

Cam Phasers



LEARN MORE

As emissions regulations tighten around the world, Cummins Valvetrain Technologies continues to innovate to improve the efficiency of commercial vehicle engines. Cam phasers are a well-known technology in the automotive industry with a proven history of improving engine efficiency and emissions. Our engineers have evolved cam phaser technology for use in the demanding applications of the commercial vehicle market.

PACKAGING

- Available for multiple configurations of the engine valvetrain, packaging and desired function
- Compatible with all other Jacobs® technologies including engine braking, cylinder deactivation and lashless
- Designed for single and double overhead cam applications, as well as Type 2 and Type 3 valvetrain configurations
- Developed in exclusive partnership with well-known cam phaser and valvetrain technology company Metier Technologies (formerly Mechadyne)



INTAKE LIFT MODULATION

- Typically used to achieve Miller cycle to modify the effective compression ratio of the engine for improved efficiency
- The ability to infinitely vary the valve timing allows the efficiency to be actively controlled in all drive cycles and applications
- Improves fuel consumption by up to 5%

EXHAUST LIFT

- Exhaust valve lift modulation used for thermal management including “get-it-hot fast” and “keep-it-warm” strategies
- Infinite controllability on exhaust valve timing allows modulation of exhaust enthalpy to prevent thermal runaway
- Can be used in conjunction with a Jacobs Engine Brake® for performance modulation and optimization throughout the revolutions per minute (RPM) range

EXHAUST GAS RECIRCULATION (EGR)

- Intake and exhaust valve overlap can be modulated to achieve varying levels of internal EGR
- Better transient response compared to external EGR systems
- Able to drive EGR at low load conditions when external EGR is not as effective
- Can reduce dependency on problematic external EGR systems and throttles



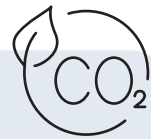
CONTROLS INTAKE AND EXHAUST VALVE TIMING

actively with infinite controllability



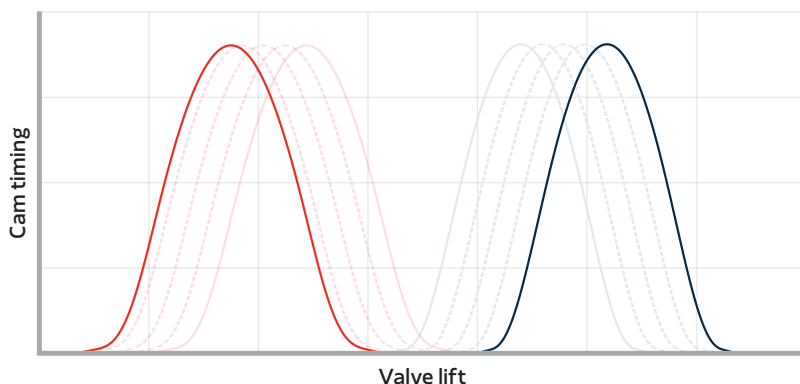
CAN REDUCE OR ELIMINATE DEPENDENCY

on intake or exhaust throttles with proper use



EFFECTIVE CO₂ AND NO_x MANAGEMENT TECHNOLOGY

for diesel engines with an incremental benefit for spark-ignited engines, such as natural gas and hydrogen



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Bulletin 6586864 Produced in U.S.A. 12/24
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