

State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER M-1-298
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 2000 model-year Kawasaki Heavy Industries, Ltd. exhaust emission control systems are certified as described below for four-stroke gasoline-powered motorcycles:

<u>Engine Family</u>	<u>Displacement Cubic Centimeters</u>	<u>Class</u>	<u>Exhaust Emission Control Systems & Special Features</u>
YKAXC1.47AAD	1470	III	Sequential Multiport Fuel Injection 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 emission certification values for this engine family. The designated hydrocarbons standard shall be listed on the permanent tune-up label:

<u>Hydrocarbon Standards (Corporate Average)</u>	<u>Hydrocarbons (Designated)</u>	<u>Hydrocarbons (Certification)</u>	<u>Carbon Monoxide (Standard)</u>	<u>Carbon Monoxide (Certification)</u>
<u>Grams per Kilometer</u>	<u>Grams per Kilometer</u>	<u>Grams per Kilometer</u>	<u>Grams per Kilometer</u>	<u>Grams per Kilometer</u>
1.4	0.8	0.6	12	6

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.

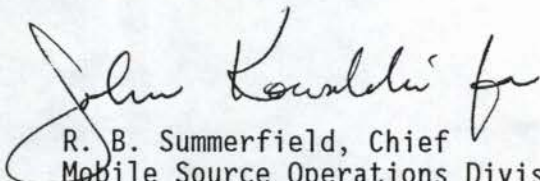
BE IT FURTHER RESOLVED: That the Executive Officer has been provided all material required to demonstrate certification compliance with the Board's emission control system warranty regulations (Title 13, California Code of Regulations, Section 2035 et seq.).

BE IT FURTHER RESOLVED: That the listed vehicle models also comply with "California Evaporative Emission Standards and Test Procedures for 1978 and Subsequent Model Motor Vehicles."

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 21st day of June 1999.


R. B. Summerfield, Chief
Mobile Source Operations Division

Engine Family: YKAXC1.47AAD

E.O. # : M-1-298

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-J2	Yes	1470	102X90	5°/950 rpm	48.5	5000	115	2500
VN1500-L1	-	1470	102X90	5°/950 rpm	48.5	5000	115	2500
<u>VN1500-N1</u>	-	1470	102X90	5°/950 rpm	48.5	5000	115	2500

New model added

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-J2	460	456~465	166.0	322	385	M-5	26.49
VN1500-L1	460	456~465	166.0	359	385	M-5	26.49
<u>VN1500-N1</u>	460	456~465	166.0	325	385	M-5	26.49

Engine Family: YKAXC1.47AAD

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-J2	Yes	1470	102X90	5°/950 rpm	48.5	5000	115	2500
VN1500-L1	-	1470	102X90	5°/950 rpm	48.5	5000	115	2500

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-J2	460	460	166.0	322	385	M-5	26.49
VN1500-L1	460	460	166.0	342	385	M-5	26.49

Motorcycle Engine Family Information Form

1.0

1. Manufacturer: KAWASAKI HEAVY INDUSTRIES, LTD.

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

Jeffrey D. Shetler / Scott Patten
 Kawasaki Motors Corp., USA.
 9950 Jeronimo Road, Irvine. CA 92618-2084
 Tel : 949-770-0400 Fax : 949-460-5602

3. Model Year: 2000

10. Displacement: 1470cm³

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

11. Number of Cylinders: 2

5. Engine Family: YKAXC1.47AAD

12. Cylinder Arrangement: Vee-Twin

50s Engine Code: -

13. Cylinder Head Configuration: SOHC

49s Engine Code: -

Calif. Engine Code: VNT50J-AC1

14. Type of Cooling: Liquid

6. Emission Control System: SFI+PAIR+OC

15. Combustion Cycle: 4

7. Calif. Designated Standard: 0.8 gm/km

16. Method of Aspiration: Natural

8. Projected Annual Sales: 600

17. Fuel System: Fuel Injected

CONFIDENTIAL

9. New Technology Yes No

18. Number of Catalytic Converters: 1

If yes, cite the correspondence or reference the submittal document: _____

19. Adjustable Parameters:

Parameter(s)	Adjustable Range (or NA)	Tamper Resistance Method (or NA)	Method Approved
Air adjuster on throttle body (Air/Fuel Ratio)	NA	an aluminum cap is placed over the adjusting screw.	Carry over

20. AECDS In the Emission Control Systems:

Exhaust System	Evaporative System
AECDS In System: <u>SFI, PAIR and OC</u>	AECDS In System: <u>Sealed loop with Canister</u>
_____	_____
_____	_____
_____	_____

Application Processed by: Joseph Jegede Date: 6/18/99 Reviewed by: [Signature] Date: 6/21/99

