

State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER U-R-16-17

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

DAIMLER-BENZ AG

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 Daimler-Benz AG 1999 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: Crane, Road Grader and Compressor

Fuel Type: Diesel

<u>Engine Family</u>	<u>Liters</u>	<u>Exhaust Emission Control Systems and Special Features</u>
XMBXL15.9RJA	15.9	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 matter (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>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>
0.1	0.4	5.1	0.04	12	1	19

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 30th day of November 1998.



R. B. Summerfield, Chief
Mobile Source Operations Division

LARGE ENGINE MODEL SUMMARY

8/13/98

EO: U-R-16-17

Manufacturer: **Daimler-Benz AG**

Process Code: **New Submission**

EPA Engine Family: **XMBXL15.9RJA**

Manufacturer Family Name: **NA**

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 (lb-ft. SAE Gross I)	7.Fuel Rate: mm/stroke@peak torque	8.Fuel Rate: (lbs/hr)@peak torque	9.Emission Control Device Per SAE J1930
502 LA.E1/1	OM 502 LA	563 @ 1800	250	197.0	1991 @ 1080	293	138.5	TC, ECM, CAC
502 LA.E1/2	OM 502 LA	523 @ 1800	230	181.2	1770 @ 1080	261	123.4	TC, ECM, CAC
502 LA.E1/3	OM 502 LA	469 @ 1800	205	161.5	1696 @ 1080	249	117.7	TC, ECM, CAC
502 LA.E1/4	OM 502 LA	536 @ 2000	234	184.3	1696 @ 1080	244	115.3	TC, ECM, CAC
502 LA.E1/5	OM 502 LA	469 @ 2000	206	162.3	1548 @ 1080	223	105.4	TC, ECM, CAC
502 LA.E1/6	OM 502 LA	402 @ 2000	178	140.2	1401 @ 1080	202	95.5	TC, ECM, CAC

State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER U-R-16-18

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

DAIMLERCHRYSLER AG

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 DaimlerChrysler AG 1999 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: Crane, Road Grader, Harvester, Compressor

Fuel Type: Diesel

<u>Engine Family</u>	<u>Liters</u>	<u>Exhaust Emission Control Systems and Special Features</u>
XMBXL5.96R6A	6.0	Turbocharger Smoke Puff Limiter 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 matter (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>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>
0.4	1.0	5.3	0.3	15	9	25

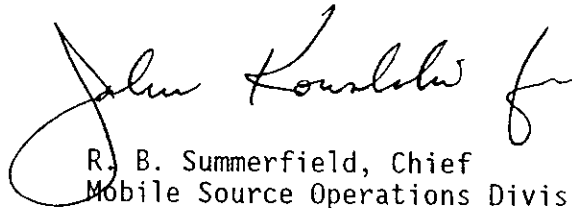
BE IT FURTHER RESOLVED: That the listed engine models comply with the "Exhaust Emission Standards and Test Procedures--Heavy-Duty Off-Road Diesel Cycle Engines" (Title 13, California Code of Regulations, Section 2423) for the aforementioned model year.

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 17th day of March 1999.



R. B. Summerfield, Chief
Mobile Source Operations Division

LARGE ENGINE MODEL SUMMARY

2/8/99

EO: U-R-16-18

Manufacturer: DaimlerChrysler AG

Process Code: New Submission

EPA Engine Family: XMBXL5.96R6A

Manufacturer Family Name: NA

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
366 LA. E I/1	OM 366 LA	248@2500	110	90.4	590@*	119	58.7	TC, EM, SPL, CAC
366 LA. E I/2	OM 366 LA	237@2600	101	86.3	553@*	114	56	TC, EM, SPL, CAC
366 LA. E I/3	OM 366 LA	233@2500	103	84.7	553@*	114	56	TC, EM, SPL, CAC
366 LA. E I/4	OM 366 LA	229@2400	104	82.0	553@*	114	56	TC, EM, SPL, CAC
366 LA. E I/5	OM 366 LA	218@2400	100	78.9	527@*	108	53.3	TC, EM, SPL, CAC
366 LA. E I/6	OM 366 LA	208@2600	87	74.0	476@*	93	49	TC, EM, SPL, CAC
366 LA. E I/7	OM 366 LA	205@2500	87	71.5	476@*	93	49	TC, EM, SPL, CAC
					* 1400 - 1600			TC, EM, SPL, CAC