State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER M-1-311
Relating to Certification of New Motorcycles

KAWASAKI HEAVY INDUSTRIES, LTD.

Pursuant to the authority vested in the Air Resources Board by the Health and Safety Code, Division 26, Part 5, Chapter 2; and,

Pursuant to the authority vested in the undersigned by Health and Safety Code Sections 39515 and 39516 and Executive Order G-45-9;

IT IS ORDERED AND RESOLVED: That the following engine and exhaust emission control systems produced by the manufacturer are certified as described below for four-stroke gasoline-powered motorcycles:

Model Year: 2001

Engine Family	Displacement Cubic Centimeters	Class	Exhaust Emission Control Systems & Special Features
1KAXC1.47AAC	1470	III	Pulsed Secondary Air Injection Oxidation Catalytic Converter

Vehicle models and transmissions are listed on the attachment. Production motorcycles shall be in all material respects the same as those for which certification is granted.

The following are the exhaust emission standards and exhaust certification emission values for this engine family. The designated hydrocarbons standard shall be listed on the permanent tune-up label:

Hydrocarbons Standards (Corporate Average) Grams per Kilometer	Hydrocarbons Standards (Designated) Grams per Kilometer	Hydrocarbons (Certification) Grams per Kilometer	Carbon Monoxide (Standard) Grams per Kilometer	Carbon Monoxide (Certification) Grams per Kilometer
1.4	0.9	0.4	12	7

BE IT FURTHER RESOLVED: That the above-described certification is subject to the following terms, limitations and conditions:

The above designated hydrocarbons standard shall be the exhaust limit for this engine family during the model year and therefore cannot be redesignated by the manufacturer. It represents the hydrocarbons exhaust emission standard applicable to this engine family that shall be applied when determining compliance of any motorcycle within this engine family pursuant to Section 2101 of Title 13, California Code of Regulations. It will also be used to determine compliance with the above corporate average hydrocarbons standard as required per Section 1958(b), Title 13 of the California Code of Regulations.

BE IT FURTHER RESOLVED: That the Executive Officer has been provided all material required to demonstrate certification compliance with the Board's emission control system warranty regulations (Title 13, California Code of Regulations, Section 2035 et seq.).

BE IT FURTHER RESOLVED: That the listed vehicle models also comply with "California Evaporative Emission Standards and Test Procedures for 2001 and Subsequent Model Motor Vehicles," as required by Section 1976, Title 13 of the California Code of Regulations.

BE IT FURTHER RESOLVED: That these motorcycles are found exempt from compliance with the Air Resources Board's "Specifications for Fill Pipes and Openings of Motor Vehicle Fuel Tanks" pursuant to Executive Order G-70-16-E.

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

Executed at El Monte, California this 12th day of June 2000.

R. B. Summerfield, Chief
Mobile Source Operations Division

ATTACHMENT

Issued: APR 0 6 2000
Revised:
E.O.#: M-1-311
Engine Family: 1KAXC1.47AAC

Motorcycle Model Summary Form

65. Model Designation	66. Worst Case	67. Disp. (cc)	68. Bore / Stroke (mm)	69. Basic Ignition Timing (degrees)	70 Power (kW)	71 Rated Speed (RPM)	72 Rated Torque (Nm)	73. Rated Speed (RPM)
VN1500-E4	No	1470	102X90	0°/1000 rpm	48.5	4800	113	3000
VN1500-G3	No	1470	102X90	0°/1000 rpm	48.5	4800	113	3000

65. Model Designation	74. EIM (kg)	75. Loaded Vehicle Weight Range (kg)	76 Road Load (nt)	77 Total Vehicle Mass (kg)	78 Full Weight with All Factory Options (kg)	79. Trans. Type	80 N/V
VN1500-E4	410	406 ~ 415	157.8	310.5	335	M-5	26.49
VN1500-G3	430	426 ~ 435	161.9	350.5	355	M-5	26.49

