Fuel

California Environmental Protection Agency AIR RESOURCES BOARD	DEUTZ AG	EXECUTIVE ORDER U-R-013-0064 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-45-9;

IT IS ORDERED AND RESOLVED: That the following compression-ignition engines and emission control system 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)
2002	2DZXL06.1028	4.0, 6.1	Diesel	8000

SPECIAL FEATURES & EMISSION CONTROL SYSTEMS	TYPICAL EQUIPMENT APPLICATION
Direct Diesel Injection, Smoke Puff Limiter, Turbocharger, Charge Air Cooler	Loader, Compressor, 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 POWER CLASS	EMISSION STANDARD CATEGORY		EXHAUST (g/kw-hr)					OPACITY (%)		
			HC	NOx	NMHC+NOx	CO	PM	ACCEL	LUG	PEAK
75≤kW<130	Tier 1	STD	N/A	9.2	N/A	N/A	N/A	20	15	50
130≤kW<225	Tier 1	STD	1.3	9.2	N/A	11.4	0.54	20	15	50
		CERT	0.8	8.3	-	0.9	0.13	4	0	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 4TH day of March 2002.

Allen Lyons, Chief
New Vehicle/Engine Programs Branch

EOH U-R-013-0064

attachment 1084

Manufacturer: DEUTZ AG
Engine category: Nonroad CI
EPA Engine Family: 2DZXL06.1028

Engine Model and Part Number Summary Form

Engine Code	Engine Model	BHP	BkW	Rated Power Engine Speed	Injection rate at rated power ±6mm³	Peak torque ± 5%	Speed at peak torque ± 200 rpm	Injection rate at peak torque ±4mm³	Fuel injection pump	Fuel injector	Injection timing (±0,5°)	Speed governor, optionally	Turbocharger
		HP	kW	rpm	mm³/ stroke	Nm	rpm	mm³/ stroke	description	description	°btdc	description	description
C103	BF4M2012C	138	103.0	2500	90.0	493	1500	104	02112405KZ	02112605KY	8	EMR	S100-008H
C98	BF4M2012C	131	98.0	2500	85.0	469	1500	99	02112405KZ	02112605KY	8	EMR	S100-008H
C93	BF4M2012C	125	93.0	2500	81.0	445	1500	94	02112405KZ	02112605KY	8	EMR	S100-008H
C88	BF4M2012C	118	88.0	2500	77.0	422	1500	89	02112405KZ	02112605KY	8	EMR	S100-008H
C100	BF4M2012C	134	100.0	2400	89.0	493	1500	104	02112405KZ	02112605KY	8	EMR	S100-008H
C95	BF4M2012C	127	95.0	2400	84.0	469	1500	99	02112405KZ	02112605KY	8	EMR	S100-008H
C90	BF4M2012C	121	90.0	2400	80.0	445	1500	94	02112405KZ	02112605KY	8	EMR	S100-008H
C85	BF4M2012C	114	85.0	2400	76.0	422	1500	89	02112405KZ	02112605KY	8	EMR	S100-008H
