

Pursuant to the authority vested in the Air Resources Board by Sections 43013, 43018, 43101, 43102, 43104 and 43105 of the Health and Safety Code; and

Pursuant to the authority vested in the undersigned by Sections 39515 and 39516 of the Health and Safety Code and Executive Order G-14-012;

IT IS ORDERED AND RESOLVED: That the following compression-ignition engines and emission control systems produced by the manufacturer are certified as described below for use in off-road equipment. Production engines shall be in all material respects the same as those for which certification is granted.

MODEL YEAR	ENGINE FAMILY	DISPLACEMENT (liters)	FUEL TYPE	USEFUL LIFE (hours)
2016	GMDDL21.0XWM	17.5, 21.0	Diesel	8,000
SPECIAL FEATURES & EMISSION CONTROL SYSTEMS			TYPICAL EQUIPMENT APPLICATION	
Electronic Direct Injection, Turbocharger, Charge Air Cooler, Electronic Control Module, Exhaust Gas Recirculation			Crane, Loader, Tractor, Dozer, Pump, Compressor	

The engine models and codes are attached.

The following are the exhaust certification standards (STD) and certification levels (CERT) for non-methane hydrocarbon (NMHC), oxides of nitrogen (NOx), or non-methane hydrocarbon plus oxides of nitrogen (NMHC+NOx), carbon monoxide (CO), and particulate matter (PM) in grams per kilowatt-hour (g/kW-hr), and the opacity-of-smoke certification standards and certification levels in percent (%) during acceleration (Accel), lugging (Lug), and the peak value from either mode (Peak) for this engine family (Title 13, California Code of Regulations, (13 CCR) Section 2423):

RATED POWER CLASS	EMISSION STANDARD CATEGORY		EXHAUST (g/kW-hr)					OPACITY (%)		
			NMHC	NOx	NMHC+NOx	CO	PM	ACCEL	LUG	PEAK
ELSE > 560 kW	Tier 4 Final	STD	0.19	3.5	N/A	3.5	0.04	N/A	N/A	N/A
		CERT	0.09	3.2	--	0.2	0.02	--	--	--

BE IT FURTHER RESOLVED: That for the listed engine models, the manufacturer has submitted the information and materials to demonstrate certification compliance with 13 CCR Section 2424 (emission control labels), and 13 CCR Sections 2425 and 2426 (emission control system warranty).

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

This Executive Order is only granted to the engine family and model-year listed above. Engines in this family that are produced for any other model-year are not covered by this Executive Order.

Executed at El Monte, California on this 28th day of April 2016.

Annette Hebert
 For Annette Hebert, Chief
 Emissions Compliance, Automotive Regulations and Science Division

Engine Model Summary Template

ATTACHMENT

U-R-052-0028

4/27/16

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
GMDDL21.OXWM	7270	12V1600C70	986@1900	264	330	4220@1300	298	255	EGR, ECM, TC, CAC, DFI
GMDDL21.OXWM	7271	12V1600A70	986@1900	264	330	4220@1300	298	255	EGR, ECM, TC, CAC, DFI
GMDDL21.OXWM	7272	12V1600C60	912@2100	230	318	4100@1300	292	250	EGR, ECM, TC, CAC, DFI
GMDDL21.OXWM	7273	12V1600A60	912@2100	230	318	4100@1300	292	250	EGR, ECM, TC, CAC, DFI
GMDDL21.OXWM	7274	12V1600C50	853@1900	228	285	4020@1300	285	244	EGR, ECM, TC, CAC, DFI
GMDDL21.OXWM	7275	12V1600A50	853@1900	228	285	4020@1300	285	244	EGR, ECM, TC, CAC, DFI
GMDDL21.OXWM	7293	12V1600T50	853@1900	228	285	4020@1300	285	244	EGR, ECM, TC, CAC, DFI
GMDDL21.OXWM	7294	12V1600T60	912@2100	230	318	4100@1300	292	250	EGR, ECM, TC, CAC, DFI
GMDDL21.OXWM	7295	12V1600T70	986@1900	264	330	4220@1300	298	255	EGR, ECM, TC, CAC, DFI
GMDDL21.OXWM	7296	10V1600C70	822@1900	263	274	3517@1300	296	211	EGR, ECM, TC, CAC, DFI
GMDDL21.OXWM	7297	10V1600A70	822@1900	263	274	3517@1300	296	211	EGR, ECM, TC, CAC, DFI
GMDDL21.OXWM	7298	10V1600T70	822@1900	263	274	3517@1300	296	211	EGR, ECM, TC, CAC, DFI
GMDDL21.OXWM	7299	10V1600C60	760@2100	228	263	3385@1300	285	203	EGR, ECM, TC, CAC, DFI
GMDDL21.OXWM	7300	10V1600A60	760@2100	228	263	3385@1300	285	203	EGR, ECM, TC, CAC, DFI
GMDDL21.OXWM	7301	10V1600T60	760@2100	228	263	3385@1300	285	203	EGR, ECM, TC, CAC, DFI