

HYUNDAI DOOSAN INFRACORE CO. LTD.

EXECUTIVE ORDER U-R-019-0209

New Off-Road Compression-Ignition Engines Page 1 of 1

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)					
2023	PDICL05.8LEB	5.89	Diesel	8000					
SPECIAL	. FEATURES & EMISSION (CONTROL SYSTEMS	TYPICAL EQUIPMENT APPLICATION						
Cataly Electronic	ust Gas Recirculation, I yst, Selective Catalyst F Direct Injection, Turbo Electronic Control Mod Sensor	Reduction-Urea, charger, Charge Air	Loader, Compressor, Excavate	or, Forklift					

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			ı	EXHAUST (g/kw-l	OPACITY (%)					
POWER CLASS	STANDARD CATEGORY		NMHC	NOx	NMHC+NOx	со	PM	ACCEL	LUG	PEAK	
75 ≤ kW < 560	Tier 4 Final	STD	0.19	0.40	N/A	3.5	0.02	N/A	N/A	N/A	
		CERT	0.02	0.23		0.01	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).

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 130 ≤ kW < 560 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 6th day of December 2022.

Robin U. Lang, Chief

Emissions Certification and Compliance Division

Attachment: Engine Models EO #: U-R-019-0209 Family: PDICL05.8LEB Attachment Last Revised: 11/14/2022

					Displacement -		Peak Power -	Peak Power -	Peak Power -	Peak Power - Fuel		Peak Torque -	Peak Torque -		Peak Torque - Fu				
Model	Code	Trim	Config	Displacement	Units	Peak Power	Units	Speed (rpm)	Fueling	Units	Peak Torque	Units	Speed (rpm)	Peak Torque - Fuel	Units	OBD	GHG	Special	Notes
DL06- LEL06	DL06P	N/A	16	5.89	Liters	141	kilowatt	2000	107.8	mm3/stroke	902	N-m	1400	139.0	mm3/stroke	N/A	N/A	N/A	EGR,DOC, SCR,DFI,T C,CAC,EC
DL06- LEE18	DL06P	N/A	16	5.89	Liters	141	kilowatt	1900	111.3	mm3/stroke	804	N-m	1400	124.8	mm3/stroke	N/A	N/A	N/A	M,DQS EGR,DOC, SCR,DFI,T C,CAC,EC M,DQS
DL06- LEE17	DL06P	N/A	16	5.89	Liters	130	kilowatt	1800	104.7	mm3/stroke	804	N-m	1400	119.7	mm3/stroke	N/A	N/A	N/A	EGR,DOC, SCR,DFI,T C,CAC,EC M,DQS
DL06- LEE19	DL06P	N/A	16	5.89	Liters	130	kilowatt	1900	101.0	mm3/stroke	755	N-m	1400	115.7	mm3/stroke	N/A	N/A	N/A	EGR,DOC, SCR,DFI,T C,CAC,EC M,DQS
DL06- LEE20	DL06P	N/A	16	5.89	Liters	141	kilowatt	1900	111.3	mm3/stroke	804	N-m	1400	124.8	mm3/stroke	N/A	N/A	N/A	EGR,DOC, SCR,DFI,T C,CAC,EC M,DQS
DL06- LEE21	DL06P	N/A	16	5.89	Liters	141	kilowatt	1900	111.3	mm3/stroke	804	N-m	1400	124.8	mm3/stroke	N/A	N/A	N/A	EGR,DOC, SCR,DFI,T C,CAC,EC M,DQS
DL06- LEE22	DL06P	N/A	16	5.89	Liters	102	kilowatt	2000	79.7	mm3/stroke	588	N-m	1400	89.4	mm3/stroke	N/A	N/A	N/A	EGR,DOC, SCR,DFI,T C,CAC,EC M,DQS
DL06- LEL04	DL06P	N/A	16	5.89	Liters	128	kilowatt	2100	96.3	mm3/stroke	804	N-m	1400	124.8	mm3/stroke	N/A	N/A	N/A	EGR,DOC, SCR,DFI,T C,CAC,EC M,DQS
DL06- LEL05	DL06P	N/A	16	5.89	Liters	119	kilowatt	2100	89.7	mm3/stroke	736	N-m	1400	111.0	mm3/stroke	N/A	N/A	N/A	EGR,DOC, SCR,DFI,T C,CAC,EC M,DQS
DL06- LEE02	DL06P	N/A	16	5.89	Liters	141.2	kilowatt	1900	111.3	mm3/stroke	804	N-m	1400	124.8	mm3/stroke	N/A	N/A	N/A	EGR,DOC, SCR,DFI,T C,CAC,EC M,DQS
DL06- LEE00	DL06P	N/A	16	5.89	Liters	124.0	kilowatt	1800	103.1	mm3/stroke	755	N-m	1400	115.7	mm3/stroke	N/A	N/A	N/A	EGR,DOC, SCR,DFI,T C,CAC,EC M,DQS
DL06- LEE01	DL06P	N/A	16	5.89	Liters	113.2	kilowatt	2000	88.5	mm3/stroke	647	N-m	1400	98.2	mm3/stroke	N/A	N/A	N/A	EGR,DOC, SCR,DFI,T C,CAC,EC M,DQS
DL06- LEE03	DL06P	N/A	16	5.89	Liters	129.4	kilowatt	1900	101.0	mm3/stroke	755	N-m	1400	115.7	mm3/stroke	N/A	N/A	N/A	EGR,DOC, SCR,DFI,T C,CAC,EC M,DQS
DL06- LEE04	DL06P	N/A	16	5.89	Liters	141.2	kilowatt	1900	111.3	mm3/stroke	804	N-m	1400	124.8	mm3/stroke	N/A	N/A	N/A	EGR,DOC, SCR,DFI,T C,CAC,EC M,DQS
DL06- LEE05	DL06P	N/A	16	5.89	Liters	141.2	kilowatt	1900	111.3	mm3/stroke	804	N-m	1400	124.8	mm3/stroke	N/A	N/A	N/A	EGR,DOC, SCR,DFI,T C,CAC,EC M,DQS

