

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)
2009	9HZXL2.57V41	2.574	Diesel	5000
SPECIAL FEATURES & EMISSION CONTROL SYSTEMS			TYPICAL EQUIPMENT APPLICATION	
Direct Diesel Injection			Tractor, Pump, Compressor, 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
8 ≤kW < 37	Tier 4 Interim	OPTIONAL STD	N/A	N/A	7.5	5.5	0.30	20	15	50
		CERT	--	--	7.1	3.3	0.25	10	6	15


BE IT FURTHER RESOLVED: That for the listed engine models, the manufacturer has complied with the more stringent set of standards from the various power categories in conformance with Section 1039.230 (e) of the "California Exhaust Emission Standards and Test Procedures for 2008 and Later Tier 4 Off-Road Compression-Ignition Engines, Part I-C" adopted October 20, 2005.

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 12th day of December 2008.


 Annette Hebert, Chief
 Mobile Source Operations Division

Motorrenfabrik Hatz
Nonroad CI

U-R-034-0204

Attachment

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Engine Model Summary Template

Stroke	Engine	1 Engine Code	2 Engine Model	3 Engine max hp @ 1500 rpm	4 Fuel Use max @ 1500 rpm	5 Fuel Use max @ 1500 rpm	6 Engine @ 1500 rpm	7 Fuel Use max @ 1500 rpm	8 Brake Power max @ 1500 rpm	9 Brake Power max @ 1500 rpm
312C12.27N141	NA	21441	37.8@2000	49.0	8.2	77.8@1000	48.5	4.9		
312C12.27N142	NA	21441	37.8@2000	49.0	8.1	77.8@1000	48.5	4.9		
312C12.27N143	NA	21441	37.8@2000	49.0	7.9	77.8@1000	48.5	4.9		
312C12.27N144	NA	21441	37.8@2000	49.0	7.8	77.8@1000	48.5	4.9		
312C12.27N145	NA	21441	37.8@2000	49.0	7.0	77.8@1000	48.5	4.9		
312C12.27N146	NA	21441	38.5@2700	49.5	7.6	77.8@1000	48.5	4.9		
312C12.27N147	NA	21441	39.3@2900	49.5	7.5	77.8@1000	48.5	4.9		
312C12.27N148	NA	21441	39.3@2900	49.5	7.3	77.8@1000	48.5	4.8		
312C12.27N149	NA	21441	39.3@2900	49.5	7.2	77.8@1000	48.5	4.8		
312C12.27N150	NA	21441	39.3@2900	49.5	7.0	78.9@1000	49.0	4.9		
312C12.27N151	NA	21441	39.3@2900	50.5	7.0	77.8@1000	48.5	4.1		
312C12.27N152	NA	21441	34.8@2400	50.5	6.9	77.8@1000	48.5	4.1		
312C12.27N153	NA	21441	34.8@2400	50.5	6.8	77.8@1000	48.0	4.1		
312C12.27N154	NA	21441	37.1@2000	50.5	6.5	77.8@1000	49.0	4.1		
312C12.27N155	NA	21441	39.7@2000	46.5	7.6	76.9@1000	49.5	4.7		
312C12.27N156	NA	21441	39.7@2000	46.5	7.5	76.9@1000	49.5	4.7		
312C12.27N157	NA	21441	39.7@2000	46.5	7.4	76.9@1000	49.5	4.7		
312C12.27N158	NA	21441	39.7@2000	46.5	7.3	76.9@1000	49.5	4.7		
312C12.27N159	NA	21441	35.6@2700	47.0	7.2	74.8@1000	49.0	4.9		
312C12.27N160	NA	21441	35.6@2700	47.0	7.1	74.8@1000	49.0	4.9		
312C12.27N161	NA	21441	35.6@2900	47.0	6.9	74.8@1000	49.0	4.9		
312C12.27N162	NA	21441	34.8@2500	47.5	6.8	76.9@1000	49.5	4.7		
312C12.27N163	NA	21441	34.8@2500	47.5	6.6	76.9@1000	49.5	4.7		
312C12.27N164	NA	21441	34.8@2500	47.5	6.5	76.9@1000	49.5	4.7		
312C12.27N165	NA	21441	34.8@2500	47.5	6.4	74.8@1000	49.5	4.7		
312C12.27N166	NA	21441	33.4@2400	47.5	6.4	74.8@1000	49.5	4.9		

