

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-45-9;

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)
2001	1DWXL11.1BIA	11.1	Diesel	8000
SPECIAL FEATURES & EMISSION CONTROL SYSTEMS			TYPICAL EQUIPMENT APPLICATION	
Direct Diesel Injection, Turbocharger, Charge Air Cooler (Models DE12TIA ILB, DE12TI ILA, DE12TI IEB, DE12TIA ILC only)			Compressor, Generator Set, Other OEM Equipment	
ENGINE MODELS (rated power in kilowatts, kw)	DE12TIA ILB (225 kw), DE12TI ILA (225 kw), DE12TI IEB (215 kw), DE12T HEA (190 kw), DE12T HLA (163 kw), DE12TIA ILC (175 kw)			

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):

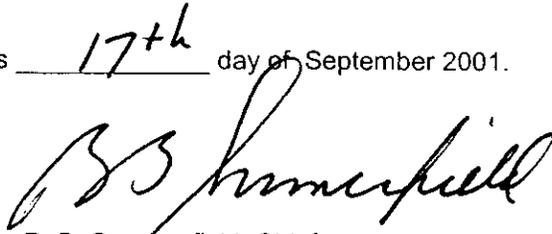
RATED POWER CLASS	EMISSION STANDARD CATEGORY		EXHAUST (g/kw-hr)					OPACITY (%)		
			HC	Nox	NMHC+NOx	CO	PM	ACCEL	LUG	PEAK
130 ≤ KW < 225	Tier 1	STD	1.3	9.2	N/A	11.4	0.54	20	15	50
		CERT	0.5	8.5	--	0.8	0.25	4	4	6

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 17th day of September 2001.


 R. B. Summerfield, Chief
 Mobile Source Operations Division

Engine Model Summary Form

ED# 4-R-19-43

Att. ment

Manufacturer: **Daewoo Heavy Industries & Machinery Ltd.**

Engine category: **Nonroad CI**

EPA Engine Family: **1DWXL11.1BIA**

Mfr Family Name: **DE12TI & DE12T**

Process Code: **New Submission**

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
	DE12TIA ILB	301 @ 2100	225 150	104.3	978 @ 1200	179	71.1	DDI TC & CAC
	DE12TI ILA	301 @ 2100	225 156	108.5	833 @ 1400	165	76.5	DDI TC & CAC
	DE12TI IEB	287 @ 2000	215 152	100.6	826 @ 1400	160	74.2	DDI TC & CAC
	DE12T HEA	253 @ 1950	190 140	90.4	783 @ 1400	157	72.8	DDI TC
	DE12T HLA	217 @ 2200	163 112	81.6	638 @ 1400	122	56.5	DDI TC
	DE12TIA ILC	233 @ 2100	175 125	86.9	833 @ 1200	156	62.0	DDI TC & CAC

EPA Cert No: PNx-NRB-01-08