

COMMON RANGE

Cummins is launching a series of what it calls 'fuel-agnostic' versions of the 15-litre X15, 9-litre L9 and 6.7-litre B6.7 internal combustion engines that can run on low-carbon fuel types, including hydrogen, in addition to the diesel and natural gas options that it already offers

Although the diesel engine OEM now also offers battery-electric, hybrid and hydrogen fuel cell drivetrain options, Cummins is expanding its range of lower carbon fuel options to appeal to customers that aren't ready to make that move from diesel in one jump.

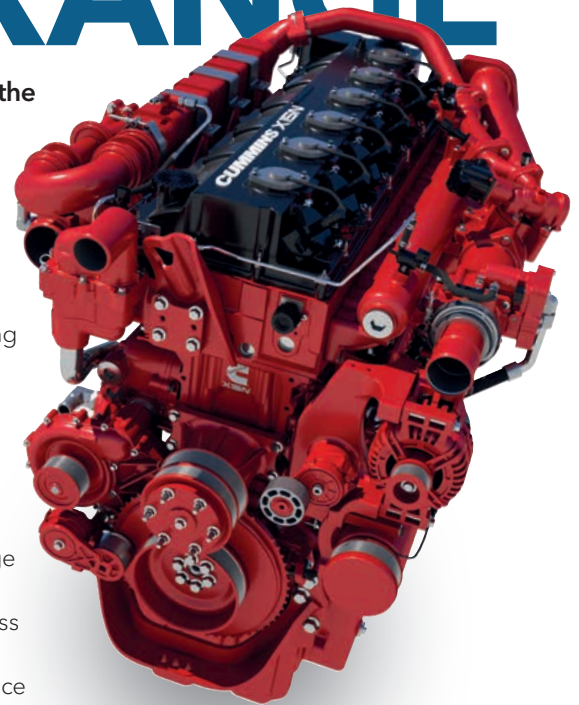
"We know the planet can't wait for the perfect solution," said Srikanth Padmanabhan, president, Cummins engine business, in a video recorded to mark the launch. "Our approach is a combination of using zero-emissions power where it is available, and using cleaner, reduced, lower carbon power where it is not. This I call, 'continuous improvement beats postponed perfection!'"

He adds that the basic concept of the next generation B, L and X-Series [pictured is the X15N gas engine] is that below the head gasket will be similar components, and above the

head gasket will be different components for different fuel types. Each engine version will operate using a different, single fuel. The platform can incorporate either a dedicated compression-ignition system for diesel, or spark ignition for natural gas and hydrogen fuel (and propane and gasoline in America).

Such a design offers the advantage of parts commonality. Jonathon White, vice president, engine business engineering, said: "Our engineers wanted to design products that reduce carbon emissions without a steep learning curve in terms of adoption... These new engines will have 80% parts compatibility and look and feel familiar to customers and technicians. The engine architecture, engine footprint and even service intervals are all designed around using the same parts and components where possible."

Working on a familiar base will ease the adaptation process operationally,



in terms of upskilling technicians and kitting out workshops.

And the upfront costs of these engines will be much lower than moving to fully electric or fuel cell options, according to Amy Burger, vice president, North America on-highway, a factor that she calls critical for lowering the barrier for entry for fleets looking to introduce emissions-reducing technologies today. In addition, the architecture and footprints will be similar to existing across the different fuel types, to simplify integrating various fuel types across the same chassis.

White says the process of testing the hydrogen-based ICE is "progressing well". In terms of launch date, Cummins says it plans to coordinate with the advent of Euro VII regulations in the 2025-27 period.

Despite these developments, White also adds that Cummins continues to work on improving the efficiency of its diesel platform. **TE**

WHAT TO CONSIDER

Brett Merritt, Cummins vice president, on-highway, offers advice about what customers should consider when switching driveline technology:

- How much upfront cost they can afford for their truck or bus
- How do they balance new technology introduction across duty cycles, routes, technologies, and what percentage of their vehicles do they address, and when do they do it
- For OEM customers, how much resource or cost technology choice will drive in the integration and validation process.

He concludes: "At the end of the day, most of our customers operate their business on a total-cost-of-ownership model, which will change over time, over the range and over the duty cycle requirements. They must understand the implications of these technology decisions on their bottom line."