C98/1	BF4M2012C	131	98.0	2300	90.0	493	1500	104	02112405KZ	02112605KY	8	EMR	S100-008H
C93/1	BF4M2012C	125	93.0	2300	85.0	469	1500	99	02112405KZ	02112605KY	8	EMR	S100-008H
C88/1	BF4M2012C	118	88.0	2300	81.0	445	1500	94	02112405KZ	02112605KY	8	EMR	S100-008H
C83	BF4M2012C	111	83.0	2300	77.0	422	1500	89	02112405KZ	02112605KY	8	EMR	S100-008H
C95/1	BF4M2012C	127	95.0	2200	90.0	493	1500	104	02112405KZ	02112605KY	7	EMR	S100-008H
C90/1	BF4M2012C	121	90.0	2200	85.0	469	1500	99	02112405KZ	02112605KY	7	EMR	S100-008H
C85/1	BF4M2012C	114	85.0	2200	81.0	445	1500	94	02112405KZ	02112605KY	7	EMR	S100-008H
C81	BF4M2012C	109	81.0	2200	77.0	422	1500	89	02112405KZ	02112605KY	7	EMR	S100-008H
C92	BF4M2012C	123	92.0	2100	90.0	493	1500	104	02112405KZ	02112605KY	7	EMR	S100-008H
C87	BF4M2012C	117	87.0	2100	85.0	469	1500	99	02112405KZ	02112605KY	7	EMR	S100-008H
C83/1	BF4M2012C	111	83.0	2100	81.0	445	1500	94	02112405KZ	02112605KY	7	EMR	S100-008H
C78	BF4M2012C	105	78.0	2100	77.0	422	1500	89	02112405KZ	02112605KY	7	EMR	S100-008H
C89	BF4M2012C	119	89.0	2000	91.0	493	1500	104	02112405KZ	02112605KY	7	EMR	S100-008H
C84	BF4M2012C	113	84.0	2000	86.0	469	1500	99	02112405KZ	02112605KY	7	EMR	S100-008H
C80	BF4M2012C	107	80.0	2000	82.0	445	1500	94	02112405KZ	02112605KY	7	EMR	S100-008H
C75	BF4M2012C	101	75.0	2000	78.0	422	1500	89	02112405KZ	02112605KY	7	EMR	S100-008H
C155	BF6M2012C	208	155.0	2500	89.0	743	1500	102	02112405KZ	02112605KY	8	EMR	04251373KZ
C147	BF6M2012C	197	147.0	2500	84.0	705	1500	97	02112405KZ	02112605KY	8	EMR	04251373KZ
C140	BF6M2012C	188	140.0	2500	80.0	671	1500	92	02112405KZ	02112605KY	8	EMR	04251373KZ
C132	BF6M2012C	177	132.0	2500	76.0	633	1500	87	02112405KZ	02112605KY	8	EMR	04251373KZ
C129	BF6M2012C	173	129.0	2500	75.0	633	1500	87	02112405KZ	02112605KY	8	EMR	04251373KZ
C151	BF6M2012C	202	151.0	2400	89.0	743	1500	102	02112405KZ	02112605KY	8	EMR	04251373KZ
C144	BF6M2012C	193	144.0	2400	84.0	705	1500	97	02112405KZ	02112605KY	8	EMR	04251373KZ
C136	BF6M2012C	182	136.0	2400	80.0	671	1500	92	02112405KZ	02112605KY	8	EMR	04251373KZ
C128	BF6M2012C	172	128.0	2400	76.0	633	1500	87	02112405KZ	02112605KY	8	EMR	04251373KZ

