

State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER A-8-98
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 Order G-45-9;

IT IS ORDERED AND RESOLVED: That 1996 model-year Bayerische Motoren Werke AG exhaust emission control systems are certified as described below for passenger cars:

Fuel Type: Gasoline

Engine Family: TBM4.4VJGFEK Displacement: 4.4 Liters (268.4 Cubic Inches)

Exhaust Emission Control Systems and Special Features:

Dual Three Way Catalytic Converters
Dual Heated Oxygen Sensors (two)
Sequential Multiport Fuel Injection

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

The certification exhaust emission standards (in-use compliance standards in parentheses) for this engine family in grams per mile are:

<u>Miles</u>	<u>Non-Methane Hydrocarbons</u>	<u>Carbon Monoxide</u>	<u>Nitrogen Oxides</u>	<u>Carbon Monoxide (20°F)</u>
50,000	0.25 (0.32)	3.4 (5.2)	0.4 (0.4)	10.0 (10.0)
100,000	0.31 (n/a)	4.2 (n/a)	0.6 (n/a)	n/a

The certification exhaust emission values for this engine family in grams per mile are:

<u>Miles</u>	<u>Non-Methane Hydrocarbons</u>	<u>Carbon Monoxide</u>	<u>Nitrogen Oxides</u>	<u>Carbon Monoxide (20°F)</u>
50,000	0.14	0.9	0.2	7.0
100,000	0.16	1.1	0.2	n/a

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

BE IT FURTHER RESOLVED: That the vehicle manufacturer is certifying the listed vehicle models to the aforementioned exhaust emission standards based on its submitted plan to comply with the fleet average non-methane organic gas (NMOG) exhaust mass emission requirements as set forth 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 under the submitted NMOG fleet average compliance plan, if the manufacturer incurs a NMOG debit for the aforementioned model year based on the projected NMOG fleet average exceeding the value required by the above-referenced standards and test procedures, all incurred NMOG debits by the manufacturer shall be equalized as required by the standards and test procedures.

BE IT FURTHER RESOLVED: That, based on a separate compliance plan submitted by the vehicle manufacturer, the listed vehicle models are permitted alternative in-use compliance as set forth 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 submitted alternative in-use compliance plan satisfies the requirement that a maximum of 20 percent of the manufacturer's projected sales of 1996 model-year California-certified passenger cars and light-duty trucks will be subject to alternative in-use compliance as stipulated in the above-referenced standards and test procedures.

BE IT FURTHER RESOLVED: That the vehicle manufacturer is certifying the listed vehicle models to the 50,000-mile evaporative emission standards applicable to 1980 through 1994 model-year vehicles in the "California Evaporative Emission Standards and Test Procedures for 1978 and Subsequent Model Motor Vehicles", and the listed vehicle models comply with those standards.

BE IT FURTHER RESOLVED: That, based on the evaporative emission phase-in compliance schedule submitted by the vehicle manufacturer, the listed vehicle models shall not be subject to the running loss and useful life standards set forth in the "California Evaporative Emission Standards and Test Procedures for 1978 and Subsequent Model 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" for the aforementioned model year (Title 13, California Code of Regulations, Section 2235).

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

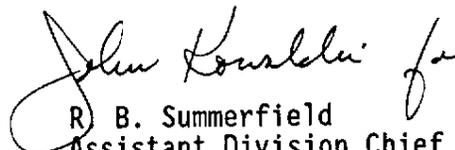
BE IT FURTHER RESOLVED: That the listed vehicle models also comply with the "Malfunction and Diagnostic System Requirements--1994 and Subsequent Model-Year Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles and Engines" (Title 13, California Code of Regulations, Section 1968.1) for the aforementioned 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 provisions (Title 13, California Code of Regulations, 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 21st day of December 1995.


R. B. Summerfield
Assistant Division Chief
Mobile Source Division



**1996 AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET
PASSENGER CARS, LIGHT DUTY TRUCKS AND MEDIUM DUTY VEHICLES**

Manufacturer : BMW Exh Engine Family : TBM4.4VJGFEK Evap. Fam: TBM1045CYMA0 (740i)
TBM1035DYPA0 (840i)

All Eng Codes in Eng Fam: CA 49S 50S X AB965

Exh Std: CA Tier-1 X TLEV LEV ULEV ZEV ; US EPA Tier-1 X

Evap Std: 50K X Useful Life with R/L In-Use Exh Std: Full In Use Alt In Use X

Veh Class(es): PC X LDT1 LDT2 MDV1 MDV2 MDV3 MDV4 MDV5

Single Cert Std for Multi - Class Eng Fam: N/A (specify: N/A, LDT1, MDV1, MDV2, MDV3, MDV4)

