

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 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	7HZXL1.38TV2	1.038, 1.384	Diesel	3000
SPECIAL FEATURES & EMISSION CONTROL SYSTEMS			TYPICAL EQUIPMENT APPLICATION	
Direct Diesel Injection, Turbocharger,			Pump, Generator Set	

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
8 ≤ kW < 19	Tier 2	STD	N/A	N/A	7.5	6.6	0.80	20	15	50
		CERT	--	--	7.0	1.9	0.39	8	4	12

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 26th day of December 2006.

Annette Hebert
 for Annette Hebert, Chief
 Mobile Source Operations Division

Attachment 1 of 4
 EOH A-R-034-0131

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 ³ /stroke @ peak HP (for diesel only)	5.Fuel Rate: (lbs/hr) @ peak HP (for diesel only)	6.Torque @ RPM (SEA Gross)	7.Fuel Rate: mm ³ /stroke@peak torque	8.Fuel Rate: (lbs/hr)@peak torque	9.Emission Device Per S
7HZXL1.38TV2	N/A	4W35T	41.0@3000	28.5	5.6	83@2250	28.0	4.5	DDITC
7HZXL1.38TV2	N/A	4W35T	40.5@2950	28.0	5.4	82@2200	27.5	4.3	
7HZXL1.38TV2	N/A	4W35T	40.2@2900	26.0	5.3	81@2150	27.5	4.2	
7HZXL1.38TV2	N/A	4W35T	39.8@2850	26.0	5.3	81@2150	27.5	4.2	
7HZXL1.38TV2	N/A	4W35T	39.4@2800	26.0	5.2	82@2100	27.5	4.1	
7HZXL1.38TV2	N/A	4W35T	39.0@2750	26.0	5.1	81@2050	27.0	3.9	
7HZXL1.38TV2	N/A	4W35T	38.6@2700	25.5	4.9	81@2050	26.5	3.9	
7HZXL1.38TV2	N/A	4W35T	38.1@2650	26.5	5.0	80@2000	26.5	3.8	
7HZXL1.38TV2	N/A	4W35T	37.6@2600	26.0	4.8	79@1950	26.5	3.7	
7HZXL1.38TV2	N/A	4W35T	39.1@3000	25.0	5.3	78@2250	26.5	4.2	
7HZXL1.38TV2	N/A	4W35T	38.7@2950	25.0	5.2	77@2200	26.5	4.1	
7HZXL1.38TV2	N/A	4W35T	38.4@2900	25.0	5.1	77@2150	26.0	4.0	
7HZXL1.38TV2	N/A	4W35T	38.0@2850	25.0	5.1	78@2150	26.0	4.0	
7HZXL1.38TV2	N/A	4W35T	37.6@2800	25.0	5.0	78@2100	26.0	3.9	
7HZXL1.38TV2	N/A	4W35T	37.2@2750	25.0	4.9	77@2050	26.0	3.8	
7HZXL1.38TV2	N/A	4W35T	36.8@2700	25.0	4.8	77@2050	25.5	3.7	
7HZXL1.38TV2	N/A	4W35T	36.4@2650	25.0	4.7	75@2000	25.5	3.6	
7HZXL1.38TV2	N/A	4W35T	35.9@2600	25.0	4.6	75@1950	25.5	3.5	
7HZXL1.38TV2	N/A	4W35T	40.0@3600	24.0	6.1	74@2700	25.0	4.8	
7HZXL1.38TV2	N/A	4W35T	39.8@3550	24.0	6.0	74@2650	25.0	4.7	
7HZXL1.38TV2	N/A	4W35T	39.6@3500	24.0	6.0	74@2600	25.0	4.6	
7HZXL1.38TV2	N/A	4W35T	39.4@3450	24.0	5.9	74@2600	25.0	4.6	
7HZXL1.38TV2	N/A	4W35T	39.2@3400	24.0	5.8	74@2550	25.0	4.5	
7HZXL1.38TV2	N/A	4W35T	39.0@3350	24.0	5.7	74@2500	25.0	4.4	
7HZXL1.38TV2	N/A	4W35T	38.8@3300	24.0	5.6	74@2500	25.0	4.4	
7HZXL1.38TV2	N/A	4W35T	38.5@3250	24.0	5.5	74@2450	25.0	4.3	
7HZXL1.38TV2	N/A	4W35T	38.4@3200	24.0	5.4	74@2400	25.0	4.3	
7HZXL1.38TV2	N/A	4W35T	38.0@3150	24.0	5.4	73@2350	25.0	4.2	

