The Spirit of Invention

Dear Reader,

Would you think a new invention could turn the world of the combustion engine completely on its head after 140 years or so of constant development? A resounding no is the more than likely response. Even so, the lack of any more efficient method of converting the oscillating motion of pistons into rotation remains astonishing. Despite the inertial forces generated, the rotational speed and the torque pulsation – as well as all the departures in engine design, ultimately, the path has led back to the reciprocating piston engine.

To date, the only alternative to offer specific benefits in niche applications has been the rotary engine named after Felix Wankel. Mazda even clings on to it as the main drive type for its sports cars. The Japanese manufacturer recently reaffirmed this choice with its RX Vision Concept. One key fact: Wankel was a businessman and did not study engineering. He ultimately put his ideas into practice with abundant innovative spirit and autodidactic skills. So does his story mean that, as a general principle, innovations only ever emerge when the inventor is untainted by prior knowledge, as far as possible?

I am sure there's more to it than that. The fundamentals of physics are the first hurdle to be overcome, regardless of the concept. And that's where so many approaches fail. Not just the invention but entire existences. Anyone who has worked in pre-development is probably all too aware of such bold ideas. Presented by those who wish to realise them as their life's work. And who cite conspiracy when they fail.

Who, on the one hand, are annoying, since they distract individual engineers or even entire departments from their daily work. But who, on the other, deserve pity because they have invested so much time, effort and money in their projects.

In realistic terms, exchanging technology with other mechanical engineering disciplines will still elicit the odd innovation or two. From the 1950s onwards, until well into the 1970s, people even believed in a revolution – gas turbines were going to drive passenger and commercial vehicles. We review some of the fascinating test and racing vehicles of that time in our rubric "In the Spotlight".

We hope you enjoy reading.
Best regards,

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