California Environmental Protection Agency AIR RESOURCES BOARD	DEUTZ AG	EXECUTIVE ORDER U-R-013-0354 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	ADZXL15.9065	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	Loader, 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 2010.

Annette Hebert, Chief
Mobile Source Operations Division

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Engine Model Summary Template

Attachment page 1 of 2

EO# U-R-013-0354

12/30/2009

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
ADZXL15.9065	C3UI360	TCD2015V06	482,7@2100	264	184,7	1534,1@130	300	129,9	DDI, TC, CAC, ECM, SPL, EGR
ADZXL15.9065	C3UI360A	TCD2015V06	482,7@2000	271	180,6	1534,1@130	300	129,9	DDI, TC, CAC, ECM, SPL
ADZXL15.9065	C3UI360B	TCD2015V06	482,7@1900	280	177,3	1534,1@130	300	129,9	DDI, TC, CAC, ECM, SPL
ADZXL15.9065	C3UI350	TCD2015V06	469,3@1800	284	170,3	1534,1@130	300	129,9	DDI, TC, CAC, ECM, SPL
ADZXL15.9065	C3UI330	TCD2015V06	442,5@2100	246	172,1	1475,1@130	290	125,6	DDI, TC, CAC, ECM, SPL
ADZXL15.9065	C3UI330A	TCD2015V06	442,5@2000	252	167,9	1475,1@130	290	125,6	DDI, TC, CAC, ECM, SPL
ADZXL15.9065	C3UI330B	TCD2015V06	442,5@1900	260	164,6	1475,1@130	290	125,6	DDI, TC, CAC, ECM, SPL
ADZXL15.9065	C3UI330C	TCD2015V06	442,5@1800	269	161,3	1475,1@130	290	125,6	DDI, TC, CAC, ECM, SPL
ADZXL15.9065	C3UI300	TCD2015V06	402,3@2100	227	158,8	1475,1@130	290	125,6	DDI, TC, CAC, ECM, SPL
ADZXL15.9065	C3UI300A	TCD2015V06	402,3@2000	234	155,9	1475,1@130	290	125,6	DDI, TC, CAC, ECM, SPL
ADZXL15.9065	C3UI300B	TCD2015V06	402,3@1900	242	153,2	1475,1@130	290	125,6	DDI, TC, CAC, ECM, SPL
ADZXL15.9065	C3UI300C	TCD2015V06	402,3@1800	250	149,9	1475,1@130	290	125,6	DDI, TC, CAC, ECM, SPL
ADZXL15.9065	C3UI273	TCD2015V06	366@2100	199	139,2	1327,6@130	261	113	DDI, TC, CAC, ECM, SPL
ADZXL15.9065	C3UI273A	TCD2015V06	366@2000	215	143,3	1327,6@130	261	113	DDI, TC, CAC, ECM, SPL
ADZXL15.9065	C3UI273B	TCD2015V06	366@1900	224	141,8	1327,6@130	261	113	DDI, TC, CAC, ECM, SPL
ADZXL15.9065	C3UI273C	TCD2015V06	366@1800	234	140,3	1327,6@130	261	113	DDI, TC, CAC, ECM, SPL
ADZXL15.9065	C3UI240	TCD2015V06	321,8@2100	189	132,2	1106,3@130	228	98,7	DDI, TC, CAC, ECM, SPL
ADZXL15.9065	C3UI240A	TCD2015V06	321,8@2000	193	128,6	1106,3@130	228	98,7	DDI, TC, CAC, ECM, SPL
ADZXL15.9065	C3UI240B	TCD2015V06	321,8@1900	199	126,0	1106,3@130	228	98,7	DDI, TC, CAC, ECM, SPL
ADZXL15.9065	C3UI240C	TCD2015V06	321,8@1800	209	125,3	1106,3@130	228	98,7	DDI, TC, CAC, ECM, SPL
ADZXL15.9065	C3UI500	TCD2015V08	670,5@2100	293	273,4	2131,5@140	325	202,2	DDI, TC, CAC, ECM, SPL
ADZXL15.9065	C3UI500A	TCD2015V08	670,5@2000	300	266,6	2131,5@140	325	202,2	DDI, TC, CAC, ECM, SPL
ADZXL15.9065	C3UI500B	TCD2015V08	670,5@1900	315	265,9	2131,5@140	325	202,2	DDI, TC, CAC, ECM, SPL
ADZXL15.9065	C3UI490	TCD2015V08	657@1800	317	253,5	2131,5@140	325	202,2	DDI, TC, CAC, ECM, SPL
ADZXL15.9065	C3UI480	TCD2015V08	643,6@2100	280	261,3	2065,1@140	315	195,9	DDI, TC, CAC, ECM, SPL
ADZXL15.9065	C3UI480A	TCD2015V08	643,6@2000	289	256,8	2065,1@140	315	195,9	DDI, TC, CAC, ECM, SPL
ADZXL15.9065	C3UI480B	TCD2015V08	643,6@1900	302	255,0	2065,1@140	315	195,9	DDI, TC, CAC, ECM, SPL

