

DAEWOO HEAVY INDUSTRIES & MACHINERY LTD.

EXECUTIVE ORDER U-R-019-0068 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 ENGINE FAMILY		DISPLACEMENT (liters)	FUEL TYPE	USEFUL LIFE (hours)		
2003	3DWXL05.8COA	5.8	Diesel	8000		
SPECIAL	FEATURES & EMISSION	CONTROL SYSTEMS	TYPICAL EQUIPMENT APPLICATION			
Direct E	Diesel Injection, Turboch Limiter, Charge Air (arger, Smoke Puff Cooler	Compressor, Generator Set, Industrial Equipment			

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 POWER	EMISSION STANDARD	-	EXHAUST (g/kw-hr)					OPACITY (%)		
CLASS	CATEGORY		нс	NOx	NMHC+NOx	co	PM	ACCEL	LUG	PEAK
75 ≤ kW < 130	Tier 2	STD	N/A	N/A	6.6	5.0	0.30	20	15	50
		CERT			6.2	1.6	0.23	18	5	46

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 ______ day of February 2003.

Allen Jons, Chief

Mobile Source Operations Division

Engine model summary Form

8 300-410.N-N

Manufacturer: Daewoo Heavy Industries & Machinery Ltd.

Engine category: Nonroad CI

EPA Engine Family: 3DWXL05.8COA

Mfr Family Name: DB58TIS

Process Code:

New Submission

		DB5811S OEF	DB58118 OEE	DB5811S OED	DB5811S OEC	DB58118 OFB	DB58TIS OEA	1.Engine Code 2,Engine Model
143 @ 2200	156 @ 2100	122 @ 1950	153 @ 2000	133 @ 2200	161 @ 2200	155 @ 1950	170 @ 2000	3.BHP@RPM (SAE Gross)
78	84	70	85	73	86	85	92	4.Fuel Rate: mm/stroke @ peak HP (for diesel only)
57	58	45	56	53	63	55	61	5.Fuel Rate: (lbs/hr) @ peak HP (for diesels only)
435 @ 1600	449 @ 1500	370 @ 1450	457 @ 1500	399 @ 1600	471 @ 1600	457 @ 1400	507 @ 1400	6.Torque @ RPM (SEA Gross)
88	91	75	91	80	93	89	100	7.Fuel Rate: mm/stroke@peak torque
47 [45	36	45	42	49	41 1	46	8.Fuel Rate: 9.Emission Control (lbs/hr)@peak torque Device Per SAE J1930
DDI,TC&CAC,SPL	DDI,TC&CAC,SPL	DDI,TC&CAC,SPL	DDI,TC&CAC,SPL	DDI,TC&CAC,SPL	DDI,TC&CAC,SPL	DDI TC&CAC SPL	DDI,TC&CAC,SPL	9.Emission Control Device Per SAE J1930