DDI

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Nomrad CI

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U-2-034-0204

Engine Model Summary Template

System Label	Engine Code	Engine Model	1711 Peak max. Torque (lb-ft/kN-m)	1711 Peak max. Power (kW/HP)	Stroke (mm/in)	1711 Peak max. Torque (lb-ft/kN-m)	1711 Peak max. Power (kW/HP)	Stroke (mm/in)	1711 Peak max. Torque (lb-ft/kN-m)	1711 Peak max. Power (kW/HP)	Stroke (mm/in)
SPECIAL P7041	N/A	2043	32,82000	47,5	0,2	74,8100	46,5	3,9	DDI		
SPECIAL P7042	N/A	2043	35,92000	44,0	7,4	68,8100	42,0	4,2			
SPECIAL P7043	N/A	2043	35,92000	44,0	7,2	68,8100	42,0	4,2			
SPECIAL P7044	N/A	2043	34,92000	43,0	7,0	69,8100	43,0	4,3			
SPECIAL P7045	N/A	2043	34,92000	43,0	6,6	72,8100	45,5	4,5			
SPECIAL P7046	N/A	2043	34,92000	44,0	6,6	71,8100	44,0	4,4			
SPECIAL P7047	N/A	2043	35,92000	44,5	6,8	67,8100	42,5	4,3			
SPECIAL P7048	N/A	2043	33,92000	44,5	0,0	67,8100	42,5	4,3			
SPECIAL P7049	N/A	2043	33,92000	46,0	0,5	70,8100	45,5	4,5			
SPECIAL P7050	N/A	2043	32,92000	46,0	0,4	70,8100	45,5	4,5			
SPECIAL P7051	N/A	2043	32,92000	46,0	0,4	72,8100	46,5	4,7			
SPECIAL P7052	N/A	2043	31,92000	46,0	0,2	71,8100	46,0	4,7			
SPECIAL P7053	N/A	2043	30,92000	46,0	0,0	71,8100	46,0	4,7			
SPECIAL P7054	N/A	2043	34,02000	51,0	0,5	77,8200	51,0	6,5			
SPECIAL P7055	N/A	2043	32,72000	51,0	0,4	78,8200	51,0	6,4			
SPECIAL P7056	N/A	2043	33,42000	51,0	0,3	78,8200	51,0	6,3			
SPECIAL P7057	N/A	2043	32,02000	51,0	0,0	78,8200	51,0	6,3			
SPECIAL P7058	N/A	2043	31,42000	51,0	0,1	78,8200	51,0	6,3			
SPECIAL P7059	N/A	2043	30,72000	51,0	5,8	79,8200	51,0	5,9			
SPECIAL P7060	N/A	2043	30,22000	51,0	5,7	79,8200	51,0	5,7			
SPECIAL P7061	N/A	2043	29,22000	46,5	5,4	79,8100	46,5	5,4			
SPECIAL P7062	N/A	2043	28,62000	46,5	5,2	79,8100	46,5	5,2			
SPECIAL P7063	N/A	2043	27,62000	46,5	5,1	79,8100	46,5	5,1			
SPECIAL P7064	N/A	2043	27,42000	46,5	5,0	79,8100	46,5	5,0			
SPECIAL P7065	N/A	2043	31,92000	46,0	6,7	69,8100	46,5	5,4			

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Engine Model Summary Template