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Engine Model Summary Template

Attachment page 2 of 2

EO# U-R-013-0354

12/30/2009

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
ADZXL15.9065	C3UI480C	TCD2015V08	643,6@1800	309	247,1	2065,1@140	315	195,9	DDI, TC, CAC, ECM, SPL, EGR
ADZXL15.9065	C3UI440	TCD2015V08	590@2100	255	237,9	1954,5@140	300	186,6	DDI, TC, CAC, ECM, SPL
ADZXL15.9065	C3UI440A	TCD2015V08	590@2000	262	232,8	1954,5@140	297	184,7	DDI, TC, CAC, ECM, SPL
ADZXL15.9065	C3UI440B	TCD2015V08	590@1900	271	228,8	1954,5@140	297	184,7	DDI, TC, CAC, ECM, SPL
ADZXL15.9065	C3UI440C	TCD2015V08	590@1800	283	226,3	1954,5@140	297	184,7	DDI, TC, CAC, ECM, SPL
ADZXL15.9065	C3UI400	TCD2015V08	536,4@2100	237	221,1	1954,5@140	300	186,6	DDI, TC, CAC, ECM, SPL
ADZXL15.9065	C3UI400A	TCD2015V08	536,4@2000	241	214,2	1954,5@140	297	184,7	DDI, TC, CAC, ECM, SPL
ADZXL15.9065	C3UI400B	TCD2015V08	536,4@1900	250	211,1	1954,5@140	297	184,7	DDI, TC, CAC, ECM, SPL
ADZXL15.9065	C3UI400C	TCD2015V08	536,4@1800	257	205,5	1954,5@140	297	184,7	DDI, TC, CAC, ECM, SPL
ADZXL15.9065	C3UI350	TCD2015V08	469,3@2100	215	200,6	1585,7@140	246	153	DDI, TC, CAC, ECM, SPL
ADZXL15.9065	C3UI350A	TCD2015V08	469,3@2000	220	195,5	1585,7@140	246	153	DDI, TC, CAC, ECM, SPL
ADZXL15.9065	C3UI350B	TCD2015V08	469,3@1900	225	189,9	1585,7@140	246	153	DDI, TC, CAC, ECM, SPL
ADZXL15.9065	C3UI350C	TCD2015V08	469,3@1800	225	179,9	1585,7@140	246	153	DDI, TC, CAC, ECM, SPL
ADZXL15.9065	C3UI370	TCD2015V08	496,1@2100	225	209,9	1401,3@140	220	136,8	DDI, TC, CAC, ECM, SPL
ADZXL15.9065	C3UI300X	TCD2015V06	402,3@2100	227	158,8	1401,3@130	276	119,5	DDI, TC, CAC, ECM, SPL
ADZXL15.9065	C3UI350D	TCD2015V06	469,4@1800	225	179,9	1585,7@140	246	153	DDI, TC, CAC, ECM, SPL
ADZXL15.9065	C3UI360D	TCD2015V06	482,7@2100	264	184,7	1534,1@130	300	129,9	DDI, TC, CAC, ECM, SPL
ADZXL15.9065	C3UI440D	TCD2015V08	590@1900	271	228,8	1954,5@140	297	184,7	DDI, TC, CAC, ECM, SPL
ADZXL15.9065	C3UI440E	TCD2015V08	590@2100	255	237,9	1954,5@140	300	186,6	DDI, TC, CAC, ECM, SPL
ADZXL15.9065	C3UI480D	TCD2015V08	643,6@2100	280	261,3	2065,1@140	315	195,9	DDI, TC, CAC, ECM, SPL