



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)
2007	7YDXL1.64M3N	1.642	Diesel	3000, 5000
SPECIAL FEATURES & EMISSION CONTROL SYSTEMS			TYPICAL EQUIPMENT APPLICATION	
Direct Diesel Injection			Crane, Loader, Tractor, Excavator, Dozer, Pump, Compressor	

The engine models and codes are attached.

The following are the exhaust certification standards (STD) and certification levels (CERT) for hydrocarbons (HC), oxides of nitrogen (NO_x), or non-methane hydrocarbons plus oxides of nitrogen (NMHC+NO_x), 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):

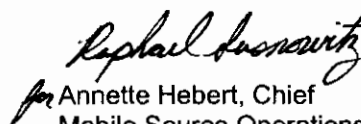
RATED POWER CLASS	EMISSION STANDARD CATEGORY		EXHAUST (g/kW-hr)					OPACITY (%)		
			HC	NO _x	NMHC+NO _x	CO	PM	ACCEL	LUG	PEAK
8 ≤ kW < 19	Tier 2	STD	N/A	N/A	7.5	6.6	0.80	20	15	50
19 ≤ kW < 37	Tier 2	STD	N/A	N/A	7.5	5.5	0.60	20	15	50
		CERT	--	--	5.2	3.4	0.29	4	5	5

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 21st day of December 2006.


for Annette Hebert, Chief
Mobile Source Operations Division

Engine Model Summary Template

ATTACHMENT, P1 of 3
EO# U-R-028-034D

PK

Engine Family	1.Engine Code	2.Engine Model	3.BHP@RPM (SAE Gross)	4.Fuel Rate: mm ³ /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 ³ /stroke@peak torque	8.Fuel Rate: (lbs/hr)@peak torque	9.Emission Control Device Per SAE J1930
7YDXL1.64M3N	N/A	3TNV88-VM21	35.0/2800	32.5	15.0	84.8/1500	38.0	9.4	EM DP1
7YDXL1.64M3N	N/A	3TNV88-K	34.7/2800	31.8	14.7	79.9/1200	34.9	6.9	EM
7YDXL1.64M3N	N/A	3TNV88-L	33.5/2700	31.8	14.2	81.5/1200	35.7	7.1	EM
7YDXL1.64M3N	N/A	3TNV88-M	32.4/2600	31.7	13.6	78.2/1100	34.7	6.3	EM
7YDXL1.64M3N	N/A	3TNV88-N	31.1/2500	30.5	12.6	79.6/1300	35.8	7.7	EM
7YDXL1.64M3N	N/A	3TNV88-P	29.8/2400	30.0	11.9	80.9/1200	34.5	6.8	EM
7YDXL1.64M3N	N/A	3TNV88-Q	28.6/2300	30.2	11.5	79.2/1200	34.3	6.8	EM
7YDXL1.64M3N	N/A	3TNV88-S	27.2/2200	29.9	10.9	78.7/1200	34.7	6.9	EM
7YDXL1.64M3N	N/A	3D88E-5M	32.4/2600	31.1	13.4	79.1/1300	34.0	7.3	EM
7YDXL1.64M3N	N/A	3D88E-5N	31.1/2500	30.5	12.6	79.6/1300	35.8	7.7	EM
7YDXL1.64M3N	N/A	3D88E-5P	29.8/2400	30.0	11.9	80.9/1200	34.5	6.8	EM
7YDXL1.64M3N	N/A	3D88E-5Q	28.6/2300	30.2	11.5	79.2/1200	34.3	6.8	EM
7YDXL1.64M3N	N/A	3D88E-5S	27.2/2200	29.9	10.9	78.7/1200	34.7	6.9	EM
7YDXL1.64M3N	N/A	3IRH8N	34.7/2800	33.0	15.3	79.9/1200	34.7	6.9	EM
7YDXL1.64M3N	N/A	3CE1-K	34.7/2800	31.8	14.7	79.9/1200	34.9	6.9	EM
7YDXL1.64M3N	N/A	3CE1-L	33.5/2700	31.8	14.2	81.5/1200	35.7	7.1	EM
7YDXL1.64M3N	N/A	3CE1-M	32.4/2600	31.7	13.6	78.2/1100	34.7	6.3	EM
7YDXL1.64M3N	N/A	3CE1-N	31.1/2500	30.5	12.6	79.6/1300	35.8	7.7	EM
7YDXL1.64M3N	N/A	3CE1-P	29.8/2400	30.0	11.9	80.9/1200	34.5	6.8	EM
7YDXL1.64M3N	N/A	3CE1-Q	28.6/2300	30.2	11.5	79.2/1200	34.3	6.8	EM
7YDXL1.64M3N	N/A	3CE1-S	27.2/2200	29.9	10.9	78.7/1200	34.7	6.9	EM
7YDXL1.64M3N	N/A	3TNV88-XBV	31.0/2500	31.5	13.0	78.2/1200	35.4	7.0	EM
7YDXL1.64M3N	N/A	3TNV88-XTBZ	28.4/2300	30.8	11.7	78.2/1200	34.7	6.9	EM
7YDXL1.64M3N	N/A	3TNV88-D	37.5/3000	32.5	16.1	81.8/1200	35.5	7.0	EM
7YDXL1.64M3N	N/A	3TNV88-W	24.7/2000	29.6	9.8	81.5/1000	36.5	6.0	EM
7YDXL1.64M3N	N/A	3TNV88-XNKR	32.4/2600	31.1	13.4	79.1/1300	34.0	7.3	EM
7YDXL1.64M3N	N/A	3CE1-D	37.5/3000	32.5	16.1	81.8/1200	35.5	7.0	EM ✓

