

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-14-012;

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)
2017	HFPXL03.4ASD	3.4	Diesel	8000
SPECIAL FEATURES & EMISSION CONTROL SYSTEMS			TYPICAL EQUIPMENT APPLICATION	
Electronic Direct Injection, Turbocharger, Charge Air Cooler, Electronic Control Module, Exhaust Gas Recirculation, Selective Catalytic Reduction - Urea, and Ammonia Oxidation Catalyst			Loader, Tractor, Dozer, and Other Industrial Equipment	

The engine models and codes are attached.

The following are the exhaust certification standards (STD) and certification levels (CERT) for non-methane hydrocarbon (NMHC), 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 (%)		
			NMHC	NOx	NMHC+NOx	CO	PM	ACCEL	LUG	PEAK
56 ≤ kW < 130	Tier 4 Final	STD	0.19	0.40	N/A	5.0	0.02	N/A	N/A	N/A
		CERT	0.07	0.31	--	1.2	0.02	--	--	--

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 New 2011 and Later Tier 4 Off-Road Compression-Ignition Engines, Parts I-D" adopted October 20, 2005 and last amended October 25, 2012.

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 18 day of November 2016.



Annette Hebert, Chief
 Emissions Compliance, Automotive Regulations and Science Division

U-FL-015-0325

Alaquand mg 1/11
6/15/2017

Engine Model Summary Template

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
HFPXL03.4ASD	F5GFL413E*C	F5GFL413E*C	115 @ 2200	87	N/A	375 @ 1500	115	N/A	DDI ECM TC CAC SCR-II AMOX EGR.
HFPXL03.4ASD	F5BFL413D*C	F5BFL413D*C	90 @ 2500	65	N/A	284 @ 1400	85	N/A	DDI ECM TC CAC SCR-II AMOX EGR.
HFPXL03.4ASD	F5BFL413A*C	F5BFL413A*C	110 @ 2200	86	N/A	341 @ 1400	103	N/A	DDI ECM TC CAC SCR-II AMOX EGR.
HFPXL03.4ASD	F5BFL413B*C	F5BFL413B*C	96 @ 2200	75	N/A	336 @ 1400	101	N/A	DDI ECM TC CAC SCR-II AMOX EGR.
HFPXL03.4ASD	F5BFL413C*C	F5BFL413C*C	90 @ 2200	70	N/A	307 @ 1400	94	N/A	DDI ECM TC CAC SCR-II AMOX EGR.
HFPXL03.4ASD	F5GFL413A*C	F5GFL413A*C	115 @ 2300	89	N/A	349 @ 1500	106	N/A	DDI ECM TC CAC SCR-II AMOX EGR.
HFPXL03.4ASD	F5GFL413B*C	F5GFL413B*C	106 @ 2300	82	N/A	347 @ 1500	101	N/A	DDI ECM TC CAC SCR-II AMOX EGR.
HFPXL03.4ASD	F5GFL413C*C	F5GFL413C*C	98 @ 2300	75	N/A	319 @ 1500	92	N/A	DDI ECM TC CAC SCR-II AMOX EGR.
HFPXL03.4ASD	F5GFL413F*C	F5GFL413F*C	115 @ 2300	85	N/A	361 @ 1500	108	N/A	DDI ECM TC CAC SCR-II AMOX EGR.
HFPXL03.4ASD	F5GFL413G*C	F5GFL413G*C	106 @ 2300	78	N/A	347 @ 1500	102	N/A	DDI ECM TC CAC SCR-II AMOX EGR.
HFPXL03.4ASD	F5GFL413H*C	F5GFL413H*C	98 @ 2300	72	N/A	319 @ 1500	93	N/A	DDI ECM TC CAC SCR-II AMOX EGR.
HFPXL03.4ASD	F5GFL413J*C	F5GFL413J*C	84 @ 2300	64	N/A	276 @ 1500	81	N/A	DDI ECM TC CAC SCR-II AMOX EGR.
HFPXL03.4ASD	F5GFL413U*C	F5GFL413U*C	115 @ 2300	89	N/A	361 @ 1500	106	N/A	DDI ECM TC CAC SCR-II AMOX EGR.
HFPXL03.4ASD	F5GFL413V*C	F5GFL413V*C	106 @ 2300	82	N/A	347 @ 1500	101	N/A	DDI ECM TC CAC SCR-II AMOX EGR.
HFPXL03.4ASD	F5GFL413W*C	F5GFL413W*C	98 @ 2300	75	N/A	319 @ 1500	92	N/A	DDI ECM TC CAC SCR-II AMOX EGR.

Added