Engine Model	1 Engine Code	2 Engine Model	3 Displacement (cc)	4 Fuel Tank (GAL)	5 Stroke (in)	6 RPM (RPM)	7 Fuel Tank (L)	8 Stroke (mm)	9 RPM (RPM)	10 Obsolete Control (Y/N)
9H2C1227043	N/A	2N431Z	33.0(2000)	44.0	7.1	678(1800)	43.0	4.3		DDI
9H2C1227044	N/A	2N431Z	33.0(2000)	44.0	7.0	678(1800)	43.0	4.3		
9H2C1227045	N/A	2N431Z	33.0(2000)	44.0	6.9	658(1800)	43.0	4.4		
9H2C1227046	N/A	2N431Z	33.0(2000)	44.0	6.8	658(1800)	43.0	4.4		
9H2C1227047	N/A	2N431Z	33.0(2000)	44.5	6.7	658(1800)	43.0	4.3		
9H2C1227048	N/A	2N431Z	33.0(2000)	44.5	6.5	658(1800)	43.5	4.3		
9H2C1227049	N/A	2N431Z	33.0(2000)	46.0	6.4	658(1800)	43.5	3.6		
9H2C1227050	N/A	2N431Z	33.0(2000)	46.0	6.3	708(1500)	44.5	3.7		
9H2C1227051	N/A	2N431Z	33.0(2000)	46.0	6.2	658(1500)	44.0	3.7		
9H2C1227052	N/A	2N431Z	33.0(2000)	51.0	6.2	748(2000)	51.0	5.0		
9H2C1227053	N/A	2N431Z	33.0(2000)	51.0	6.4	788(2000)	51.0	6.4		
9H2C1227054	N/A	2N431Z	31.0(1600)	51.0	6.1	768(1500)	51.0	6.1		
9H2C1227055	N/A	2N431Z	30.0(2000)	51.0	6.0	778(1500)	51.0	6.0		
9H2C1227056	N/A	2N431Z	30.0(2000)	51.0	5.8	778(1500)	51.0	5.8		
9H2C1227057	N/A	2N431Z	28.0(1600)	46.5	5.4	778(1500)	46.5	5.4		
9H2C1227058	N/A	2N431Z	27.0(1300)	46.5	5.2	778(1500)	46.5	5.2		
9H2C1227059	N/A	2N431Z	27.0(1300)	46.5	5.1	778(1500)	46.5	5.1		
9H2C1227060	N/A	2N431Z	26.0(1800)	46.5	5.0	778(1800)	46.5	5.0		
9H2C1227061	N/A	2N431Z	30.0(2000)	40.0	6.7	648(1500)	40.0	3.4		
9H2C1227062	N/A	2N431Z	30.0(2000)	40.0	6.6	648(1500)	40.0	3.4		
9H2C1227063	N/A	2N431Z	30.0(2000)	40.0	6.4	638(1500)	40.0	3.3		
9H2C1227064	N/A	2N431Z	30.0(2000)	40.0	6.4	638(1500)	40.0	3.3		

Notenfabrik
Neurend CI

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Engine Model Summary Template

Engine Family	1. Engine Code	2. Engine Model	3. Max. Power (kW)	4. Max. Power (HP)	5. Max. Torque (Nm)	6. Max. Torque (lb-ft)	7. Fuel Consumption (l/h)	8. Fuel Consumption (gph)	9. Emissions (g/kWh)
312C12-27V34	N/A	2L41C	34.0(2300)	46.0	7.3	53.9(1600)	46.0	4.5	4.8
312C12-27V34	N/A	2L41C	33.5(2300)	45.0	7.1	53.9(1600)	46.0	4.5	4.8
312C12-27V34	N/A	2L41C	33.5(2300)	45.0	7.0	53.9(1600)	46.0	4.5	4.8
312C12-27V34	N/A	2L41C	33.5(2370)	45.5	6.8	53.9(1600)	46.0	4.5	4.8
312C12-27V34	N/A	2L41C	33.1(2300)	45.5	6.7	53.9(1600)	46.0	4.5	4.8
312C12-27V34	N/A	2L41C	32.9(2300)	45.0	6.5	53.9(1600)	46.0	4.5	4.8
312C12-27V34	N/A	2L41C	31.6(2300)	42.4	6.5	71.6(1500)	47.0	3.4	3.4
312C12-27V34	N/A	2L41C	31.4(2300)	42.5	6.4	56.8(1600)	49.0	3.8	3.8
312C12-27V34	N/A	2L41C	31.4(2300)	42.5	6.2	56.8(1600)	49.0	3.8	3.8
312C12-27V34	N/A	2L41C	30.2(2300)	40.5	6.1	56.8(1600)	49.0	3.8	3.8
312C12-27V34	N/A	2L41C	32.7(2310)	42.5	7.5	56.8(1600)	50.0	4.3	4.3
312C12-27V34	N/A	2L41C	32.7(2300)	42.5	7.1	56.8(1600)	50.0	4.3	4.3
312C12-27V34	N/A	2L41C	32.9(2300)	42.5	7.0	56.8(1600)	50.0	4.3	4.3
312C12-27V34	N/A	2L41C	32.2(2300)	42.5	6.8	53.9(1600)	49.0	4.2	4.2
312C12-27V34	N/A	2L41C	31.9(2300)	42.5	6.6	53.9(1600)	49.0	4.2	4.2
312C12-27V34	N/A	2L41C	31.9(2700)	43.0	9.5	54.8(1600)	50.0	4.3	4.3
312C12-27V34	N/A	2L41C	31.9(2700)	43.0	6.5	56.8(1600)	50.0	4.3	4.3
312C12-27V34	N/A	2L41C	31.1(2300)	42.5	6.3	56.8(1600)	50.0	4.3	4.3
312C12-27V34	N/A	2L41C	30.7(2300)	42.5	6.2	56.8(1600)	50.0	4.3	4.3
312C12-27V34	N/A	2L41C	30.2(2300)	42.5	6.1	54.8(1600)	49.0	3.8	3.8
312C12-27V34	N/A	2L41C	29.7(2300)	42.5	5.9	56.8(1600)	50.0	3.8	3.8
312C12-27V34	N/A	2L41C	29.2(2300)	42.5	5.8	54.8(1600)	49.0	3.6	3.6
312C12-27V34	N/A	2L41C	28.5(2300)	42.5	5.7	50.0(1500)	44.0	3.7	3.7