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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 ³ /stroke @ peak HP (for diesel only)	5.Fuel Rate: (lb/hr) @ peak HP (for diesel only)	6.Torque @ RPM (SEA Gross)	7.Fuel Rate: mm ³ /stroke@peak torque	8.Fuel Rate: (lbs/hr)@peak torque	9.Emission Device Per S
7HZXL1.38TV2	N/A	4W35T	37.7@3100	24.0	5.3	73@2300	25.0	4.1	DVE, TC
7HZXL1.38TV2	N/A	4W35T	37.5@3050	24.0	5.2	72@2300	25.0	4.1	
7HZXL1.38TV2	N/A	4W35T	37.3@3000	24.0	5.1	73@2250	25.0	4.0	
7HZXL1.38TV2	N/A	4W35T	36.9@2950	24.0	5.0	73@2200	25.0	3.9	
7HZXL1.38TV2	N/A	4W35T	36.9@2900	24.0	4.9	73@2200	25.0	3.9	
7HZXL1.38TV2	N/A	4W35T	36.2@2850	24.0	4.8	74@2150	25.0	3.8	
7HZXL1.38TV2	N/A	4W35T	36.2@2800	24.0	4.8	75@2100	25.0	3.7	
7HZXL1.38TV2	N/A	4W35T	35.4@2750	24.0	4.7	74@2050	25.0	3.6	
7HZXL1.38TV2	N/A	4W35T	35.1@2700	24.0	4.6	73@2050	24.5	3.6	
7HZXL1.38TV2	N/A	4W35T	34.9@2650	24.0	4.5	75@2000	24.5	3.5	
7HZXL1.38TV2	N/A	4W35T	34.2@2600	24.0	4.4	72@1950	24.0	3.3	
7HZXL1.38TV2	N/A	4W35T	33.8@2550	23.5	4.2	74@1950	24.0	3.3	
7HZXL1.38TV2	N/A	4W35T	33.3@2500	23.5	4.2	77@1900	25.0	3.4	
7HZXL1.38TV2	N/A	4W35T	32.9@2450	23.5	4.1	76@1900	24.5	3.3	
7HZXL1.38TV2	N/A	4W35T	32.3@2400	24.0	4.1	75@1850	24.0	3.1	
7HZXL1.38TV2	N/A	4W35T	31.6@2350	23.5	3.9	75@1850	24.0	3.1	
7HZXL1.38TV2	N/A	4W35T	31.1@2300	23.5	3.8	75@1800	24.5	3.1	
7HZXL1.38TV2	N/A	4W35T	30.6@2250	23.5	3.7	76@1800	25.0	3.2	
7HZXL1.38TV2	N/A	4W35T	29.9@2200	23.5	3.7	76@1800	25.0	3.2	
7HZXL1.38TV2	N/A	4W35T	29.2@2150	24.0	3.7	76@1800	24.0	3.1	
7HZXL1.38TV2	N/A	4W35T	28.6@2100	24.0	3.6	78@1800	24.0	3.1	
7HZXL1.38TV2	N/A	4W35T	27.8@2050	24.0	3.5	75@1800	24.0	3.1	
7HZXL1.38TV2	N/A	4W35T	26.8@2000	23.0	3.3	73@1800	24.0	3.1	
7HZXL1.38TV2	N/A	4W35T	33.6@3000	21.5	4.6	67@2250	22.5	3.6	
7HZXL1.38TV2	N/A	4W35T	33.2@2950	22.0	4.6	67@2200	22.5	3.5	
7HZXL1.38TV2	N/A	4W35T	32.9@2900	22.0	4.5	67@2200	22.5	3.5	
7HZXL1.38TV2	N/A	4W35T	32.6@2850	22.0	4.4	67@2150	22.5	3.4	
7HZXL1.38TV2	N/A	4W35T	32.3@2800	22.0	4.4	67@2100	22.5	3.3	

