

State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER M-6-75
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 2000 model-year Bayerische Motoren Werke AG 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>
YBMC01.1R21	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:

<u>Hydrocarbon Standards (Corporate Average)</u>		<u>Hydrocarbons (Certification)</u>		<u>Carbon Monoxide (Standard) (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>	<u>Grams per Kilometer</u>
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.

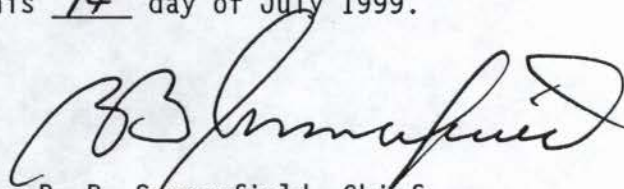
BE IT FURTHER RESOLVED: That the Executive Officer has been provided all material required to demonstrate certification compliance with the Board's emission control system warranty regulations (Title 13, California Code of Regulations, Section 2035 et seq.).

BE IT FURTHER RESOLVED: That the listed vehicle models also comply with "California Evaporative Emission Standards and Test Procedures for 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 14th day of July 1999.



R. B. Summerfield, Chief
Mobile Source Operations Division

Motorcycle Model Summary Form

65. Model Designation	66. Wors t 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
R1100RS		1085	99/70,5	0° static	66	7250	95	5500
R1100RT		1085	99/70,5	0° static	66	7250	95	5500
R1100R		1085	99/70,5	0° static	59	6750	97	5250
R1100S		1085	99/70,5	0° static	72	7500	97	5750
R850R		848	87,5/70,5	0° static	52	7000	77	5500

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
R1100RS	320	316-325	139,5	450	246	M-5	34,7
R1100RT	360	356-365	147,4	490	280	M-5	35,9
R1100R	320	316-325	139,5	450	242	M-5	37,0
R1100S	310	306-315	137,5	450	236	M-6	36,0
R850R	320	316-325	139,5	450	242	M-5	39,5

Engine Family: YBMXC01.1R21

Motorcycle Test Information Form

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

28. Model Designation of Test Vehicle: R1150GS

36. Road Load: 141.6 N

29. Test Information Number: R21

37. Inertia Mass: 330 kg

30. Vehicle ID: V 201811

38. N/V: 31,18

31. Service Accumulation Duration: 15010 (km)

39. EVAP. Bench Test Method Approved:

Date: 1996

32. Maximum Rated Power: 62 kW @ 6750 RPM

Reference: V 201153

33. Displacement: 1130 cc

40. Unscheduled Maintenance: ___ Yes No

34. Certification Fuel: 95 RON

41. If yes, Vehicle Log provided: _____

35. Test Data Set: 1

42. Exhaust Emission Deterioration Factors:

Test Number	System Kilometers	Emission Values	
		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 <u>15 000 km</u> :		HC = <u>0,3973</u>	CO = <u>4.9491</u>
Extrapolated Values at <u>30 000 km</u> :		HC = <u>0,5674</u>	CO = <u>6.4589</u>

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

43. Emission Test Results:

Official Test Results		Test 1	Test 2	Test 3	Test 4
g/km	CO	5,317			
g/km	CO ²	164,4			
g/km	HC	0,408			
g/test	Evap.	0,870			

(X)

(X)

(+)

Deterioration Factors
<u>1,305</u>

<u>1,428</u>
<u>0,260</u>

44. Certification Levels:

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

2000 / BMW Motorcycle

Section: 7: Page: 1

Issued: 4/16/99

EO# A-6-75

Revised:

Motorcycle Engine Family Information Form

1. Manufacturer: BMW
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
 0.56
3. Model Year: 2000
4. Process Code: new
 (new, correction, revision, r/c, f/f, etc.)
5. Engine Family: YBMXC01.1R21
 50s Engine Code: X
 49s Engine Code: _____
 Calif. Engine Code: _____
6. Emission Control System: MFI, TWC, HO,S
7. Calif. Designated Standard: 0.7 g/km HC
8. Projected Annual Sale: total
California
9. New Technology ___ Yes 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: FI
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	1050 ± 50 RPM (R1150GS)	N.A.	
Idle speed	1000 ± 150 RPM (R1100RS/RT/R; R850R)	N.A.	
Idle speed	1100 ± 50 RPM (R1100S)	N.A.	

20. AECs In the Emission Control Systems:

Exhaust System	Evaporative System
AECs In System: <u>ECM</u> <u>Fuel pressure regulator</u> <u>Engine oil temperature sensor</u> <u>Air temperature sensor</u> <u>Throttle position sensor</u> <u>Oxygen sensor</u> <u>Cold start lever</u>	AECs In System: <u>Purge valve</u> _____ _____ _____ _____

Engine Family: YBMXC01.1R21

Evaporative Emission Information

- | | |
|---|---|
| 45. Evaporative Family: <u>YBMXC0040R21</u> | 53. Engine Displacement Class: <u>III</u> |
| 46. Number of Evap. Canisters: <u>1</u> | 54. Storage Medium Composition: <u>charcoal</u> |
| 47. Design Working Capacity: <u>40 g</u> | 55. Evap. Canister Medium Volume: <u>725 cm³</u> |
| 48. Configuration: <u>metal can</u> | 56. Evap. Family Sales (<u>California</u>) |
| 49. Number of Storage Areas: <u>1</u> | 57. Engine Code: <u>50s</u> |
| 50. Fuel Reservoir Volume: <u>25 l</u> | 58. Evap. Emission Family Code: <u>50s</u> |
| 51. Vent System Configuration: <u>purge</u> | 59. Evap. Emission Family Group: <u>NA</u> |
| 52. Nominal Tank Capacity: <u>25 l</u> | 60. Overall Evap D.F. = <u>0,260</u> |

Bench DF

61. Test Vehicle ID: V 201153

62. Test Results:

Test Number	System Kilometers	Evap. Emission Values (g/test)
1	3500	0,377
2	10000	0,323
3	15000	0,473
4		
5		
6		
7		
Interpolated Values at <u>15000 km</u>: = <u>0,433</u>		
Extrapolated Values at <u>30000 km</u>: = <u>0,547</u>		
Bench Test D.F. = <u>0,114</u>		

Check One:	
Regular DF:	X
Modified DF:	
If different vehicle specify the vehicle ID	

Vehicle DF

63. Test Vehicle ID: V 201811

64. Test Results.

Test Number	System Kilometers	Evap. Emission Values (g/test)
1	3740	0,56
2	10014	0,76
3	10032	0,63
4	15010	0,87
5		
6		
7		
Interpolated Values at <u>15000 km</u>: = <u>0,849</u>		
Extrapolated Values at <u>30000 km</u>: = <u>1,255</u>		
Vehicle Test D.F. = <u>0,407</u>		

Processed by: R. Runy 6/30/99

Reviewed by: Joseph Jezede 7/7/99