Engine Family: YKAXC1.47AAD

Motorcycle Test Information Form

27. Are you carrying over test results from a previously certified family? Yes No
 a) If yes, indicate family name: XKAXC1.47AAD
 b) Is the family being certified identical to the family from which the data is being carried over? Yes No
28. Model Designation of Test Vehicle: VN1500-J1
 29. Test Information Number: 99-1
 30. Vehicle ID: JKBVNAJ13XA000007
 31. Service Accumulation Duration: 15000 (km)
 32. Maximum Rated Power: 48.5 kW @ 5000 RPM
 33. Displacement: 1470 cc
 34. Certification Fuel: Indolene: 95~99 RON
 35. Test Data Set: Test 1
36. Road Load: 166.0 nt at 65 kph
 37. Inertia Mass: 460 kg
 38. N/V: 26.49
 39. EVAP. Bench Test Method Approved:
 Date: 2/17/87
 Reference: EO M-1-82
40. Unscheduled Maintenance: Yes No
 41. If yes, Vehicle Log provided: NA

42. Exhaust Emission Deterioration Factors:

Test Number	System Kilometers	Emission Values	
		HC	CO
1	3514	0.54	5.4
2	6012	0.49	5.4
3	6102	0.51	4.8
4	12013	0.49	5.4
5	12103	0.32	4.8
6	15028	0.57	5.7
7	15058	0.64	5.4
8	15088	0.61	5.5
9	15117	0.37	4.9
Interpolated Values at <u>15000</u> km:		HC = <u>0.4652</u>	CO = <u>5.3533</u>
Extrapolated Values at <u>30000</u> km:		HC = <u>0.4102</u>	CO = <u>5.6172</u>

Check one:	
Regular DF	<input checked="" type="checkbox"/>
Modified DF	<input type="checkbox"/>
If different vehicle specify vehicle ID	

- *1. This emission test was performed in order to confirm the previous EPA's approval test data which was submitted in 1999 model year certification.
 *2. This emission test was performed in order to confirm the unit aged Punched Metal Catalystr.
 *3. This emission test was performed in order to confirm the aged Honeycomb Catalystr.
 4. These emission test was performed by the letter 99ARB-11 dated of February 18, 1999.

43. Emission Test Results:

Official Test Results		Test 1	Test 2	Test 3	Test 4
g/km	CO	5.7			
g/km	CO ₂	157.1			
g/km	HC	0.57			
g/test	Evap.	1.104			

Deterioration Factors	
(X)	1.049

(X)	1.000
(+)	0.000

44. Certification Levels:

g/km	CO	<u>6</u>			
g/km	HC	<u>0.6</u>			
g/test	Evap.	1.104			

Engine Family: YKAXC1.47AAD

Evaporative Emission Information

- 45. Evaporative Family: YKAXC17.0A01
- 46. Number of Evap. Canisters: 1
- 47. Design Working Capacity: 17.0 g
- 48. Configuration: Sealed loop
- 49. Number of Storage Areas: 1
- 50. Fuel Reservoir Volume: 8 liters
- 51. Vent System Configuration: Sealed loop
- 52. Nominal Tank Capacity: 16 liters
- 53. Engine Displacement Class: III
- 54. Storage Medium Composition: Activated carbon
- 55. Evap. Canister Medium Volume: 400cm³
- 56. Evap. Family Sales: 1600
- 57. Engine Code: VNT50J-AC1
- 58. Evap. Emission Family Code: YKAXC17.0A01
- 59. Evap. Emission Family Group: CVK36-001
- 60. Overall Evap D.F. = 0.000
•Evap certification level = 1.104 g/test

Bench DF

- 61. Test Vehicle ID: JKBVNAA14HA000003
- 62. Test Results:

Test Number	System Kilometers	Evap. Emission Values (g/test)
1	3500	0.843
2	15000	0.752
3		
4		
5		
6		
7		
Interpolated Values at <u>15000</u> km: = <u>0.7520</u>		
Extrapolated Values at <u>30000</u> km: = <u>0.6333</u>		
Bench Test D.F. = <u>0.000</u>		

Check One:	
Regular DF:	<input checked="" type="checkbox"/>
Modified DF:	<input type="checkbox"/>
If different vehicle specify the vehicle ID	

Vehicle DF

- 63. Test Vehicle ID: JKBVNAA14HA000003
- 64. Test Results.

Test Number	System Kilometers	Evap. Emission Values (g/test)
1	3514	1.012
2	5124	1.163
3	5154	1.070
4	10019	0.711
5	10049	0.821
6	15013	1.104
7		
Interpolated Values at <u>15000</u> km: = <u>0.9308</u>		
Extrapolated Values at <u>30000</u> km: = <u>0.8008</u>		
Vehicle Test D.F. = <u>0.000</u>		