



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	7LHAL9.54SPA	9.54	Diesel	8000
SPECIAL FEATURES & EMISSION CONTROL SYSTEMS			TYPICAL EQUIPMENT APPLICATION	
Direct Diesel Injection, Turbocharger, Charge Air Cooler, Electronic Control Module, Smoke Puff Limiter			Crane, Loader, Dozer, Compressor	

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 (NO_x), or non-methane hydrocarbon 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
75 ≤ kW < 130	Tier 3	STD	N/A	N/A	4.0	5.0	0.30	20	15	50
130 ≤ kW < 225	Tier 3	STD	N/A	N/A	4.0	3.5	0.20	20	15	50
		CERT	--	--	3.9	0.8	0.12	11	1	14

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 5th day of September 2007.


 Annette Hebert, Chief
 Mobile Source Operations Division

Engine Model Summary Form

Manufacturer: Liebherr Machines Bulle SA
Engine category: Nonroad CI
EPA Engine Family: 7LHAL9.54SPA
Mfr Family Name: NA
Process Code: New Submission

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**

NA D 934 R04S61009 204 @ 1800 190 @ 204 NA 708 @ 1500 222 @ 708 NA IAT, TC, CAC, E

NA D 934 R04S61008 197 @ 1800 180 @ 197 NA 683 @ 1500 211 @ 683 NA IAT, TC, CAC, E

NA D 934 R04S61008 204 @ 1800 190 @ 204 NA 708 @ 1500 222 @ 708 NA IAT, TC, CAC, E

NA D 934 R04S61006 197 @ 1800 180 @ 197 NA 683 @ 1500 211 @ 683 NA IAT, TC, CAC, E

NA D 934 R04S61002 130 @ 1800 117 @ 130 NA 446 @ 1500 140 @ 446 NA IAT, TC, CAC, E

NA D 934 R04S61013 143 @ 2000 129 @ 143 NA 490 @ 1500 153 @ 490 NA IAT, TC, CAC, E

NA D 934 R04S61004 177 @ 2000 156 @ 177 NA 606 @ 1500 187 @ 606 NA IAT, TC, CAC, E

NA D 934 R04S61016 177 @ 1800 156 @ 177 NA 606 @ 1500 187 @ 606 NA IAT, TC, CAC, E

NA D 934 R04S61015 164 @ 2000 145 @ 164 NA 556 @ 1500 180 @ 556 NA IAT, TC, CAC, E

NA D 934 R04S61017 197 @ 1800 173 @ 197 NA 678 @ 1500 207 @ 678 NA IAT, TC, CAC, E

NA D 934 R04S61010 157 @ 1800 215 @ 157 NA 543 @ 1500 210 @ 543 NA IAT, TC, CAC, E

NA D 934 R04S61008 204 @ 1800 190 @ 204 NA 708 @ 1500 222 @ 708 NA IAT, TC, CAC, E

NA D 934 R04S61006 197 @ 1800 180 @ 197 NA 683 @ 1500 211 @ 683 NA IAT, TC, CAC, E

NA D 934 R04S61008 204 @ 1800 190 @ 204 NA 708 @ 1500 222 @ 708 NA IAT, TC, CAC, E

NA D 934 R04S61006 197 @ 1800 180 @ 197 NA 683 @ 1500 211 @ 683 NA IAT, TC, CAC, E

NA D 934 R04S61012 130 @ 1800 117 @ 130 NA 446 @ 1500 140 @ 446 NA IAT, TC, CAC, E

NA D 934 R04S61013 143 @ 2000 129 @ 143 NA 490 @ 1500 153 @ 490 NA IAT, TC, CAC, E

NA D 934 R04S61004 177 @ 2000 156 @ 177 NA 606 @ 1500 187 @ 606 NA IAT, TC, CAC, E

NA D 934 R04S61015 177 @ 1800 156 @ 177 NA 606 @ 1500 187 @ 606 NA IAT, TC, CAC, E

NA D 934 R04S61015 164 @ 2000 145 @ 164 NA 556 @ 1500 180 @ 556 NA IAT, TC, CAC, E

NA D 934 R04S61017 197 @ 1800 173 @ 197 NA 678 @ 1500 207 @ 678 NA IAT, TC, CAC, E

NA D 934 R04S61010 157 @ 1800 215 @ 157 NA 543 @ 1500 210 @ 543 NA IAT, TC, CAC, E

NA D 934 R04S61018 177 @ 2000 157 @ 177 NA 606 @ 1500 188 @ 606 NA IAT, TC, CAC, E

NA D 934 R04S61018 177 @ 2000 157 @ 177 NA 606 @ 1500 188 @ 606 NA IAT, TC, CAC, E

NA D 934 R04S61018 177 @ 2000 157 @ 177 NA 606 @ 1500 188 @ 606 NA IAT, TC, CAC, E

NA D 934 R04S61018 177 @ 2000 157 @ 177 NA 606 @ 1500 188 @ 606 NA IAT, TC, CAC, E

NA D 934 R04S61018 177 @ 2000 157 @ 177 NA 606 @ 1500 188 @ 606 NA IAT, TC, CAC, E

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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. Dev
7LHAL9.54SPA	NA	D934 R04S61019	164@1800	149@164	NA	556@1500	172@556	NA	PDI,SP, TC,CAC ECM