(Page 1 of 2)

State of California AIR RESOURCES BOARD

EXECUTIVE ORDER U-R-4-1

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

DEERE POWER SYSTEMS GROUP

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 Systems Group 1996 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:

Combine, Agricultural Tractors

Fuel Type: Diesel

Engine Family	Liters	(Cubic Inches)	Exhaust Emission Control Systems and Special Features
TJD7.6R6DBRA	7.6	(462)	Turbocharger Charge Air Cooler

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):

Exhaust Emissions (g/bhp-hr)			Smoke Opacity (%)			
<u>THC</u>	<u>co</u> _	<u>NOx</u>	<u>PM</u>	<u>Accel</u>	<u>Luq</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:

	Exhaust Emission (g/bhp-hr)			Smoke Opacity (%)			
Engine Family	<u>THC</u>	<u>co</u>	<u>NOx</u>	<u>PM</u>	<u>Accel</u>	<u>Lug</u>	<u>Peak</u>
TJD7.6R6DBRA	0.3	1.2	5.9	0.2	16	10	21

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 36 day of December 1995.

R.\ B. Summerfield

Assistant Division Chief Mobile Source Division

Revisions:______

1996 AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET HEAVY-DUTY OFF-ROAD DIESEL ENGINES

Mfgr: Deere Po	ower Sytems C	Froup of Deere	& Company Eng	ine Family:	TJD7.6R6	<u>DBRA</u>
Displacement:_						
All Codes in Er	ng Fam: CA_	_ 49S 50S	X Cert Test I	rocedures: A	ARB	EPA X
Valves/Ports pe	r Cylinder 2		Strokes per Comb	ustion Cycle	<u>4</u>	
Maximum Rate						
Ignition: Com	pression X	Com	pression with Glow	Plug	Spark	ς
Fuel Time(s):	Dedicated 3	Z Flex-Fuel	Dual Fuel	Diesel X M	1100 M	185
ruel Type(s).			G Other (specif			
				,,		
Diesel Cert Fue						
•			ractor, Combine			
Exhaust ECS (e.g., MFI, TO	C, CAC): <u>EM</u>	1. TC. CAC Use abbreviations pe	ም ፎላቲ 110 <u>3</u> 0	111N03)	
		(1	Ose abbreviations pe	I OME 11950	, 1011/5/	
Engine Model	Rated HP	Fuel Rate	Fuel Pump &	ECM/	EGR	PTOX/
(Eng Code)	@ RPM	@ Rated	Injector Part No.	PCM	Valve	Catalytic Converter
		$HP mm^3 /$		Part	Part No.	Part No.
		stroke		No.		rait No.
		(lbs/hr)				
6076HF030A	287 @ 2200	133 (98.8)	RE67592 RE52113			
6076HF030B	275 @ 2200	128 (94.8)	RE65736, RE64815		ļ	
	225 @ 2200	120 (04 9)	RE52113 RE63514	₩ (RE28320		,
6076HF030C	275 @ 2200	128 (94.8)	RE52113	SW240,41		
6076НН034	264 @ 2200	121 (90.2)	RE63514	RE28320		
6076HH035	219 @ 2200	102 (75.8)	RE52113 RE63514	SW230,31 RE28320	!	
00/0nn033	219 @ 2200		RE52113	SW232,33		
6076HH036	239 @ 2200	110 (82.0)	RE62514 RE52113	RE28320 SW234,35]	}
6076HH033	239 @ 2200	110 (82.0)	RE63514	RE28320		
			RE52113	SW189,90 RE28320]	
6076HRW32	256@2100	124 (88.0)	RE47396 RE52113	SW228,29		
6076HRW33	193 @ 2200	91 (67.2)	RE63514	RE28320		
60761TD3V24	217 @ 2200	101 (75.0)	RE52111 RE63514	SW162,63 RE28320	*-	ANIC
6076HRW34	217 @ 2200	101 (75.0)	RE52109	SW164,65	GOVER	Nox
6076HRW35	241 @ 2200	110 (81.8)	RE62514	RE28320 SW166,67)	# EUSCI GOVER Contra	, \ \.
			RE52113	3 11 100,07	<u> </u>	
Date Issued:	<u> </u>	<u> </u>				
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Submitted: 15 Nov. 1995 16.03.03 - 400HA