



DOOSAN INFRACORE CO., LTD.

EXECUTIVE ORDER U-R-019-0183  
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	MDICL02.4LEA	2.392	Diesel	8000
SPECIAL FEATURES & EMISSION CONTROL SYSTEMS			TYPICAL EQUIPMENT APPLICATION	
Exhaust Gas Recirculation, Diesel Oxidation Catalyst, Electronic Direct Injection, Turbocharger, Charge Air Cooler, Electronic Control Module			Loader, Tractor, Compressor, Generator Set, Auxiliary Power Unit, 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 STANDARD CATEGORY		EXHAUST (g/kw-hr)					OPACITY (%)		
			NMHC	NOx	NMHC+NOx	CO	PM	ACCEL	LUG	PEAK
19 ≤ kW < 56	Tier 4 Final	<b>STD</b>	N/A	N/A	4.7	5.0	0.03	N/A	N/A	N/A
		<b>CERT</b>	--	--	3.9	0.1	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).

**BE IT FURTHER RESOLVED:** That for the listed engine models which include engines from different power categories in the same engine family, the manufacturer is complying with the more stringent set of standards from the 37 ≤ kW < 56 power category in conformance with the incorporated Section 1039.230 (e) of the "California Exhaust Emission Standards and Test Procedures for New 2011 and Later Tier 4 Off-Road Compression Ignition Engines, Part 1-D" adopted October 20, 2005 and last amended October 25, 2012.

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 15th day of December 2020.

Allen Lyons, Chief  
Emissions Certification and Compliance Division

**Attachment: Engine Models**

**EO #:** U-R-019-0183

**Family:** MDICL02.4LEA

**Attachment Last Revised:** 11/17/2020

Model	Code	Trim	Config	Displacement	Displacement - Units	Peak Power	Peak Power - Units	Peak Power - Speed (rpm)	Peak Power - Fueling	Peak Power - Fuel Units	Peak Torque	Peak Torque - Units	Peak Torque - Speed (rpm)	Peak Torque - Fuel Units	OBD	GHG	Special	Notes	
DL02-LEL05	D24NAP	N/A	I4	2.392	Liters	55.4	kilowatt	2600	51.4	mm3/stroke	280	N-m	1600	63.1	mm3/stroke	N/A	N/A	N/A	EGR, DOC, DFI, TC, CAC, ECM
DL02-LEL00	D24NAP	N/A	I4	2.392	Liters	55.2	kilowatt	2600	48.8	mm3/stroke	280	N-m	1800	61.1	mm3/stroke	N/A	N/A	N/A	EGR, DOC, DFI, TC, CAC, ECM
DL02-LEL01	D24NAP	N/A	I4	2.392	Liters	49.2	kilowatt	2600	43.7	mm3/stroke	245	N-m	1800	53.8	mm3/stroke	N/A	N/A	N/A	EGR, DOC, DFI, TC, CAC, ECM
DL02-LEL02	D24NAP	N/A	I4	2.392	Liters	45.5	kilowatt	2600	41.0	mm3/stroke	225	N-m	1800	49.5	mm3/stroke	N/A	N/A	N/A	EGR, DOC, DFI, TC, CAC, ECM
DL02-LEL03	D24NAP	N/A	I4	2.392	Liters	36.6	kilowatt	2600	34.3	mm3/stroke	175	N-m	1800	39.1	mm3/stroke	N/A	N/A	N/A	EGR, DOC, DFI, TC, CAC, ECM
DL02-LEL04	D24NAP	N/A	I4	2.392	Liters	45.5	kilowatt	2600	41.0	mm3/stroke	225	N-m	1800	49.5	mm3/stroke	N/A	N/A	N/A	EGR, DOC, DFI, TC, CAC, ECM
DL02-LEU00	D24NAP	N/A	I4	2.392	Liters	45.5	kilowatt	2600	41.0	mm3/stroke	225	N-m	1800	49.5	mm3/stroke	N/A	N/A	N/A	EGR, DOC, DFI, TC, CAC, ECM
DL02-LEE00	D24NAP	N/A	I4	2.392	Liters	36.6	kilowatt	2200	37.3	mm3/stroke	205	N-m	1600	44.9	mm3/stroke	N/A	N/A	N/A	EGR, DOC, DFI, TC, CAC, ECM
DL02-LEE01	D24NAP	N/A	I4	2.392	Liters	31.3	kilowatt	2200	32.7	mm3/stroke	150	N-m	1600	34.7	mm3/stroke	N/A	N/A	N/A	EGR, DOC, DFI, TC, CAC, ECM
DL02-LEF00	D24NAP	N/A	I4	2.392	Liters	45.6	kilowatt	2200	45.3	mm3/stroke	262	N-m	1600	56.8	mm3/stroke	N/A	N/A	N/A	EGR, DOC, DFI, TC, CAC, ECM
DL02-LEG00	D24PP	N/A	I4	2.392	Liters	51	kilowatt	1800	60.0	mm3/stroke	268	N-m	1800	60	mm3/stroke	N/A	N/A	N/A	EGR, DOC, DFI, TC, CAC, ECM
DL02-LEG00	D24PP	N/A	I4	2.392	Liters	42	kilowatt	1500	57.9	mm3/stroke	267	N-m	1500	57.9	mm3/stroke	N/A	N/A	N/A	EGR, DOC, DFI, TC, CAC, ECM
DL02-LEG01	D24PP	N/A	I4	2.392	Liters	51	kilowatt	1800	60.0	mm3/stroke	227	N-m	1800	48.3	mm3/stroke	N/A	N/A	N/A	EGR, DOC, DFI, TC, CAC, ECM
DL02-LEG01	D24PP	N/A	I4	2.392	Liters	42	kilowatt	1500	57.9	mm3/stroke	248	N-m	1600	54.1	mm3/stroke	N/A	N/A	N/A	EGR, DOC, DFI, TC, CAC, ECM
DL02-LER02	D24NAP	N/A	I4	2.392	Liters	55.2	kilowatt	2600	48.8	mm3/stroke	227	N-m	1800	48.3	mm3/stroke	N/A	N/A	N/A	EGR, DOC, DFI, TC, CAC, ECM