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Manufacturer: DEUTZ AG
Engine category: Nonroad CI
EPA Engine Family: 2DZXL06.1028

Engine Model and Part Number Summary Form

Engine Code	Engine Model	BHP	BkW	Rated Power Engine Speed	Injection rate at rated power ±6mm³	Peak torque ± 5%	Speed at peak torque ± 200 rpm	Injection rate at peak torque ±4mm³	Fuel injection pump	Fuel injector	Injection timing (±0,5°)	Speed governor, optionally	Turbocharger
		HP	kW	rpm	mm³/ stroke	Nm	rpm	mm³/ stroke	description	description	°btdc	description	description
C147/1	BF6M2012C	197	147.0	2300	89.0	743	1500	102	02112405KZ	02112605KY	8	EMR	04251373KZ
C140/1	BF6M2012C	188	140.0	2300	84.0	705	1500	97	02112405KZ	02112605KY	8	EMR	04251373KZ
C132/1	BF6M2012C	177	132.0	2300	80.0	671	1500	92	02112405KZ	02112605KY	8	EMR	04251373KZ
C125	BF6M2012C	168	125.0	2300	76.0	633	1500	87	02112405KZ	02112605KY	8	EMR	04251373KZ
C143	BF6M2012C	192	143.0	2200	89.0	743	1500	103	02112405KZ	02112605KY	7	EMR	04251373KZ
C136/1	BF6M2012C	182	136.0	2200	84.0	705	1500	98	02112405KZ	02112605KY	7	EMR	04251373KZ
C128/1	BF6M2012C	172	128.0	2200	80.0	671	1500	93	02112405KZ	02112605KY	7	EMR	04251373KZ
C121	BF6M2012C	162	121.0	2200	76.0	633	1500	88	02112405KZ	02112605KY	7	EMR	04251373KZ
C138	BF6M2012C	185	138.0	2100	89.0	743	1500	103	02112405KZ	02112605KY	7	EMR	04251373KZ
C131	BF6M2012C	176	131.0	2100	84.0	705	1500	98	02112405KZ	02112605KY	7	EMR	04251373KZ
C124	BF6M2012C	166	124.0	2100	80.0	671	1500	93	02112405KZ	02112605KY	7	EMR	04251373KZ
C118	BF6M2012C	158	118.0	2100	76.0	633	1500	88	02112405KZ	02112605KY	7	EMR	04251373KZ
C134	BF6M2012C	180	134.0	2000	90.0	743	1500	103	02112405KZ	02112605KY	7	EMR	04251373KZ
C127	BF6M2012C	170	127.0	2000	85.0	705	1500	98	02112405KZ	02112605KY	7	EMR	04251373KZ
C120	BF6M2012C	161	120.0	2000	81.0	671	1500	93	02112405KZ	02112605KY	7	EMR	04251373KZ
C114	BF6M2012C	153	114.0	2000	77.0	633	1500	88	02112405KZ	02112605KY	7	EMR	04251373KZ
	VOLVO TYPEN												
C103	TAD420VE	138	103.0	2500	90.0	493	1500	104	02112405KZ	02112605KY	8	EMR	S100-008H
C93	TAD420VE	125	93.0	2500	81.0	445	1500	94	02112405KZ	02112605KY	8	EMR	S100-008H
C98/1	TAD420VE	131	98.0	2300	90.0	493	1500	104	02112405KZ	02112605KY	8	EMR	S100-008H
C88/1	TAD420VE	118	88.0	2300	81.0	445	1500	94	02112405KZ	02112605KY	8	EMR	S100-008H
C92	TAD420VE	123	92.0	2100	90.0	493	1500	104	02112405KZ	02112605KY	7	EMR	S100-008H
C83/1	TAD420VE	111	83.0	2100	81.0	445	1500	94	02112405KZ	02112605KY	7	EMR	S100-008H
C155	TAD620VE	208	155.0	2500	90.0	700	1500	104	02112405KZ	02112605KY	8	EMR	04251373KZ
C140	TAD620VE	188	140.0	2500	81.0	671	1500	94	02112405KZ	02112605KY	8	EMR	04251373KZ
C145	TAD620VE	194	145.0	2300	90.0	700	1500	104	02112405KZ	02112605KY	8	EMR	04251373KZ
C131	TAD620VE	176	131.0	2300	81.0	671	1500	94	02112405KZ	02112605KY	8	EMR	04251373KZ
C135	TAD620VE	181	135.0	2100	90.0	700	1500	104	02112405KZ	02112605KY	7	EMR	04251373KZ
C121	TAD620VE	162	121.0	2100	81.0	671	1500	94	02112405KZ	02112605KY	7	EMR	04251373KZ
	COM-2												
CE103	BF4M2012C	138	103.0	2500	91.0	493	1500	104	02112405KZ	02112605KY	4	EMR	S100-008H
CE98	BF4M2012C	131	98.0	2500	90.0	469	1500	101	02112405KZ	02112605KY	4	EMR	S100-008H
CE93	BF4M2012C	125	93.0	2500	85.0	445	1500	96	02112405KZ	02112605KY	4	EMR	S100-008H

Manufacturer: DEUTZ AG
Engine category: Nonroad CI
EPA Engine Family: 2DZXL06.1028

