

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)
2010	ACEXL050.AAC	19.0, 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	--	--	5.8	1.8	0.08	12	3	14

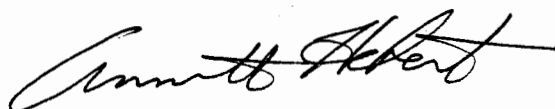
BE IT FURTHER RESOLVED: That the family emission limit(s) (FEL) is an emission level declared by the manufacturer for use in any averaging, banking and trading program and in lieu of an emission standard for certification. It serves as the applicable emission standard for determining compliance of any 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 30 day of July 2009.



Annette Hebert, Chief
 Mobile Source Operations Division

Engine Model Summary Template

U-12-002-0528
Attachment 1/1 pg 1/2
4/19/2010

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
ACEXL050.AAC	2756:FR4463	QSK19-C	800@2100	395	280	2275@1500	447	226	DDI,ECM,TC,
ACEXL050.AAC	2756:FR4464	QSK19-C	755@1800	428	260	2275@1500	447	226	DDI,ECM,TC,
ACEXL050.AAC	2756:FR4465	QSK19-C	760@2100	375	265	2275@1500	447	226	DDI,ECM,TC,
ACEXL050.AAC	2758:FR6628	QSK38-C	1086@1800	314	381	3590@1350	375	341	DDI,ECM,TC,
ACEXL050.AAC	2758:FR6630	QSK38-C	1260@1800	358	435	3861@1400	398	376	DDI,ECM,TC,
ACEXL050.AAC	2758:FR6694	QSK38-C	1200@1800	343	416	3861@1400	398	376	DDI,ECM,TC,
ACEXL050.AAC	2759:FR6631	QSK38-C	920@1200	398	322	4570@1000	454	306	DDI,ECM,TC,
ACEXL050.AAC	2759:FR6639	QSK38-C	1034@1200	447	362	N/A	N/A	N/A	DDI,ECM,TC,
ACEXL050.AAC	2760:FR6610	QSK50-C	2250@1900	459	785	6300@1500	467	630	DDI,ECM,TC,
ACEXL050.AAC	2760:FR6611	QSK50-C	2300@1900	470	803	6514@1500	483	651	DDI,ECM,TC,
ACEXL050.AAC	2760:FR6612	QSK50-C	2000@1900	404	690	5805@1500	433	584	DDI,ECM,TC,
ACEXL050.AAC	2760:FR6660	QSK50-C	1675@1800	360	583	5375@1500	489	472	DDI,ECM,TC,
ACEXL050.AAC	2760:FR6708	QSK50-C	2500@1900	508	868	7081@1500	520	702	DDI,ECM,TC,
ACEXL050.AAC	2761:FR6615	QSK50-C	1400@1800	300	486	4705@1300	368	430	DDI,ECM,TC,
ACEXL050.AAC	2761:FR6625	QSK50-C	1600@1800	342	554	5040 @1500	374	504	DDI,ECM,TC,
ACEXL050.AAC	2959:FR6624	QSK50-C	1480@1200	480	518	NA	NA	NA	DDI,ECM,TC,
ACEXL050.AAC	3232:FR4515	QSK19-C	800@1900	431	276.1	2350@1700	448	256.6	DDI,ECM,TC,
ACEXL050.AAC	3329:FR6717	QSK50-C	2500@1900	508	868	7081@1500	520	702	DDI,ECM,TC,
ACEXL050.AAC	8524:FR6545	QSK50-C	2300@1900	470	803	6514@1500	467	630	DDI,ECM,TC,
ACEXL050.AAC	2761:FR6742	QSK50	1500@1800	321	519	4846@1400	369	465	DDI,ECM,TC,
ACEXL050.AAC	2762:FR6609	QSK50	1500@1900	306	522	5041@1300	382	447	DDI,ECM,TC,
ACEXL050.AAC	3391:FR6736	QSK50-C	1500@1900	306	523.9	5041@1300	384	448.5	"DDI,ECM,TC,
ACEXL050.AAC	3380:FR6735	QSK38-C	1260@1800	356	431.6	4054@1400	414	391.3	"DDI,ECM,TC,
ACEXL050.AAC	3379:FR6734	QSK50-C	2000@1900	400	684	5805@1500	433	584	"DDI,ECM,TC,
ACEXL050.AAC	3380:FR6779	SDA12V159E-2	1200@1800	343	416.2	3681@1400	395	372.5	"DDI,ECM,TC,
ACEXL050.AAC	3380:FR6780	SDA12V159E-2	1086@1800	312	379	3590@1350	374	340.7	"DDI,ECM,TC,
ACEXL050.AAC	3548:FR6790	SDA12V160E-2	1500@1800	317	512.3	4846@1400	341	429.3	"DDI,ECM,TC,
ACEXL050.AAC	3548:FR6795	SDA12V160E-2	1400@1800	301	486.5	4705@1300	361	422.5	"DDI,ECM,TC,

Engine Model Summary Template

U-12-002-0528
Attachment 1/1 pg 2/2
4/15/2010

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
ACEXL050.AAC	3548:FR6782	SDA12V160E-2	1600@1800	334	540.9	5041@1500	365	492.7	"DDI,ECM,TC,