Engine Model Summary Template

ATTACHMENT, P2 OF 3
EO# V-R-028 - 0340

A/C

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
7YDXL1.64M3N	N/A	3CE1-W	24.7/2000	29.6	9.8	81.5/1000	36.5	6.0	EM DD1
7YDXL1.64M3N	N/A	3TNV88-XAMM	32.4/2600	31.1	13.4	79.1/1300	34.0	7.3	EM
7YDXL1.64M3N	N/A	3TNV88-FFW	36.7/3000	31.6	15.7	82.6/1400	34.6	8.0	EM
7YDXL1.64M3N	N/A	3TNV88-XWA	32.4/2600	31.1	13.4	79.1/1300	34.0	7.3	EM
7YDXL1.64M3N	N/A	3TNV88-XMS	36.7/3000	31.6	15.7	82.6/1400	34.6	8.0	EM
7YDXL1.64M3N	N/A	D1.6ACAEZE1	27.2/2200	29.9	10.9	78.7/1200	34.7	6.9	EM
7YDXL1.64M3N	N/A	3TNV88-XWL	34.9/2800	31.5	14.6	84.3/1300	36.3	7.8	EM
7YDXL1.64M3N	N/A	3TNV88-XNSS	36.7/3000	31.6	15.7	82.6/1400	34.6	8.0	EM
7YDXL1.64M3N	N/A	3TNV88-XXBD	37.7/3000	30.9	15.3	80.0/1200	34.8	6.9	EM
7YDXL1.64M3N	N/A	3TNV88-XXBM	32.4/2600	29.9	12.8	78.2/1100	34.7	6.3	EM
7YDXL1.64M3N	N/A	3TNV88-XXBN	31.1/2500	29.7	12.3	79.0/1100	35.1	6.4	EM
7YDXL1.64M3N	N/A	3TNV88-XXUK	32.0/2800	28.1	13.0	72.8/1200	33.1	6.6	EM
7YDXL1.64M3N	N/A	3TNV88-XXBQ	28.6/2300	29.2	11.1	79.2/1200	34.3	6.8	EM
7YDXL1.64M3N	N/A	3TNV88-XFU	36.7/3000	31.6	15.7	82.6/1400	34.6	8.0	EM
7YDXL1.64M3N	N/A	3TNV88-XWA2	34.9/2800	31.5	14.6	84.3/1300	36.3	7.8	EM
7YDXL1.64M3N	N/A	3TNV88-XGP	36.7/3000	31.6	15.7	82.6/1400	34.6	8.0	EM
7YDXL1.64M3N	N/A	3KNDA	37.7/3000	29.6	14.7	79.0/1200	33.9	6.7	EM
7YDXL1.64M3N	N/A	3KNKA	34.8/2800	28.8	13.3	77.7/1200	32.8	6.5	EM
7YDXL1.64M3N	N/A	3KNLA	33.4/2700	30.0	13.4	78.5/1200	33.2	6.6	EM
7YDXL1.64M3N	N/A	3KNMA	32.4/2600	29.2	12.5	79.7/1000	35.6	5.9	EM
7YDXL1.64M3N	N/A	3KNNA	31.0/2500	28.7	11.9	78.6/1000	35.1	5.8	EM
7YDXL1.64M3N	N/A	3KNPA	29.6/2400	29.4	11.7	77.9/1100	32.9	6.0	EM
7YDXL1.64M3N	N/A	3KNQA	28.2/2300	28.2	10.7	79.2/1000	35.3	5.9	EM
7YDXL1.64M3N	N/A	3KNSA	27.1/2200	27.9	10.2	79.0/1000	35.2	5.8	EM
7YDXL1.64M3N	N/A	3KNWA	24.3/2000	27.9	9.2	77.3/1000	34.1	5.6	EM
7YDXL1.64M3N	N/A	3KNKC	31.0/2800	26.7	12.4	70.2/1400	28.6	6.6	EM
7YDXL1.64M3N	N/A	3KNMC	28.6/2600	27.3	11.7	71.6/1200	31.0	6.1	EM

Engine Model Summary Template

ATTACHMENT, P3 OF 3
 EO.# V-R-028--0340

R/C

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: (bs/hr) @ peak HP (for diesels only)	6.Torque @ RPM (SEA Gross)	7.Fuel Rate: mm/stroke@peak torque	8.Fuel Rate: (bs/hr)@peak torque	9.Emission Control Devices Per SAE J1930
7YDXL1.64M3N	N/A	3KNNC	28.2/2500	27.1	11.2	71.7/1000	31.4	5.2	EM <i>DT</i>
7YDXL1.64M3N	N/A	3KN5C	24.6/2200	26.1	9.5	71.3/1000	30.9	5.1	EM ↓