## DOOSAN INFRACORE CO., Ltd

EXECUTIVE ORDER U-R-019-0118

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)		
2012	CDICL05.8HTB	5.89	Diesel	8000		
SPECIAL	FEATURES & EMISSION	CONTROL SYSTEMS	TYPICAL EQUIPMENT APPLICATION			
Coole	ic Control Module, Turbo r, Electronic Direct Inject ttion, Diesel Oxidation Ca Oxidizer	ion, Exhaust Gas	Loaders, Compressor and Other Industrial Equipment			

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
75 ≤ kW < 130	Tier 4 Interim / ALT NOx	STD	0.19	3.4	N/A	5.0	0.02	N/A	N/A	N/A
		CERT	0.02	2.3		0.1	0.01			-

**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 September 2011.

Annette Hebert, Chief

Mobile Source Operations Division

## **Engine Model Summary Template**

Attachueur. page 1:71

EO#: U-R-019-0118

Engine Family	1.Engine Code	2.Engine Model	3.kW@RPM (SAE Gross)	4.Fuel Rate: mm/stroke @ peak kW (for diesel only)	5.Fuel Rate: (kg/hr) @ peak kW 6.1 (for diesels only)	orque Nm@ RPM (SEA Gross)	7.Fuel Rate: mm/stroke@peak torque	8.Fuel Rate: (kg/hr)@peak tor	9.Emission Control queDevice Per SAE J1930
CDICL05.8HTB	DL06-LDL01	DL06KB	128@2100	107	28	804@1400	120	23	EGR,DOC,DPF,DID,TC,CAC,ECM
CDICL05.8HTB	DL06-LDE06	DL06KB	129.4@1900	102	27	706@1400	105	20	EGR,DOC,DPF,DID,TC,CAC,ECM
CDICL05.8HTB	DL06-LDF02	DL06KB	128.7@2100	103	27	785@1400	113	21	EGR,DOC,DPF,DID,TC,CAC,ECM
CDICL05.8HTB	DL06-LDE00	DL06KB	124.3@1800	99	26	755@1400	99	19	EGR,DOC,DPF,DID,TC,CAC,ECM
CDICL05.8HTB	DL06-LDF01	DL06KB	117.7@2100	86	22	723@1400	103	19	EGR,DOC,DPF,DID,TC,CAC,ECM
CDICL05.8HTB	DL06-LDE05	DL06KB	113.3@2000	84	22	647@1400	88	16	EGR,DOC,DPF,DID,TC,CAC,ECM
CDICL05.8HTB	DL06-LDL00	DL06KB	119.2@2100	76	20	735@1400	94	18	EGR,DOC,DPF,DID,TC,CAC,ECM
CDICL05.8HTB	DL06-LDF00	DL06KB	103@2100	75	20	633@1400	91	17	EGR,DOC,DPF,DID,TC,CAC,ECM
CDICL05.8HTB	DL06-LDE04	DL06KB	102.2@2000	76	20	588@1400	78	15	EGR,DOC,DPF,DID,TC,CAC,ECM
CDICL05.8HTB	DL06-LDE02	DL06KB	93.4@1950	71	19	530@1400	73	14	EGR,DOC,DPF,DID,TC,CAC,ECM
CDICL05.8HTB	DL06-LDE01	DL06KB	86.1@1850	66	17	500@1400	68	13	EGR,DOC,DPF,DID,TC,CAC,ECM