## DAEDONG INDUSTRIAL CO., LTD.

EXECUTIVE ORDER U-R-044-0083 New Off-Road Compression-Ignition Engines

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-02-003;

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)		
2011	BDCLL02.4B87	1.826, 2.434	Diesel	5000		
SPECIAL	FEATURES & EMISSION (	CONTROL SYSTEMS	TYPICAL EQUIPMENT APPLICATION			
	Indirect Diesel Inje	ction	Tractor			

The engine models and codes are attached.

The following are the exhaust certification standards (STD), or family emission limit(s) (FEL) as applicable, and certification levels (CERT) for hydrocarbon (HC), 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	EMISSION		EXHAUST (g/kw-hr)					OPACITY (%)		
POWER CLASS	STANDARD CATEGORY		нс	NOx	NMHC+NOx	co	PM	ACCEL	LUG	PEAK
19 ≤ kW < 37	Tier 4 Interim	STD	N/A	N/A	7.5	5.5	0.30	20	15	50
		CERT			6.5	0.7	0.17	4	2	6

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 \_\_\_\_\_\_ day of February 2011

Annette Hebert, Chief

Mobile Source Operations Division

1)ate: /-28-2011

**Engine Model Summary Template** 

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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 torqu	9.Emission Control ueDevice Per SAE J1930
BDCLL02.4B87	3B183LWS	3B183	38@2600	38.2	16.47	90.8@1700	42	11.88	EM, IDI
BDCLL02.4B87	3B183LWH	3B183	38@2600	38.2	16.47	90.8@1700	42	11.88	EM, IDI
BDCLL02.4B87	3B183LWM	3B183	38@2600	38.2	16.47	90.8@1700	42	11.88	EM, IDI
BDCLL02.4B87	4B243LWH	4B243	49@2600	37.2	21.36	117@1700	40.7	15.28	EM, IDI
BDCLL02.4B87	4B243LWM	4B243	49@2600	37.2	21.36	117@1700	40.7	15.28	EM, IDI
BDCLL02.4B87	4B243LWL	4B243	49@2600	· 37.2	21.36	117@1700	40.7	15.28	EM, IDI
BDCLL02.4B87	4B243LWS	4B243	49@2600	37.2	21.36	117@1700	40.7	15.28	EM, IDI
BDCLL02.4B87	4B243LW-DY	4B243	49@2600	37.2	21.36	117@1700	40.7	15.28	EM, IDI