

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	9HZXL3.43V42	3.432	Diesel	8000
SPECIAL FEATURES & EMISSION CONTROL SYSTEMS			TYPICAL EQUIPMENT APPLICATION	
Direct Diesel Injection, Exhaust Gas Recirculation			Pump, 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):

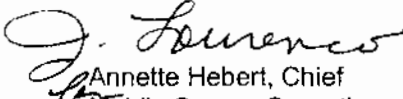
RATED POWER CLASS	EMISSION STANDARD CATEGORY		EXHAUST (g/kw-hr)					OPACITY (%)		
			HC	NOx	NMHC+NOx	CO	PM	ACCEL	LUG	PEAK
37 ≤ kW < 56	Tier 4 interim	STD	N/A	N/A	4.7	5.0	0.30	20	15	50
		CERT	--	--	4.6	1.8	0.18	7	6	11

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

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Nonroad CI

U-R-034-0206

Attachment P. 1 of 5

Engine Model Summary Template

Engine Family	1 Engine Code	2 Engine Model	311402000 Model (2012-2014)	311402000 Model (2015-2016)	311402000 Model (2017-2018)	311402000 Model (2019-2020)	311402000 Model (2021-2022)	311402000 Model (2023-2024)	311402000 Model (2025-2026)	311402000 Model (2027-2028)	311402000 Model (2029-2030)	311402000 Model (2031-2032)
SHC1L3-AS142	NA	31442	51.5 @ 1500	44.5	7.8	134 @ 1500	43.0	3.6				
SHC1L3-AS142	NA	31442	51.5 @ 1500	44.5	7.4	134 @ 1500	43.0	3.6				
SHC1L3-AS142	NA	31442	51.5 @ 1500	44.5	7.3	134 @ 1500	43.0	3.6				
SHC1L3-AS142	NA	31442	51.5 @ 1500	44.5	7.2	134 @ 1500	43.0	3.6				
SHC1L3-AS142	NA	31442	51.5 @ 1500	44.5	7.1	134 @ 1500	43.0	3.6				
SHC1L3-AS142	NA	31442	51.5 @ 1500	44.5	6.9	134 @ 1500	43.0	3.6				
SHC1L3-AS142	NA	31442	51.5 @ 1500	44.5	6.8	134 @ 1500	43.0	3.6				
SHC1L3-AS142	NA	31442	51.5 @ 1500	44.5	6.7	134 @ 1500	43.0	3.6				
SHC1L3-AS142	NA	31442	51.5 @ 1500	44.5	6.5	134 @ 1500	43.0	3.6				
SHC1L3-AS142	NA	31442	51.5 @ 1500	44.5	6.5	138 @ 1500	44.0	3.7				
SHC1L3-AS142	NA	31442	51.5 @ 1500	45.0	6.4	138 @ 1500	44.0	3.7				
SHC1L3-AS142	NA	31442	51.5 @ 1500	45.0	6.4	141 @ 1500	45.0	3.6				
SHC1L3-AS142	NA	31442	51.5 @ 1500	45.0	6.3	141 @ 1500	45.0	3.6				
SHC1L3-AS142	NA	31442	51.5 @ 1500	45.0	6.2	141 @ 1500	45.0	3.6				
SHC1L3-AS142	NA	31442	51.5 @ 1500	45.0	6.0	141 @ 1500	45.0	3.6				
SHC1L3-AS142	NA	31442	51.5 @ 1500	45.5	6.3	146 @ 1500	45.5	5.5				
SHC1L3-AS142	NA	31442	51.5 @ 1500	45.5	6.2	146 @ 1500	45.5	5.5				
SHC1L3-AS142	NA	31442	51.5 @ 1500	45.5	6.1	146 @ 1500	45.5	5.5				
SHC1L3-AS142	NA	31442	51.5 @ 1500	45.5	5.9	147 @ 1500	45.5	5.5				
SHC1L3-AS142	NA	31442	51.5 @ 1500	45.5	5.8	147 @ 1500	45.5	5.5				
SHC1L3-AS142	NA	31442	51.5 @ 1500	45.5	5.7	146 @ 1500	45.5	5.7				
SHC1L3-AS142	NA	31442	51.5 @ 1500	45.5	5.6	146 @ 1500	45.5	5.5				
SHC1L3-AS142	NA	31442	51.5 @ 1500	45.5	5.5	146 @ 1500	45.5	5.5				
SHC1L3-AS142	NA	31442	51.5 @ 1500	45.5	5.4	150 @ 1500	45.0	5.2				
SHC1L3-AS142	NA	31442	51.5 @ 1500	45.0	5.1	150 @ 1500	45.0	5.1				
SHC1L3-AS142	NA	31442	51.5 @ 1500	45.0	4.9	151 @ 1500	45.0	4.9				
SHC1L3-AS142	NA	31442	51.5 @ 1500	45.0	4.7	128 @ 1500	45.5	3.4				

