

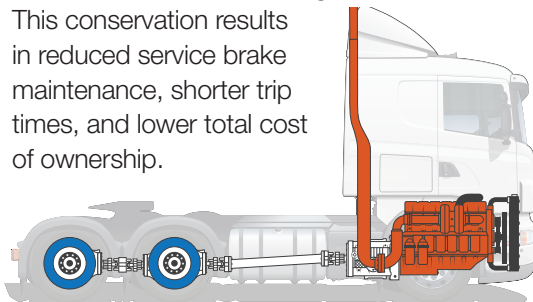
COMPRESSION RELEASE ENGINE BRAKE



Jacobs[®]

MORE SLOWING POWER FROM YOUR HORSEPOWER

The Jacobs Engine Brake[®] is an engine retarder that uses the engine to aid in slowing and controlling the vehicle. When activated, the engine brake alters the operation of the engine's exhaust valves so that the engine works as a power-absorbing air compressor. This provides a retarding, or slowing, action to the vehicle's drive wheels, enabling you to have improved vehicle control without using the service brakes. This conservation results in reduced service brake maintenance, shorter trip times, and lower total cost of ownership.



■ Foundation Brakes

■ Engine Power

BENEFITS

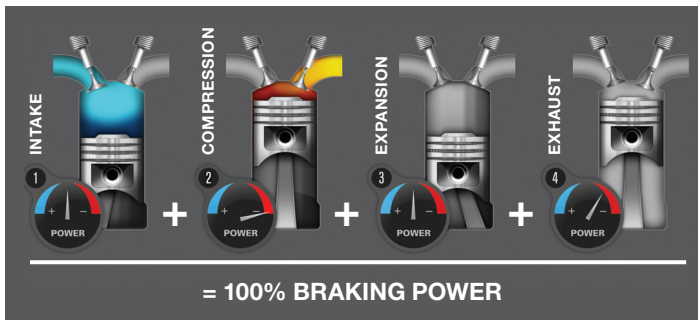
- Provides 85% of the vehicle's braking needs
- Increases productivity by maintaining higher average downhill speed
- Reduces slowing time/distance of a heavily loaded vehicle from 90 to 70 kph in 30% less time/distance than with wheel brakes alone
- Lowers total cost of ownership
- Significantly reduces brake wear
- Eliminates "brake fade" due to high temperatures on the friction brakes; keeping them cool for maximum effectiveness when needed
- Flexible solution available for your application

HOW IT WORKS

When activated, when the engine is not fueling, the Compression Release Brake opens the exhaust valves near the top of the compression stroke, releasing the highly compressed air through the exhaust system. The vehicle energy is used to push the engine to compress the air, but little energy is returned to the piston, and as the cycle repeats, the energy of the truck's forward motion is dissipated, causing the truck to slow down.

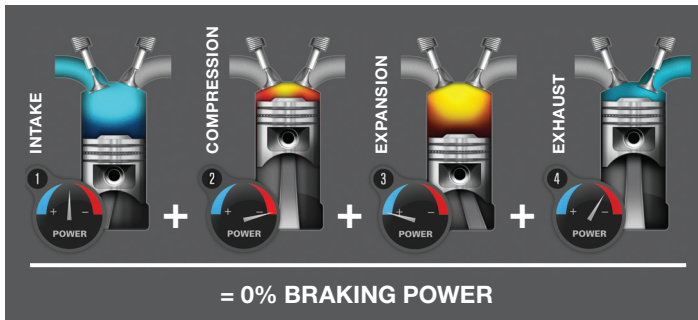
Engine Brake On (No Fuel)

By removing air from the cylinder at the peak of compression, the rebound effect of the compressed air is removed causing the engine to produce braking power.

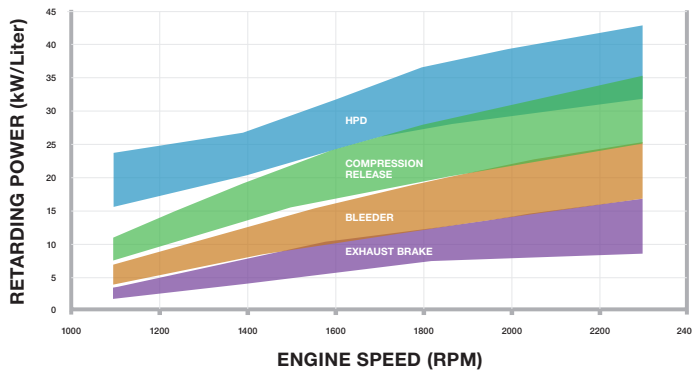


Engine Brake Off

The absorbed power during compression is returned to the piston by the rebound of the expansion cycle.



PERFORMANCE



*Demonstrated engine brake performance ranges from various engine tests and simulation results



LEARN MORE & SEE
THE JAKE BRAKE IN ACTION

FLEXIBLE SOLUTIONS

A variety of compression release engine brakes are available to meet your engine application's needs. Whether your constraints are around packaging or cost, there is a solution available for your engine.

Dedicated Cam Rocker Brake



Benchmark for all heavy duty engine brake systems

Lost Motion Integrated Rocker Brake



Engine brake and exhaust function integrated into one rocker arm

Lost Motion Bridge Brake



Engine brake function integrated into the exhaust bridge

Bolt-on Slab Brake



Traditional solution with minimal or no impact to the standard valvetrain

High Power Density



Combination of engine braking and cylinder deactivation to achieve higher retarding power



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