Issued: APR 0 6 2000
Revised: E.O. #: M-1-311

Motorcycle Engine Family Information Form

1. Manufacturer: KAWASAKI HEAVY INDUSTRIES, LTD.

2. Certification Contact Person, address, phone, and fax:

Jeffrey D. Shetler / David Corey
Kawasaki Motors Corp., U.S.A.
9950 Jeronimo Road, Irvine, CA 92618-2084
Tel : 949-770-0400 Fax : 949-460-5602

3. Model Year: 2001

4. Process Code: New
(new, correction, revision, r/c, f/f. etc.)

5. Engine Family: 1KAXC1.47AAC
50s Engine Code: –
49s Engine Code: –
Calif. Engine Code: VNT50D-AC1

6. Emission Control System: EM+PAIR+OC

7. Calif. Designated Standard: 0.9gm/km

8. Projected Annual Sales: ____

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9. New Technology ___ Yes X No
If yes, cite the correspondence or reference the submittal document: _____

10. Displacement: 1470 cm³

11. Number of Cylinders: 2

12. Cylinder Arrangement: Vee-Twin

13. Cylinder Head Configuration: SOHC

14. Type of Cooling: Liquid

15. Combustion Cycle: 4

16. Method of Aspiration: Natural

17. Fuel System: Carburetor

18. Number of Catalytic Converters: 1

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19. Adjustable Parameters:

Parameter(s)	Adjustable Range (or NA)	Tamper Resistance Method (or NA)	Method Approved
Air adjust on carburetor (Air/Fuel Ratio)	NA	A tamper proof cap is placed over the adjusting screw	Carry over

20. AECDs In the Emission Control Systems:

Exhaust System		Evaporative System	
AECDs In System:	EM, PAIR and OC	AECDs In System:	Sealed loop with Canister

Issued: APR 0 6 2000
Revised:
E.O.#: M-1-311
Engine Family: 1KAXC1.47AAC

Motorcycle Test Information Form

0.35

27. Are you carrying over test results from a previously certified family? X Yes ___ No
    a) If yes, indicate family name: TKA1.5PAGARA
    b) Is the family being certified identical to the family from which the data is being carried over? Yes

28. Model Designation of Test Vehicle: VN1500-D1
29. Test Information Number: 96-1
30. Vehicle ID: JKBVNAD1XTA040994
31. Service Accumulation Duration: 15000 (km)
32. Maximum Rated Power: 48.5 kW @ 4800 RPM
33. Displacement: 1470 cc
34. Certification Fuel: Indolene: 91-95 RON
35. Test Data Set: Test 1
36. Road Load: 157.8/161.9 nt at 65 kph
37. Inertia Mass: 410/430 kg
38. N/V: 26.49
39. EVAP. Bench Test Method Approved:
    Date: 2/23/1983
    Reference: 84ARB-03
40. Unscheduled Maintenance: ___ Yes X No
41. If yes, Vehicle Log provided: _____

42. Exhaust Emission Deterioration Factors:

		Emission Values	
Test Number	System Kilometers	HC	CO
1	3619	0.63	8.3
2	6022	0.70	10.1
3	6052	0.38	4.2
4	12014	0.67	10.5
5	12044	0.56	5.5
6	15015	0.44	7.4
7 *	15045	0.39	7.1
8 **	15075	0.39	7.2
Interpolated Values at 15000 km:		**HC = 0.5218**	**CO = 7.6551**
Extrapolated Values at 30000 km:		**HC = 0.4200**	**CO = 7.4125**

Check one:	
Regular DF	X
Modified DF	
If different vehicle specify vehicle ID	

* This emission test was performed in order to confirm the previous EPA's approval test data which was submitted in 1994 model year certification.(inertia WT: 410 kg)

** This emission test was performed with 20 kg inertia weight increase.(inertia WT: 430 kg)

43. Emission Test Results:

Official Test Results		Test 1	Test 2	Test 3	Test 4		Deterioration Factors
g/km	CO	7.4				(X)	1.000
g/km	CO_2	136.1					----------
g/km	HC	0.44				(X)	1.000
g/test	Evap.	1.104				(+)	0.000

44. Certification Levels:

g/km	CO	7			
g/km	HC	0.4			
g/test	Evap.	1.104			

Application Processed by: Joseph Jegede Date: 6/8/2000 Reviewed by: [illegible] Date: 6/8/00