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Attachment
R. 3 of 5

U-R-034-0206

Engine Model Summary Template

Engine Family	1 Engine Code	2 Engine Model	3 Jungheiter max @ gear rpm	4 Stroke ratio @ gear rpm	5 Stroke ratio @ gear rpm	6 Engine RPM messages per minute	7 Stroke ratio @ gear rpm	8 Stroke ratio @ gear rpm
PH2L3-43742	N/A	48432Z	59,48@2400	40.0	0.2	138@1500	40.0	3.8
PH2L3-43742	N/A	48432Z	59,48@2500	40.0	0.0	138@1500	40.0	3.8
PH2L3-43742	N/A	48432Z	59,48@2700	40.5	0.3	148@2000	40.5	5.5
PH2L3-43742	N/A	48432Z	59,48@2900	40.5	0.2	148@2000	40.5	5.5
PH2L3-43742	N/A	48432Z	59,48@3100	40.5	0.1	148@2000	40.5	5.5
PH2L3-43742	N/A	48432Z	57,9@2100	40.5	5.6	148@2100	40.5	5.8
PH2L3-43742	N/A	48432Z	56,4@2050	40.5	6.7	148@2000	40.5	5.7
PH2L3-43742	N/A	48432Z	55,5@2000	40.5	5.4	148@2000	40.5	5.5
PH2L3-43742	N/A	48432Z	54,0@1900	40.0	5.3	148@1800	40.0	5.3
PH2L3-43742	N/A	48432Z	51,8@1800	40.0	5.1	147@1800	40.0	5.1
PH2L3-43742	N/A	48432Z	50,4@1800	40.0	4.9	147@1800	40.0	4.9
PH2L3-43742	N/A	48432Z	50,7@2000	40.0	6.7	125@1500	40.5	3.4
PH2L3-43742	N/A	48432Z	50,1@2000	40.0	6.9	124@1500	40.5	3.4
PH2L3-43742	N/A	48432Z	49,3@2000	40.0	6.4	124@1500	40.0	3.3
PH2L3-43742	N/A	48432Z	47,5@2000	40.0	6.2	124@1500	40.0	3.3
PH2L3-43742	N/A	48432Z	46,8@2000	40.5	6.2	124@1500	40.0	3.3
PH2L3-43742	N/A	48432Z	46,8@2000	40.5	6.1	124@1500	40.0	3.3
PH2L3-43742	N/A	48432Z	45,8@2000	40.5	6.0	124@1500	40.0	3.3
PH2L3-43742	N/A	48432Z	45,5@2000	40.5	5.9	124@1500	40.0	3.3
PH2L3-43742	N/A	48432Z	45,3@2000	40.5	5.8	124@1500	40.0	3.3
PH2L3-43742	N/A	48432Z	45,3@2000	41.0	6.7	124@1500	40.0	3.3
PH2L3-43742	N/A	48432Z	44,6@2000	41.0	5.8	124@1500	40.0	3.3
PH2L3-43742	N/A	48432Z	43,7@2000	41.0	5.5	124@1500	40.0	3.3
PH2L3-43742	N/A	48432Z	42,1@2000	41.0	5.4	132@1500	42.5	3.5