Fuel Type (s): Dedicated Flex-Fuel Dual Fuel Bi - Fuel Gasoline X Diesel
CNG LNG LPG M85 Other (specify) _____

Emiss Test Fuel (s): Indo Ph2 X CNG LPG M85 Other (specify) _____
 Diesel: 13 CCR 2282 40 CFR86.113-90 40 CFR86.113-94

Service Accum: Std AMA Mod AMA Mfr ADP X Other (specify) _____

NMOG Test Procedure: N/A Std Equip R/L Test Proc: SHED Pt Source

Hybrid: Type A B C , APU Cycle (e.g., Otto, Diesel, Turbine) _____

Engine Configuration: V - 8 Displacement: 4.4 Liters 268.4 Cubic Inches

Valves per Cylinder: 4 Rated HP: 282 @ 5 700 RPM

Engine: Front X Mid Rear Drive: FWD RWD X 4WD-FT 4WD-PT

Exhaust ECS: 2TWC,2 HO2S-2, SFI

Engine Code (50 ST)	Vehicle Models	Trans. Type	ETW (lbs.)	DPA or RLHP (hp)	Ignition (ECM/PCM) Part No.	EGR System Part No.	Catalytic Converter Part No.
4.4/7 A5	740iL	L5	4 500		1 472 350		1 745 243 1 745 244
4 4/8 A5	840Ci	L5/MS	4 500		1 427 348		



E.O.#A-8-98

**1996 AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET
PASSENGER CARS, LIGHT DUTY TRUCKS AND MEDIUM DUTY VEHICLES**

1.533

Manufacturer: BMW Exh Engine Family: TBM4.4VJGFEK Evap. Fam: TBM1045CYMA0 (740iL)
TBM1035DYPA0 (840Ci)

All Eng Codes in Eng Fam: CA 49S 50S X AB965

Exh Std: CA Tier-1 X TLEV LEV ULEV ZEV ; US EPA Tier-1 X

Evap Std: 50K X Useful Life with R/L In-Use Exh Std: Full In Use Alt In Use X

Veh Class(es): PC X LDT1 LDT2 MDV1 MDV2 MDV3 MDV4 MDV5

Single Cert Std for Multi - Class Eng Fam: N/A (specify: N/A, LDT1, MDV1, MDV2, MDV3, MDV4)

Fuel Type (s): Dedicated Flex-Fuel Dual Fuel Bi - Fuel Gasoline X Diesel

CNG LNG LPG M85 Other (specify)

Emiss Test Fuel (s): Indo Ph2 X CNG LPG M85 Other (specify)

Diesel: 13 CCR 2282 40 CFR86.113-90 40 CFR86.113-94

Service Accum: Std AMA Mod AMA Mfr ADP X Other (specify)

'MOG Test Procedure: N/A Std Equiv R/L Test Proc: SHED Pt Source

Hybrid: Type A B C , APU Cycle (e.g., Otto, Diesel, Turbine)

Engine Configuration: V - 8 Displacement: 4.4 Liters 268.4 Cubic Inches

Valves per Cylinder: 4 Rated HP: 282 @ 5 700 RPM

Engine: Front X Mid Rear Drive: FWD RWD X 4WD-FT 4WD-PT

Exhaust ECS: 2TWC, 2HO2S-2, SFI

	Section		Section	
1	Authorized Representative	01.00.00	21	Gen Std, Increase in Emissions
2	Fuel Specifications	03.00.00		Safety, Meets all Requirements
3	Test Equipment	04.00.00	22	Emiss. Label Durability St.
4	Test Procedure	05.00.00	23	Driveability Statement
5	Mileage Accumulation Route	05.00.00	24	Adjustable Parameters
6	Emiss.Warranty Statement(St.)	17.01.00	25	Tamper Resistance Method(s)
7	Maint: Cert/Req'd/Recm'd	06.00.00	26	Fill Pipe Specifications
8	Emiss.Label/Vac. Hose Diag.	07.00.00	27	High Altitude Compliance
9	Evap. Control System	08.11.00	28	OBD Sys.incl.Marked Revisions
10	Engine Parameters	20.01.00	29	I&M Test Procedure & Data
11	Fuel System	08.01.00	30	50 Degree F Compliance
12	Ignition System	08.02.00	31	Manufacturer's RAF
13	Exhaust Control Systems	08.10.00	32	Phase In Plans: Exh Cert Stds
14	Projected Sales (LDT/MDV Split)	17.01.00		Exh In-Use Stds
15	Vehicle Description	22.00.00		Evap Cert Stds
16	Evap. Bench Test Procedure	17.01.00	33	NMOG Fleet Average Calculation
17	R/L Temp & Press Profiles	n/a	34	AB965 Credits/Withdrawals
18	EDV Selection	17.01.00	35	EPA Certificate
19	Prod.Veh.same as Test Veh.St.	17.01.00	36	Equiv NMOG Proc--ARB Approval

