

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 engine 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)
2005	5PKXL06.0VK1	6.0	Diesel	8000
SPECIAL FEATURES & EMISSION CONTROL SYSTEMS			TYPICAL EQUIPMENT APPLICATION	
Direct Diesel Injection, Turbocharger, Charge Air Cooler and Engine Control Module			Tractor and 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 2	STD	N/A	N/A	6.6	5.0	0.30	20	15	50
		CERT	--	--	6.2	0.7	0.21	3	1	4

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 2ND day of December 2004.


 Allen Lyons, Chief
 Mobile Source Operations Division

Engine Model Summary Form

Manufacturer: Perkins Engines Company Limited
 Category: Nonroad CI
 Engine Family: 5PKXL06.0VK1
 Family Name: 1106C-E60TA OR CATERPILLAR 3056
 Class Code: New Submission

UR-022-0065

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
1	2188/2200	172.9 @ 2200	88.4	64.4	512.5 @ 1400	104.5	48.8	ECM, TAA, DDI
2	2186/2200	150.1 @ 2200	77.7	56.9	476 @ 1400	97.5	45.4	ECM, TAA, DDI
3	2250/2000	158.4 @ 2000	88.9	60.7	498 @ 1400	101.7	47.6	ECM, TAA, DDI
4	2308/2000	144.8 @ 2000	82.2	53.1	461 @ 1400	95.5	44.5	ECM, TAA, DDI
5	2310/2000	170.2 @ 2000	94.1	62.0	512.5 @ 1400	104.0	48.0	ECM, TAA, DDI
6	2314/2300	128.7 @ 2300	75.4	57.1	428 @ 1400	93.5	43.1	ECM, TAA, DDI
7	2316/2300	147.5 @ 2300	67.5	51.5	472 @ 1400	103.0	47.4	ECM, TAA, DDI
8	2178/2000	114.0 @ 2000	67.2	43.5	351 @ 1400	73.6	34.4	ECM, TAA, DDI
9	2178/2200	116.0 @ 2200	63.7	45.5	351 @ 1400	73.6	34.4	ECM, TAA, DDI
10	2180/2500	132.0 @ 2500	67.1	51.1	409.3 @ 1400	82.7	38.7	ECM, TAA, DDI
11	2182/2200	142.0 @ 2200	74.7	54.9	445 @ 1400	92.0	43.1	ECM, TAA, DDI
12	2182/2300	142.0 @ 2300	73.4	56.0	445 @ 1400	92.0	43.1	ECM, TAA, DDI
13	2186/2500	150.1 @ 2500	74.5	61.6	476 @ 1400	97.5	45.4	ECM, TAA, DDI
14	2190/2500	173.5 @ 2500	84.7	69.0	476.5 @ 1400	96.7	44.8	ECM, TAA, DDI
15	2194/2200	161.0 @ 2200	84.0	60.7	473 @ 1400	96.9	44.8	ECM, TAA, DDI
16	2310/2200	170.3 @ 2200	88.4	64.4	512.5 @ 1400	104.0	48.0	ECM, TAA, DDI
17	2312/2200	167.6 @ 2200	86.9	63.0	512.5 @ 1400	104.0	48.0	ECM, TAA, DDI
18	2188/2000	172.9 @ 2000	94.4	62.2	512.5 @ 1400	104.5	48.0	ECM, TAA, DDI
19	2362/2200	116.7 @ 2200	64.6	47.2	369.0 @ 1400	73.2	53.5	ECM, TAA, DDI
20	2364/2200	132.1 @ 2200	71.7	52.4	417.0 @ 1400	82.0	60.0	ECM, TAA, DDI
21	2366/2200	142.1 @ 2200	75.0	54.8	435.0 @ 1400	87.0	63.6	ECM, TAA, DDI
22	2368/2200	152.9 @ 2200	79.0	57.7	435.0 @ 1400	86.3	63.0	ECM, TAA, DDI
23	2408/2200	126.0 @ 2200	68.8	50.1	369.0 @ 1400	72.6	53.0	ECM, TAA, DDI
24	2186/2300	150.1 @ 2300	77.7	56.9	476.0 @ 1400	97.5	45.4	ECM, TAA, DDI
25	2374/2200	173.7 @ 2200	90.0	65.7	512.6 lbf ft @	103.8	48.2	ECM, TAA, DDI
26	2376/2200	108.6 @ 2200	61.6	45.0	310.0 lbf ft @	63.5	29.5	ECM, TAA, DDI
27	2180/2000	132.1 @ 2000	72.7	48.3	409.3 lbf ft @	82.7	38.7	ECM, TAA, DDI
28	2180/2200	130.0 @ 2200	69.1	50.5	409.3 lbf ft @	82.7	38.7	ECM, TAA, DDI
29	2190/2200	173.7 @ 2200	88.6	64.7	476.5 lbf ft @	96.7	44.8	ECM, TAA, DDI
30	2190/2200	173.7 @ 2200	87.5	63.0	476.5 lbf ft @	96.7	44.8	ECM, TAA, DDI

31	2250/2200	158.2 @ 2200	88.0	64.3	498.0411ft @	101.7	47.6	ECM, TAA, DDI
32	2374/2500	173.7 @ 2500	88.2	73.2	512.6 lbf ft @	103.8	48.2	ECM, TAA, DDI
33	2622/2200	144.8 @ 2200	75.0	54.8	467.0 lbf ft@	95.5	44.4	ECM TAA DDI
34	2652/2300	152.2 @ 2300	81.5	59.6	472.0 lbf ft@	99.0	46.0	ECM TAA DDI

U-R-022-0065

Engine Mode

U-R-022-0065

Manufacturer: Perkins Engines Company Limited
Engine category: Nonroad CI
EPA Engine Family: 5PKXL06.0VK1
Mfr Family Name:
Process Code: Running Change

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
1	2178/2220	116.0 @ 2220	63.7	45.5	351 lbf ft @ 1400	73.6	34.4	ECM, TAA, DDI
2	2180/2220	130.0 @ 2220	69.1	50.5	409.3 lbf ft @	82.7	38.7	ECM, TAA, DDI
3	2186/2220	150.1 @ 2220	77.7	56.9	476 lbf ft @ 1400	97.5	45.4	ECM, TAA, DDI
4	2194/2220	161.0 @ 2220	84.0	60.7	473 lbf ft @ 1400	96.9	44.8	ECM, TAA, DDI