Attachment: Engine Models EO #: U-R-019-0209 Family: PDICL05.8LEB Attachment Last Revised: 11/14/2022

					Displacement -		Peak Power -	Peak Power -	Peak Power -	Peak Power - Fuel Peak Torque - Peak Torque - Peak Torque - Fue					el				
Model	Code	Trim	Config	Displacement	Units	Peak Power	Units	Speed (rpm)	Fueling	Units	Peak Torque	Units	Speed (rpm)	Peak Torque - Fue	el Units	OBD	GHG	Special	Notes
DL06- LEE07	DL06P	N/A	16	5.89	Liters	102.2	kilowatt	2000	79.7	mm3/stroke	588	N-m	1400	89.4	mm3/stroke	N/A	N/A	N/A	EGR,DOC, SCR,DFI,T C,CAC,EC M,DQS
DL06- LEL00	DL06P	N/A	16	5.89	Liters	127.9	kilowatt	2100	96.3	mm3/stroke	804	N-m	1400	124.8	mm3/stroke	N/A	N/A	N/A	EGR,DOC, SCR,DFI,T C,CAC,EC M,DQS
DL06- LEF00	DL06P	N/A	16	5.89	Liters	139.7	kilowatt	2100	106.2	mm3/stroke	785	N-m	1400	120.4	mm3/stroke	N/A	N/A	N/A	EGR,DOC, SCR,DFI,T C,CAC,EC M,DQS
DL06- LEF01	DL06P	N/A	16	5.89	Liters	128.7	kilowatt	2100	97.1	mm3/stroke	726	N-m	1400	111.0	mm3/stroke	N/A	N/A	N/A	EGR,DOC, SCR,DFI,T C,CAC,EC M,DQS
DL06- LEL02	DL06P	N/A	16	5.89	Liters	119.0	kilowatt	2100	89.7	mm3/stroke	736	N-m	1400	111.0	mm3/stroke	N/A	N/A	N/A	EGR,DOC, SCR,DFI,T C,CAC,EC M,DQS
DL06- LEL03	DL06P	N/A	16	5.89	Liters	127.9	kilowatt	2100	96.3	mm3/stroke	804	N-m	1400	124.8	mm3/stroke	N/A	N/A	N/A	EGR,DOC, SCR,DFI,T C,CAC,EC M,DQS