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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 ³ /stroke @ peak HP (for diesel only)	5. Fuel Rate: (lb/hr) @ peak HP (for diesels only)	6. Torque @ RPM (SEA Gross)	7. Fuel Rate: mm ³ /stroke@peak torque	8. Fuel Rate: (lb/hr)@peak torque	9. Emission Device Per S
7HZXL1.38TV2	N/A	4W35T	31.9@2750	22.0	4.3	68@2050	21.0	3.1	DDI, TC
7HZXL1.38TV2	N/A	4W35T	31.6@2700	22.0	4.2	68@2050	22.5	3.3	
7HZXL1.38TV2	N/A	4W35T	31.2@2650	22.0	4.1	68@2000	22.5	3.2	
7HZXL1.38TV2	N/A	4W35T	30.8@2600	22.0	4.1	67@1950	21.5	3.0	
7HZXL1.38TV2	N/A	4W35T	30.4@2550	22.0	4.0	67@1900	22.0	3.0	
7HZXL1.38TV2	N/A	4W35T	30.0@2500	21.0	3.7	68@1900	21.0	2.8	
7HZXL1.38TV2	N/A	3W35T	30.3@3000	26.5	4.2	61@2250	29.0	3.5	
7HZXL1.38TV2	N/A	3W35T	29.9@2950	26.5	4.2	58@2200	28.0	3.3	
7HZXL1.38TV2	N/A	3W35T	29.8@2900	26.5	4.1	59@2150	28.0	3.2	
7HZXL1.38TV2	N/A	3W35T	29.5@2850	26.5	4.0	59@2150	28.0	3.2	
7HZXL1.38TV2	N/A	3W35T	29.4@2800	26.0	3.9	59@2100	28.0	3.1	
7HZXL1.38TV2	N/A	3W35T	29.1@2750	26.5	3.9	58@2050	28.0	3.1	
7HZXL1.38TV2	N/A	3W35T	28.8@2700	26.5	3.8	59@2050	27.5	3.0	
7HZXL1.38TV2	N/A	3W35T	28.4@2650	26.5	3.7	58@2000	27.5	2.9	
7HZXL1.38TV2	N/A	3W35T	28.2@2600	26.5	3.7	58@1950	27.5	2.9	
7HZXL1.38TV2	N/A	3W35T	28.8@3000	26.0	4.1	59@2250	28.5	3.4	
7HZXL1.38TV2	N/A	3W35T	28.6@2950	26.0	4.1	58@2200	27.5	3.2	
7HZXL1.38TV2	N/A	3W35T	28.4@2900	26.0	4.0	58@2150	26.0	3.0	
7HZXL1.38TV2	N/A	3W35T	28.2@2850	25.0	3.8	58@2150	27.5	3.1	
7HZXL1.38TV2	N/A	3W35T	28.0@2800	25.0	3.7	58@2100	27.5	3.1	
7HZXL1.38TV2	N/A	3W35T	27.8@2750	25.5	3.7	58@2050	26.5	2.9	
7HZXL1.38TV2	N/A	3W35T	27.5@2700	25.0	3.6	58@2050	27.0	2.9	
7HZXL1.38TV2	N/A	3W35T	27.2@2650	25.5	3.6	58@2000	25.5	2.7	
7HZXL1.38TV2	N/A	3W35T	27.0@2600	26.0	3.6	58@1950	27.5	2.9	
7HZXL1.38TV2	N/A	3W35T	29.8@3600	25.0	4.8	59@2700	27.5	3.9	
7HZXL1.38TV2	N/A	3W35T	29.5@3550	25.0	4.7	59@2650	27.5	3.9	
7HZXL1.38TV2	N/A	3W35T	28.4@3500	25.0	4.7	59@2600	27.5	3.8	
7HZXL1.38TV2	N/A	3W35T	29.1@3450	25.0	4.6	59@2600	27.5	3.8	

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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 ³ /stroke @ peak HP (for diesel only)	5.Fuel Rate: (bahr) @ 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 Device Per S
7HZXL1.38TV2	N/A	3W35T	29.0@3400	25.0	4.5	55@2550	27.5	3.7	DDF,TC
7HZXL1.38TV2	N/A	3W35T	28.7@3350	25.0	4.5	55@2500	27.5	3.7	
7HZXL1.38TV2	N/A	3W35T	28.6@3300	25.0	4.4	55@2500	27.5	3.7	
7HZXL1.38TV2	N/A	3W35T	28.4@3250	25.0	4.3	55@2450	27.5	3.6	
7HZXL1.38TV2	N/A	3W35T	28.2@3200	25.0	4.3	55@2400	27.5	3.5	
7HZXL1.38TV2	N/A	3W35T	28.0@3150	25.0	4.2	55@2350	27.5	3.4	
7HZXL1.38TV2	N/A	3W35T	27.9@3100	25.0	4.1	55@2300	27.5	3.4	
7HZXL1.38TV2	N/A	3W35T	27.6@3050	25.0	4.1	55@2300	27.5	3.4	
7HZXL1.38TV2	N/A	3W35T	27.5@3000	25.0	4.0	60@2250	28.0	3.3	
7HZXL1.38TV2	N/A	3W35T	27.2@2950	25.0	3.9	55@2200	27.0	3.2	
7HZXL1.38TV2	N/A	3W35T	27.1@2900	25.0	3.9	57@2200	26.5	3.1	
7HZXL1.38TV2	N/A	3W35T	26.8@2850	24.5	3.7	55@2150	26.5	3.0	
7HZXL1.38TV2	N/A	3W35T	26.7@2800	24.5	3.6	55@2100	27.0	3.0	
7HZXL1.38TV2	N/A	3W35T	26.4@2750	24.0	3.5	57@2050	27.0	2.9	
7HZXL1.38TV2	N/A	3W35T	26.1@2700	24.0	3.4	57@2050	27.0	2.9	
7HZXL1.38TV2	N/A	3W35T	25.9@2650	25.0	3.5	55@2000	27.0	2.9	
7HZXL1.38TV2	N/A	3W35T	26.1@2600	25.0	3.5	55@1950	27.5	2.9	