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Attachment
P 4 of 5

U-R-034-0206

Engine Model Summary Template

Engine Part #	1 Engine Code	2 Engine Model	3 Intake Air Capacity (GPM/HR)	4 Fuel Consumption (GAL/HR)	5 Service Life (HRS)	6 Gross Power (HP)	7 Net Power (HP)	8 Stroke (Inches)	9 RPM	10 Displacement (CC)	11 Weight (LBS)	12 Status	13 Serial Number Date To Date From
01C2L1A3M1	NA	01A322	57.0@2700	45.0	6.8	138.0@1000	42.0	3.8					
01C2L1A3M2	NA	01A322	57.0@2700	42.5	7.5	138.0@1000	42.0	3.8					
01C2L1A3M3	NA	01A322	57.0@2700	42.5	7.1	138.0@1000	42.0	3.8					
01C2L1A3M4	NA	01A322	57.0@2700	42.5	7.0	138.0@1000	42.0	3.8					
01C2L1A3M5	NA	01A322	57.0@2700	42.5	6.9	138.0@1000	42.0	3.8					
01C2L1A3M6	NA	01A322	57.0@2700	42.5	6.8	138.0@1000	42.0	3.8					
01C2L1A3M7	NA	01A322	57.0@2700	42.5	6.9	138.0@1000	42.0	3.8					
01C2L1A3M8	NA	01A322	57.0@2700	43.0	6.6	138.0@1000	42.0	3.8					
01C2L1A3M9	NA	01A322	57.0@2700	43.0	6.4	138.0@1000	42.0	3.8					
01C2L1A3M0	NA	01A322	57.0@2700	43.5	6.2	138.0@1000	42.0	3.8					
01C2L1A3M1	NA	01A322	57.0@2700	43.5	6.1	138.0@1000	42.0	3.8					
01C2L1A3M2	NA	01A322	57.0@2700	43.5	6.8	138.0@1000	42.0	3.8					
01C2L1A3M3	NA	01A322	57.0@2700	43.5	6.8	138.0@1000	42.0	3.8					
01C2L1A3M4	NA	01A322	57.0@2700	43.0	6.3	140.0@1000	40.0	6.5					
01C2L1A3M5	NA	01A322	56.2@2700	40.0	6.1	141.0@1000	40.0	6.5					
01C2L1A3M6	NA	01A322	56.2@2700	40.0	6.0	141.0@1000	40.0	6.5					
01C2L1A3M7	NA	01A322	57.0@2700	40.0	5.9	139.0@1100	40.0	6.5					
01C2L1A3M8	NA	01A322	56.8@2700	40.0	5.7	140.0@1100	40.0	6.7					
01C2L1A3M9	NA	01A322	56.8@2700	40.0	5.9	141.0@1100	40.0	6.5					
01C2L1A3M0	NA	01A322	56.8@2700	40.0	6.2	142.0@1100	40.0	6.5					
01C2L1A3M1	NA	01A322	51.3@1000	40.0	6.1	142.0@1000	40.0	6.1					
01C2L1A3M2	NA	01A322	50.3@1000	40.0	6.0	143.0@1000	40.0	6.0					
01C2L1A3M3	NA	01A322	50.9@1000	39.5	6.4	119.0@1000	41.0	4.1					

DDI - EGR



Engine Family	1 Engine Code	2 Engine Code	3 Engine Code	4 Engine Code	5 Engine Code	6 Engine Code	7 Engine Code	8 Engine Code	9 Engine Code	10 Engine Code	11 Engine Code	12 Engine Code	13 Engine Code	14 Engine Code	15 Engine Code	16 Engine Code	17 Engine Code	18 Engine Code	19 Engine Code	20 Engine Code
SHE-1130-342	N/A	4L42C	55,4@3200	38,5	0,3	1148@1500	41,0	4,1												
SHE-1130-342	N/A	4L42C	55,2@3200	38,5	0,2	1148@1500	41,0	4,1												
SHE-1130-342	N/A	4L42C	54,7@2800	38,5	0,1	1128@1500	39,0	3,3												
SHE-1130-342	N/A	4L42C	54,4@2800	39,5	0,0	1128@1500	39,0	3,3												
SHE-1130-342	N/A	4L42C	54,0@2700	39,5	0,0	1128@1500	39,0	3,3												
SHE-1130-342	N/A	4L42C	53,7@2700	39,5	0,0	1128@1500	39,0	3,3												
SHE-1130-342	N/A	4L42C	53,3@2700	39,5	0,0	1128@1500	39,0	3,3												
SHE-1130-342	N/A	4L42C	52,9@2500	39,0	0,7	1148@1500	40,0	3,3												
SHE-1130-342	N/A	4L42C	52,1@2500	39,0	0,5	1148@1500	40,0	3,3												
SHE-1130-342	N/A	4L42C	51,7@2500	39,0	0,5	1148@1500	40,0	3,3												
SHE-1130-342	N/A	4L42C	50,7@2400	39,0	0,3	1148@1500	40,0	3,3												
SHE-1130-342	N/A	4L42C	50,7@2400	39,0	0,2	1148@1500	40,0	3,3												
SHE-1130-342	N/A	4L42C	50,7@2400	39,0	0,1	1148@1500	40,0	3,3												
SHE-1130-342	N/A	4L42C	50,5@2300	40,5	0,0	1208@1500	42,5	6,8												

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