

State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER A-277-3
Relating to Certification of New Motor Vehicles

LAND ROVER LTD.

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 1989 model-year Land Rover Ltd. exhaust emission control systems are certified as described below for gasoline-powered light-duty trucks:

<u>Engine Family</u>	<u>Displacement Liters (Cubic Inches)</u>	<u>Exhaust Emission Control Systems (Special Features)</u>
KLR3.9T5FSS4	3.95 (240)	Dual Heated Oxygen Sensors Dual Three-Way Catalyst (Electronic Port Fuel Injection) No On-Board Diagnostics (Exempted)

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>Loaded Vehicle Weight(lbs.)</u>	<u>Hydrocarbons (Grams per Mile)</u>	<u>Carbon Monoxide (Grams per Mile)</u>	<u>Nitrogen Oxides (Grams per Mile)</u>
3751-5750	0.50	9.0	1.0

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

<u>Loaded Vehicle Weight(lbs.)</u>	<u>Hydrocarbons (Grams per Mile)</u>	<u>Carbon Monoxide (Grams per Mile)</u>	<u>Nitrogen Oxides (Grams per Mile)</u>
3751-5750	0.15	0.8	0.2

BE IT FURTHER RESOLVED: That the listed models are 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 vehicle manufacturer is certifying to the optional NOx standard by providing evidence that there are sufficient projected sales of vehicles certifying to the primary NOx emission standard, or is allowed a delay in implementation under small volume manufacturer provisions, or is allowed a delay in implementation under the "in lieu" standards, or is certifying passenger cars weighing more than 5250 lbs. loaded vehicle weight.

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 4th day of August, 1988.


K. D. Drachand, Chief
Mobile Source Division

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Manufacturer LAND ROVER LTD. Engine Family KLR3.9T5FSS4
 Evaporative Family RAFI Engine Type 4-STROKE/90°V8
 Liters (CID) 3.948 (240)

ABBREVIATIONS

Ignition System

CA-Centrifugal Advance
 ECU-Electronic Control Unit
 EI-Electronic Ignition
 ESAC-Electronic Spark Advance Control
 VA-Vacuum Advance
 VR-Vacuum Retard

I System

CFI, EPFI, MPFI, SFI,
 DID, DIP, HOS, OS
 nV-nVenturi Carburetor
 VV-Variable Venturi Carburetor

Exhaust Emissions Control System

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

Special Features

CFI-Central Fuel Injection or Throttle Body Injection
 EPFI-Electronic Port Fuel Injection
 MPFI-Mechanical Port Fuel Injection
 SFI-Sequential Fuel Injection
 DID-Diesel Injection-Direct
 DIP-Diesel Injection-Prechamber
 TC-Turbocharger
 SC-Supercharger
 IC-Intercooler or Aftercooler
 CCV-Combustion Chamber Valve
 OBD-On-Board Diagnostics

VEHICLE MODELS:

RANGE ROVER

Engine: Front X Mid. _____ Rear _____
 Drive: FWD _____ RWD _____ 4WD Full Time X 4WD Part Time _____

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Passenger Cars _____ Light-Duty Trucks X Medium-Duty Vehicles _____ Gas X Diesel _____

Manufacturer LAND ROVER LTD. Engine Family KLR3.9T5FSS4

Liter (CID) 3.948 (240) Eng. Type 4-STROKE/90°V8

Emission Control Sys. (Special Features) EFFI:2-TWC/2-HCS

Engine Code	Vehicle Models (If Coded see attachment) (Dyno Hp)	Trans. Type	Equiv. Test Weight	Ign. System (ECU) Part No.	Fuel System Part No.	EGR Valve Part No.	Catalyst Part No.
3.9LCF-89	RANGE ROVER (13.7)	A-4	4750	CA:VA:EI (PRC 6999)	EFFI 84913	N/A	2-TWC NTC 5576 NTC 5577

Comments: See page one for abbreviations and evaporative emission family identification. Please refer to manufacturer's HP list for correct dyno test HP settings based on model and equipment. If two test weights are listed, the lower weight will be used for testing.

Date of Issue 4.7.88

Revisions: