

DOOSAN INFRACORE CO., Ltd

EXECUTIVE ORDER U-R-019-0114 New Off-Road Compression-Ignition Engines

Pursuant to the authority vested in the Air Resources Board by Sections 43013, 43101, 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)			
2011	BDICL05.8UTA	5.89	Diesel	8000			
	FEATURES & EMISSION (TYPICAL EQUIPMENT APPLICATION				
Electron	ic Conrol Module, Turboo Cooler, Electronic Direc	charger, Charge Air t Injection	Loaders, Compressor and Other Industrial Equipment				

The engine models and codes are attached.

The following are the exhaust certification standards (STD) 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 STANDARD CATEGORY		EXHAUST (g/kw-hr)					OPACITY (%)		
POWER CLASS			нс	NOx	NMHC+NOx	co	PM	ACCEL	LUG	PEAK
56 ≤ kW < 75	Tier 3	STD	N/A	N/A	4.7	5.0	0.40	20	15	50
75 ≤ kW < 130	Tier 3	STD	N/A	N/A	4.0	5.0	0.30	20	15	50
		CERT	1		3.8	0.8	0.13	14	3	26

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 April 2011.

Annette Hebert, Chief
Mobile Source Operations Division

3-29-2011

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Engine Model Summary Template

Engine Family	1.Engine Code	2.Engine Model	3.BHP@RPM (SAE Gross)	4.Fuel Rate: mm/stroke @ peak HF (for desel only)	5.Fuel Rate: P (lbs/hr) @ peak HP (for desels only)	6.Torque @ RPM (SEA Gross)	7.Fuel Rate: mm/stroke@peak torque	8.Fuel Rate: (lbs/hr)@peak tore	9.Emission Control queDevice Per SAE J1930
BDICL05.8UTA	EUTLC	DL06	163 @ 2100	84	58	593 @ 1400	121	56	DDI, ECM, TC, CAC
BDICL05.8UTA	EUTEF	DL06	173 @ 1900	96	60	564 @ 1400	114	53	
BDICL05.8UTA	EUTEH	DL06	170 @ 2000	90	60	542 @ 1400	108	50	
BDICL05.8UTA	EUTLD	DL06	143 @ 2100	73	51	506 @ 1400	106	49	
BDICL05.8UTA	EUTLE	DL06	156 @ 2500	73	60	506 @ 1400	106	49	
BDICL05.8UTA	EUTEI	DL06	163 @ 1900	93	58	521 @ 1400	102	47	
BDICL05.8UTA	EUTEG	DL06	155 @ 1900	88	55	506 @ 1400	101	47	
BDICL05.8UTA	EUTFC	DL06	158 @ 2100	83	58	485 @ 1400	95	44	
BDICL05.8UTA	EUTFE	DL06	158 @ 2100	83	58	485 @ 1400	95	44	
BDICL05.8UTA	EUTEM	DL06	149 @ 2000	83	55	477 @ 1400	94	44	
BDICL05.8UTA	EUTFD	DL06	138 @ 2100	73	51	427 @ 1400	83	38	
BDICL05.8UTA	EUTFF	DL06	138 @ 2100	73	51	427 @ 1400	83	38	
BDICL05.8UTA	EUTEK	DL06	134 @ 2000	70	46	398 @ 1400	74	34	
BDICL05.8UTA	EUTEJ	DL06	122 @ 1950	67	43	340 @ 1400	70	32	
BDICL05.8UTA	EUTEL	DL06	99 @ 1850	56	34	333 @ 1400	66	31	
BDICL05.8UTA	EUTEP	DL06	173 @ 1900	96	60	564 @ 1400	114	53	
BDICL05.8UTA	EUTLF	DL06	148 @ 2200	77	56	506 @ 1400	106	49	
BDICL05.8UTA	EUTFG	DL06	173 @ 2100	92	64	535 @ 1400	109	50	V