20	Test Veh. Information	Durability Data Vehicle	Emission Data Vehicle	Emission Data Vehicle	Emission Data Vehicle
	C/O or C/A				
	MY & ID	96 C C61 000	96 D G42 901		
	Vehicle Log Page(s)	22.01.00	22.02.00		
	Zero Mile Books	—	—		
	Maint. Logs & Engr. Eval.	22.01.00	22.02.00		



**1996 AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET
PASSENGER CARS, LIGHT DUTY TRUCKS AND MEDIUM DUTY VEHICLES**

Manufacturer: BMW
 Exhaust Engine Family: TBM4.4VJGFEK
 Evaporative Family: TBM1045CYMA0 (74DL)
TBM1036DYPA0 (84DL)

Vehicle ID ⁽³⁾	Code (Displ)	Test Location	Trans- mission	ETW	DPA or RLHP	MPG City/Hwy
1. D G42 901 (Type 00)	4.4/7 A5	BMW	L5	4 500 lbs.	7.3	18.4/29.8
2. D G42 901 (Type 01)	4.4/8 A5	BMW	L5	4 500 lbs.	7.5	17.9/28.4
3. C B72 000	S.O/8 A4	BMW	L4	4 500 lbs.	7.5	13.6/23.1

Projected Emissions (1) & (2)
(g/mi, except mg/mi for HCHO and g/test for D+HS)

Test Fuel: CARB Phase II	OMNMHCE X NMHC NMOG	CO	NOx	HCHO	20°F CO	PM	Hwy NOx	City CO ₂	Evaporative		
									X 50K 3-day D+HS	2-day D+HS	R/L
									1. D G42 901 (Type 00) 50K	0.144	0.90
100K	0.157	1.06	0.20	n.a.	n.a.	n.a.	0.08	n.a.	n.a.	n.a.	n.a.
2. D G42 901 (Type 01) 50K	0.131	0.74	0.20	n.a.	n.a.	n.a.	0.05	482	n.a.	n.a.	n.a.
100K	0.144	0.86	0.23	n.a.	n.a.	n.a.	0.05	n.a.	n.a.	n.a.	n.a.
3. C B72 000 (Evap only)	50K 0.184	1.47 1.72	0.177 0.205	n.a.	n.a.	n.a.	-	-	0.75		
100K	0.207	1.72	0.205	n.a.							
(1) The EDV's above comply with the standards of (@ 50K):	0.25	3.4	0.4	n.a.	10.0		0.53	n.a.	2.0	n.a.	n.a.
standards of (@ 100K):	0.31	4.2	0.6	n.a.	n.a.		0.80	n.a.	n.a.	n.a.	n.a.
and includes deterioration factors of (@ 50K):	1.105	1.206	1.177	n.a.	1.206	n.a.	1.177	n.a.	0.0	n.a.	n.a.
factors of (@ 100K):	1.209	1.411	1.354	n.a.	n.a.	n.a.	1.354	n.a.	n.a.	n.a.	n.a.

and an Reactivity Adjustment
Factor (RAF) for NMOG of:

Methane
NMOG n.a (CNG or LNG only) n.a

TLEV/LEV/ULEV 50° F

emissions (w/RAF but w/o DF's):

TLEV/LEV/ULEV 50° F standards:

				Exempted	<u>n.a</u>
				Exempted	<u> </u>

Veh DF: 0.0 Bench DF 0.0 = 0.0 TBM1045CYMA0

(2) Evap DF is average of:

50K or 3-day D+HS: Veh DF: 0.0 and Bench DF: 0.0 = 0.0 TBM1036DYPA0
 2-day D+HS: Veh DF: n.a and Bench DF: n.a
 R/L: Veh DF: n.a and Bench DF: n.a

(3) List configuration with the highest projected sales first

Remarks fully compliant OBD2

Application

Processed by: R. Perry

Date: 12/19/95

Reviewed by: Steve Hodge

Date: 12/19/95

ISSUE DATE

09/04/95