**Attachment: Engine Models**

**EO #:** U-R-019-0183

**Family:** MDICL02.4LEA

**Attachment Last Revised:** 11/17/2020

Model	Code	Trim	Config	Displacement	Displacement - Units	Peak Power	Peak Power - Units	Peak Power - Speed (rpm)	Peak Power - Fueling	Peak Power - Fuel Units	Peak Torque	Peak Torque - Units	Peak Torque - Speed (rpm)	Peak Torque - Fuel Units	OBD	GHG	Special	Notes	
DL02- LER03	D24NAP	N/A	I4	2.392	Liters	49.2	kilowatt	2600	43.7	mm3/stroke	252	N-m	1800	54.9	mm3/stroke	N/A	N/A	N/A	EGR, DOC, DFI, TC, CAC, ECM
DL02- LER04	D24NAP	N/A	I4	2.392	Liters	45.5	kilowatt	2600	41.0	mm3/stroke	204	N-m	1800	44.4	mm3/stroke	N/A	N/A	N/A	EGR, DOC, DFI, TC, CAC, ECM
DL02- LER05	D24NAP	N/A	I4	2.392	Liters	36.6	kilowatt	2600	34.3	mm3/stroke	252	N-m	1800	54.9	mm3/stroke	N/A	N/A	N/A	EGR, DOC, DFI, TC, CAC, ECM
DL02- LER06	D24NAP	N/A	I4	2.392	Liters	53.9	kilowatt	2600	47.3	mm3/stroke	265	N-m	1800	57.1	mm3/stroke	N/A	N/A	N/A	EGR, DOC, DFI, TC, CAC, ECM
DL02- LEE05	D24NAP	N/A	I4	2.392	Liters	48.5	kilowatt	2100	49.5	mm3/stroke	268	N-m	1500	58.4	mm3/stroke	N/A	N/A	N/A	EGR, DOC, DFI, TC, CAC, ECM
DL02- LER08	D24NAP	N/A	I4	2.392	Liters	53.9	kilowatt	2600	47.3	mm3/stroke	280	N-m	1800	61.2	mm3/stroke	N/A	N/A	N/A	EGR, DOC, DFI, TC, CAC, ECM
DM02- LEL00	DM02P	N/A	I4	2.392	Liters	55.2	kilowatt	2600	45.9	mm3/stroke	252	N-m	1800	54.9	mm3/stroke	N/A	N/A	N/A	EGR, DOC, DFI, TC, CAC, ECM
DM02- LEL01	DM02P	N/A	I4	2.392	Liters	36.5	kilowatt	2600	32.7	mm3/stroke	204	N-m	1800	44.4	mm3/stroke	N/A	N/A	N/A	EGR, DOC, DFI, TC, CAC, ECM
DM02- LEL02	DM02P	N/A	I4	2.392	Liters	50.7	kilowatt	2600	42.4	mm3/stroke	252	N-m	1800	54.9	mm3/stroke	N/A	N/A	N/A	EGR, DOC, DFI, TC, CAC, ECM
DM02- LEL03	DM02P	N/A	I4	2.392	Liters	45.5	kilowatt	2600	37.8	mm3/stroke	227	N-m	1800	48.3	mm3/stroke	N/A	N/A	N/A	EGR, DOC, DFI, TC, CAC, ECM
DM02- LEE00	DM02P	N/A	I4	2.392	Liters	48.5	kilowatt	2100	48.4	mm3/stroke	248	N-m	1600	54.1	mm3/stroke	N/A	N/A	N/A	EGR, DOC, DFI, TC, CAC, ECM
DM02- LEU00	DM02P	N/A	I4	2.392	Liters	45.5	kilowatt	2600	37.8	mm3/stroke	227	N-m	1800	48.3	mm3/stroke	N/A	N/A	N/A	EGR, DOC, DFI, TC, CAC, ECM
DM02- LEL04	DM02P	N/A	I4	2.392	Liters	50.7	kilowatt	2600	42.4	mm3/stroke	252	N-m	1800	54.9	mm3/stroke	N/A	N/A	N/A	EGR, DOC, DFI, TC, CAC, ECM
DM02- LEL05	DM02P	N/A	I4	2.392	Liters	41	kilowatt	2600	35.7	mm3/stroke	204	N-m	1800	44.4	mm3/stroke	N/A	N/A	N/A	EGR, DOC, DFI, TC, CAC, ECM
DM02- LEL06	DM02P	N/A	I4	2.392	Liters	50.7	kilowatt	2600	42.4	mm3/stroke	252	N-m	1800	54.9	mm3/stroke	N/A	N/A	N/A	EGR, DOC, DFI, TC, CAC, ECM

