

State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER U-R-34-9
Relating to Certification of New Off-Road Compression-Ignition Engines

MOTORENFABRIK HATZ GMBH & CO. KG

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:

Model Year: 2001

Typical Equipment Usage: Constant-speed pump, generator and compressor

Fuel Type: Diesel

	Engine		
	Displacement	Useful Life	Emission Control Systems
<u>Engine Family</u>	<u>(liters)</u>	<u>(hours)</u>	<u>and Special Features</u>
1HZXL.667C82	0.667	3000	Direct Diesel Injection

Engine models and codes are listed on attachments. Production engines shall be in all material respects the same as those for which certification is granted.

The exhaust emission certification standards and certification values for hydrocarbons (HC), oxides of nitrogen (NOx), or non-methane hydrocarbons plus oxides of nitrogen (NMHC+NOx), carbon monoxide (CO), and particulate matter (PM) (units are expressed in grams per kilowatt-hour (g/kw-hr)), and the opacity-of-smoke certification standards and certification values in percent (%) during acceleration (Accel), lugging (Lug), and the peak value from either mode (Peak) for this engine family are as follows (Title 13, California Code of Regulations, Section 2423):

Engine Power <u>Rating (kw)</u>	Emission Standard <u>Category</u>	Standard Certification	<u>Exhaust Emissions (g/kw-hr)</u>					<u>Smoke Opacity (%)</u>		
			<u>HC</u>	<u>NOx</u>	<u>NMHC+NOx</u>	<u>CO</u>	<u>PM</u>	<u>Accel</u>	<u>Lug</u>	<u>Peak</u>
8≤KW<19	Tier 1		N/A	N/A	9.5	6.6	0.80	N/A	N/A	N/A
			--	--	8.3	4.1	0.59	--	--	--

BE IT FURTHER RESOLVED: That the listed engine models also comply with "Emission Control Labels— 1996 and Later Off-Road Compression-Ignition Engines" (Title 13, California Code of Regulations, Section 2424) for the aforementioned model-year.

BE IT FURTHER RESOLVED: That for the listed engine models, the manufacturer has submitted the materials to demonstrate certification compliance with the Board's emission control system warranty provisions (Title 13, California Code of Regulations, Sections 2425 and 2426).

Engines certified under this Executive Order must conform to all applicable California emission regulations.

Executed at El Monte, California this 10th day of May 2001.



R. B. Summerfield, Chief
Mobile Source Operations Division

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Model Year: 2001
Manufacturer: Motorenfabrik Hatz GmbH & Co. KG
Engine Family: 1HZXL667C82

Issued:
Revised: 3/22/2001
E.O. Number: u-R-34-9

Small Off-Road Engine Model Summary Form

Units for Table: kw

Worst Case?	47. Model Designation	48. Sales Code	49. Displ (cc)	50. Bore/Stroke	51. Ignition Timing	52. Max Power	53. Rated Speed (RPM)	54. Rated Torque	55. Torque Speed (RPM)	56. Emiss Control Sys
X	1D81S/Z/T/U	Calif. Only	667	100/85	13	14.7	3000	25.9	3000	DDI
	1D81S/Z/T/U	Calif. Only	667	100/85	13	14.6	2950	26.1	2950	DDI
	1D81S/Z/T/U	Calif. Only	667	100/85	13	14.3	2900	26.1	2900	DDI
	1D81S/Z/T/U	Calif. Only	667	100/85	13	14.2	2850	26.3	2850	DDI
	1D81S/Z/T/U	Calif. Only	667	100/85	13	14.1	2800	26.5	2800	DDI
	1D81S/Z/T/U	Calif. Only	667	100/85	13	13.9	2750	26.7	2750	DDI
	1D81S/Z/T/U	Calif. Only	667	100/85	10	13.7	2700	26.7	2700	DDI
	1D81S/Z/T/U	Calif. Only	667	100/85	10	13.5	2650	26.9	2650	DDI
	1D81S/Z/T/U	Calif. Only	667	100/85	10	13.3	2600	26.9	2600	DDI

Additional engine model info. please see record 2 !

52. = [hp]

54. = [lbf]

Model Year:
 Manufacturer:
 Engine Family:

Issued:
 Revised: 3/22/2001
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Small Off-Road Engine Model Summary Form

Units for Table:

47. Worst Case?	48. Model Designation	49. Sales Code	50. Displ (cc)	51. Bore/Stroke	52. Ignition Timing	53. Max Power	54. Rated Speed (RPM)	55. Rated Torque	56. Torque Speed (RPM)	57. Emiss Control Sys
	1D81S/Z/T/U	Calif. Only	667	100/85	13	14.1	3000	24.7	3000	DDI
	1D81S/Z/T/U	Calif. Only	667	100/85	15	13.9	2950	24.9	2950	DDI
	1D81S/Z/T/U	Calif. Only	667	100/85	15	13.7	2900	24.9	2900	DDI
	1D81S/Z/T/U	Calif. Only	667	100/85	15	13.5	2850	25.0	2850	DDI
	1D81S/Z/T/U	Calif. Only	667	100/85	15	13.4	2800	25.2	2800	DDI
	1D81S/Z/T/U	Calif. Only	667	100/85	15	13.3	2750	25.4	2750	DDI
	1D81S/Z/T/U	Calif. Only	667	100/85	15	13.1	2700	25.6	2700	DDI
	1D81S/Z/T/U	Calif. Only	667	100/85	15	13.0	2650	25.9	2650	DDI
	1D81S/Z/T/U	Calif. Only	667	100/85	15	12.7	2600	25.9	2600	DDI
	1D81S/Z/T/U	Calif. Only	667	100/85	15	12.6	2550	26.0	2550	DDI
	1D81S/Z/T/U	Calif. Only	667	100/85	15	12.3	2500	26.0	2500	DDI

52. = [hp]

54. = [lbft]