

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)
2010	AKLXL050.AAC	38.0, 50.0	Diesel	8000
SPECIAL FEATURES & EMISSION CONTROL SYSTEMS			TYPICAL EQUIPMENT APPLICATION	
Direct Diesel Injection, Turbocharger, Charge Air Cooler, Engine Control Module			Mine Truck	

The engine models and codes are attached.

The following are the exhaust certification standards (STD), or family emission limit(s) (FEL) as applicable, 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
kW > 560	Tier 2	STD	N/A	N/A	6.4	3.5	0.20	20	15	50
		FEL	N/A	N/A	N/A	N/A	0.17	N/A	N/A	N/A
		CERT	--	--	5.9	1.7	0.09	15	4	21

BE IT FURTHER RESOLVED: That the family emission limit(s) (FEL) is an emission level declared by the manufacturer for use in any averaging, banking and trading program and in lieu of an emission standard for certification. It serves as the applicable emission standard for determining compliance of any engine within this engine family under 13 CCR Sections 2423 and 2427.

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 15 day of September 2009.



Annette Hebert, Chief
 Mobile Source Operations Division

Attachment 1 of 1

Engine Model Summary Template

EO#: U-R-005-0342

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
AKLXL050.AAC	2758:FR6630	SDA12V159E-2	1260@1800	358	435	3861@1400	398	376	"DDI,ECM,TC, <i>CAC</i>
AKLXL050.AAC	2760:FR6612	SSDA16V159E	2000@1900	404	690	5805@1500	433	584	"DDI,ECM,TC,
AKLXL050.AAC	2762:FR6609	SDA16V159E-2	1500@1900	306	522	5041@1300	382	447	"DDI,ECM,TC,
AKLXL050.AAC	8524:FR6545	SSDA16V159E	2300@1900	470	803	6514@1500	467	630	"DDI,ECM,TC,
AKLXL050.AAC	3391:FR6736	SDA16V159E-2	1500@1900	306	523.9	5041@1300	384	448.5	"DDI,ECM,TC,
AKLXL050.AAC	3380:FR6735	SDA12V159E-2	1260@1800	356	431.6	4054@1400	414	391.3	"DDI,ECM,TC,
AKLXL050.AAC	3379:FR6734	SSDA16V159E	2000@1900	400	684	5805@1500	433	584	"DDI,ECM,TC,
AKLXL050.AAC	3380:FR6779	SDA12V159E-2	1200@1800	343	416.2	3681@1400	395	372.5	"DDI,ECM,TC,
AKLXL050.AAC	3380:FR6780	SDA12V159E-2	1086@1800	312	379	3590@1350	374	340.7	"DDI,ECM,TC,
AKLXL050.AAC	3548:FR6790	SDA12V160E-2	1500@1800	317	512.3	4846@1400	341	429.3	"DDI,ECM,TC,
AKLXL050.AAC	3548:FR6795	SDA12V160E-2	1400@1800	301	486.5	4705@1300	361	422.5	"DDI,ECM,TC,
AKLXL050.AAC	3548:FR6782	SDA12V160E-2	1600@1800	334	540.9	5041@1500	365	492.7	"DDI,ECM,TC,