

State of California  
AIR RESOURCES BOARD

EXECUTIVE ORDER A-8-49  
Relating to Certification of New Motor Vehicles

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 Orders G-45-3 and G-45-4;

IT IS ORDERED AND RESOLVED: That 1988 model-year Bayerische Motoren Werke AG exhaust emission control systems are certified as described below for gasoline-powered passenger cars:

| <u>Engine Family</u> | <u>Displacement<br/>Liters (Cubic Inches)</u> | <u>Exhaust Emission Control Systems<br/>(Special Features)</u>                 |
|----------------------|---|--|
| JBM2.5V5F358         | 2.5 (152.2)                                   | Heated Oxygen Sensor<br>Three-Way Catalyst<br>(Electronic Port Fuel Injection) |

Vehicle models, transmissions, engine codes and evaporative emission control families are listed on attachments.

The following are the emission standards for this engine family:

| <u>Hydrocarbons<br/>Grams per Mile</u> | <u>Carbon Monoxide<br/>Grams per Mile</u> | <u>Nitrogen Oxides<br/>Grams per mile</u> |
|--|---|---|
| 0.41                                   | 7.0                                       | 0.7                                       |

The following are the certification emission values for this engine family:

| <u>Hydrocarbons<br/>Grams per Mile</u> | <u>Carbon Monoxide<br/>Grams per Mile</u> | <u>Nitrogen Oxides<br/>Grams per Mile</u> |
|--|---|---|
| 0.30                                   | 2.6                                       | 0.2                                       |

BE IT FURTHER RESOLVED: That the listed models were certified to the optional NOx emission standard thereby making the vehicle manufacturer subject to Section 1960.1.5 of Title 13, California Administrative Code which includes recall liability for emission control components up to 7 years or 75,000 miles if found defective by the Executive Officer.

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

BE IT FURTHER RESOLVED: That the listed vehicle models also comply with the Board's "Specifications for Fill Pipes and Openings of Motor Vehicle Fuel Tanks" (Title 13, California Administrative Code, Section 2290) for the aforementioned model-year.

BE IT FURTHER RESOLVED: That the listed vehicle models also comply with the Board's high altitude requirements and highway emission standards as stipulated in "California Exhaust Emission Standards and Test Procedures for 1988 and Subsequent Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles".

BE IT FURTHER RESOLVED: That the listed vehicle models also comply with the "California Motor Vehicle Tune-Up Label Specifications" (Title 13, California Administrative Code, Section 1965) for the aforementioned model year.

BE IT FURTHER RESOLVED: That the vehicle models listed have been granted an exemption from compliance with the requirements of the "Malfunction and Diagnostic System for 1988 and Subsequent Model Year[s] ..." (Title 13, California Administrative Code, Section 1968) for the aforementioned model year.

BE IT FURTHER RESOLVED: That for the listed vehicles, the manufacturer has submitted and the Executive Officer hereby approves the materials to demonstrate certification compliance with the Board's emission control system warranty regulations (Title 13, California Administrative Code, Section 2035 et seq.).

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

The Bureau of Automotive Repair will be notified by copy of this order and attachment.

Executed at El Monte, California this 6<sup>th</sup> day of October, 1987.

  
K. D. Drachand, Chief  
Mobile Source Division



# ENGINEERING EMISSION CONTROL

17 - 29

Section 17.03.00

## ARB Supplemental Data Sheets

Manufacturer BMW  
Evaporative Family EY 40

E. O. A-8-49  
Engine Family JBM2,5V5F358  
Engine Type 4 cycle, inline  
Liters (CID) 2.5 l  
(152.2 cu. in.)

### ABBREVIATIONS

#### Ignition System

CA-Centrifugal Advance  
EEC-Electronic Engine Control  
EI-Electronic Ignition  
ESAC-Electronic Spark Advance Control  
VA-Vacuum Advance  
VR-Vacuum Retard  
BMCU-Bosch Motronic Control Unit  
EID-Electronic Ignition Distributor

#### Special Features

CCV-Combustion Chamber Valve  
CFI-Central Fuel Injection  
DID-Diesel Injection-Direct  
DIP-Diesel Injection-Prechamber  
EFI-Electronic Fuel Injection  
IC-Intercooler or aftercooler  
MFI-Mechanical Fuel Injection  
TC-Turbocharged  
▶ OBD-On-Board Diagnostics

