 | ISM 330 | 340@1800 | 199 | 121 | 1350@1200 | 267 | 108 | PCM, EGR, TC, |
| 8503:FR2992 | ISM 330ST | 370@1800 | 215 | 131 | 1350@1200 | 267 | 108 | PCM, EGR, TC, |
| 8557:FR2953 | ISM 370 | 385@1800 | 197 | 141 | 1450@1200 | 243 | 116 | PCM, EGR, TC, |
| 8557:FR2972 | ISM 370 | 385@1800 | 197 | 141 | 1350@1200 | 226 | 108 | PCM, EGR, TC, |
| 8557:FR2973 | ISM 350 | 365@1800 | 188 | 134 | 1350@1200 | 226 | 108 | PCM, EGR, TC, |
| 8557:FR2974 | ISM 350ST | 385@1800 | 197 | 141 | 1350@1200 | 226 | 108 | PCM, EGR, TC, |
| 8557:FR2991 | ISM 350ST | 385@1800 | 197 | 141 | 1450@1200 | 243 | 116 | PCM, EGR, TC, |
| 8557:FR2960 | ISM 330 | 340@1800 | 178 | 127 | 1350@1200 | 226 | 108 | PCM, EGR, TC, |
| 8557:FR2978 | ISM 385V | 385@1800 | 197 | 141 | 1450@1200 | 243 | 116 | PCM, EGR, TC, |
| 8557:FR2979 | ISM 385V | 385@1800 | 197 | 141 | 1350@1200 | 226 | 108 | PCM, EGR, TC, |
| 8557:FR2980 | ISM 350V | 350@1800 | 182 | 130 | 1450@1200 | 243 | 116 | PCM, EGR, TC, |
| 8557:FR2963 | ISM 350V | 350@1800 | 182 | 130 | 1350@1200 | 226 | 108 | PCM, EGR, TC, |
| 8557:FR2986 | ISM 385 | 385@1800 | 197 | 141 | 1350@1200 | 226 | 108 | PCM, EGR, TC, |
| 8557:FR2987 | ISM 365 | 365@1800 | 188 | 134 | 1350@1200 | 226 | 108 | PCM, EGR, TC, |
| 8557:FR2998 | ISM 340 | 340@1800 | 178 | 127 | 1350@1200 | 226 | 108 | PCM, EGR, TC, |
| 8557:FR20035 | ISM 385V | 385@1800 | 224 | 136 | 1450@1200 | 291 | 118 | PCM, EGR, TC, |

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|-------------|----------|----------|-----|-----|-----------|-----|-----|---------------|
| 8272:FR2989 | ISM 450 | 450@1800 | 269 | 163 | 1450@1200 | 291 | 118 | PCM, EGR, TC, |
| 8272:FR2978 | ISM 385V | 385@1800 | 224 | 136 | 1450@1200 | 291 | 118 | PCM, EGR, TC, |
| 8272:FR2979 | ISM 385V | 385@1800 | 224 | 136 | 1350@1200 | 267 | 108 | PCM, EGR, TC, |
| 8272:FR2953 | ISM 370 | 385@1800 | 224 | 136 | 1450@1200 | 291 | 118 | PCM, EGR, TC, |
| 8272:FR2972 | ISM 370 | 385@1800 | 224 | 136 | 1350@1200 | 267 | 108 | PCM, EGR, TC, |
| 8272:FR9980 | ISM 350V | 350@1800 | 204 | 124 | 1450@1200 | 291 | 118 | PCM, EGR, TC, |
| 8272:FR2963 | ISM 350V | 350@1800 | 204 | 124 | 1350@1200 | 267 | 108 | PCM, EGR, TC, |

| UNIT NUMBER | UNIT CODE | UNIT QUANTITY | UNIT PRICE | UNIT TOTAL | UNIT TYPE | UNIT DESCRIPTION | UNIT STATUS | UNIT LOCATION | UNIT COMMENTS |
|-------------|-----------|---------------|------------|------------|-----------|------------------|---------------|---------------|---------------|
| 8272,FR2 | ISM 350ST | 385@1800 | 224 | 1350@1200 | 267 | 108 | PCM, EGR, TC, | | |
| 8272,FR2960 | ISM 330 | 340@1800 | 199 | 1350@1200 | 267 | 108 | PCM, EGR, TC, | | |
| 8504,FR2989 | ISM 450 | 450@1800 | 269 | 1450@1200 | 291 | 118 | PCM, EGR, TC, | | |
| 8504,FR2978 | ISM 385V | 385@1800 | 224 | 1450@1200 | 291 | 118 | PCM, EGR, TC, | | |
| 8504,FR2979 | ISM 385V | 385@1800 | 224 | 1350@1200 | 267 | 108 | PCM, EGR, TC, | | |
| 8504,FR2953 | ISM 370 | 385@1800 | 224 | 1450@1200 | 291 | 118 | PCM, EGR, TC, | | |
| 8504,FR2972 | ISM 370 | 385@1800 | 224 | 1350@1200 | 267 | 108 | PCM, EGR, TC, | | |
| 8504,FR9980 | ISM 350V | 350@1800 | 204 | 1450@1200 | 291 | 118 | PCM, EGR, TC, | | |
| 8504,FR2963 | ISM 350V | 350@1800 | 204 | 1350@1200 | 267 | 108 | PCM, EGR, TC, | | |
| 8504,FR2973 | ISM 350 | 365@1800 | 213 | 1350@1200 | 267 | 108 | PCM, EGR, TC, | | |
| 8504,FR2974 | ISM 350ST | 385@1800 | 224 | 1350@1200 | 267 | 108 | PCM, EGR, TC, | | |
| 8504,FR2960 | ISM 330 | 340@1800 | 199 | 1350@1200 | 267 | 108 | PCM, EGR, TC, | | |
| 8562,FR2953 | ISM 370 | 385@1800 | 197 | 1450@1200 | 243 | 116 | PCM, EGR, TC, | | |
| 8562,FR2972 | ISM 370 | 385@1800 | 197 | 1350@1200 | 226 | 108 | PCM, EGR, TC, | | |
| 8562,FR2973 | ISM 350 | 365@1800 | 188 | 1350@1200 | 226 | 108 | PCM, EGR, TC, | | |
| 8562,FR2974 | ISM 350ST | 385@1800 | 197 | 1350@1200 | 226 | 108 | PCM, EGR, TC, | | |
| 8562,FR2960 | ISM 330 | 340@1800 | 178 | 1350@1200 | 226 | 108 | PCM, EGR, TC, | | |
| 8562,FR2978 | ISM 385V | 385@1800 | 197 | 1450@1200 | 243 | 116 | PCM, EGR, TC, | | |
| 8562,FR2979 | ISM 385V | 385@1800 | 197 | 1350@1200 | 226 | 108 | PCM, EGR, TC, | | |
| 8562,FR2980 | ISM 350V | 350@1800 | 182 | 1450@1200 | 243 | 116 | PCM, EGR, TC, | | |
| 8562,FR2963 | ISM 350V | 350@1800 | 182 | 1350@1200 | 226 | 108 | PCM, EGR, TC, | | |