

DOOSAN INFRACORE CO., Ltd

EXECUTIVE ORDER U-R-019-0122 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	DDICL02.4LDA	2.392	Diesel	8,000			
SPECIAL	FEATURES & EMISSION	CONTROL SYSTEMS	TYPICAL EQUIPMENT A	PPLICATION			
Cooler (c Direct Injection, Turbo (Some Models), Electron 3as Recirculation, Diese Periodic Trap Oxid	nic Control Module, Il Oxidation Catalyst,	Loader, Compressor, 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	EMISSION		EXHAUST (g/kW-hr)					OPACITY (%)		
POWER	STANDARD CATEGORY		NMHC	NOx	NMHC+NOx	CO	PM	ACCEL	LUG	PEAK
37 ≤ kW ≤ 56	Tier 4 Final	STD	N/A	N/A	. 4.7	5.0	0.03	N/A	N/A	N/A
		CERT			3.6	0.1	0.002			

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 June 2012.

Annette Hebert, Chief

Mobile Source Operations Division

Engine Family	1.Engine Code	2.Engine Model	3.kW@RPM (BAE Gross)	4,Fuel Rate: mm/stroke @ peak kW (for diesel only)	5.Fuel Rate: (kg/hr) @ peak kW 6 (for diesels only)	i.Torque Nm@ RPM (SEA Gross)	7,Fuel Rate: mm/stroke@peak torque	8.Fuel Rate: (kg/hr)@peak to	9.Emission Control que Device Per SAE J1930
DDICL02.4LDA	DL02-LDL00	D24WAP	55.4@2600	47.9	12.6	280@1600	62.3	10.0	EGR,DOC,DPF,DID,TC,CAC,ECM
DDICL02.4LDA	DL02-LDL01	D24WAP	55.2@2600	47.7	12.5	275@1600	61.0	9.8	EGR,DOC,DPF,DID,TC,CAC,ECM
DDICL02.4LDA	DL02-LDL02	D24WAP	49.2@2600	43.1	11.3	220@1400	49.5	7.0	EGR,DOC,DPF,DID,TC,CAC,ECM
DDICL02.4LDA	DL02-LDL03	D24WAP	45.5@2600	40.1	10.5	200@1400	45.0	6.3	EGR,DOC,DPF,DID,TC,CAC,ECM
DDICL02.4LDA	DL02-LDF00	D24WAP	45.6@2200	45.1	10.0	262@1600	57.6	9.3	EGR,DOC,DPF,DID,TC,CAC,ECM
DDICL02.4LDA	DL02-LDU00	D24WTP	45.5@2600	40.4	10.6	200@1400	47.6	6.7	EGR,DOC,DPF,DID,TC,ECM
DDICL02.4LDA	DL02-LDL05	D24WTP	45.5@2600	40.4	10.6	200@1400	47.6	6.7	EGR,DOC,DPF,DID,TC,ECM
DDICL02.4LDA	DL02-LDL04	D24WTP	36.6@2600	34.5	9.0	150@1400	35.9	5.1	EGR,DOC,DPF,DID,TC,ECM
DDICL02.4LDA	DL02-LDE00	D24WTP	36.6@2200	38.6	8.6	205@1600	47.3	7.6	EGR,DOC,DPF,DID,TC,ECM
DDICL02.4LDA	DL02-LDE01	D24WTP	31.3@2200	33.6	7.5	150@1600	35.9	5.6	EGR,DOC,DPF,DID,TC,ECM
DDICL02,4LDA	DL02-LDF01	D24WTP	33.1@2400	33.2	6.0	156@1600	37,3	6.0	EGR,DOC,DPF,DID,TC,ECM

