

DAEWOO HEAVY INDUSTRIES & MACHINERY LTD.

EXECUTIVE ORDER U-R-019-0080-1 New Off-Road Compression-Ignition Engines

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 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) 8000	
2004	4DWXL11.1DJA	11.1	Diesel		
SPECIAL FEATURES & EMISSION CONTROL SYSTEMS			TYPICAL EQUIPMENT APPLICATION		
Direct Dies	sel Injection, Turbochar g	er, Charge Air Cooler	Generator Set		

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	EMISSION	· 	EXHAUST (g/kW-hr)				OPACITY (%)			
POWER CLASS	STANDARD CATEGORY		HC	NOx	NMHC+NOx	СО	PM	ACCEL	LUG	PEAK
225 < kW < 450	Tier 2	STD	N/A	N/A	6.4	3.5	0.20	N/A	N/A	N/A_
220 S RVV 1 430	110/2	CERT			6.2	0.8	0.15			

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.

This Executive Order hereby supersedes Executive Order U-R-013-0180 dated July 13, 2004

Executed at El Monte, California on this ______ day of June 2005

Allen Lyons, Chief

Mobile Source Operations Division

Engine Model S ymary Form

Manufacturer. Daewoo Heavy Industries & Machinery Ltd.

Engine category: Nonroad Cl

EPA Engine Family. 4DWXL11.1DJA

Mfr Family Name: P126TI

Process Code: New Submission

Attachment 1981 U-2019-0080-1

4.Fuel Rate: 5.Fuel Rate: 7.Fuel Rate: 9.Emission Control 3.BHP@RPM mm/stroke@peak 8.Fuel Rate: 9.Emission Control 3.BHP@RPM mm/stroke @ peak HP 6.Torque @ RPM mm/stroke@peak torque Device Per SAE J1930 (for diesel only) (for diesel only) (SEA Gross) (for diesel only) (SEA Gross) (for diesel only) (for diesel only) (for diesel only) (SEA Gross)	DDI,TC&CAC, SIA	DDI, I CACAC, OFT.	DDI, LC&CAC, TO	ייים יייים ווייין ווייין	DDI, ICACAC, OF E	DDI TC&CAC, SPE	
8.Fuel Rate: (lbs/hr)@peak torqui	120	107	130	17/	133	119	2
7.Fuel Rate: mm/stroke@peak torque	242	215	228	213	189	177	202
6.Torque @ RPM (SEA Gross)	1280 @1500	1135@1500	1168@1800	1090 @1800	969 @1800	1130@1800	1020 @ 1000
5.Fuel Rate: (lbs/hr) @ peak HP (for diesels only)	120	107	136	127	113	132	119
4.Fuel Rate: mm/stroke @ peak НР (for diesel only)	242	215	228	213	189	221	200
3.BHP@RPM (SAE Gross)	365 @1500	324 @1500	400 @ 1800	373@1800	332@1800	387@1800	351@1800
2.Engine Model	T D128TITA	P176TITOA	P176TI IOA	P1761110A	P1261110A	P1261110B	P1261110B
1.Engine Code	**************************************						