State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER A-220-55
Relating to Certification of New Motor Vehicles

JAGUAR CARS LIMITED

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 Jaguar Cars Limited exhaust emission control systems are certified as described below for passenger cars:

Emission Standard Category: Low-Emission Vehicle (LEV)

Fuel Type: Gasoline

Engine Family: YJCXV04.0BN4 Displacement: 4.0 Liters (243 Cubic Inches)

Exhaust Emission Control Systems and Special Features:

Dual Three Way Catalytic Converters
Dual Heated Oxygen Sensors
Dual Universal Heated Exhaust Gas Oxygen (Air/Fuel) Sensors
Sequential Multiport Fuel Injection

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

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

| Miles | Non-Methane Organic Gas | Carbon Monoxide | Nitrogen Oxides | Formaldehyde | Carbon Monoxide (20°F) |
|---|---|---|---|---|---|
| 50,000 | 0.075 | 3.4 | 0.2 | 0.015 | 10.0 |
| 100,000 | 0.090 | 4.2 | 0.3 | 0.018 | n/a |

Reactivity Adjustment Factor (RAF) for NMOG Mass Emissions: 0.94

The certification emission values set forth for non-methane organic gas (NMOG) reflect application of a 0.94 RAF for 2000 model-year LEVs. The LEV certification exhaust emission values for this engine family in grams per mile are:

| Miles | Non-Methane Organic Gas | Carbon Monoxide | Nitrogen Oxides | Formaldehyde | Carbon Monoxide (20°F) |
|---|---|---|---|---|---|
| 50,000 | 0.063 | 0.6 | 0.04 | 0.001 | 3.2 |
| 100,000 | 0.071 | 0.8 | 0.04 | 0.001 | n/a |

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 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 the vehicle manufacturer is certifying the listed vehicle models to the running loss and useful life standards applicable to 1995 and subsequent 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 the vehicle manufacturer is certifying the listed vehicle models to the "California Refueling Emission Standards and Test Procedures for 1998 and Subsequent Model Motor Vehicles," Title 13, California Code of Regulations, Section 1978, and the listed vehicle models comply with those standards.

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 "California Motor Vehicle Emission Control and Smog Index Label Specifications" for the aforementioned model year (Title 13, California Code of Regulations, Section 1965.)

BE IT FURTHER RESOLVED: That the manufacturer is certifying the listed vehicle models with a partially complying on-board diagnostic system for the aforementioned model year pursuant to Title 13, California Code of Regulations, Section 1968.1(m)(6.2) ("Malfunction and Diagnostic System Requirements--1994 and Subsequent Model-Year Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles and Engines.")

BE IT FURTHER RESOLVED: That the vehicle manufacturer has demonstrated compliance with the exhaust emission standards at 50 degrees Fahrenheit 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 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 14th day of September 1999.

R. B. Summerfield, Chief
Mobile Source Operations Division

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06.01.01 **2000 AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET**

**PASSENGER CARS, LIGHT-DUTY TRUCKS & MEDIUM-DUTY VEHICLES**

Manufacturer: Jaguar Cars Ltd Exh Eng Fam: YJCXV04.0BN4 Evap Fam: YJCXR0121M2X

All Eng. Codes in Eng. Fam: CA _ 49S _ 50S X AB965 _ ; ORVR: YES X NO _

Exh Std: **CA** - Tier-1 _ TLEV _ LEV X ULEV _ SULEV _ ; **US EPA** - LEV X

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

Single Cert Std for Muti-Class Eng Fam: N/A

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

Emission Test Fuel(s): Indo _ CBG X CNG _ LPG _ M85 _ Other _
Diesel: 13 CRR 2282 _ 40CFR86.113-90 _ 40CFR86.113-94 _

Evaporative Emission Test Procedure: California _ Federal X

Service Accum: Std AMA X Mod AMA _ Mfr ADP _ Other _

NMOG Test Procedure: N/A _ Std X Equiv _ ; R/L Test Proc: SHED _ Pt Source X

Engine Configuration: V8 Displacement: 4.0 liters 243 cubic inches

Valves per Cylinder: 4 Rated HP: 290 @ 6100

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

Exhaust ECS: 2UHEGO:2TWC:2HO2S:SFI

| Engine Code | Vehicle Models | Trans A- Auto M- Man | ETW | DPA | ECM Part No | EGR System Part No | Catalytic Converter Part No. |
|---|---|---|---|---|---|---|---|
| **4.0HFC-00** | **4-DR Sedans** | | | | | | |
| | XJ8 | A | 4250 | 7.0 | LNF1410BB or LNF1410BC | N/A | NNE6700GD NNE6701GD |
| | XJ8L Vanden Plas | | | | | | |
| | **2-DR Sports** | | | | | | |
| | XK8 Coupe | A | 4000 | 6.8 | LNF1410BB or LNF1410BC | N/A | NNE6700GD NNE6701GD |
| | XK8 Convertible | A | 4250 | 7.3 | LNF1410BB or LNF1410BC | N/A | NNE6700GD NNE6701GD |