California Environmental Protection Agency AIR RESOURCES BOARD	PERKINS ENGINES COMPANY LTD.	EXECUTIVE ORDER U-R-022-0153 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	APKXL06.6PJ2	6.6	Diesel	8000

SPECIAL FEATURES & EMISSION CONTROL SYSTEMS	TYPICAL EQUIPMENT APPLICATION
Direct Diesel Injection, Turbocharger, Charge Air Cooler, Electronic Control Module	Cranes, Loaders, Tractor, Dozer, Pump, Compressor, Generator Set, 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
75 ≤ kW < 130	Tier 3	STD	N/A	N/A	4.0	5.0	0.30	20	15	50
		CERT	--	--	4.0	2.0	0.11	9	1	17

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 16 day of November 2009.

Annette Hebert, Chief
Mobile Source Operations Division

Attachment 1 of 2

10-30-2009

Engine Model Summary Template

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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
APKXL06.6PJ2	1	2660/1800	173.7@1800	110	65.1	631@1400	132	60.8	ECM DDI TAA TC CAC
APKXL06.6PJ2	2	2526/2200	128.3@2200	66	47.7	386@1400	79	36.4	ECM DDI TAA
APKXL06.6PJ2	3	2598/2100	163@2100	84	58	489@1400	108	49.7	ECM DDI TAA
APKXL06.6PJ2	4	2536/2200	128@2200	71.1	51.4	433@1400	92.9	42.8	ECM DDI TAA
APKXL06.6PJ2	5	2540/2200	156@2200	82.2	59.5	504@1400	106.6	49.1	ECM DDI TAA
APKXL06.6PJ2	6	2952/2200	174@2200	90.7	65.6	513@1400	109.3	50.3	ECM DDI TAA
APKXL06.6PJ2	7	2656/2000	121@2000	71	46.7	409@1400	90	41.4	ECM DDI TAA
APKXL06.6PJ2	8	2658/2000	131@2000	81	53.3	450@1400	96	44.2	ECM DDI TAA
APKXL06.6PJ2	9	2662/2000	166.7@2000	99	65.1	559@1300	110	47.0	ECM DDI TAA
APKXL06.6PJ2	10	2664/1800	166@1800	105.4	62.4	579@1400	121.2	55.8	ECM DDI TAA
APKXL06.6PJ2	11	2666/2000	173@2000	99.2	65.2	553@1400	115	52.9	ECM DDI TAA
APKXL06.6PJ2	12	2718/2100	151@2100	86	59.4	547@1400	118	54.3	ECM DDI TAA
APKXL06.6PJ2	13	2772/2000	152@2000	93	61.2	551@1200	107	42.2	ECM DDI TAA
APKXL06.6PJ2	14	2774/2000	147@2000	86	56.6	531@1200	103	40.6	ECM DDI TAA
APKXL06.6PJ2	15	2776/2000	142@2000	85	55.9	511@1200	101	39.9	ECM DDI TAA
APKXL06.6PJ2	16	2778/2000	163.6@2000	95	62.5	570@1200	107	42.2	ECM DDI TAA
APKXL06.6PJ2	17	2780/2000	162@2000	92	60.5	590@1200	112	44.2	ECM DDI TAA
APKXL06.6PJ2	18	2984/2200	119@2200	67.5	48.8	402@1400	88.6	40.8	ECM DDI TAA
APKXL06.6PJ2	20	2962/2100	131@2100	72.3	49.9	496@1400	109.0	50.2	ECM DDI TAA
APKXL06.6PJ2	21	2990/2200	135@2200	74	53.5	449@1400	99	45.6	ECM DDI TAA
APKXL06.6PJ2	22	2994/2200	144.9@2200	82	59.3	480@1400	104	47.9	ECM DDI TAA
APKXL06.6PJ2	23	2998/2200	161@2200	88	63.7	526@1400	109	50.2	ECM DDI TAA
APKXL06.6PJ2	24	3000/2200	162.3@2200	87.4	63.2	526@1400	111	51.1	ECM DDI TAA
APKXL06.6PJ2	25	3038/1800	173.7@1800	108	63.9	590@1400	121.6	56	ECM DDI TAA
APKXL06.6PJ2	26	3192/2000	171.7@2000	98.7	64.9	533@1400	113.2	52.1	ECM DDI TAA
APKXL06.6PJ2	27	3232/2000	167@2000	96.4	63.4	610@1200	119	47	ECM DDI TAA

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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 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
APKXL06.6PJ2	28	3234/2000	162.3@2000	93	61.2	590@1200	113	44.6	ECM DDI TAA TC CAC
APKXL06.6PJ2	29	3236/2000	157@2000	91	59.8	570@1200	108	42.6	ECM DDI TAA
APKXL06.6PJ2	30	3238/2000	152.2@2000	86.4	56.8	551@1200	107	42.2	ECM DDI TAA
APKXL06.6PJ2	31	3240/2000	146.8@2000	87	57.2	531@1200	102	40.2	ECM DDI TAA
APKXL06.6PJ2	32	3242/2000	142@2000	84	55.2	511@1200	100	39.5	ECM DDI TAA
APKXL06.6PJ2	33	3284/2200	162.3@2200	92	66.6	516@1400	113	52	ECM DDI TAA
APKXL06.6PJ2	34	3252/2300	152.2@2300	78	59	547@1400	115.8	53.3	ECM DDI TAA
APKXL06.6PJ2	35	3254/2300	132@2300	72	54.5	496@1400	107	49.3	ECM DDI TAA
APKXL06.6PJ2	37	3388/2200	134.8@2200	75	54.3	449@1400	99	45.6	ECM DDI TAA
APKXL06.6PJ2	38	3390/2200	156.2@2200	86	62.2	504@1400	107	49.3	ECM DDI TAA
APKXL06.6PJ2	39	3392/2200	144.8@2200	79	57.1	480@1400	104	47.9	ECM DDI TAA
APKXL06.6PJ2	40	3394/2200	160.9@2200	87	62.9	526@1400	111	51.1	ECM DDI TAA
APKXL06.6PJ2	41	3398/2300	132.1@2300	72	54.5	496@1400	105	48.3	ECM DDI TAA
APKXL06.6PJ2	42	2544/2500	173.8@2500	88	72.3	513@1500	108	53.3	ECM DDI TAA
APKXL06.6PJ2	43	3476/2200	173@2200	95	68.7	637@1400	133	61.2	ECM DDI TAA
APKXL06.6PJ2	44	3590/2200	173.7@2200	95	68.7	513@1400	106	48.8	ECM DDI TAA