California Environmental Protection Agency AIR RESOURCES BOARD	DEUTZ AG	EXECUTIVE ORDER U-R-013-0297 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)
2009	9DZXL15.9065	11.906, 15.874	Diesel	8000

SPECIAL FEATURES & EMISSION CONTROL SYSTEMS	TYPICAL EQUIPMENT APPLICATION
Direct Diesel Injection, Turbocharger, Charge Air Cooler, Electronic Control Module, Smoke Puff Limiter, Exhaust Gas Recirculation	Loaders, 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 POWER CLASS	EMISSION STANDARD CATEGORY		EXHAUST (g/kw-hr)					OPACITY (%)		
			HC	NOx	NMHC+NOx	CO	PM	ACCEL	LUG	PEAK
225 ≤ kW < 450	Tier 3	STD	N/A	N/A	4.0	3.5	0.20	20	15	50
450 ≤ kW < 560	Tier 3	STD	N/A	N/A	4.0	3.5	0.20	20	15	50
		CERT	--	--	3.9	0.6	0.05	5	1	8

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 29 day of January 2009.

Annette Hebert, Chief
Mobile Source Operations Division

Deutz AG
Nonroad CI

Engine Model Summary Template

Attachment

U-R-013-0297

1.Engine Code	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
[illegible]	482,7@2100	264	184,7	1534,1@1300	300	129,9	DDI,TC,CAC,ECM,SPL,EGR
[illegible]	482,7@2000	271	180,6	1534,1@1300	300	129,9	DDI,TC,CAC,ECM,SPL,EGR
[illegible]	482,7@1900	280	177,3	1534,1@1300	300	129,9	DDI,TC,CAC,ECM,SPL,EGR
[illegible]	469,3@1800	284	170,3	1534,1@1300	300	129,9	DDI,TC,CAC,ECM,SPL,EGR
[illegible]	442,5@2100	246	172,1	1475,1@1300	290	125,6	DDI,TC,CAC,ECM,SPL,EGR
[illegible]	442,5@2000	252	167,9	1475,1@1300	290	125,6	DDI,TC,CAC,ECM,SPL,EGR
[illegible]	442,5@1900	260	164,6	1475,1@1300	290	125,6	DDI,TC,CAC,ECM,SPL,EGR
[illegible]	442,5@1800	269	161,3	1475,1@1300	290	125,6	DDI,TC,CAC,ECM,SPL,EGR
[illegible]	402,3@2100	227	158,8	1475,1@1300	290	125,6	DDI,TC,CAC,ECM,SPL,EGR
[illegible]	402,3@2000	234	155,9	1475,1@1300	290	125,6	DDI,TC,CAC,ECM,SPL,EGR
[illegible]	402,3@1900	242	153,2	1475,1@1300	290	125,6	DDI,TC,CAC,ECM,SPL,EGR
[illegible]	402,3@1800	250	149,9	1475,1@1300	290	125,6	DDI,TC,CAC,ECM,SPL,EGR
[illegible]	366@2100	199	139,2	1327,6@1300	261	113	DDI,TC,CAC,ECM,SPL,EGR
[illegible]	366@2000	215	143,3	1327,6@1300	261	113	DDI,TC,CAC,ECM,SPL,EGR
[illegible]	366@1900	224	141,8	1327,6@1300	261	113	DDI,TC,CAC,ECM,SPL,EGR
[illegible]	366@1800	234	140,3	1327,6@1300	261	113	DDI,TC,CAC,ECM,SPL,EGR
[illegible]	321,8@2100	189	132,2	1106,3@1300	228	98,7	DDI,TC,CAC,ECM,SPL,EGR
[illegible]	321,8@2000	193	128,6	1106,3@1300	228	98,7	DDI,TC,CAC,ECM,SPL,EGR
[illegible]	321,8@1900	199	126,0	1106,3@1300	228	98,7	DDI,TC,CAC,ECM,SPL,EGR
[illegible]	321,8@1800	209	125,3	1106,3@1300	228	98,7	DDI,TC,CAC,ECM,SPL,EGR
[illegible]	670,5@2100	293	273,4	2131,5@1400	325	202,2	DDI,TC,CAC,ECM,SPL,EGR
[illegible]	670,5@2000	300	266,6	2131,5@1400	325	202,2	DDI,TC,CAC,ECM,SPL,EGR
[illegible]	670,5@1900	315	265,9	2131,5@1400	325	202,2	DDI,TC,CAC,ECM,SPL,EGR
[illegible]	657@1800	317	253,5	2131,5@1400	325	202,2	DDI,TC,CAC,ECM,SPL,EGR
[illegible]	643,6@2100	280	261,3	2065,1@1400	315	195,9	DDI,TC,CAC,ECM,SPL,EGR
[illegible]	643,6@2000	289	256,8	2065,1@1400	315	195,9	DDI,TC,CAC,ECM,SPL,EGR

Date: 06/26/2009

Deutz AG
Nonroad CI

Engine Model Summary Template

Attachment

U-R-013-0297

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
643,6@1900	302	255,0	2065,1@1400	315	195,9	DDI,TC,CAC,ECM,SPL,EGR
643,6@1800	309	247,1	2065,1@1400	315	195,9	DDI,TC,CAC,ECM,SPL,EGR
590@2100	255	237,9	1954,5@1400	300	186,6	DDI,TC,CAC,ECM,SPL,EGR
590@2000	262	232,8	1954,5@1400	297	184,7	DDI,TC,CAC,ECM,SPL,EGR
590@1900	271	228,8	1954,5@1400	297	184,7	DDI,TC,CAC,ECM,SPL,EGR
590@1800	283	226,3	1954,5@1400	297	184,7	DDI,TC,CAC,ECM,SPL,EGR
536,4@2100	237	221,1	1954,5@1400	300	186,6	DDI,TC,CAC,ECM,SPL,EGR
536,4@2000	241	214,2	1954,5@1400	297	184,7	DDI,TC,CAC,ECM,SPL,EGR
536,4@1900	250	211,1	1954,5@1400	297	184,7	DDI,TC,CAC,ECM,SPL,EGR
536,4@1800	257	205,5	1954,5@1400	297	184,7	DDI,TC,CAC,ECM,SPL,EGR
469,3@2100	215	200,6	1585,7@1400	246	153	DDI,TC,CAC,ECM,SPL,EGR
469,3@2000	220	195,5	1585,7@1400	246	153	DDI,TC,CAC,ECM,SPL,EGR
469,3@1900	225	189,9	1585,7@1400	246	153	DDI,TC,CAC,ECM,SPL,EGR
469,3@1800	225	179,9	1585,7@1400	246	153	DDI,TC,CAC,ECM,SPL,EGR
496,1@2100	225	209,9	1401,3@1400	220	136,8	DDI,TC,CAC,ECM,SPL,EGR
402,3@2100	227	158,8	1401,3@1300	276	119,5	DDI,TC,CAC,ECM,SPL,EGR
469,4@1800	225	179,9	1585,7@1400	246	153	DDI,TC,CAC,ECM,SPL,EGR
482,7@2100	264	184,7	1534,1@1300	300	129,9	DDI,TC,CAC,ECM,SPL,EGR
590@1900	271	228,8	1954,5@1400	297	184,7	DDI,TC,CAC,ECM,SPL,EGR
590@2100	255	237,9	1954,5@1400	300	186,6	DDI,TC,CAC,ECM,SPL,EGR
643,6@2100	280	261,3	2065,1@1400	315	195,9	DDI,TC,CAC,ECM,SPL,EGR

Date: 06/26/2009