

State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER U-R-4-26

Relating to Certification of New Heavy-Duty Off-Road Equipment Engines

DEERE POWER SYSTEM GROUP OF DEERE & COMPANY

Pursuant to the authority vested in the Air Resources Board by Sections 43000.5, 43013 and 43018 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 Deere Power System Group of Deere & Company 1997 model-year engine, with rated power between 175 and 750 horsepower, and exhaust emission control systems are certified as described below for use in heavy-duty off-road equipment:

Typical Equipment Usage: Generator Set, Tractor

Fuel Type: Diesel

<u>Engine Family</u>	<u>Displacement in Liters</u>	<u>Exhaust Emission Control Systems and Special Features</u>
VJD12.RJDBRA (650HA)	12.5	Turbocharger Charge Air Cooler Engine Control Module

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 total hydrocarbons (THC), carbon monoxide (CO), nitrogen oxides (NOx), and particulate matters (PM) certification exhaust emission standards, in grams per brake horsepower-hour (g/bhp-hr), and the opacity of smoke emission standards, in percent (%), during acceleration (Accel), lugging (Lug), and peak (Peak) modes, for this engine family are (Title 13, California Code of Regulations, Section 2423):

<u>Exhaust Emissions (g/bhp-hr)</u>				<u>Smoke Opacity (%)</u>		
<u>THC</u>	<u>CO</u>	<u>NOx</u>	<u>PM</u>	<u>Accel</u>	<u>Lug</u>	<u>Peak</u>
1.0	8.5	6.9	0.4	20	15	50

The THC, CO, NOx and PM exhaust emission certification values, in g/bhp-hr, and the opacity of smoke emission certification values, in percent (%), for this engine family are:

<u>Engine Family</u>	<u>Exhaust Emission (g/bhp-hr)</u>				<u>Smoke Opacity (%)</u>		
	<u>THC</u>	<u>CO</u>	<u>NOx</u>	<u>PM</u>	<u>Accel</u>	<u>Lug</u>	<u>Peak</u>
VJD12.RJDBRA (650HA)	0.2	0.4	5.7	0.1	13	1	28


BE IT FURTHER RESOLVED: That the listed engine models comply with the "Exhaust Emission Standards and Test Procedures--Heavy-Duty Off-Road Diesel Cycle Engines" (Title 13, California Code of Regulations, Section 2423) for the aforementioned model year.

BE IT FURTHER RESOLVED: That the listed engine models also comply with the "Emission Control Labels--1996 and Later Heavy-Duty Off-Road Diesel Cycle 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, Section 2425 et seq.).

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

Executed at El Monte, California this 20th day of December 1996.


R. B. Summerfield, Chief
Mobile Source Operations Division

LARGE ENGINE MODEL SUMMARY

Deere Division

Deere Power Systems Group of Deere & Company
 Manufacturer: Deere & Company

EPA Engine Family: 4JD12, RJDBRA

Manufacturer Family Name: 650HA

Engine Code	Engine Model	BHP @ RPM (SAE Gross)	Fuel Rate: mm/stroke @ peak HP (for diesel only)	Fuel Rate: (lbs/hr) @ peak HP (for diesels only)	Torque @ RPM (SEA Gross)	Fuel Rate: mm/stroke @ peak torque	Fuel Rate: (lbs/hr) @ peak torque	Emission Control Device Per SAE J1930
6125HF001A		510 @ 2100	246 @ 2100	173 @ 2100	1729 @ 1400	320 @ 1400	151 @ 1400	EM, EC, CAC, TC
6125HF001V01		367 @ 2100	178 @ 2100	126 @ 2100	1240 @ 1400	230 @ 1400	109 @ 1400	EM, EC, CAC, TC
6125HRW02		434 @ 2100	209 @ 2100	146 @ 2100	1467 @ 1400	272 @ 1400	129 @ 1400	EM, EC, CAC, TC
6125HF001B		425 @ 2100	206 @ 2100	144 @ 2100	1329 @ 1400	251 @ 1400	116 @ 1400	EM, EC, CAC, TC
6125HF001C		425 @ 2100	206 @ 2100	144 @ 2100	1435 @ 2100	271 @ 1400	126 @ 1400	EM, EC, CAC, TC
6125HF001D		451 @ 2100	219 @ 2100	153 @ 2100	1521 @ 1400	287 @ 1400	133 @ 1400	EM, EC, CAC, TC
6125HF001E		475 @ 2100	231 @ 2100	161 @ 2100	1603 @ 1400	303 @ 1400	140 @ 1400	EM, EC, CAC, TC
6125HF001F		500 @ 2100	243 @ 2100	170 @ 2100	1689 @ 2100	319 @ 1400	148 @ 1400	EM, EC, CAC, TC
6125HZ001		369 @ 2100	176 @ 2100	125 @ 2100	1153 @ 1800	212 @ 1800	129 @ 1800	EM, EC, CAC, TC
6125HZ002		449 @ 2100	213 @ 2100	151 @ 2100	1404 @ 1800	258 @ 1800	157 @ 1800	EM, EC, CAC, TC

A. 50 State Codes

B. Federal Codes

C. California Codes