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AN  stle PUBLICATION | OCTOBER 2024

Hydrogen-fueled internal combustion engine technology moves toward commercialization

Despite challenges, significant advancements are propelling this technology closer to market.

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Q&A with Christelle Chretien

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Cutting Edge

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Experience with EVs





Photo courtesy of Schumann's Sales and Services

GEAR PRESSURE BALANCE

Schumann's Sales and Service announces its "Gear Pressure Balance" (G.P.B.) patent technology. Any oil pump of wet sump design has positive and negative aspects of operational characteristics. Gear rotor oil pumps used in original equipment engine designs share similar valves. Negative features are dealt with in G.P.B. Metal gear physical shape and operating independent center lines create a mechanical out of balance pump assembly. The four lobe driven gear and five lobe rotor ring gear receive machined oil flow channel grooves. The oil flow grooves align during rotation to provide a hydraulic shock absorber function and lubrication of cover plate. The operational clearance between the

ring gear outside diameter and bored vertical wall of machined gear cavity of main pump body contains only residual oil for lubrication. G.P.B. design has five oil feed holes that provide constant high pressure fresh oil at maximum compression to the operational clearance. The drive shaft of four gear lacks constant fresh oil lubrication due to the rotational effect of the four lobe gear pushing away from the machined center line pivot bore. The four lobe driven gear receives one oil slot groove, and the driven shaft has one flat oil feed channel machined over the entire drive shaft length to provide fresh lube oil.

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