California Environmental Protection Agency **Air Resources Board**	DAEDONG INDUSTRIAL CO., LTD	**EXECUTIVE ORDER U-R-044-0103** 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)
2013	DDCLL01.8F7T	1.826	Diesel	8000

SPECIAL FEATURES & EMISSION CONTROL SYSTEMS	TYPICAL EQUIPMENT APPLICATION
Electronic Control Module, Periodic Trap Oxidizer, Exhaust Gas Recirculation, Oxidation Catalyst, Electronic Direct Injection, Turbocharger	Tractor, Other Industrial Equipment

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
19 ≤ kW < 56	Tier 4 Final	STD	N/A	N/A	4.7	5.0	0.03	N/A	N/A	N/A
		CERT	--	--	4.0	0.04	0.003	--	--	--

BE IT FURTHER RESOLVED: That for the listed engine models, the manufacturer has complied with the more stringent set of standards from the various power categories in conformance with Section 1039.230 (e) of the "California Exhaust Emission Standards and Test Procedures for 2008 and Later Tier 4 Off-Road Compression Ignition Engines, Part 1-C" adopted October 20, 2005.

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 16th day of August 2013.

Erik White, Chief
Mobile Source Operations Division

8-5-2013

Engine Model Summary Template

EO#: U-R-044-0103

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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 torque	9.Emission Control Device Per SAE J1930
DDCLL01.8F7T	3021/2600	3F183T	40.2@2600	36.3@40.2	15.64@40.2	98.1@1700	40.2@98.1	11.32@98.1	EGR, ECM, DDI, OC, PTOX, TC
DDCLL01.8F7T	3420/2600	3F183T	44.9@2600	39.8@44.9	17.14@44.9	109.1@1700	45.1@109.1	12.70@109.1	EGR, ECM, DDI, OC, PTOX, TC
DDCLL01.8F7T	3807/2300	3F183T	50.3@2300	47.3@50.3	18.02@50.3	122.4@1700	50.4@122.4	14.20@122.4	EGR, ECM, DDI, OC, PTOX, TC
DDCLL01.8F7T	3820/2600	3F183T	50.3@2600	44.2@50.3	19.04@50.3	122.4@1700	50.4@122.4	14.20@122.4	EGR, ECM, DDI, OC, PTOX, TC
DDCLL01.8F7T	4120/2600	3F183T	55.0@2600	48.4@55.0	20.85@55.0	133.5@1700	56.5@133.5	15.91@133.5	EGR, ECM, DDI, OC, PTOX, TC
DDCLL01.8F7T	4318/2600	3F183T	57.7@2600	50.0@57.7	21.54@57.7	137.9@1700	57.5@137.9	16.19@137.9	EGR, ECM, DDI, OC, PTOX, TC