Engine Model and Part Number Summary Form

Engine Code	Engine Model	BHP	BkW	Rated Power Engine Speed	Injection rate at rated power ±6mm³	Peak torque ± 5%	Speed at peak torque ± 200 rpm	Injection rate at peak torque ±4mm³	Fuel injection pump	Fuel injector	Injection timing (±0,5°)	Speed governor, optionally	Turbocharger
		HP	kW	rpm	mm³/ stroke	Nm	rpm	mm³/ stroke	description	description	°btdc	description	description
CE88	BF4M2012C	118	88.0	2500	80.0	422	1500	91	02112405KZ	02112605KY	4	EMR	S100-008H
CE100	BF4M2012C	134	100.0	2400	91.0	493	1500	104	02112405KZ	02112605KY	3	EMR	S100-008H
CE95	BF4M2012C	127	95.0	2400	89.0	469	1500	101	02112405KZ	02112605KY	3	EMR	S100-008H
CE90	BF4M2012C	121	90.0	2400	84.0	445	1500	96	02112405KZ	02112605KY	3	EMR	S100-008H
CE85	BF4M2012C	114	85.0	2400	79.0	422	1500	91	02112405KZ	02112605KY	3	EMR	S100-008H
CE98/1	BF4M2012C	131	98.0	2300	91.0	493	1500	104	02112405KZ	02112605KY	3	EMR	S100-008H
CE93/1	BF4M2012C	125	93.0	2300	89.0	469	1500	101	02112405KZ	02112605KY	3	EMR	S100-008H
CE88/1	BF4M2012C	118	88.0	2300	84.0	445	1500	96	02112405KZ	02112605KY	3	EMR	S100-008H
CE83	BF4M2012C	111	83.0	2300	80.0	422	1500	91	02112405KZ	02112605KY	3	EMR	S100-008H
CE95/1	BF4M2012C	127	95.0	2200	91.0	493	1500	104	02112405KZ	02112605KY	2	EMR	S100-008H
CE90/1	BF4M2012C	121	90.0	2200	89.0	469	1500	101	02112405KZ	02112605KY	2	EMR	S100-008H
CE85/1	BF4M2012C	114	85.0	2200	85.0	445	1500	96	02112405KZ	02112605KY	2	EMR	S100-008H
CE81	BF4M2012C	109	81.0	2200	80.0	422	1500	91	02112405KZ	02112605KY	2	EMR	S100-008H
CE92	BF4M2012C	123	92.0	2100	91.0	493	1500	104	02112405KZ	02112605KY	2	EMR	S100-008H
CE87	BF4M2012C	117	87.0	2100	89.0	469	1500	101	02112405KZ	02112605KY	2	EMR	S100-008H
CE83/1	BF4M2012C	111	83.0	2100	85.0	445	1500	96	02112405KZ	02112605KY	2	EMR	S100-008H
CE78	BF4M2012C	105	78.0	2100	80.0	422	1500	91	02112405KZ	02112605KY	2	EMR	S100-008H
CE89	BF4M2012C	119	89.0	2000	91.0	493	1500	104	02112405KZ	02112605KY	2	EMR	S100-008H
CE84	BF4M2012C	113	84.0	2000	90.0	469	1500	101	02112405KZ	02112605KY	2	EMR	S100-008H
CE80	BF4M2012C	107	80.0	2000	85.0	445	1500	96	02112405KZ	02112605KY	2	EMR	S100-008H
CE75	BF4M2012C	101	75.0	2000	80.0	422	1500	91	02112405KZ	02112605KY	2	EMR	S100-008H
CE155	BF6M2012C	208	155.0	2500	91.0	743	1500	104	02112405KZ	02112605KY	4	EMR	S200-043Q
CE147	BF6M2012C	197	147.0	2500	88.0	705	1500	100	02112405KZ	02112605KY	4	EMR	S200-043Q
CE140	BF6M2012C	188	140.0	2500	83.0	671	1500	95	02112405KZ	02112605KY	4	EMR	S200-043Q
CE132	BF6M2012C	177	132.0	2500	79.0	633	1500	89	02112405KZ	02112605KY	4	EMR	S200-043Q
CE151	BF6M2012C	202	151.0	2400	91.0	743	1500	104	02112405KZ	02112605KY	3	EMR	S200-043Q
CE144	BF6M2012C	193	144.0	2400	88.0	705	1500	100	02112405KZ	02112605KY	3	EMR	S200-043Q
CE136	BF6M2012C	182	136.0	2400	83.0	671	1500	95	02112405KZ	02112605KY	3	EMR	S200-043Q
CE128	BF6M2012C	172	128.0	2400	79.0	633	1500	89	02112405KZ	02112605KY	3	EMR	S200-043Q
CE147/1	BF6M2012C	197	147.0	2300	91.0	743	1500	104	02112405KZ	02112605KY	3	EMR	S200-043Q
CE140/1	BF6M2012C	188	140.0	2300	88.0	705	1500	100	02112405KZ	02112605KY	3	EMR	S200-043Q
CE132/1	BF6M2012C	177	132.0	2300	83.0	671	1500	95	02112405KZ	02112605KY	3	EMR	S200-043Q
CE125	BF6M2012C	168	125.0	2300	79.0	633	1500	89	02112405KZ	02112605KY	3	EMR	S200-043Q
CE143	BF6M2012C	192	143.0	2200	91.0	743	1500	104	02112405KZ	02112605KY	2	EMR	S200-043Q