#### Exhaust Emission Control System

AIP-Air Injection-Pump  
AIV-Air Injection-Valve  
DBC-Dual Bed Catalyst  
EGR-Exhaust Gas Recirculation  
EM-Engine Modification  
OC-Oxidation Catalyst System  
SPL-Smoke Puff Limiter or Throttle Delay  
TOC-Trap Oxidizer, Continual  
TOP-Trap Oxidizer, Periodical  
OS-Oxygen Sensor  
HOS-Heated Oxygen Sensor  
EIC-Electronic Injection Control  
TWC-Three-Way Catalyst

#### Fuel System

CFI, CL, DID, DIP, EFI, MFI  
nV-nVenturi Carburetor  
FI-Fuel Injection Valves  
BMCU-Bosch Motronic Control Unit  
AFM-Air Flow Meter

Vehicle Model(s): BMW 325i, 325is, 325i Conv., 325iX

DRIVE SYSTEM: Front engine, rear wheel drive  
Front engine, 4-wheel drive (325iX)

|            |      |  |  |  |              |                |
|------------|------|--|--|--|--------------|----------------|
| ISSUE DATE | REV. |  |  |  | SATISFACTORY | UNSATISFACTORY |
| 6/1/87     | DATE |  |  |  | DATE         | NAME           |



# ENGINEERING EMISSION CONTROL

17 - 30

## AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET

ED # A-8-49

Passengers Cars     Light-Duty Trucks     Medium-Duty Vehicles

Gas     Diesel

Manufacturer BMW    Engine Family JBM2.5V5F358

Liter (CID) 2 494 cu. cm    Eng. Type 4 cycle, inline

ECS (Special Features) TWC, HOS, EIC

| Engine Code | Vehicle Model(s) | Trans. Type | Equiv. Test Weight | Ign. System Part No. | Fuel System Part No. | Catalyst Part No. |
|-------------|------------------|-------------|--------------------|----------------------|----------------------|-------------------|
| 2.5/3 M5    | 325i<br>325is    | manual      | 3 125 lbs.         | BMCU                 | BMCU                 | 1 711 838         |
|             |                  |             |                    | 0 261 200 153        | 0 261 200            | 1 711 848         |
| 2.5/3 A4-4  | 325i<br>325is    | autom.      | 3 250 lbs.         | 0 261 200 173        | 153                  |                   |
|             |                  |             |                    |                      | 0 261 200 173        |                   |
| 2.5/3 M5-C  | 325i<br>Conv.    | manual      | 3 375 lbs.         | EID                  | AFM                  |                   |
| 2.5/3 A4-C  | 325i<br>Conv.    | autom.      | 3 375 lbs.         | 1 235 522            | 0 280 202            |                   |
|             |                  |             |                    | 365                  | 082                  |                   |
| 2.5/3M5-X-2 | 325iX            | manual      | 3 250 lbs.         |                      | FI                   |                   |
| 2.5/3M5-X-4 | 325iX            | manual      | 3 375 lbs.         |                      | 0 280 150            |                   |
| 2.5/3A4-X   | 325iX            | autom.      | 3 375 lbs.         |                      | 715                  |                   |

Comments: See the preceding page for abbreviations and evaporative emission family identification. For dyno test HP settings refer to the test vehicle requirements list.

|            |      |              |  |              |                |
|------------|------|--------------|--|--------------|----------------|
| ISSUE DATE | REV. | 03/29/88     |  | SATISFACTORY | UNSATISFACTORY |
| 6/1/87     | DATE | RC# 88-2.5-6 |  | DATE         | NAME           |



# ENGINEERING EMISSION CONTROL

## TEST VEHICLE REQUIREMENTS

| Engine Family | Model Type    | Equiv. Test Weight (lbs.) | Actual Road Load Power (hp) |
|---------------|---------------|---------------------------|-----------------------------|
| JBM2.5V5F358  | 325i, 325is   | 3 125                     | 8.9                         |
|               | 325iA, 325isa | 3 250                     | 9.2                         |
|               | 325i Conv.    | 3 375                     | 8.3                         |
|               | 325iA Conv.   | 3 375                     | 8.3                         |
|               | 325iX         | 3 250<br>3 375            | 9.2<br>9.3                  |
|               | 325iXA        | 3 375                     | 9.3                         |

17 - 31

EO # A-8-49

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|------------|----------|--------------|----------------|
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