EXECUTIVE ORDER U-R-027-0115 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)			
2010	ALBDL1.37SF1	1.0284, 1.3712	Diesel	3000			
SPECIAL	FEATURES & EMISSION (CONTROL SYSTEMS	TYPICAL EQUIPMENT APPLICATION				
	Indirect Diesel Inje	ction	Loaders, Tractor, Dozer, Pump, Compressor, Generator Set, 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			E	XHAUST (g/kw-l	nr)		OPACITY (%)			
POWER CLASS	STANDARD CATEGORY		нс	NOx	NMHC+NOx	co	P M	ACCEL	LUG	PEAK	
8 ≤ kW < 19	Tier 4	STD	N/A	N/A	7.5	6.6	0.40	20	15	50	
		CERT	-	-	5.2	2.5	0.22	8	6	16	

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 December 2009.

Annette Hebert, Chief

Mobile Source Operations Division

Attachment 1 ef 3 10-4-2010

Engine Model Summary Template

U-R-027-0115

Engine Family	1.Engine Code	2.Engine Model	3,BHP@RPM (SAE Gross)	4.Fuel Rate: mm/stroke @ peak HP (for diesel only)	5.Fuel Rate: (lbs/hr) @ peak HP (for diesels only)	6.Torque @ RPM (SEA Gross)	7.Fuel Rate: mm/stroke@peak torque	8.Fuel Rate: (lbs/hr)@peak torque	9.Emission Control Device Per SAE J1930
ALBDL1.37SF1	Bassing & regions per conserve. We are make talk, skindelstelledes sext, sex	LDW 1003 or LDW 1003/B1	24.1@3000	21.0	10.47	46.5@2100	22.0	7.67	IDI
ALBDL1.37SF1		LDW 1003	24.8@3300	20.5	11.24	45.7@2100	21.5	7.52	IDI
ALBDL1.37SF1		LDW 1003	13.4@1800	19.0	5.69	FIXED SPEED	FIXED SPEED	FIXED SPEED	IDI
ALBDL1.37SF1		LDW 1003	11.1@1500	20.5	5.11	FIXED SPEED	FIXED SPEED	FIXED SPEED	IDI
ALBDL1.37SF1	enventry the garden and the control of the control	LDW 1003/B4	22.1@2800	20.5	9.55	44.3@2000	21.5	7.14	IDI
ALBDL1.37SF1		LDW 1003	20.8@2600	20.5	8.86	44.3@1800	21.5	6.44	IDI
ALBDL1.37SF1	anggara (kalanda) kanakan sakan sakan kanan kanan sangaya pangaran sakan sakan sakan sakan sakan sakan sakan s	LDW 1003	18.8@2400	20.5	8.18	44.3@1800	21.5	6.44	iDI
ALBDL1.37SF1		LDW 1003	16.8@2200	20.5	7.50	44.3@1800	21.5	6.44	IDI
ALBDL1.37SF1	A CANADA A ANALA ENTERTIMENTO PARA CANADA PARA PARA CANADA CANADA CANADA CANADA CANADA CANADA CANADA CANADA CA	LDW 1404	24.8@2400	20.2	10.76	55.7@2000	20.7	9.17	IDI
ALBDL1.37SF1	er (die West (1986 - 1986 - 1986 - 1986 - 1986 - 1986 - 1986 - 1986 - 1986 - 1986 - 1986 - 1986 - 1986 - 1986	LDW 1404	18.2@1800	19.5	7.78	FIXED SPEED	FIXED SPEED	FIXED SPEED	IDI
ALBDL1.37SF1	ethicum (ministra pro-pro-pro-pro-pro-pro-pro-pro-pro-pro-	KDW 1003 or KDW 1003/B1	24.1@3000	21.0	10.47	46.5@2100	22.0	7.67	IDI
ALBDL1.37SF1	n de la companya de l	KDW 1003	24.8@3300	20.5	11.24	45.7@2100	21.5	7.52	IDI
ALBDL1.37SF1	MANIS AND	KDW 1003	13.4@1800	19.0	5.69	FIXED SPEED	FIXED SPEED	FIXED SPEED	IDI
ALBDL1.37SF1	and the second s	KDW 1003	11.1@1500	20.5	5.11	FIXED SPEED	FIXED SPEED	FIXED SPEED	IDI
ALBDL1.37SF1		KDW 1003/B4	22.1@2800	20.5	9.55	44.3@2000	21.5	7.14	IDI