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DM02-LEG00	DM02PP	N/A	I4	2.392	Liters	50	kilowatt	1800	57.1	mm3/stroke	265	N-m	1800	57.1	mm3/stroke	N/A	N/A	N/A	EGR, DOC, DFI, TC, CAC, ECM
DM02-LEG00	DM02PP	N/A	I4	2.392	Liters	42.1	kilowatt	1500	58.4	mm3/stroke	268	N-m	1500	58.4	mm3/stroke	N/A	N/A	N/A	EGR, DOC, DFI, TC, CAC, ECM
DM02-LEP00	DM02P	N/A	I4	2.392	Liters	55.2	kilowatt	2600	45.9	mm3/stroke	280	N-m	1800	61.2	mm3/stroke	N/A	N/A	N/A	EGR, DOC, DFI, TC, CAC, ECM
DM02-LEP01	DM02P	N/A	I4	2.392	Liters	50.7	kilowatt	2600	42.4	mm3/stroke	252	N-m	1800	54.9	mm3/stroke	N/A	N/A	N/A	EGR, DOC, DFI, TC, CAC, ECM
DM02-LEP02	DM02P	N/A	I4	2.392	Liters	41	kilowatt	2600	35.7	mm3/stroke	204	N-m	1800	44.4	mm3/stroke	N/A	N/A	N/A	EGR, DOC, DFI, TC, CAC, ECM
DM02-LEP03	DM02P	N/A	I4	2.392	Liters	36.5	kilowatt	2600	32.7	mm3/stroke	182	N-m	1800	39.4	mm3/stroke	N/A	N/A	N/A	EGR, DOC, DFI, TC, CAC, ECM
DM02-LEF00	DM02P	N/A	I4	2.392	Liters	55.2	kilowatt	2500	47.7	mm3/stroke	250	N-m	1600	55	mm3/stroke	N/A	N/A	N/A	EGR, DOC, DFI, TC, CAC, ECM
DM02-LEF02	DM02P	N/A	I4	2.392	Liters	48.2	kilowatt	2600	43.5	mm3/stroke	214	N-m	1600	47.2	mm3/stroke	N/A	N/A	N/A	EGR, DOC, DFI, TC, CAC, ECM
DM02-LEL07	DM02P	N/A	I4	2.392	Liters	41.0	kilowatt	2600	35.7	mm3/stroke	204	N-m	1800	44.4	mm3/stroke	N/A	N/A	N/A	EGR, DOC, DFI, TC, CAC, ECM
DM02-LEE20	DM02P	N/A	I4	2.392	Liters	36.5	kilowatt	2600	32.7	mm3/stroke	182	N-m	1800	39.4	mm3/stroke	N/A	N/A	N/A	EGR, DOC, DFI, TC, CAC, ECM
DM02-LEU20	DM02P	N/A	I4	2.392	Liters	36.5	kilowatt	2600	32.7	mm3/stroke	182	N-m	1800	39.4	mm3/stroke	N/A	N/A	N/A	EGR, DOC, DFI, TC, CAC, ECM
DM02-LEL20	DM02P	N/A	I4	2.392	Liters	36.5	kilowatt	2600	32.7	mm3/stroke	182	N-m	1800	39.4	mm3/stroke	N/A	N/A	N/A	EGR, DOC, DFI, TC, CAC, ECM
DM02-LEL22	DM02P	N/A	I4	2.392	Liters	36.5	kilowatt	2600	32.7	mm3/stroke	182	N-m	1800	39.4	mm3/stroke	N/A	N/A	N/A	EGR, DOC, DFI, TC, CAC, ECM
DM02-LEL08	DM02P	N/A	I4	2.392	Liters	41.0	kilowatt	2600	35.7	mm3/stroke	204	N-m	1800	44.4	mm3/stroke	N/A	N/A	N/A	EGR, DOC, DFI, TC, CAC, ECM
DM02-LEE01	DM02P	N/A	I4	2.392	Liters	41.0	kilowatt	2200	40.2	mm3/stroke	190	N-m	1600	41	mm3/stroke	N/A	N/A	N/A	EGR, DOC, DFI, TC, CAC, ECM