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Engine Model Summary Template

Engine Family	1 Engine Code	2 Engine Model	3 Max HP @ 1500 RPM	4 Fuel Rate @ 1500 RPM (GAL/HR)	5 Stroke (IN)	6 Stroke (CM)	7 Max Torque @ 1500 RPM (LBS-FT)	8 Max Torque @ 1500 RPM (KG-M)	9 Max RPM (RPM)	10 Max RPM (RPM)	11 Max RPM (RPM)
PHC1L257041	NA	2L41C	31.6@2300	46.0	0.3	72.0@2300	44.0	6.3			
PHC1L257041	NA	2L41C	31.6@2300	46.0	0.1	72.0@2300	44.0	6.1			
PHC1L257041	NA	2L41C	30.3@2200	46.0	0.6	72.0@2200	46.0	6.0			
PHC1L257041	NA	2L41C	26.7@2150	46.0	5.8	72.0@160	46.0	5.9			
PHC1L257041	NA	2L41C	26.7@2100	46.0	5.7	72.0@100	46.0	5.7			
PHC1L257041	NA	2L41C	26.6@2050	46.0	5.8	72.0@50	46.0	5.6			
PHC1L257041	NA	2L41C	26.6@2000	46.0	6.5	74.0@500	46.0	5.5			
PHC1L257041	NA	2L41C	27.3@1900	46.0	6.2	74.0@450	46.0	5.2			
PHC1L257041	NA	2L41C	26.6@1900	46.0	5.1	74.0@300	46.0	5.1			
PHC1L257041	NA	2L41C	25.6@1850	46.0	5.0	74.0@180	46.0	5.0			
PHC1L257041	NA	2L41C	25.1@1800	46.0	4.6	72.0@180	46.0	4.8			
PHC1L257041	NA	2L41C	26.6@2000	36.5	6.4	63.0@180	41.0	4.1			
PHC1L257041	NA	2L41C	26.2@2050	36.5	6.3	63.0@180	41.0	4.1			
PHC1L257041	NA	2L41C	26.1@2000	36.5	6.2	63.0@180	41.0	4.1			
PHC1L257041	NA	2L41C	26.6@2050	36.5	6.1	66.0@180	36.0	3.8			
PHC1L257041	NA	2L41C	26.6@2000	36.5	6.0	66.0@180	36.0	3.6			
PHC1L257041	NA	2L41C	26.6@2000	30.5	5.9	66.0@180	30.0	3.6			
PHC1L257041	NA	2L41C	26.1@2000	30.5	5.8	66.0@180	30.0	3.6			
PHC1L257041	NA	2L41C	26.1@2000	30.5	5.7	66.0@180	30.0	3.6			
PHC1L257041	NA	2L41C	27.6@2050	30.0	5.7	61.0@180	40.0	4.0			
PHC1L257041	NA	2L41C	27.6@2050	30.0	5.6	61.0@180	40.0	3.9			
PHC1L257041	NA	2L41C	26.7@2000	30.0	6.4	66.0@180	40.0	3.3			
PHC1L257041	NA	2L41C	26.7@2000	30.0	6.3	66.0@180	40.0	3.3			
PHC1L257041	NA	2L41C	26.7@2000	36.0	6.2	66.0@180	40.0	3.3			
PHC1L257041	NA	2L41C	26.7@2000	36.0	5.1	66.0@180	40.0	3.3			
PHC1L257041	NA	2L41C	26.7@2000	44.0	5.6	66.0@180	43.5	3.6			
PHC1L257041	NA	2L41C	26.3@2000	41.0	6.8	67.0@180	40.0	4.0			

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Engine Model Summary Template

