PERKINS ENGINES COMPANY LTD.

EXECUTIVE ORDER U-R-022-0178 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)				
2012	CPKXL7.01BL1	7.01	Diesel 8000					
	FEATURES & EMISSION		TYPICAL EQUIPMENT APPLICATION					
Cool	ic Direct Injection, Turbo er, Engine Control Modu ecirculation, Diesel Oxida Periodic Trap Oxid	le, Exhaust Gas ition Catalyst,	Crane, Loader, Tractor, Dozer, Pump, Compressor, Generator Set					

The engine models and codes are attached.

The following are the exhaust certification standards (STD) and certification levels (CERT) for non-methane hydrocarbon (NMHC), 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	EMISSION		EXHAUST (g/kw-hr)					OPACITY (%)		
CLASS	STANDARD CATEGORY		NMHC	NOx	NMHC+NOx	co	- PM	ACCEL	LUG	PEAK
130 ≤ kW ≤ 560	Interim Tier 4 / ALT NOx	STD	0.19	2.0	N/A	3.5	0.02	N/A	N/A	N/A
		CERT	0.02	1.9		0.2	0.005			

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 2011.

Annette Hebert, Chief

Mobile Source Operations Division

ATTACHMENT 1 OF 2 Engine Model Summary Template

U-R-012-0178 3/21/2012

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
CPKXL7.01BL1	1	3566/2200	275@2200	142	103	927@1400	191	88	DDI TAA ECM DOC PTOX EGR
CPKXL7.01BL1	2	3564/2200	250@2200	132	91	842@1400	177	81	DDI TAA ECM DOC PTOX EGR
CPKXL7.01BL1	3	3562/2200	237@2200	126	89	801@1400	167	77 .	DDI TAA ECM DOC PTOX EGR
CPKXL7.01BL1	4	3558/2200	213@2200	116	84	718@1400	151	70	DDI TAA ECM DOC PTOX EGR
CPKXL7.01BL1	5	3556/2200	202@2200	112	78	680@1400	146	67	DDI TAA ECM DOC PTOX EGR
CPKXL7.01BL1	6	3552/2200	188@2200	104	69	656@1400	139	64	DDI TAA ECM DOC PTOX EGR
CPKXL7.01BL1	7	3710/2100	172@2100	102	66	627@1000	128	42	DDI TAA ECM DOC PTOX EGR
CPKXL7.01BL1	8	3708/2100	19 2 @2100	113	74	707@1000	150	49	DDI TAA ECM DOC PTOX EGR
CPKXL7.01BL1	9	3702/2100	212@2100	118	81	763@1200	159	63	DDI TAA ECM DOC PTOX EGR
CPKXL7.01BL1	10	3690/1800	204@1800	123	70	687@1400	142	6 5	DDI TAA ECM DOC PTOX EGR

ATTACHMENT 20F2

Engine Model Summary Template

UR-012-0178 3/21/2012

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
CPKXL7.01BL1	11	3688/1800	241@1800	144	85	791@1400	163	75	DDI TAA ECM DOC PTOX EGR
CPKXL7.01BL1	12	3560/2200	225@2200	124	83	7 58@1400	155	72	DDI TAA ECM DOC PTOX EGR
CPKXL7.01BL1	13	3666/2150	239@2150	129	89	777@1300	161	69	DDI TAA ECM DOC PTOX EGR
CPKXL7.01BL1	14	3698/2150	219@2150	120	80	7 77@1300	163	68	DDI TAA ECM DOC PTOX EGR
CPKXL7.01BL1	Cert Test 15	3730/1800	321@1800	198	117	935@1800	198	117	DDI TAA ECM DOC PTOX EGR
CPKXL7.01BL1	15	3730/1800	321@1 80 0	195	115	935@1800	195	115	DDI TAA ECM DOC PTOX EGR
CPKXL7.01BL1	16	3728/1800	247@1800	143	85	720@1800	143	85	DDI TAA ECM DOC PTOX EGR
CPKXL7.01BL1	Cert Test 17	3764/2200	30 2 @2200	170	123	940@1400	198	91	DDI TAA ECM DOC PTOX EGR
CPKXL7.01BL1	17	3764/2200	302@2200	170	123	940@1400	198	91	DDI TAA ECM DOC PTOX EGR