EXECUTIVE ORDER A-006-1733-1 New On-Road Heavy-Duty Engines Page 1 of 1 Pages

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.

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MODEL YEAR	ENGINE FAMILY	, ENGINE SIZES (L)	FUEL TYPE 1	STANDARDS & TEST	SERVICE	ECS & SPECIAL FEATURES 3	DIAGNOSTIC 6			
		0.220 (2/		PROCEDURE	CLASS ~	2TWC, 2HO2S(2), SFI	EMD			
2011	BGMXE06.058	6.0	Gasoline	Otto	HDO	21 WC, 2HO23(2), 3F1	EIVID			
PRIMARY ENGINE'S IDLE										
EMISSIONS CONTROL 5 ADDITIONAL IDLE EMISSIONS CONTROL										
N/A		N/A								
ENGINE (L) ENGINE MODELS / CODES (rated power, in hp)										
6.0	6.0 L96 / 40 (323), 60 (307)									
*=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 EŬRO and NTE limits under the applicable California exhaust emission standards and test procedures for heavyduty 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	NMHC		NOx		NMHC+NOx		co ·		PM		HCHO	
g/bhp-hr	FTP	EURO	FTP	EURO	FTP	EURO	FTP	EURO	FTP	EURO	FTP	EURO
STD	0.14	*			•	*	14.4	*	0.01	*	0.01	*
FEL	*		0.42	•	*	*	*	*	*	*	*	*
CERT	0.06		0.19	*	*	*	2.2	*	0.005	*	0.001	*
NTE	1			*	*		*		*		*	

g/bhp-hr=grams per brake horsepower-hour; FTP=Federal Test Procedure; EURO=Euro III European Steady-State Cycle, including RMCSET=ram 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; (Rev.: 2007-02-26)

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.

This Executive Order hereby supersedes Executive Order A-006-1733 dated April 27, 2010.

Executed at El Monte, California on this day of June 2010.

Annette Hebert, Chief

Mobile Source Operations Division

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/OC=three-way/oxidizing catalyst; NAC=NOx adsorption catalyst; SCR-U /SCR-N=selective catalytic reduction – urea / – ammonia; WU (prefix) = warm-up catalyst; DFF=diesel particulate filter; PTOX=periodic trap oxidizer; HO2S/O2S=heated/oxygen sensor; HAFS/AFS=heated/air-fxel-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=gasequs carburetor; IDI/IDI=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;

ESS=aponine shutdown system / oct 13 CCR 1056 (9/S/A)(4), 20=20 of the SEVENING COR 1050 (9/S/A)(4), 20=2

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=on-board diagnostic system (13 CCR 1971.1);