

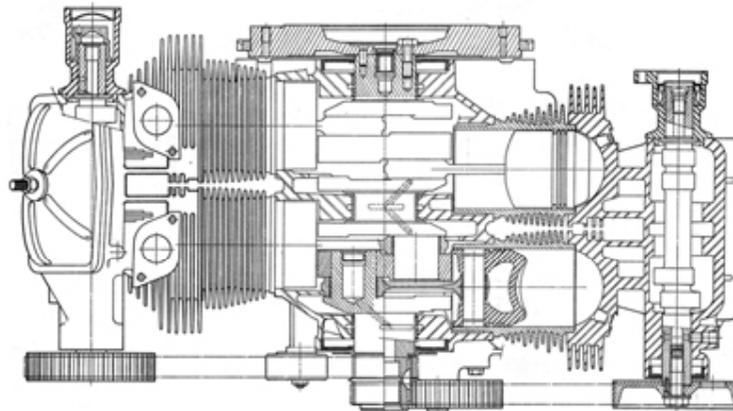
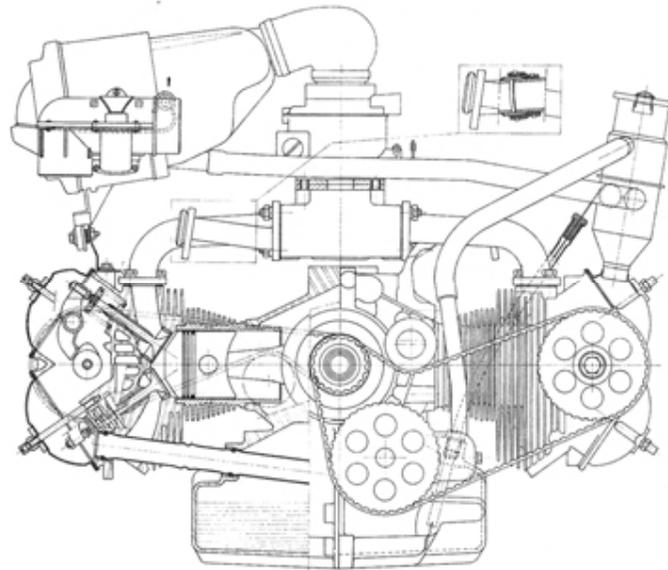
Citroën boxer engine

From 1955 until April 1961 the range of cars comprised only two models - the utilitarian [2CV](#) & the relatively costly [D series](#). Spring '61 saw the launch of the [Ami 6](#), which edged a little more upmarket than the 2CV, but without offering the customer anything more exciting than that car's underpinnings - including an enlarged version of the twin pot.

It was to fill the void that the design department initiated [Projet F](#). The mid range was a very lucrative area in which Renault, Peugeot and Simca dominated the French market.

The brief was to create not one, but an entire range of cars. At the lower end of the spectrum there would be a relatively simple model, with torsion bar suspension and a 750 cm³ flat twin derived from that of the 2CV. For the more ambitious buyer, a version with hydropneumatic suspension and a [Wankel engine](#) was envisaged. Into the middle ground was pitched an all-new flat four.

A smaller, 1.6 litre transversely-mounted version of the [1.9 litre DS engine](#) was developed which explains why, when the fundamentals of the

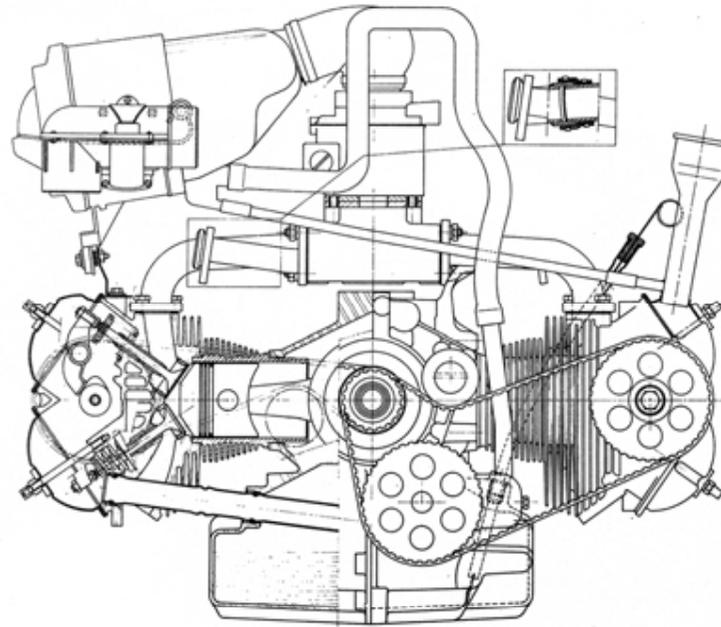


boxer unit were laid down, it was never expected to grow beyond 1200 – 1300 cm³.

The lion's share of engineering effort was absorbed by development of the rotary engine. The job of creating both the twin and the four went to a small team assembled around Jean Dupin. He & his colleagues, including Messieurs Gautier and Foucher went on to develop two versions of the four cylinder unit, one with a capacity of 950 cm³ and the other with 1130 cm³.

Bearing in mind that the company had sold a car with an air-cooled engine since 1948, this was a natural choice for the new four cylinder. Free from the complications and weight of a radiator, water pump & associated plumbing, the engine could be made compact and light.

The flat four configuration is an elegant solution to many automotive engineering problems. It is, inherently well balanced; with vibratory forces at least an order of magnitude lower than an equivalent in-line four. More importantly, it has about the lowest centre of mass achievable in a mid-size car, which allows a relatively compliant ride, without compromising the handling.



In April 1967, Project F was cancelled & from the ashes was born [Projet G](#), which had as its progeny the [GS](#) and then the [GSA](#). True to form, the budget for Project G was minimal & as much as possible had to be carried over from its still-born predecessor. Probably the most significant legacy of Project F was Dupin's engine.

Of course, the Wankel engine finally made it into production, but only 847 [GS Rotors](#) were made and the majority were subsequently bought back & crushed by Citroën, anxious to avoid provision of spares backup for a tiny number of vehicles.

When the brief for Project G was agreed, it was felt that an engine of less than 1 litre would not be acceptable in the mid range market, so the 950 cm³ unit was expanded to 1015 cm³. An early priority was for smooth and quiet running so the cylinder head and combustion chamber were optimised with this in mind, even though fuel economy suffered as a result. With the mid 70s oil crisis this was addressed as can be seen in the fuel consumption figures, which steadily improved even though the engines grew in capacity.