Serial Prefix	1 Engine Case 2 Engine Model	3 Max Crankshaft Speed (RPM)	4 Frame Max Displacement (cc)	5 Frame Max Displacement (cu in)	6 Frame Max Displacement (cc) (1.90)	7 Frame Max Displacement (cu in) (1.15)	8 Stroke (mm)	9 Stroke (in)	10 Stroke (mm) (1.90)	11 Stroke (in) (0.75)	12 Stroke (mm) (1.90)	13 Stroke (in) (0.75)
3HC-L270M1	N/A	3410C	49,82000	49.5	6.5	109@1500	47.0	3.0	109@1500	47.0	3.0	3.8
3HC-L270V1	N/A	3410C	47,78000	46.5	6.4	105@1500	46.0	2.9	105@1500	46.0	2.9	3.8
3HC-L270M4	N/A	3410C	47,78000	46.5	6.2	105@1500	46.0	2.8	105@1500	46.0	2.8	3.8
3HC-L270V4	N/A	3410C	45,10000	45.5	6.1	100@1500	47.0	4.7	100@1500	47.0	4.7	4.7
3HC-L270M1	N/A	3410C	49,23000	48.5	7.6	97@1800	49.0	4.3	97@1800	49.0	4.3	4.3
3HC-L270V1	N/A	3410C	46,73000	46.5	7.1	97@1800	49.0	4.3	97@1800	49.0	4.3	4.3
3HC-L270M4	N/A	3410C	48,88000	48.5	7.0	97@1800	49.0	4.3	97@1800	49.0	4.3	4.3
3HC-L270V4	N/A	3410C	48,88000	48.5	5.9	97@1800	49.0	4.3	97@1800	49.0	4.3	4.3
3HC-L270M1	N/A	3410C	48,88000	48.5	5.9	97@1800	49.0	4.2	97@1800	49.0	4.2	4.2
3HC-L270V1	N/A	3410C	48,88000	48.5	5.8	97@1800	49.0	4.2	97@1800	49.0	4.2	4.2
3HC-L270M4	N/A	3410C	48,88000	48.5	5.6	97@1800	49.0	4.3	97@1800	49.0	4.3	4.3
3HC-L270V4	N/A	3410C	48,88000	48.5	5.6	97@1800	49.0	4.3	97@1800	49.0	4.3	4.3
3HC-L270M1	N/A	3410C	47,78000	48.0	6.5	97@1800	49.0	4.3	97@1800	49.0	4.3	4.3
3HC-L270V1	N/A	3410C	47,78000	48.0	6.4	97@1800	49.0	4.3	97@1800	49.0	4.3	4.3
3HC-L270M4	N/A	3410C	47,78000	48.0	6.3	97@1800	49.0	4.3	97@1800	49.0	4.3	4.3
3HC-L270V4	N/A	3410C	46,60000	48.5	6.2	96@1500	49.0	3.6	96@1500	49.0	3.6	3.6
3HC-L270M1	N/A	3410C	46,60000	48.5	5.1	96@1500	49.0	3.5	96@1500	49.0	3.5	3.5
3HC-L270V1	N/A	3410C	46,23000	48.5	5.9	100@1500	49.0	3.6	100@1500	49.0	3.6	3.6
3HC-L270M4	N/A	3410C	44,60000	48.5	5.9	100@1500	49.5	3.6	100@1500	49.5	3.6	3.6
3HC-L270V4	N/A	3410C	45,80000	48.5	5.7	100@1500	47.0	3.9	100@1500	47.0	3.9	3.9
3HC-L270M1	N/A	3410C	48,10000	48.0	6.3	100@2500	48.0	6.3	100@2500	48.0	6.3	6.3
3HC-L270V1	N/A	3410C	47,00000	48.0	6.1	100@2500	48.0	6.1	100@2500	48.0	6.1	6.1
3HC-L270M4	N/A	3410C	48,00000	48.0	6.0	110@2500	48.0	6.0	110@2500	48.0	6.0	6.0
3HC-L270V4	N/A	3410C	46,60000	48.0	5.9	100@1500	48.0	5.5	100@1500	48.0	5.5	5.5
3HC-L270M1	N/A	3410C	44,00000	48.0	5.7	110@1500	48.0	5.7	110@1500	48.0	5.7	5.7
3HC-L270V1	N/A	3410C	42,80000	48.0	5.6	100@2000	48.0	5.6	100@2000	48.0	5.6	5.6
3HC-L270M4	N/A	3410C	41,80000	48.0	5.5	110@2000	48.0	5.5	110@2000	48.0	5.5	5.5
3HC-L270V4	N/A	3410C	40,70000	48.0	5.2	110@1050	48.0	5.2	110@1050	48.0	5.2	5.2



