

DOOSAN INFRACORE CO., LTD.

EXECUTIVE ORDER U-R-019-0186

New Off-Road

New Off-Road Compression-Ignition Engines

Pursuant to the authority vested in California 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-19-095;

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)					
2021	MDICL03.4LEB	3.409	Diesel 8000						
SPECIAL	FEATURES & EMISSION C	CONTROL SYSTEMS	TYPICAL EQUIPMENT APPLICATION						
Catalyst,	ust Gas Recirculation, D Electronic Direct Inject e Air Cooler, Electronic	ion, Turbocharger,	Loader, Tractor, Compressor, Generator Set, Excavator, Forklift, Utility Terrain Vehicle						

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			l	EXHAUST (g/kw-ł	OPACITY (%)				
	STANDARD CATEGORY		NMHC	NOx	NMHC+NOx	СО	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			3.5	0.2	0.02			

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 on this <u>23rd</u> day of December 2020.

Allen Lyons, Chief

Emissions Certification and Compliance Division

Attachment: Engine Models EO #: U-R-019-0186 Family: MDICL03.4LEB Attachment Last Revised: 11/30/2020

Model				onfig Displacement	Displacement - Units	Peak Power	Peak Power - Units	Peak Power - Speed (rpm)	Peak Power - Fueling	Peak Power - Fuel		Peak Torque -	Peak Torque -	Peak Torque - Fuel					
	Code	Trim	Config							Units	Peak Torque	Units	Speed (rpm)	Peak Torque - Fue	el Units	OBD	GHG	Special	Notes
DL03- LEL04	D34NAP	N/A	14	3.409	Liters	55.3	kilowatt	2400	57.4	mm3/stroke	330	N-m	1400	73.3	mm3/stroke	N/A	N/A	N/A	EGR, DOC, DFI TC, CAC, ECM
DL03- LEF04	D34NAP	N/A	14	3.409	Liters	55	kilowatt	2300	57.3	mm3/stroke	330	N-m	1400	72.5	mm3/stroke	N/A	N/A	N/A	EGR, DOC, DFI TC, CAC, ECM
DL03- LEF08	D34NAP	N/A	14	3.409	Liters	55	kilowatt	2300	57.3	mm3/stroke	330	N-m	1400	72.5	mm3/stroke	N/A	N/A	N/A	EGR, DOC, DFI TC, CAC, ECM
DL03- LEV00	D34NAP	N/A	14	3.409	Liters	55.3	kilowatt	2400	57.4	mm3/stroke	325	N-m	1400	73.2	mm3/stroke	N/A	N/A	N/A	EGR, DOC, DFI TC, CAC, ECM
DL03- LEF10	D34NAP	N/A	14	3.409	Liters	55	kilowatt	2300	57.3	mm3/stroke	330	N-m	1400	72.5	mm3/stroke	N/A	N/A	N/A	EGR, DOC, DFI TC, CAC, ECM
DL03- LER00	D34NAP	N/A	14	3.409	Liters	55.3	kilowatt	2400	57.4	mm3/stroke	325	N-m	1400	73.2	mm3/stroke	N/A	N/A	N/A	EGR, DOC, DFI TC, CAC, ECM
DM03- LEV00	DM03P	N/A	14	3.409	Liters	55.3	kilowatt	2400	50.6	mm3/stroke	330	N-m	1400	72.4	mm3/stroke	N/A	N/A	N/A	EGR, DOC, DFI TC, CAC, ECM
DM03- LEP04	DM03P	N/A	14	3.409	Liters	55.4	kilowatt	2600	48.2	mm3/stroke	330	N-m	1400	72.4	mm3/stroke	N/A	N/A	N/A	EGR, DOC, DFI TC, CAC, ECM
DM03- LEF00	DM03P	N/A	14	3.409	Liters	55.4	kilowatt	2300	51.9	mm3/stroke	330	N-m	1400	72.4	mm3/stroke	N/A	N/A	N/A	EGR, DOC, DFI TC, CAC, ECM
DM03- LEF01	DM03P	N/A	14	3.409	Liters	55.4	kilowatt	2300	51.9	mm3/stroke	330	N-m	1400	72.4	mm3/stroke	N/A	N/A	N/A	EGR, DOC, DFI TC, CAC, ECM