State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER M-6-83
Relating to Certification of New Motorcycles

BAYERISCHE MOTOREN WERKE AG

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
1BMXC01.1R21	1130, 1085 & 848	III	Multiport Fuel Injection Three Way Catalytic Converter Heated Oxygen Sensor

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:

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	0.7	0.6	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 29th day of June 2000.

R. B. Summerfield, Chief
Mobile Source Operations Division

Issued:5/15/2000
Revised:

Attachment

Engine Family: 1BMXC01.1R21

F6 # M-6-83

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)
R1150GS	X	1130	101/70.5	0° static	62	6750	98	5250
R1150R		1130	101/70.5	0° static	62	6750	98	5250
R1100RS		1085	99/70.5	0° static	66	7250	95	5500
R1100RT		1085	99/70.5	0° static	66	7250	95	5500
R1100S		1085	99/70.5	0° static	72	7500	97	5750
R850R		848	87.5/70.5	0° static	52	7000	77	5600

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
R1150GS	330	326-335	141.6	460	256	M-6	31.2
R1150R	320	316-325	139.5	450	242	M-6	31.2
R1100RS	320	316-325	139.5	450	246	M-5	34.7
R1100RT	360	356-365	147.4	490	280	M-5	35.9
R1100S	310	306-315	137.5	450	236	M-6	36.0
R850R	320	316-325	139.5	450	242	M-5	39.5

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Issued:5/15/2000
Revised:

Engine Family: 1BMXC01.1R21

Motorcycle Test Information Form

27. Are you carrying over test results from a previously certified family? X Yes ____No
    a) If yes, indicate family name: YBMXC01.1R21
    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: R1150GS

29. Test Information Number: R21

30. Vehicle ID: V 201811

31. Service Accumulation Duration: 15010 (km)

32. Maximum Rated Power: 62 kW @ 6750 RPM

33. Displacement: 1130 cc

34. Certification Fuel: 95 RON

35. Test Data Set: 1

36. Road Load: 141,6 N

37. Inertia Mass: 330 kg

38. N/V: 31,18

39. EVAP. Bench Test Method Approved:
    Date: 1996

    Reference: V 201153

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	3740	0,278	4,106
2	10014	0,335	4,437
3	10032	0,308	3,802
4	15010	0,408	5,317
5			
6			
7			
Interpolated Values at 15 000 km:		**HC = 0,3973**	**CO = 4,9491**
Extrapolated Values at 30 000 km:		**HC = 0,5674**	**CO = 6,4589**

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

43. Emission Test Results:

Official Test Results		Test 1	Test 2	Test 3	Test 4		Deterioration Factors
g/km	CO	5,317				(X)	**1,305**
g/km	CO^2	164,4					----------
g/km	HC	0,408				(X)	**1,428**
g/test	Evap.	0,870				(+)	**0,260**

44. Certification Levels:

g/km	CO	6,939			
g/km	HC	0,583			
g/test	Evap.	1,130			

Prepared by: J Hada Date 6/22/00 Reviewed by: [signature] Date: 6/27/2000

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Issued: 5/15/2000

Revised: Engine Family: 1BMXC01.1R21

Motorcycle Engine Family Information Form

1. Manufacturer: BMW Bayerische Motoren Werke AG

2. Certification Contact Person, address, phone, and fax:
   Mr.Gordon B. Keil
   BMW of North America, Inc.
   Montvale, N.J. 07645
   Phone No. 201-573 2195
   Fax No. 201-930 8402

1.5

3. Model Year: 2001

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

5. Engine Family: 1BMXC01.1R21
   50s Engine Code: X
   49s Engine Code: _____
   Calif. Engine Code: _____

6. Emission Control System: MFI, TWC, HO_2S

7. Calif. Designated Standard: 0.7 g/km HC

8. Projected Annual Sales: [redacted]

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

10. Displacement: 1130 cc; 1085 cc; 848 cc

11. Number of Cylinders: 2

12. Cylinder Arrangement: opposed

13. Cylinder Head Configuration: OHC

14. Type of Cooling: Air

15. Combustion Cycle: 4 stroke

16. Method of Aspiration: natural

17. Fuel System: MFI

18. Number of Catalytic Converters: 1

19. Adjustable Parameters:

Parameter(s)	Adjustable Range (or NA)	Tamper Resistance Method (or NA)	Method Approved
Ignition timing	N.A.	N.A.	
Idle speed	1000 + 150 RPM (R1100RS/RT;)	N.A.	
Idle speed	1100 ± 50 RPM (R1150GS; R1150R; R850R; R1100S)	N.A.	

20. AECDs In the Emission Control Systems:

Exhaust System		Evaporative System	
AECDs In System:	ECM Fuel pressure regulator Engine oil temperature sensor Air temperature sensor Throttle position sensor Oxygen sensor Cold start lever	AECDs In System:	Purge valve