Attachment 2 eg 3 10-4-2010

Engine Model Summary Template

U-R-027-045

1.Engine Code	2.Engine Model	3.BHP@RPM (SAE Gross)	4.Fuel Rate: mm/stroke @ peak HP (for diesel only)	5.Fuel Rate: (lbs/hr) @ peak HP (for diesels only)	6.Torque @ RPM (SEA Gross)	7.Fuel Rate: mm/stroke@peak torque	8.Fuel Rate: (lbs/hr)@peak torque	9.Emission Control Device Per SAE J1930
	KDW 1003	20.8@2600	20.5	8.86	44.3@1800	21.5	6.44	IDI
at addition. Secure of agreement with a secure of the secu	KDW 1003	18.8@2400	20.5	8.18	44.3@1800	21.5	6.44	IDI
maker occidentales alleidelide 4 e Palallada som activa va u. der e-velage	KDW 1003	16.8@2200	20.5	7.50	44.3@1800	21.5	6.44	IDI
nes versionistic introducera calan someon report in presentation con	KDW 1404	24.8@2400	20.2	10.76	55.7@2000	20.7	9.17	IDI
en never er vere et al de plates () de fless alle statistische fere en	KDW 1404	18.2@1800	19.5	7.78	FIXED SPEED	FIXED SPEED	FIXED SPEED	IDI
	LDW 1003 or LDW 1003/E4	25.2@3600	20.0	11.97	45.7@2100	21.5	7.52	IDI
to College and and an extension of the College of t	LDW 1003	22.5@2850	20.5	9.72	44.3@1600	21.5	5.71	iDI
	LDW 1003	22.1@2800	20.5	9.55	44.3@1800	21.5	6.44	IDI
•	LDW 1003GE	14.5@1800	20.5	6.13	FIXED SPEED	FIXED SPEED	FIXED SPEED	IDI
agging minimpletter gas glade and in the delivery minimum on the man and what we have delivery from the	LDW 1404GE	19.6@1800	21.0	8.38	FIXED SPEED	FIXED SPEED	FIXED SPEED	IDI
uteri peritek delik tidi di KR KR kilik di Bila kilik Si KR	KDW 1003 or KDW 1003/E4	25.2@3600	20.0	11.97	45.7@2100	21.5	7.52	IDI
- Policy Children and Children (Per Calls a Mills a Mills and Children (Per Calls a Mills a Mills a Mills a Mi	KDW 1003	22.5@2850	20.5	9.72	44.3@1600	21.5	5.71	IDI
processors of the state of the	KDW 1003	22.1@2800	20.5	9.55	44.3@1800	21.5	6.44	IDI
n - Angeles (18 Million et 2018), sinde en en 2013 e different principal de	KDW 1003GE	14.5@1800	20.5	6.13	FIXED SPEED	FIXED SPEED	FIXED SPEED	IDI
ACCEPTED AND AND AND AND AND AND AND AND AND AN	KDW 1404GE	19.6@1800	21.0	8.38	FIXED SPEED	FIXED SPEED	FIXED SPEED	IDI
	1.Engine Code	KDW 1003 KDW 1003 KDW 1003 KDW 1404 KDW 1404 LDW 1003 or LDW 1003/E4 LDW 1003 LDW 1003 LDW 1003 or KDW 1003/E4 KDW 1003 or KDW 1003/E4 KDW 1003 or KDW 1003/E4 KDW 1003/E4	1.Engine Code 2.Engine Model (SAE Gross) KDW 1003 20.8@2600 KDW 1003 18.8@2400 KDW 1003 16.8@2200 KDW 1404 24.8@2400 KDW 1404 18.2@1800 LDW 1003 or LDW 1003/E4 LDW 1003 22.5@2850 LDW 1003 22.1@2800 LDW 1003 or KDW 1003/E4 KDW 1003 or KDW 1003/E4 KDW 1003 22.5@2850 KDW 1003 22.1@2800 KDW 1003 22.1@2800	1.Engine Code 2.Engine Model 3.BHP@RPM (SAE Gross) mm/stroke @ peak HP (for diesel only)	1.Engine Code 2.Engine Model 3.BHP@RPM (for diesel only) (1.Engine Code 2.Engine Model 3.BHP@RPPM	1.Engine Code 2.Engine Mode 3.8HP@RPM min/stroke @peak HP (Increased analy) 6.76 orque @ RPM min/stroke@peak M (Increased analy) 6.76 orque min/stroke@peak M (Increased analy) 6.76 orque @ RPM min/stroke@peak M (Increased analy) 6.76 orque @ RPM min/stroke@peak M (Increased analy) 6.76 orque @ RPM min/stroke@peak M (Increased analy) 6.76 orque M (Increased analy)	1. Engine Code 2. Engine Mode 3. BHP@RPM (ford diesel only) (f

Attachment 3 of 3 10-4-2010

Engine Model Summary Template

U-R-027-0115

Engine Family	1.Engine Code	2.Engine Model	3.BHP@RPM (SAE Gross)	4.Fuel Rate: mm/stroke @ peak HP (for diesel only)	5.Fuel Rate: (lbs/hr) @ peak HP (for diesels only)	6.Torque @ RPM (SEA Gross)	7.Fuel Rate: mm/stroke@peak torque	8.Fuel Rate: (lbs/hr)@peak torque	9.Emission Control PDevice Per SAE J1930
ALBDL1.37SF1		LDW 1003/R	22.5@2850	20.5	9.72	44.3@2500	21.8	9.06	IDI
ALBDL1.37SF1		KDW 1003/R	22.5@2850	20.5	9.72	44.3@2500	21.8	9.06	IDI