



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	DIAGNOSTIC ⁶
2011	BDDXH14.8EED	14.8	Diesel	Diesel	HHDD	DDI, TC, CAC, ECM, EGR, OC, PTOX, SCR-U, OC	OBD (P) / EMD+
PRIMARY ENGINE'S IDLE EMISSIONS CONTROL ⁵		ADDITIONAL IDLE EMISSIONS CONTROL ⁵					
30g		N/A					
ENGINE (L)	ENGINE MODELS / CODES (rated power, in hp)						
14.8	See attachment for engine models and ratings (clean idle engines are labeled as 50-State compliant engines)						
	Engine Code I is OBD (P) compliant						
<small> 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; L=liter; hp=horsepower; kw=kilowatt; hr=hour; 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; L/M/H HDD=light/medium/heavy heavy-duty diesel; UB=urban bus; HDO=heavy duty Otto; ³ ECS=emission control system; TWC/OC=three-way/oxidizing catalyst; NAC=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; GCARB=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; SPL=smoke puff limiter; ECM/PCM=engine/powertrain control module; EM=engine modification; 2 (prefix)=parallel; (2) (suffix)=in series; SCR = Selective Catalytic Reduction system ⁴ 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 (E) / (P) / (\$) =full / partial / partial with fine / on-board diagnostic;; </small>							

Following are: 1) the FTP exhaust emission standards, or family emission limit(s) as applicable, under 13 CCR 1956.8; 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, 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 1956.8 are in parentheses.).

in g/bhp-hr	NMHC		NOx		NMHC+NOx		CO		PM		HCHO	
	FTP	EURO	FTP	EURO	FTP	EURO	FTP	EURO	FTP	EURO	FTP	EURO
STD	0.14	0.14	0.20	0.20	*	*	15.5	15.5	*	*	*	*
FEL	*	*	*	*	*	*	*	*	0.00	0.00	*	*
CERT	0.00	0.00	0.16	0.05	*	*	0.1	0.01	0.003	0.000	*	*
NTE	0.21		0.30		*		19.4		0.02		*	

* g/bhp-hr=grams per brake horsepower-hour; FTP=Federal Test Procedure; EURO=Euro III European Steady-State Cycle, including RMCSET=ramp mode cycle supplemental emissions testing; 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), 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 at El Monte, California on this 7 day of February 2011.

Annette Hebert, Chief
Mobile Source Operations Division

Engine Model Summary Template

Engine Family	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
BDDXH14.8EED	<u>I</u>	DD15	455@1800	260	150.5	1550@1240	279	111.6	DDF MGM, TC, CAC
BDDXH14.8EED	II	DD15	475@1800	272	157.5	1550@1240	279	111.6	EGR, DOC,
BDDXH14.8EED	III	DD15	455@1800	260	150.5	1650@1240	297	118.7	PTOX- DPF , SCR-u, oc
BDDXH14.8EED	IV	DD15	475@1800	272	157.5	1650@1240	297	118.7	(all ratings)
BDDXH14.8EED	V	DD15	505@1800	290	168.1	1650@1240	297	118.7	
BDDXH14.8EED	VI	DD15	455@1800	260	150.5	1750@1240	316	126.2	all ratings except I and VIII
BDDXH14.8EED	VII	DD15	475@1800	272	157.5	1850@1240	334	133.5	
BDDXH14.8EED	VIII	DD15	500@1800	290	166.4	1850@1240	334	133.5	
BDDXH14.8EED	IX	DD15	530@1800	307	177.6	1850@1240	334	133.5	
BDDXH14.8EED	X	DD15	560@1800	327	189.3	1850@1240	334	133.5	
BDDXH14.8EED	XI	DD15	455@1800	260	150.5	1550@1240	279	111.6	
BDDXH14.8EED	XII	DD15	475@1800	272	157.5	1550@1240	279	111.6	
BDDXH14.8EED	XIII	DD15	455@1800	260	150.5	1650@1240	297	118.7	
BDDXH14.8EED	XIV	DD15	475@1800	272	157.5	1650@1240	297	118.7	
BDDXH14.8EED	XV	DD15	505@1800	290	168.1	1650@1240	297	118.7	
BDDXH14.8EED	XVI	DD15	455@1800	260	150.5	1750@1240	316	126.2	
BDDXH14.8EED	XVII	DD15	475@1800	272	157.5	1850@1240	334	133.5	
BDDXH14.8EED	XVIII	DD15	500@1800	290	166.4	1850@1240	334	133.5	
BDDXH14.8EED	XIX	DD15	530@1800	307	177.6	1850@1240	334	133.5	
BDDXH14.8EED	XX	DD15	560@1800	327	189.3	1850@1240	334	133.5	

OBD compliant

*all ratings
except I and VIII*

ATTACHMENT I

A-290-0138