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Manufacturer: DEUTZ AG
Engine category: Nonroad CI
EPA Engine Family: 2DZXL06.1028

Engine Model and Part Number Summary Form

Engine Code	Engine Model	BHP	BkW	Rated Power Engine Speed	Injection rate at rated power ±6mm³	Peak torque ± 5%	Speed at peak torque ± 200 rpm	Injection rate at peak torque ±4mm³	Fuel injection pump	Fuel injector	Injection timing (±0,5°)	Speed governor, optionally	Turbocharger
		HP	kW	rpm	mm³/ stroke	Nm	rpm	mm³/ stroke	description	description	°btdc	description	description
CE136/1	BF6M2012C	182	136.0	2200	88.0	705	1500	100	02112405KZ	02112605KY	2	EMR	S200-043Q
CE128/1	BF6M2012C	172	128.0	2200	83.0	671	1500	95	02112405KZ	02112605KY	2	EMR	S200-043Q
CE121	BF6M2012C	162	121.0	2200	79.0	633	1500	89	02112405KZ	02112605KY	2	EMR	S200-043Q
CE138	BF6M2012C	185	138.0	2100	91.0	743	1500	104	02112405KZ	02112605KY	2	EMR	S200-043Q
CE131	BF6M2012C	176	131.0	2100	88.0	705	1500	100	02112405KZ	02112605KY	2	EMR	S200-043Q
CE124	BF6M2012C	166	124.0	2100	83.0	671	1500	95	02112405KZ	02112605KY	2	EMR	S200-043Q
CE118	BF6M2012C	158	118.0	2100	79.0	633	1500	89	02112405KZ	02112605KY	2	EMR	S200-043Q
CE134	BF6M2012C	180	134.0	2000	91.0	743	1500	104	02112405KZ	02112605KY	2	EMR	S200-043Q
CE127	BF6M2012C	170	127.0	2000	89.0	705	1500	100	02112405KZ	02112605KY	2	EMR	S200-043Q
CE120	BF6M2012C	161	120.0	2000	84.0	671	1500	95	02112405KZ	02112605KY	2	EMR	S200-043Q
CE114	BF6M2012C	153	114.0	2000	80.0	633	1500	89	02112405KZ	02112605KY	2	EMR	S200-043Q
CE103	TAD420VE	138	103.0	2500	91.0	493	1500	104	02112405KZ	02112605KY	4	EMR	S100-008H
CE93	TAD420VE	125	93.0	2500	85.0	445	1500	96	02112405KZ	02112605KY	4	EMR	S100-008H
CE98/1	TAD420VE	131	98.0	2300	91.0	493	1500	104	02112405KZ	02112605KY	3	EMR	S100-008H
CE88/1	TAD420VE	118	88.0	2300	84.0	445	1500	96	02112405KZ	02112605KY	3	EMR	S100-008H
CE92	TAD420VE	123	92.0	2100	91.0	493	1500	104	02112405KZ	02112605KY	2	EMR	S100-008H
CE83/1	TAD420VE	111	83.0	2100	85.0	445	1500	96	02112405KZ	02112605KY	2	EMR	S100-008H
CE155	TAD620VE	208	155.0	2500	93.0	700	1500	103	02112405KZ	02112605KY	4	EMR	S200-043Q
CE140	TAD620VE	188	140.0	2500	84.0	671	1500	92	02112405KZ	02112605KY	4	EMR	S200-043Q
CE145	TAD620VE	194	145.0	2300	92.0	700	1500	103	02112405KZ	02112605KY	3	EMR	S200-043Q
CE131	TAD620VE	176	131.0	2300	83.0	671	1500	92	02112405KZ	02112605KY	3	EMR	S200-043Q
CE135/1	TAD620VE	181	135.0	2100	90.0	700	1500	103	02112405KZ	02112605KY	2	EMR	S200-043Q
CE121	TAD620VE	162	121.0	2100	81.0	671	1500	92	02112405KZ	02112605KY	2	EMR	S200-043Q