

DAEDONG INDUSTRIAL CO., LTD.

EXECUTIVE ORDER U-R-044-0082

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	BDCLL01.4D80	1.393	Diesel			
SPECIAL FEATURES & EMISSION CONTROL SYSTEMS		TYPICAL EQUIPMENT APPLICATION				
Indirect Diesel Injection			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 STANDARD CATEGORY		EXHAUST (g/kw-hr)					OPACITY (%)		
POWER			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		-	5.2	1.0	0.22	5	4	7

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 January 2011

Annette Hebert, Chief

Mobile Source Operations Division

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Fuel Rate: 9.Emission Control stroke@peak 8.Fuel Rate: 9.Emission Control torque (lbs/hr)@peak torqueDevice Per SAE J1930	EM, IDI	EM, IDI	EM. IDI
8.Fuel Rate: (lbs/hr)@peak torqu	9.39	9.39	9.39
7.Fuel Rate: mm/stroke@peak torque	31.5	31.5	31.5
6.Torque @ RPM (SEA Gross)	64.9@1800	64.9@1800	64.9@1800
5.Fuel Rate: (lbs/hr) @ peak HP (for diesels only)	11.97	11.97	11.97
4.Fuel Rate: 5.Fuel Rate: 3.Euel Rate: 3.Euel Rate: 3.Euel Rate: 3.Euel Rate: 3.Euel Rate: 3.Euel Rate: 6.Torque @ RPM Engine Family 1.Engine Code 2.Engine Model (SAE Gross) (for diesel only) (for diesels only) (SEA Gross)	27.8	27.8	27.8
3.BHP@RPM (SAE Gross)	27.8@2600	27.8@2600	27.8@2600
2.Engine Model	3A139	3A139	3A139
1.Engine Code	3A139LWH	3A139LWS	3A139LWM
Engine Family	BDCLL01.4D80	BDCLL01.4D80	BDCI 1 01.4D80