

SESSION 2002	Page : 1/2
Examen : Diplôme d'Expert Automobile	Durée : 2h00
Epreuve : Langue vivante étrangère : ANGLAIS	Coef : 1

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A CAR WITH A HEALTHY AIR

A French engineer has invented an urban car that runs only on the air around us. The first ZP taxi – ZP stands for zero pollution – will be unveiled in Provence later this month before going into mass production in Mexico.

5 The inventor, Guy Nègre, opened his engine laboratory at Brignoles in the Var three years ago to perfect a motor that runs on a tankful of compressed air. In urban road trials, his air-driven engine, mounted in a Citroen AX chassis ran for 10 hours with a top speed of about 100 km/h. That is a better performance than any electric car in production.

10 The Mexican version of the vehicle was designed by an Italian company and resembles a small family saloon with a separate compartment for the driver and four seats at the back.

A Mexican government licensee, Dina, has signed a contract to produce an estimated 40,000 ZP taxis and urban delivery vehicles a year. It hopes to replace all of Mexico City's 87,000 petrol and diesel taxis.

15 Mr Nègre, who worked on high-performance and Formula One engines for 30 years, runs his business, CQFD Air Solution, with his son, who is a former Bugatti engineer, and 16 employees just off the Mediterranean motorway to Nice.

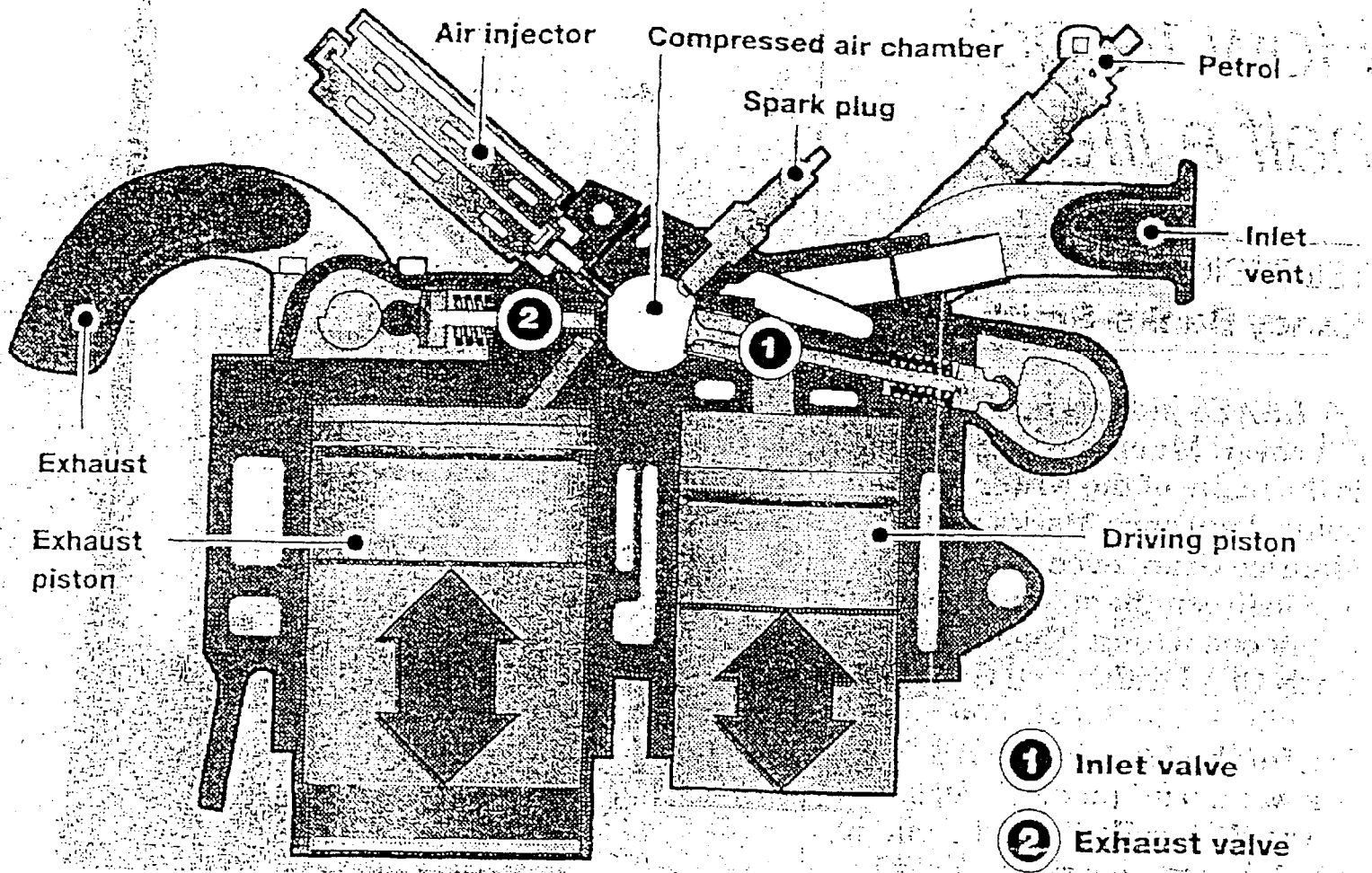
His silent, odour-free engine design was chosen for the world's most polluted city, after a worldwide search by the Mexican authorities that included tests on dozens of electric and other non-polluting experimental vehicles.

20 "My car was the only one, totally dependent on compressed air for city running", says Mr Nègre. "Compressed air is used to start Formula One cars but in this case the compressed air is the fuel driving a motor with classic components such as pistons and valves. But it is much lighter than the average engine."

25 Sixteen patents have been taken out to cover an integrated system in which 300 litres of compressed air can be pumped into the tank under high pressure in three minutes. The car can also be refuelled at home in four hours by a small compressor in the car linked to the house electricity supply. While the air is free, the electricity used to refuel the tank at home would cost less than \$ 2.

30 The car is being studied by other countries, including the Netherlands, because it can also clean up air that has been polluted by petrol vehicles.

"One of the vehicle's advantages is the carbon filtering system, which means that the car sucks in the polluted surrounding air during braking and then breathes out purified air", says Mr Nègre.



Engine is "kick-started" using an air-petrol mixture as in a normal engine. Once up and running the petrol supply is cut and the car runs on compressed air alone.

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TRAVAIL A EFFECTUER

I) Dans un résumé en français de 150 mots environ, vous mettrez en évidence les idées essentielles contenues dans cet article. (8 points)

II) Traduire :

De la ligne 17: " His silent, odour-free engine design..." à la ligne 23 : " ... much lighter than the average engine". (4 points)

III) Answer the following questions in English : (8 points)

1) Why can we say that Mr Nègre's vehicle is a revolutionary invention ? (about 60 words)

2) Do you think that this invention could become a widespread reality ? Explain your point of view. (at least 60 words)