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**EO #:** U-R-019-0183

**Family:** MDICL02.4LEA

**Attachment Last Revised:** 11/17/2020

Model	Code	Trim	Config	Displacement	Displacement - Units	Peak Power	Peak Power - Units	Peak Power - Speed (rpm)	Peak Power - Fueling	Peak Power - Fuel Units	Peak Torque	Peak Torque - Units	Peak Torque - Speed (rpm)	Peak Torque - Fuel Units	OBD	GHG	Special	Notes	
DM02-LEF03	DM02P	N/A	I4	2.392	Liters	45.6	kilowatt	2200	41.8	mm3/stroke	276	N-m	1500	58.3	mm3/stroke	N/A	N/A	N/A	EGR, DOC, DFI, TC, CAC, ECM
DM02-LEL09	DM02P	N/A	I4	2.392	Liters	52.2	kilowatt	2600	43.7	mm3/stroke	275	N-m	1800	59.9	mm3/stroke	N/A	N/A	N/A	EGR, DOC, DFI, TC, CAC, ECM
DM02-LER00	DM02P	N/A	I4	2.392	Liters	36.4	kilowatt	2600	31.7	mm3/stroke	196.4	N-m	1700	42.9	mm3/stroke	N/A	N/A	N/A	EGR, DOC, DFI, TC, CAC, ECM
DM02-LER01	DM02P	N/A	I4	2.392	Liters	54.7	kilowatt	2600	42.8	mm3/stroke	280	N-m	1700	61.3	mm3/stroke	N/A	N/A	N/A	EGR, DOC, DFI, TC, CAC, ECM
DM02-LEG02	DM02P	N/A	I4	2.392	Liters	50.5	kilowatt	1800	58.5	mm3/stroke	268.1	N-m	1800	58.5	mm3/stroke	N/A	N/A	N/A	EGR, DOC, DFI, TC, CAC, ECM
DM02-LEG02	DM02P	N/A	I4	2.392	Liters	42.0	kilowatt	1500	59.5	mm3/stroke	267.4	N-m	1500	59.5	mm3/stroke	N/A	N/A	N/A	EGR, DOC, DFI, TC, CAC, ECM
DM02-LEA00	DM02P	N/A	I4	2.392	Liters	55.0	kilowatt	2400	51.1	mm3/stroke	276	N-m	1400	63	mm3/stroke	N/A	N/A	N/A	EGR, DOC, DFI, TC, CAC, ECM
DM02-LEA03	DM02P	N/A	I4	2.392	Liters	47.8	kilowatt	2400	44.7	mm3/stroke	2600	N-m	1400	59.8	mm3/stroke	N/A	N/A	N/A	EGR, DOC, DFI, TC, CAC, ECM