

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)
2003	3DWXL08.1CPA	8.1	Diesel	8000
SPECIAL FEATURES & EMISSION CONTROL SYSTEMS			TYPICAL EQUIPMENT APPLICATION	
Direct Diesel Injection, Turbocharger, Charge Air Cooler, Smoke Puff Limiter			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 POWER CLASS	EMISSION STANDARD CATEGORY		EXHAUST (g/kw-hr)					OPACITY (%)		
			HC	NOx	NMHC+NOx	CO	PM	ACCEL	LUG	PEAK
130 ≤ kW < 225	Tier 2	STD	N/A	N/A	6.6	5.0	0.30	N/A	N/A	N/A
		CERT	--	--	6.2	1.3	0.19	--	--	--

**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 11<sup>TH</sup> day of June 2003.



Allen Lyons, Chief  
 Mobile Source Operations Division

# Engine Model Summary Form

Attachment 13. 1 of 1

**Manufacturer:** Daewoo Heavy Industries & Machinery Ltd.  
**Engine category:** Nonroad CI  
**EPA Engine Family:** 3DWXL08.1CPA  
**Mfr Family Name:** P086TI  
**Process Code:** New Submission

U- R- 019-0072

1. Engine Code	2. Engine Model	3. BHP@RPM kW (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
	P086TI POC	299 @1800	181	108	874 @1800	181	108	DDI,TC&CAC,SPL
	P086TI POC	275 @1800	164	98	804 @1800	164	98	DDI,TC&CAC,SPL
	P086TI POC	250 @1800	148	88	730 @1800	148	88	DDI,TC&CAC,SPL
	P086TI POC	266 @1500	183	91	934 @1500	183	91	DDI,TC&CAC,SPL
	P086TI POC	237 @1500	161	80	831 @1500	161	80	DDI,TC&CAC,SPL
	P086TI POC	202 @1500	137	68	709 @1500	137	68	DDI,TC&CAC,SPL
	P086TI POD	257 @1800	152	91	750 @1800	152	91	DDI,TC&CAC,SPL
	P086TI POD	234 @1800	137	82	683 @1800	137	82	DDI,TC&CAC,SPL
	P086TI POD	220 @1500	150	74	772 @1500	150	74	DDI,TC&CAC,SPL
	P086TI POD	200 @1500	136	68	702 @1500	136	68	DDI,TC&CAC,SPL